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## Book of Proceedings

120<sup>th</sup> esd Conference, Zagreb 2024

# Building Resilient Society

Editors:

Candida Maria Duarte Manuel, Fran Galetic, Mustapha Machrafi



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# EMERGING AFRICA: BEYOND INTERNATIONAL AID

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## ABSTRACT

*On Tuesday May 28<sup>th</sup>, 2013, the billionaire and philanthropist Mr. Bill Gates attended a Q&A session at the University of New South Wales. During the session, a lady asked him: "Mr. Gates, Dead Aid, a book by Dambisa Moyo, illustrates that giving more aid to Africa over the course of the years did not alleviate poverty, instead it kept the economy crippled with governments asking for more aid. This fluke made a cycle of aid giving which resulted in nothing productive and it has not been used to solve the immediate problems and the money is not being used to make businesses sustainable in Africa. What's the foundation's view in this regard?" To which Mr. Gates responded "Books like that are promoting evil". Mr. Gates' sound bite sheds light upon aid as a topic of controversy: in his creed, aid is humane, virtuous and will do the global poor a world of good while anti-aid literature is evil. From Tibor Mende and his famous book "From aid to the re-colonization" (bestseller in the 70s) to Dambisa Moyo and her book "Dead Aid", the issue of assistance to poor countries has been much talked about. Between the fifteen billion dollars transferred to Europe under the Marshall Plan and the thousand billion dollars sucked up by the sub-Saharan Africa since independence, we have come to understand that a poorly-designed assistance automatically produces state-aid recipients. In this paper we will endeavor to weigh the geopolitical and geo-economic impacts of aid and demonstrate why aid, presumably an altruistic deed for the benefit of the poor and the needy, has sparked such a hot debate.*

**Keywords:** *Aid, assistance, geo-economics, geopolitics, poverty*

## 1. INTRODUCTION

In traditional societies, the poor and the needy all had their place in the community, no questions asked about aid or assistance. The unfortunate needed the less fortunate and vice versa: mutual aid was a natural behavior and nobody never thought of it in terms of assistance. Who would have imagined that the same word would one day often designate enslaving practices against persons in distress, or serve as a justification for governments to conduct military or repressive actions against their own people? The history of debates and practices around the concept of aid shows that the inconceivable has in fact become a reality. More than a century and a half ago, Henry Thoreau was already worried about possible abuses of some voluntaristic actions: "*If I knew for a certainty that a man was coming to my house with the conscious design of doing me good, I should run for my life*"<sup>1</sup>. Today, Joseph E. Stiglitz, a Nobel Laureate in Economics in 2001, cites in his book "The Price of Inequality" some otherwise edifying examples of how aid-specialized organizations such as the International Monetary Fund were able to destabilize the entire populations in Indonesia or Ethiopia for example.

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<sup>1</sup> Farcet G. (1998) «Henry Thoreau: L'Éveillé du Nouveau Monde-Henry Thoreau: The Enlightened from the New World», Paris, Sang dans la Terre, P.35.

Thus, aid as construed by the modern language has nothing in common with aid as experienced in vernacular communities. The often spontaneous and direct relationship between two individuals called "neighbors" has turned into a highly professionalized intervention defined in medium or long terms. An intervention often coupled with an instrument of power exercised against those it claimed to serve. In vernacular societies, sharing and caring were not only moral qualities, but also guarantees of a good social cohesion. Helping your neighbor meant acting at several levels. As an individual, it allowed you to enrich your own inner world and develop your ability to compassion and charity. Socially speaking, it boosts your moral authority over the other members of the community. Collectively, these individual and social fulfillment processes favored the emergence of similar qualities across the entire community that provide each member of the society with a productive balance between the requirements of personal fulfillment and those of social development. By embarking on the path of a large-scale vision of assistance, the religious authorities have greatly contributed to its institutionalization and corruption. For the Church, it was important to offer an institutional translation of the word of Christ. The love of the neighbor had to be encouraged indeed, but it was inconceivable that a deed representing the divine justice be not exercised in the name of the Church of God, the sole qualified institution to recognize the true poor from the false. And while aid was institutionalized, it was also specialized: the love of the neighbor shall be practiced preferably for the benefit of a given institution. For those seeking to reconstruct the exact history of the concept of aid, the events that followed this first institutional takeover are particularly instructive. They show that aid and aid promotion have always enabled whatsoever government in power to impose its image and protect its own interests. In medieval Europe, the institutionalization of aid by the Church endorsed this belief: anyone who wanted to be absolved from their sins had only to pay the price, the Church would then take care of the rest. The amount paid would prompt God to find them a place in Heaven. Thus, the original charity began to turn into a curious exchange currency: the aid to the poor taking on the appearances of a tacit insurance contract in order to increase the chances of the penitent donor to escape the flames of Hell. In short, aid as it was perceived by human societies has nothing in common with that preached by the international institutions and the aficionados of the *pensée unique* –a mainstream ideological conformism-. The concept of assistance was reviewed and examined by Bretton Woods institutions which broke up with the ancestral altruistic practices and traditions whether in Europe, in Africa or the Middle East. Far from this "stone age economics" of Marshall Sahlins, Adam Smith's invisible hand has deflected aid away from its main objective which is helping the destitute to recover from a situation of adversity instead of putting them in a chronic state of dependence on donors. As the late Hassan Zaoual put it: "a poorly devised assistance generates automatically state-aid recipients".

## **2. THE INVISIBLE HAND OF AID**

In the march to the industrial revolution and the triumph of the capitalist economy, three phenomena have more determined the mutations in the discourses and practices: the seizure of power by the People acting on behalf of the poor –the universal suffrage ensuring this new power–, the threat of pauperism, and finally the discovery of aid as an instrument of economic promotion. Pauperism was even more threatening as it meant "the state in which individuals have the right to supply their needs by using public funds legally assigned to this purpose". For all these reasons, Eugene Buret (1840) himself did not hesitate to deem it as "the enemy of our civilization". The concern of every ruling class was that the growing pauperism, unlike poverty, was not merely a personal destiny marked by misfortune but rather a social problem of unprecedented magnitude.

This horde of the "bad poor", inconsistent and dangerous for society as well as for themselves, did not only embody "a disorganized, spontaneous coalition escaping every social rationality" but it also sought to monopolize all rights to this legal assistance while refusing any constraints. However, these fears and this indignation did not all have the same background: the phenomenon that some refused to interpret as a result of the Industrial Revolution was felt by others as a social threat, a challenge to the mechanisms of capital accumulation. It is in this quite confused context that aid emerged as a possible solution to the problems created by the industrial evolution. In theory, the new economic discourse on the issue of misery remained ambiguous: on the one hand, it claimed that the new sciences and wealth production techniques would know how to eradicate poverty once for all, on the other hand, it had to recognize that social and economic inequalities were not only an integral part of this production system, but they were in many ways the support and counterpoint thereof as they represent a reservoir of unmet needs essential to this very new productive system. Thus, misery had some benefits as long as it was not scandalous .i.e. as long as it was only a natural or social inequality. Charles Dunoyer (1825), a pioneer of social economy, considered for instance -and he was not alone- that a "well-behaved and mellowed out" poverty was one of the conditions for economic prosperity and the proper functioning of a production system based on the division of labor. These inequalities had another advantage: by their sole influence and without any resort to violence, they had the power to beget more inequalities and thus produce large discrepancies in the degree of freedom which everyone could enjoy.

This poverty had therefore its place in the logic of the self-regulating forces and the "invisible hand" of the market which are supposed to restore order and equilibrium at every moment, including during disturbances by factors exogenous to economy. One of the first to express reservations about the magical power of this "hand" is the Reverend Thomas Robert Malthus, described later by Keynes as "the first economist of Cambridge". This economist, famous for his pessimistic theories on population, is also the one who placed the emblematic figure of "the Irish peasant" at the center of a hypothesis which went then against the grain of mainstream thinking. If this analysis of Malthus is so particularly relevant to us here, it is because it announced the revolutionary turn that would lead to a utilitarian and modern perception of aid: now that it is commoditized, aid will no longer be but an instrument of governance and subtle control of its target populations. The "Irish peasant" who haunted Malthus throughout his life, a poor quite similar to the poor in vernacular societies, symbolized a human archetype rather ominous for the future of the economy: eating only potatoes and dressed in rags, he seemed not attracted by any means to owning objects. He used to consume only what he produced and never bought a thing, and yet he seemed content with his lot. As a veritable anti-homo economicus, he was a permanent threat to economic growth. It is the persistence of men and women of similar behavior within society that led Malthus to two conclusions:

- That the "invisible hand" of the economy is not sufficient to ensure the smooth running of the productive system "at least as long as the Irish peasant would resist the seduction of manufactured needs".
- That for the system to sell its products, it should start helping this peasant so that his needs match as much as possible those of the economy.

The actual social assistance will no longer signify the supply of lifebuoys thrown here and there to give a chance of survival to useless mouths: it will be transformed into a dynamic and preventive instrument prompting each and every one to meet the production needs.

### 3. INTERNATIONAL AID & POVERTY: WHAT ALTRUISM IS IT?

Despite the theoretical differences that we have just mentioned, there is a common aspect to human societies: the fight against all sorts of poverty. If the causes and remedies are different, the objective is widely accepted. The idea that some humans could be facing famine, doomed to an early death, illiteracy or a second class citizenship is contrary to what the concept of justice means to most of us. We know that all the great religions were concerned about fairness, inciting or even compelling their followers to regard the fight against extreme poverty as a moral duty. In fact, when addressing the fight against poverty by a donation, be it in kind (give a little or a lot of one's time), in cash or material (goods), it is difficult to dissociate the act as such - defined as altruistic - from the mentioned moral duty. "The disadvantage of sociological altruism is that it is perceived with values: right/wrong, good/bad, free/totalitarian, just/unjust) that make it incompatible with economic reasoning .... This moral altruism should be corrected by returning to the philosophical tradition.... In economic philosophy, altruism corresponds to an extended rationality expanding economic calculation to the relationship that individuals have with their social environment"<sup>2</sup>. "Essentially by definition, an altruist is willing to reduce his own consumption in order to increase the consumption of others"<sup>3</sup>. This is a benevolent altruism. When an individual gives a coin to a beggar on the street or some of their time to an elderly person or shares their home with a poor etc... without turning this act into a media event or even disclosing it, this is generosity, solidarity, altruism. This was the case for example of the ARTC (Association for Research on Treatment against Cancer) in France at the end of the last century. This is also the case of some public corporations for the jobless and rehiring firms. The payment of government subsidies for the integration or reintegration of people in difficulty does not mean the ability to ensure a social follow-up that would attain reintegration. This is somehow usurping public funds. Similarly, the payment of monetary amounts to charity can sometimes be a matter of a disinterested altruism, and sometimes of an interested altruism. In France, for example, a monetary donation to a recognized public utility association (such as Restaurants du Cœur) is compensated by a (monetary) reduction of the income tax. This mechanism introduced by the public authority raises several questions:

- The "donations" are not managed (managerially speaking) spontaneously by the donor but are organized and institutionalized. The state seeks to influence the behavior of households via tax incentives and it is possible to imagine that this behavior could have been different for some of them should there be no tax reduction in counterpart.
- An objection can be made immediately when all donating households are not all subject to income tax. Still, they have no financial benefit. The act of donating has then a specific externality for taxable households. This does not mean that they are not altruists but it is more likely that the computation of the tax reduction is one element - among others - that influences the choice and amount of the donation(s).
- In these conditions, can we consider that the donations from both (different) categories of households refer to the same altruism? Undoubtedly, they seek to mitigate the effects of poverty and / or partake in research breakthroughs that affect us all but it is arguable that in a market society, an act of donation has in counterpart a counter-donation -not symbolic as in other societies- but monetary. Non-taxable households make a social and / or moral "profit" out of their donations. Other households also derive a monetary benefit as the distinction between households by income class is established beyond the sources of their income and their respective expenses.

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<sup>2</sup> Jarret M-F. et Mahieu F.-R. (1998) « *Economie publique: théories économiques de l'interaction sociale-Public Economics: economic theories of social interaction* », Paris, Ellipses, p. 82

<sup>3</sup> Becker Gary S. (1997) in Jarret et Mahieu *op. cit.* p. 21



It is still possible to question the benevolent or malicious nature of altruism based on the advertisement that accompanies certain actions. If, basically, no one can argue that giving to the poor is a selfless act, the fact is that sometimes this act is revealed to the public while sometimes it is carried out with utmost discretion. Asserting one's generosity with or without a monetary counterpart such as the reduction of income tax in France, may mean that the donor searches the esteem of their entourage. The initiative makes sense only if it is related to what sociologists call the social interaction. Donating motivation and helping the poor depend then (at least partly) on how they appear in the eyes of the other whose recognition and approval are solicited by the donor. The individual act is not so disinterested and does not fall out of the societal framework. This type of behavior seems even more plausible when advertising donations becomes the norm.

In a context of mass dissemination of information and media explosion, does the "Peoplisation" of charitable organizations and foundations that are continuously seeking donations for "just causes" denote altruism? The jury is still out! "And what if the stars were only icons entrusted to do good business for the humanitarian industry"<sup>4</sup>. The President of UNICEF France confirmed bluntly: "Yes, we need the "Peoples", they offer us easy access to the media and arouse donors' interest in our cause. Emmanuelle Béart's press conference testifying to what she saw in Sierra Leone has become an event"<sup>5</sup>. The actress states in the same article that she "does not believe in altruism... but rather in exchange". This example is not exhaustive, yet is indicative of the "commodification" of aid, of the fight against inequality, of the fight against deprivation, of suffering and it is not for sure that this is done for the benefit of recipients only. Other associations such as Médecins Sans Frontières (MSF) chose to appeal to generosity by phone or the Internet, no showcasing on television. Finally, regarding the limits of "organized altruism", we would like to mention a few conclusions of the Audit office in January 2007, on the management of donations in the wake of the "natural" disaster, the Tsunami. In France, 340 to 350 million euros were collected plus 67 million euros of public aid. The report states that only one third was spent due to the flooding of international aid. The budgets were significantly too high for the actual on-site staff to manage. One can also read in this report that part of the donations received by charitable organizations or international agencies was redirected. The UNICEF for example transferred 57.4 million euros to its headquarters in New York. For the Red Cross and Catholic Relief Services, the percentage of amounts used compared to donations is about 40%. The amounts available can be granted to local NGOs, to intermediaries, namely in the building sector and public works. In an article published in "Le Nouvel Observateur", Serge Paugam (2013) underlined the enthusiasm for private solidarity "in the form of an appeal to generosity via the media .... This would be perceived sometimes with higher virtues than public solidarity which is often considered as bureaucratic and impersonal ... Of course, one must not despise this generosity, but must remember that it cannot be considered as an alternative to collective solidarities as conceived at the end of the nineteenth century." A little further on, the author denounces after all the fact that governments often react on the basis of one thing at a time and that more visible solidarity actions are those that take place in an emergency. "The news highlight, periodically, all the visible signs of a solidarity that we think spontaneous, but which is actually entertained by the media". Fighting against poverty via public policies and / or private solidarity, akin to altruism, has limitations and challenges theorists. For Van Parijs (2003), justice should be sought .i.e. allow everyone - not just in theory (location) - to have access to goods and services. It is more about what is given to each and not what they do with it, it helps them achieve their own conception of life and not a particular conception that the society would consider superior to others.

<sup>4</sup> «Le Nouvel Observateur», Feb 22<sup>nd</sup> -28<sup>th</sup>, 2007, p. 94-97

<sup>5</sup> Ibidem

That means to define a method whereby it is possible to offer opportunities to everyone and thus adhere to ethics without preaching morals. This is a major challenge for the theory of "modern" justice. A conception of an acceptable justice according to the author and which should be egalitarian in the sense that "it must express a form of material solidarity between all members of the concerned society.... Justice is not a matter of equity in exchange.... Nor is it a matter of collective optimality understood as the production of acts globally effective for the common interest. Some inequalities can be righteous, but only if they help improve the lot of the less advantaged. Fighting inequalities may consist in acting upon the chances and capacities, real chances and concrete capacities. It doesn't mean to express intentions or show compassion. Galbraith considers the latter as *"the most truly conservative course. There is no paradox here. Civil discontent and its consequences do not come from contented people--an obvious point to the extent to which we can make contentment as nearly universal as possible, we will preserve and enlarge the social and political tranquility for which conservatives, above all, should yearn"*<sup>6</sup>. Long before Galbraith, Simmel in his reflection on the sociology of poverty had "a disillusioned look on charity and the private<sup>7</sup> and public philanthropy, these do not represent an end in itself but a means to achieve the cohesion of the society and the guarantee of social ties" (Paugam, 2013, 47). Does assistance aim to primarily satisfy the recipient? The donor? The established order? The example of the British trade unions (quoted by Simmel) which help the unemployed union member allows to understand that, on the one hand, they seek to alleviate income inequality but, on the other hand, they also preempt job seekers who will go now to offer their free work capacity at a lower salary, which would have the effect of lowering wages in their sector of activity. The author goes even further: helping the poor through assistance means to avoid riots, violence to obtain income through various ways; it's even to guarantee a certain stability to society to the extent that assistance is, in fine, conservative. "The goal of assistance is precisely to mitigate certain extreme manifestations of social differentiation so that the social structure can continue to be based on this differentiation" (Paugam, 2013, 49). We find this critique of assistance to the global poor with Thomas Pogge<sup>8</sup>. The international economic interaction is considerable and, contrary to Rawls, the author thinks that poverty and extreme poverty are not due to domestic (or national) causes. While it is true that some Asian and African countries had a comparable level of GDP per capita in the 1960s and that the African countries were largely outstripped 50 years later, this differentiation in the trajectory cannot be explained by domestic factors which, according to Rawls, are likened to the political culture, the religious, philosophical and moral traditions, the demographic policy, the governments etc. For Thomas Pogge, we must not ignore or obscure the burden of a history tainted by unspeakable horrors: sordid slavery, unscrupulous colonialism and even atrocious genocides. *"Though these crimes are now in the past, they have left a legacy of great inequalities which would be unacceptable even if peoples were now masters of their own development ... By seeing the problem of poverty merely in terms of assistance, we overlook that our enormous economic advantage is deeply tainted by how it accumulated over the course of one historical process that has devastated the societies and cultures of four continents"*<sup>9</sup>.

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<sup>6</sup> Van Parijs Ph. (2003) « *Ethique économique et sociale-Social and economic ethics* », Paris, La découverte, p.5.

<sup>7</sup> Philanthropy is therefore flourishing, especially in the USA where charitable endeavors are legion. The new philanthropists are however increasingly straying away from the traditional methods of foundations management. In fact, they are seeking to make their structures more financially and socially efficient while dreaming of the advent of philanthro-capitalism" The Birth of Philanthrocapitalism, The Economist, translated into French by F. Boisivon in «Problèmes économiques», n°2912, December 6<sup>th</sup>, 2006.

<sup>8</sup> Pogge Th. (2003), Porter assistance aux pauvres du monde-Assisting the global poor-, *Raison publique*, n°1, Octobre, Bayard, pp. 104-108, translated to French by P. Savidan.

<sup>9</sup> Pogge Th. (2003), Porter assistance aux pauvres du monde-Assisting the global poor-, *Raison publique*, n°1, October, Bayard, pp. 104-108, translated to French by P. Savidan.

Since the end of colonialism the world economic order has been based on rules in favor of the rich countries by protecting them, for example, from developing countries imports via the World Trade Organization (WTO). The control of information, of expertise, of production and access to Information and Communications Technology (ICT), gives rich countries a greater power of negotiation so that this world economic order reflects more the interests of the businesses and citizens of rich countries and, de facto, less those of the poor countries. In these conditions, assistance as an adjustment variable cannot reduce inequality - as little - but instead allows to maintain a hierarchy of wealth levels. To support his thesis, the author borrows the story attributed to Peter Singer *"of a healthy young professor who, walking by a shallow pond, sees a small child in it about to drown. Surely, Singer says, the professor has a duty to save the child, even at the cost of dirtying his clothes. And similarly, he argues, we have a duty to send money to poverty relief organizations that can, for each few dollars they receive, save one more child from a painful hunger death"*<sup>10</sup>. In the eyes of Thomas Pogge this perspective reinforces the common moral judgment that the citizens and the rich countries are as responsible for poverty as the healthy young professor is for the child. Several reasons explain this widespread feeling in developed countries:

- Psychologically speaking, it is a source of comfort for the people living in the developed world.
- Considering that the domestic factors are responsible for poverty means underestimating or ignoring the global factors. Since some countries are developing and others are not, it is possible to achieve the eradication of poverty on the basis of the domestic factors.
- Many governments in poor countries are corrupt which is hardly attributable to the world economic order but rather to the behavior of certain elites who do not care about the living conditions of their compatriots. Only after having established democracy and the rule of law in these countries that reforms at the world level could be initiated.

Pogge prefers to emphasize that there is no corruption with neither the corrupted nor the corrupter! Corruption has the effect of enriching a minority at the expense of a majority maintained in a state of poverty or extreme poverty: lack of transparency in awarding public contracts, import licenses granted in return for the most generous kickbacks, bribes in arms industry, imports of unnecessary and overpriced products, etc... in other words, squandering public money and / or diverting revenues. Worse, "bribed politicians accept the development of sex tourism, the import of toxic products and waste, the location of polluting companies, the forced labor of young children", etc. That is to say so many causes<sup>11</sup> that do not serve the interests of the local population but that hinder their welfare and therefore, development. The solution to poverty and extreme poverty is not public assistance if it maintains the disparity in living standards, nor the private generosity of some and altruism of others (that must not be ignored) whose impact is very limited. Without hushing up the (co) responsibility of certain elites in the poor countries, according to Pogge, we must really:

- reduce the harm caused
- not take advantage of injustice at the expense of those who endure it
- compensate the poor .i.e. reduce the impact of unfair global rules that result in positive externalities for rich countries (such as the exploitation of natural resources in poor countries) and negative externalities for poor countries (inveiglement of their resources, environmental pollution, namely greenhouse effects due mainly to rich countries' consumption patterns).

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<sup>10</sup> Singer P., (1972), « Famine, Affluence and Morality », Philosophy and Public Affairs, 1, 249-43 in Pogge Th. (2003), Porter assistance aux pauvres du monde-Assisting the global poor-, *Raison publique*, n°1, October, Bayard, pp. 104-108, translated to French by P. Savidan.

<sup>11</sup> The IMF latest estimates are edifying: the amount of money laundered is tenfold or even more since 1990. Other than drugs and forgery, the underground economy covers the trafficking in human organs, endangered species, industrial waste, counterfeit money, handguns and nuclear centrifuges.

#### 4. BACK TO THE SOURCES OF FAILURE OF AID TO AFRICA

Between 1948 and 1952, the United States transferred more than 13 billion dollars (100 billion dollars today) to assist in the reconstruction of Europe after World War II. We agree to acknowledge the resounding success of the Marshall Plan to rebuild the European economies devastated by war. The plan did not only ensure the economic success of recipient nations, it also contributed, in the opinion of many analysts, to the restoration of political and social institutions of crucial importance for peace and prosperity today in Western Europe. This is true, but even if the idea of aid policy to Africa arose from the success of the Marshall Plan in Europe, these are two completely different realities. Presenting the positive results of the Marshall Plan as a promise of similar achievements in tomorrow's Africa is completely wrong. Why is that? First, the European nations were not totally dependent on aid. Despite the ravages of war, the economic revival of Western Europe was already underway; the continent had other resources. At their peak, the flows of the Marshall Plan represented only 2.5% of the GDP of the main recipient countries, such as France and Germany, and somehow they never exceeded 3% of the GDP of any country in the five year term of the program. Africa, long submerged by aid, receives today assistance for development equivalent to almost 15% of its GDP, more than four times the Marshall Plan at its peak. According to Dambisa Moyo (2009) "*Given Africa's poor economic performance in the past fifty years, while billions of dollars of aid have poured in, it is hard to grasp how another swathe of billions will somehow turn Africa's aid experience into one of success*"<sup>12</sup>. In addition, the Marshall Plan was time limited. The United States had set a target, the European countries accepted the terms of the contract and signed the document. Money flowed abundantly for five years only. In contrast to the Marshall Plan financial injection, decisive but short, Africa has, generally speaking, received uninterrupted support for at least fifty years. An ongoing aid for an unlimited duration so that no effort would be needed. Thus, in the absence of any explicit threat of aid interruption, and as nothing inspires the feeling that one day it could end, African governments have had to consider the aid as a permanent and secure source of income; they have no reason to think that the lakes of lucre will not continue to flow indefinitely. There is no incentive to build long-term financial plans, no rhyme or reason to look for other ways to finance development when all you have to do is sit and wait quietly for your check to cash. Crucially, the Marshall Plan context was so different from the African context. Before the war, the devastated European nations had already the necessary institutions: they had an experienced public service, well-managed companies, an administration of the courts and effective social organizations. After the war, all it took was an injection of money to restart the machine. The Marshall Plan provided an aid for reconstruction, not for economic development. No matter how wrecked Europe was, it had a structure in place, a political, economic and physical structure, while, despite the infrastructure inherited from colonialism, Africa had not experienced any effective development. Building, and not rebuilding, the political and social institutions requires more than money. The flow of billions of simoleons of aid, poorly controlled and regulated as little as possible has resulted in undermining the establishment of these institutions as well as of a sustainable growth. In this respect, the recent and successful experience of Ireland (before the subprime crisis), which received substantial sums from the European community, cannot be cited as evidence that aid might work in Africa. For, as the post-war Europe, Ireland had the institutions and infrastructure required to master and control aid and make it produce a significant economic impact. Ultimately, while the aid provided by the Marshall Plan targeted the physical infrastructure mainly, assistance to Africa covers almost every aspect of the economy.

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<sup>12</sup> Moyo D., *L'aide fatale-Dead Aid-*, Editions JC Lattès, 2009.

In most poor countries today, the aid is channeled to the public service, the political institutions, the military, public health, education, infrastructure etc. The more the scope of aid is extended the more corrosive aid is, and the greater aid dependency culture is. Aid advocates underline the economic success of the countries which today have ceased to be assisted after having received assistance in the past. These are countries such as those of the IDA (International Development Association). They are twenty-two countries and they include some of the emerging countries that experienced the greatest economic successes: Chile, China, South Korea, Thailand and Turkey. Three of them only are African: Botswana, Equatorial Guinea (mainly because of the discovery of oil deposits) and Swaziland. Aid champions suggest that these countries have substantially reduced poverty, increased income and improved the living standards thanks to a large-scale assistance. However, as in the case of the Marshall Plan, it should be noted that the aid flows in question were relatively moderate (i.e. less than 10% of the GNP) and of short duration. Botswana, often cited as the classic example of a good student of the IDA, had actually received substantial foreign assistance in 1960 (20% of the GNP). Between 1968 and 2001, the average economic growth of Botswana per capita reached 6.8%, one of the highest in the world. But it is not aid that is to be held accountable for this performance. Botswana had vigorously pursued a policy favoring the market economy and that is the key to its success - its trade policy was open to competition, monetary stability was sought and the fiscal discipline observed. Crucially enough, in 2000, the aid to Botswana represented only 1.6% of the national income, that is to say, a tiny proportion compared to aid nowadays in so many African countries. The success of Botswana lies in the fact that it ceased to be aid dependent. Until the middle of the first decade of the 21st century, many believed that aid was synonymous with poverty reduction. The theses which were developed afterwards came to deny this approach. In her book "Dead Aid", Dambisa Moyo cites the fictitious example of an African manufacturer of mosquito nets. He produces about 500 nets per week. He employs ten people who, as usual in Africa, maintain each fifteen relatives. Despite their hard work, these people cannot make enough nets to effectively combat the malaria-carrying mosquitoes. A Hollywood star enters the scene, runs a crowdfunding campaign and bullies Western governments into sending 100,000 mosquito nets to the region. The operation amounts to one million dollars. The nets arrive and are distributed. A good altruistic action is accomplished. But once the market was flooded with these nets, the local manufacturer had to close down. His ten employees can no longer feed the 150 souls who depend on them (and who are now forced to live on alms), bearing in mind that in maximum five years the majority of the imported nets will eventually be torn and useless. This is the micro-macro paradox. An effective intervention in the short term can have only very few lasting benefits. Worse, it risks to unintentionally undermine the existing chances, no matter how fragile they are, of any authentic sustainable development. Thus, at first sight, aid appears to have a positive effect. But with hindsight, we see that not only the overall situation did not improve, but it worsened. In almost all cases, short-term assessments create a false impression of aid success. But this kind of assessments is not relevant when it comes to tackling Africa's problems over the long term. We should measure the effectiveness of aid by questioning whether it contributes to sustainable long-term growth and lifts up the greatest number of individuals out of poverty. And from this perspective, aid proves to be a failure. That is said, the proposal of a new food aid formula launched at the Food Aid Conference in Kansas City in 2005 was an attempt to give a new direction to the policy of assistance which could benefit African farmers. The said proposal would allow a quarter of the US Food for Peace budget to be used for the purchase of food in poor countries, rather than only buy food from American farmers and ship it by sea. Thus, instead of flooding the American food markets and ruining the local farmers, this strategy would lead to use aid money to buy the products from the local farmers and distribute them to the locals in need.

Going back to the example of mosquito nets, one could imagine that the donors would buy those nets from the local manufacturers and then sell them or give them to the locals. This approach should be applied to all problems. Aid advocates argue that aid works - but that rich countries are not generous enough. They plead that if Africa was given a "big helping hand" i.e. a substantial increase in aid for the decisive investments, Africa could have escaped the persistent poverty trap. In fact, Africa needs increased aid, massively increased aid. Only then things will truly improve. In 2000, 180 countries subscribed to the Millennium Development Goals (MDG). This eightfold action plan targeted health, education, environment preservation, child mortality, and the alleviation of poverty and hunger. In 2005, the program cost was revalued: an additional injection of \$ 130 billion per year would be needed to achieve the objectives of the MDG in a number of countries. Two years after the collective commitment to this program the United Nations organized an international conference in Monterey, Mexico on the theme: Financing for Development, during which donor countries promised to increase their contributions (an average of 0, 25% of their GNP) and bring them to 0.7% in the belief that the annual additional 200 billion dollars would finally settle the persistent problems of Africa. In practice, most of the commitments made by donor countries were not honored, and aid champions, clinging to the failure of donor countries, saw in it the reason for the backwardness of Africa. But the notion of giving "a big helping hand", the decisive thrust, skirts one of the great problems of aid, namely that it is fungible - that the amounts assigned to a certain goal can be easily diverted, and used differently, especially for irrelevant or even harmful projects. It's noteworthy that the uncontrolled flow of aid always runs the danger of being consumed rather than invested, lining up the pockets of individuals instead of landing in the public treasury. When this happens, and it often does, no sanction is imposed, no punishment is inflicted. More subsidies means more corruption. One of the gloomiest aspects of this aid fiasco is that donors, politicians, governments, academics, economists and specialists all know deep within themselves that aid does not work, that it never has and it never will. In his comment on some assistance action, the Director of Government Economic Services at the UK Ministry for Trade and Investment made this remark: "They know it is pure hot air but it sells their T-shirts." Welcome to the real world! Countless studies and reports (often carried out by donor countries) showed that, after several decades, and after billions of dollars spent, aid had not had any appreciable impact on development. Examples: Clemens in 2004 recognized that there was no sustainable impact of aid on growth, Hadjmichael (1995) and Reichel (1995) found a negative relationship between aid and savings, Boone (1996) concluded that aid had financed consumption rather than investment. On the other hand it was demonstrated that foreign aid had increased public spending and unproductive consumption, and failed to promote investment. Even a cursory glance at the available data suffices to suggest that, while aid has soared over time, growth in Africa has been declining and has been accompanied by a more accentuated poverty. Over the last thirty years the most aid-dependent countries can boast an average annual growth rate of less than 0.2%. For the majority of these countries the direct consequence of aid was tailspinning into poverty. While before the 1970s most economic indicators were on the rise, a decade later Zambia was economically ruined. Bill Easterly, professor at New York University and former economist at the World Bank, notes that if Zambia had converted all the aid received since 1960 into investments and had relied on market growth, it would have had in early 1990s a per capita GNP of around 20,000 dollars. Instead, Zambia GNP was lower than in 1960 and was less than 500 dollars per capita! In fact, it should be thirty times higher than it is today. Between 1990 and 1998 aid to Africa skyrocketed from 11 to 66%, a staggering progression, only to see about 600 million Africans controversially trapped in poverty. The case against aid stands on firm ground, it is so persuasive that even the IMF which plays a leading role in this area warned the fervent supporters who pin high hopes on aid and see in it the instrument of a development it cannot eventually stimulate.

The IMF also recommended that governments, donors and organizers of various campaigns be more modest in their statements and not pretend that increased aid would solve the problems of Africa. We would like that this moderation be the prelude to real change. The most mind-boggling aspect of this issue is that there is no other area of human activity, be it business or politics, where one would not think to change course and would persevere in error in spite of compelling evidence of utter failure. Such is the status quo: sixty years, over one trillion dollars spent on aid to Africa and a result that is more than modest. If aid was just harmless, if it just did not do what it had claimed to do, this paper would not have been written. The problem is that it is not harmless, it is evil. It is not part of the potential solution, it is part of the issue. In fact, aid is the issue.

## 5. CONCLUSION

Whether at a national or international level, aid aims primarily at helping the alleged "donors" to maintain the devices that perpetuate their positions of power and social privileges, while depriving the poor of their own means to fight against poverty. For the poor, this aid embodies the logic of an economy which not only commits all humans to often harmful external donations that are beyond their control, but also which destroys the great human and social balances that the vernacular lifestyle of the poor had created to help them confront necessity. The social system this economy seeks to establish in lieu may lead to the perpetual "quarantining" of many people and the dislocation or even the implosion of their societies. It institutionalizes a form of secular charity that transforms the beneficiaries into permanent aid-dependents, thus more and more dependent on a system of needs that corrupts both body and soul alike. We easily understand now why the promoters of major international meetings regularly held in favor of helping the poor - one of them which gathered Heads of States in March 2002 at Monterrey, Mexico, - carefully avoided any debate on the root causes of the production of misery and injustice. In fact, they are well aware that a careful examination of these cases would unveil the fraud perpetrated today worldwide under the brand of aid. Indeed, such a debate risks to disclose the perverse collusions, often structural, which, always in the name of aid, unify the leaders of the North and the South against their own "subjects". And when, for the sake of propaganda, the Northern "generous donors" threaten to reduce their "aid" on the grounds that the recipient governments are corrupt, this examination would eventually reveal all the machinery set up by these same donors to "help" these "rogue" governments rule over their own populations. Finally, a serious investigation of the underlying reasons for these maneuvers would demonstrate to the world opinion that the most of the aid destined to eligible poor countries is intended whether to strengthen military and coercive programs or to restructure their economies to be adapted to the requirements of the sole global market. Hence this bitter conclusion: what we insist on calling aid is but an expense to strengthen the structures that generate misery. However, the victims who are stripped of their real properties are never assisted since they seek to stand out from the global productive system in order to find alternatives in concert with their own aspirations.

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# **CULTURE AND ORGANISATIONAL CLIMATE: CASE STUDY – ALTRAN (PORTUGAL)**

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## ***ABSTRACT***

In the last decades, the concepts of culture and organisational climate have become increasingly important and indispensable for understanding the general functioning of companies and their employees within them. Sometimes a high monthly remuneration as a form of incentive/motivation is not enough for employees as they are increasingly looking for a healthy environment at their workplace, respect, prestige. The organisational culture can be understood by the satisfaction of the employees with regard to leadership, hygienic conditions, salary, etc. The organisational climate is understood as the psychological, social and physical well-being of the individual. We intend to show through this study that employees really are not always satisfied, motivated and fulfilled with the management method of the company in which they carry out their professional activity and that any company that applies the aforementioned concepts is more likely to achieve its objectives/goals more successfully and effectively.

***Keywords:*** *Motivation, Organisational Climate, Organisational Culture*

## **1. LITERATURE REVIEW**

According to the Society for Human Resources, the key to a successful organisation is to have a culture based on a strongly held and widely shared set of beliefs that are supported by a strategy and structure. When an organisation has a strong culture, employees know how management wants them to respond to any situation, employees believe the expected response is the right one, and employees know they will be rewarded for demonstrating the organisation's values.

*The starting question:*

What is the role of employees in a company's culture and organisational climate?

Employees have an indispensable role in perpetuating a strong culture, starting with recruiting and selecting candidates who will share the organisation's beliefs and will thrive in that culture, developing orientation, training and performance management programmes that will outline and reinforce the organisation's core values, and ensuring that appropriate rewards and recognition go to employees who truly embody the values.<sup>1</sup>

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<sup>1</sup>Society for Human Resources



*Figure 1- SEGVIDA, ORGANISATIONAL CULTURE  
(contact main Author for Details)*

### **1.1. Hofstede's Theory/Model of Cultural Dimensions**

Hofstede's Theory of Cultural Dimensions, was developed by Geert Hofstede, and is used to distinguish between different national cultures, the dimensions of culture and to assess their impact on a business/organisational environment. Hofstede identified six categories that define culture:

1. Power distance index;
2. Collectivism vs. Individualism;
3. Uncertainty Avoidance Index;
4. Femininity vs. Masculinity;
5. Short-term orientation vs. long-term orientation;
6. Restriction vs. indulgence.

Through his study he concluded, that the differences occurred due to the cultures of the employees and, to a large extent, of the country that established them. At the time, Hofstede, described culture as "the collective programming of the spirits that distinguishes the members of one human group from another".

#### *Power distance index*

The power distance index considers the extent to which inequality and power are tolerated. In this dimension, inequality and power are viewed from the point of view of employees (the bottom level).

#### *Collectivism vs Individualism*

Individualism indicates that greater importance is placed on achieving personal goals. A person's self-image in this category is defined as the self. While collectivism indicates that there is a greater importance placed on the goals and well-being of the group. A person's self-image in this category is defined as "we".

### *Prevention of Uncertainty Index*

A high index of uncertainty avoidance indicates a low tendency and tolerance for uncertainty, insecurity and doubt. The unknown is minimized by means of rules, strict regulations, established norms, etc. However, a low uncertainty avoidance index indicates a high tolerance for uncertainty, doubt and insecurity. The unknown is more openly accepted, and there are rules, norms, regulations, etc.

### *Femininity vs Masculinity*

The masculinity vs. femininity dimension is also known as "hard vs. soft" and considers society's preference for achievement/attitude towards equality of sexuality, behaviour, etc. Femininity is observed taking into account the following characteristics: a more "maternal" role, modest, caring and concerned with the quality of life, while masculinity comes with the following characteristics: demanding, assertive, ambitious and focused on material conquests and the pursuit of wealth.

### *Short term vs long term orientation*

Long-term orientation shows focus on the future and involves postponing short-term success or gratification in order to achieve long-term success. Long-term orientation places importance on persistence, perseverance and long-term growth. Short-term orientation shows focus on the near future, involves delivering short-term success or gratification, and places a stronger emphasis on the present than the future. Short-term orientation emphasises quick results and respect for tradition.

### *Restriction vs Indulgence*

This dimension is based on how societies can control their impulses and desires.

Restraint indicates that a society suppresses the satisfaction of needs and regulates it through social norms, whereas indulgence indicates that a society allows relatively "free" gratification related to enjoying life.



*Figure 2: DIMENSIONS OF THE CULTURAL MODEL*

## 1.2. Organisational Climate

The organisational climate is like a psychological atmosphere of a group of individuals inserted in an internal environment. There is a relationship between organisational climate and the effectiveness of individual performance which consequently affects the results obtained from the organisation. Regarding organizational climate, according to Wikipedia (2023), developed by Lawrence R. James (1943-2014) and his colleagues make a distinction between psychological and organizational climate. "Psychological climate is defined as the individual employee's perception of the psychological impact of the work environment on their own well-being (James & James, 1989). When employees in a given work unit agree on their perceptions of the impact of their work environment, their shared perceptions can be aggregated to describe their organizational climate." Thus, meaning that organisational climate represents staff perceptions of the impact of the work environment on the individual.<sup>2</sup>

### *Organisational Perspective*

In this, climate is considered as an objective "manifestation" of the company's characteristics, it is completely external to the individual and differs from one's own perceptions and can be assessed through individual perceptions. Factors such as (technology, structure, size), exist independently of the perceptions of individuals and therefore climate is considered to be an organisational attribute rather than an individual one.

### *Psychological Perspective*

This is understood as the way the individual understands his/her work environment, reflecting his/her values and needs. It concerns the psychological and cognitive part of each individual.

### *Cultural Perspective*

Climate created by the interactions of members who share a common frame of reference. This is perceived as a provenance of culture, with culture assisting in what is most relevant to the individual.

### *Psychosocial Perspective*

This climate consists of the interaction of individuals in the organisation, and the way they see the organisation is influenced by the way they feel in it.

## 1.3. Herzberg's Theory of Motivation

One can also understand the organisational climate from the motivational state of individuals through Herzberg's theory of motivation, which is based on people's work content and environment. For Herzberg, motivation at work depends on two factors:

- Hygienic Factors (related to the environment)
- Motivational Factors (related to the work to be done)

According to the theory, the condition experienced at work, the comfort, the relationship with the boss and/or co-workers, the monthly remuneration and the benefits and policies of the organisation are some of the most important examples when it comes to the hygienic factor of each one, while in relation to the motivational factor, the delegation of responsibility, the participation in defining how to do the work, the possibility of growth, new challenges and perspectives of personal development are some of the most highlighted examples according to Herzberg.

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<sup>2</sup> Child Welfare Information Gateway

#### **1.4. Organisational Climate vs. Organisational Culture**

Based on the research done, it is possible to see that organisational culture and organisational climate are two distinct but interdependent concepts. Organisational culture refers to the beliefs and values shared by the employees of an organisation and is essential to the performance, performance and success of the company. Organisational climate is related to employees' perception of the work environment and how it affects their physical, psychological and social well-being. A strong culture can be built through a number of factors, from hiring employees who share the organisation's values, to developing orientation, training and performance management programmes that reinforce those values.

It is important that employees know that management/leadership expects them to respond to any situation, at any time and that employees will be rewarded for demonstrating the organisation's values. When employees believe that the expected response is the right one, they feel more motivated to contribute to the company's success. However, for a strong culture to be maintained, it is fundamental that the organisational climate is also favourable and stable. If employees do not feel comfortable in their work environment, even if they share the organisation's values, they may end up feeling unmotivated, making their commitment to the company's values less and less. The International Journal of Organization Theory & Behavior focuses on the presentation, development, discussion and analysis of theory and behavior in organizations across industries and sectors worldwide.

It researches and explores the issue related to organizational dynamics. It aims to focus on empirical and theoretical contributions as they develop, create and/or enhance our knowledge and understanding of human behaviour in organisations. Therefore, it is important that the organisation's managers are always aware of the organisational climate, trying to identify possible problems and find solutions to improve them. It is fundamental that employees feel valued, respected and welcomed by the company. When employees feel recognised and supported, they become more dedicated and productive. In short, both organizational culture and organizational climate are major factors that affect the success of a company. A strong culture is essential to establish the beliefs and values shared by employees to more effectively achieve the company's goals, while the organizational climate directly affects the well-being of employees and their enjoyment within the company.

## **2. METHODOLOGY**

The instrument of data collection adopted was an online questionnaire through the platform "Google Forms", entitled "Culture and Organisational Climate of the employees of Altran". This is a multinational consultancy company in engineering and innovation and its main objective is to achieve a better perception of the general functioning of the company, and especially how employees feel within Altran. The formulated hypotheses that form investigated are as follows:

**Hypothesis 1:** Employees feel valued, prestigious and listened to by the company, contributing to better performance and productivity

**Hypothesis 2:** Employees do not feel sufficient, understood and valued by the company and therefore their performance and productivity is affected by the lack of psychological and social well-being within the company (e.g. lack of motivation)

**Hypothesis 3:** There are no consequences in terms of the employees' performance and productivity towards the company, even if they do not feel welcome, motivated and understood.

The sample is made up of 28 employees from one of the company's sections



Figure 3: Altran logo

### 3. PRESENTATION AND PROCESSING OF THE RESULTS OBTAINED

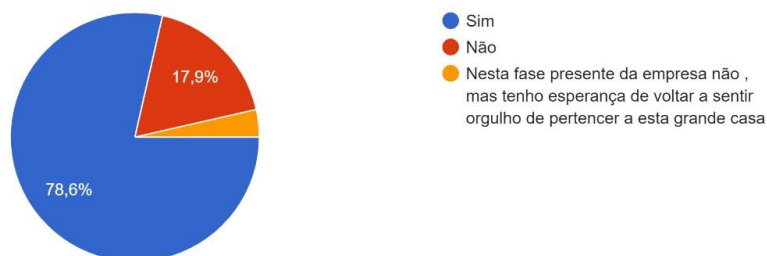
After collecting the results of the questions asked to Altran employees, we found distinct answers regarding 6 categories: Motivation, Communication, Teamwork, Performance, Training and finally their Satisfaction. We intended, through the questions asked in the above-mentioned questionnaire, to assess the present situation of each of the employees in the company and we found that at the level of:

#### Motivation

##### Graph 1

Sente prestígio/orgulho em poder fazer parte da organização?

28 respostas

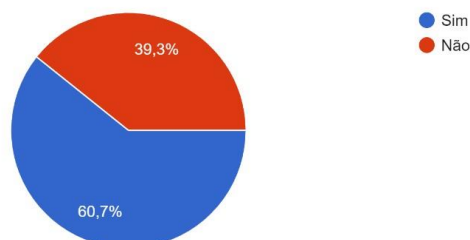


(Note: Yes-22 ; No-5 and Others)

##### Graph 2

Sente que a Organização tem em conta as suas opiniões/ideias/sugestões?

28 respostas



(Note: Yes-17 ; No-11)

## Communication

Graph 3

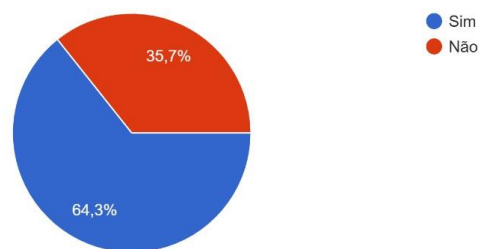
Existe facilidade na comunicação entre colaboradores e gestores/diretores dentro da Organização?  
28 respostas



(Note: Yes-16 ; No-11 and Others)

Graph 4

Sente-se respeitado, compreendido e ajudado dentro da Organização?  
28 respostas

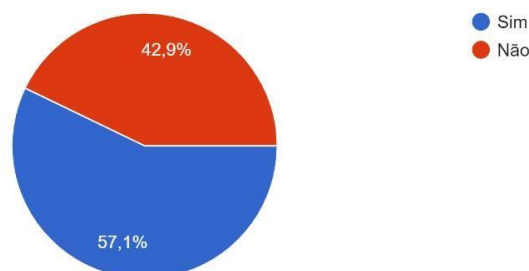


(Note: Yes-18 ; No-10)

## Teamwork

Graph 5

Sente que existe cooperação/entreaajuda da parte da Organização perante os colaboradores?  
28 respostas

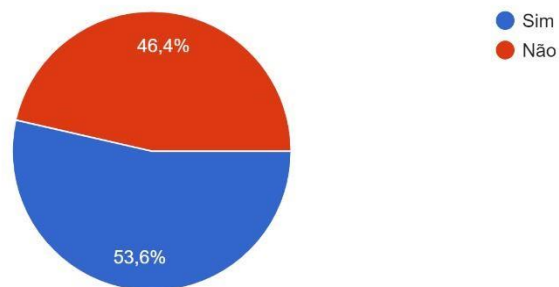


(Note: Yes-16 ; No-12)

Graph 6

Existe incentivo ao trabalho coletivo dentro da Organização?

28 respostas



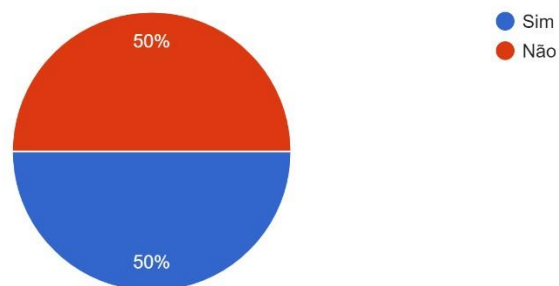
(Note: Yes-15 ; No-13)

## Performance

Graph 7

Sente que o seu desempenho é avaliado de forma justa dentro da Organização?

28 respostas

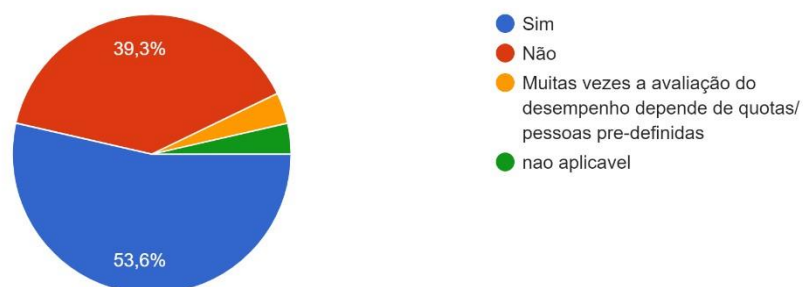


(Note: Yes-14 ; No-14)

Graph 8

A avaliação do seu desempenho permite-lhe melhorar/corrigir o mesmo?

28 respostas



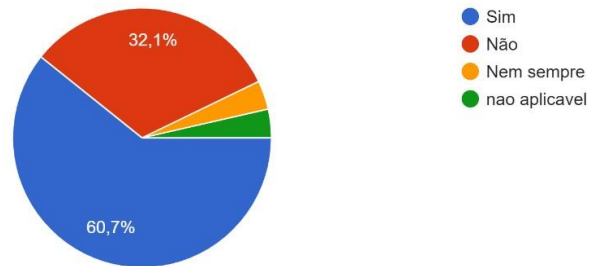
(Note: Yes-15 ; No-11 and Others)



## Training

### Graph 9

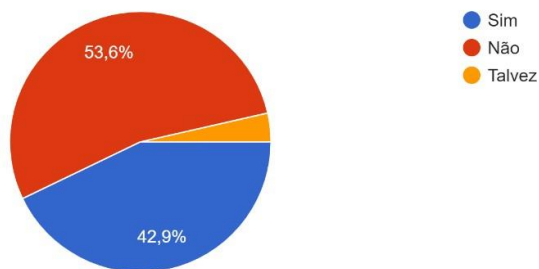
As formações dadas pela parte da Organização são úteis para a sua evolução na área profissional?  
28 respostas



(Note: Yes-17 ; No-9 and Others)

### Graph 10

Sente que existe preocupação por parte da Organização, relativamente à progressão na carreira dos colaboradores?  
28 respostas

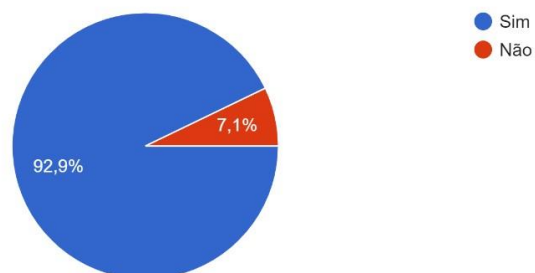


(Note: Yes-12 ; No-15 and Others)

## Satisfaction

### Graph 11

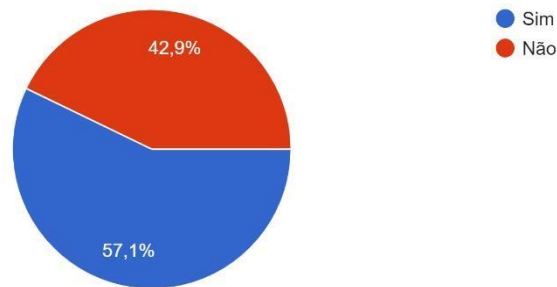
Consegue conciliar a vida profissional com a vida pessoal?  
28 respostas



(Note: Yes-26 ; No-2)

Graph 12

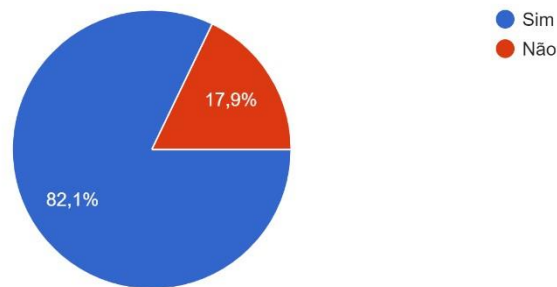
Sente-se protegido/acolhido na Organização?  
28 respostas



(Note: Yes-16; No-12)

Graph 13

Está satisfeito com a função/cargo que desempenha dentro da Organização?  
28 respostas



(Note: Yes-23 ; No-5)

#### 4. FINAL CONSIDERATIONS

Taking into account the considerations obtained through the theories described and studied, through the collection and processing of data and taking into account the main objective of the study which is to understand how the company and its employees function. The data reveals that there is still difficulty in finding a healthy and fair environment within the company and in integrating employees in the goals/objectives that the company wants to achieve, not taking into consideration most of the time the performance that they present in the company. Teamwork among employees is not yet seen as an added value by managers according to the results obtained, as is performance measurement, which for half of the employees surveyed is not assessed fairly. With regard to employee training, the company's concern for the career development of its employees is not evident or does not exist at all for most of them. Hypotheses 1 and 2 were verified because the answers vary according to the categories mentioned and in the same way that an employee does not feel evaluated in the fairest way, he simultaneously feels proud to be part of the company. It is also considered that a totally healthy and balanced environment within the company only takes place if hypothesis 1 is applied and consequently fulfilled.

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# UNION–FIRM BARGAINING AGENDA WITH SEQUENTIAL CHOICES: RIGHT-TO-MANAGE OR SEQUENTIAL EFFICIENT BARGAINING?

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## ABSTRACT

*In a differentiated Cournot duopoly context, this paper revisits the issue of the scope of bargaining between firms and unions considering sequential decision during the negotiation process. In doing so, a parallel between the Right-to-manage (RTM) and the Sequential Efficient Bargaining (SEB) models is performed. In contrast with the previous literature, a comparison between the two exogenously assumed arrangements reveals: 1) when products are sufficiently substitutes unions, rather unexpectedly, always prefers RTM; because firms, as expected, prefer RTM, then RTM would be the parties' agreed bargaining agenda; 2) when products are sufficiently complements, also an agreement on SEB emerges; 3) when products are sufficiently differentiated, the standard result of a disagreement on the bargaining agenda holds.*

**Keywords:** *Sequential efficient bargaining; Right-to-manage; Cournot duopoly; Firm-union bargaining agenda*

## 1. INTRODUCTION

This paper considers a version of the sequential efficient bargaining (SEB) in Manning (1987a,b) with an initial stage in which unions and firms bargain over wages, and a subsequent stage in which the parties bargain over employment. This “dynamic” efficient setting differs from the static one in which there is simultaneous bargaining over wages and employment. It introduces strategic effects because wage negotiations strategically anticipate the impact of wages on subsequent employment levels. In fact, in a duopoly context, the wage negotiated in each firm affects not only the subsequent employment level of the same firm, but also the employment level of the rival firm. For the sake of simplicity, it is assumed, as usual, the same relative bargaining power in both stages. The previous literature has mainly focused on the relationship between entry and the choice of the bargaining agenda. Bughin (1999) argues that, in a unionized duopoly with homogeneous goods, the industry equilibrium is the simultaneous efficient bargaining (EB) for each firm. In sharp contrast with the former result, Buccella (2011) shows that a conflict of interest among the parties arise as regards the choice of the bargaining agenda; in particular, RTM is the dominant strategy for firms and EB is the unions' dominant strategy. In the same framework, but without entry considerations, Fanti (2014) studies the agenda selection but assume a different options for how the rules of the game are specified. Indeed, while Bughin (1999) and Buccella (2011) suppose that at stage 1 only one firm and one union bargain over wages and at stage 2 the same firm chooses employment while the rival bargaining unit simultaneously negotiate wage and employment, Fanti (2015) supposes that at stage 1 one bargaining unit simultaneously negotiates wage and employment while the rival unit bargains only over the wage, and at stage 2 the latter firm chooses employment.

In other words, this means that in Bughin (1999) and Buccella (2011) one bargaining unit is Stackelberg follower in the wage determination game, and in Fanti (2015) is Stackelberg leader in the output game. In the present paper, with SEB negotiations, there is no leadership. In a duopoly framework with differentiated goods, this paper exogenously compares the two labour market institutions (i.e. RTM and SEB) and revisits the Pareto-ranking between the two arrangements for both firms and unions. The timing of the game is the following: at the first stage both firm/union bargaining units negotiate simultaneously wages; at the second stage, with RTM each firm has the right to choose its employment level, while with SEB, the employment level is negotiated with the respective union, for given negotiated wages. The main findings are as follows. First, rather unexpectedly, unions always prefers RTM when products are sufficiently substitutes; because firms, as expected, prefer RTM, then RTM arises as the parties' agreed bargaining agenda. Second, when products are sufficiently complements, it emerges also an agreement on SEB; 3) when products are sufficiently differentiated, the standard result of a disagreement on the bargaining agenda holds. The rest of the paper is organized as follows. Section 2 presents the basic duopoly model. Section 3 develops the case of the unionisation of the labour market under the two institutions (SEB and RTM). Section 4 provides the equilibrium outcomes as well as the key proposition as regards the choice of the preferred type of agreement by firms and unions. Section 5 closes the paper with an outline of future research.

## 2. THE BASIC MODEL

A duopolistic Cournot market is considered. There is a differentiated product and its standard normalised linear inverse demand is given by (see e.g. Singh and Vives, 1984):

$$p_i = a - q_i - \gamma q_j \quad (1)$$

where  $p$  denotes price,  $q_i$  and  $q_j$  are the output levels of the two firms and  $\gamma \in (-1, 1)$  represents the degree of substitutability between products. It is assumed the following production function – identical for both firms – with constant (marginal) returns to labour:

$$q_i = L_i \quad (2)$$

where  $L_i$  represents the labour force employed by firm  $i$ . The  $i$ -th firm faces an average and marginal cost  $w_i \geq 0$  for every unit of output produced, where  $w_i$  is the wage per unit of labour. Therefore, the firm  $i$ 's cost function is linear and described by:

$$C_i(q_i) = w_i L_i = w_i q_i. \quad (3)$$

$\Pi_i$  denotes the profits of the  $i$ -th firm, as follows:

$$\Pi_i = (a - w_i - \gamma q_j - q_i)q_i \quad (4)$$

### 3. THE UNIONISED LABOUR MARKET

Two typical models of the trade-union economics (Booth, 1995) are taken into account: 1) the efficient bargaining model (e.g. McDonald and Solow, 1981; Ashenfelter and Brown, 1986) which prescribes that the union and the firm bargain over both wages and employment (or, more realistically, hours of work); in particular, it is analysed its sequential version, i.e. the sequential efficient bargaining (SEB) (Manning, 1987a,b); 2) the Right-to-Manage model (RTM) (e.g. Nickell and Andrews, 1983), in which wages are the outcome of negotiations between firms and unions, while firms have all the power to set the employment level. Each identical firm-specific union has the following utility function:

$$V = (w - w^o)^\theta L \quad (5)$$

which is a general Stone-Geary utility function (see Pencavel, 1984, 1985; Dowrick and Spencer, 1994). To simplify the analysis, the model assumes that 1) unions are neutrally oriented ( $\theta = 1$ ), that is, they assign the same weight to wage and employment in their utility function; and 2) the reservation wage is  $w^o = 0$ . As a consequence, the unions' utility function becomes  $V_i = w_i L_i$ . Recalling that  $q_i = L_i$ , Eq. (5) boils down to:

$$V_i = w_i q_i$$

(6)

This means that unions aim to maximise the total wage bill. Let us now illustrate the cases of RTM and SEB, respectively.

#### 3.1. Right-to-Manage institution

First, a firm-union two-stage game à la Right-to-Manage (RTM) is built: in the first stage firm-specific unions simultaneously bargain with firms over wages (anticipating the output chosen by firms), and in the second stage firms simultaneously choose their output (given the wages negotiated with the respective unions). The equilibrium is solved in the standard backward fashion. From the first-order conditions of the profit maximization problem, an equilibrium of the second stage of the game (the market game) is obtained solving the system of firms' reaction functions

$$q_i(q_j) = \frac{1}{2}(a - w_i - \gamma q_j), \quad i, j = 1, 2 \quad i \neq j, \quad (7)$$

From (7), one can obtain output, respectively, by firm  $i$ , for given  $w_i$  and  $w_j$ :

$$q_i(w_i, w_j) = \frac{[a(2 - \gamma) - 2w_i + \gamma w_j]}{4 - \gamma^2} \quad i, j = 1, 2 \quad i \neq j \quad (8)$$

At the first stage of the game, under RTM, firm - union bargaining unit  $i$  selects  $w_i$  to maximize the following generalized Nash product,

$$\underbrace{\max}_{w.r.t. w_i} N_i = (\Pi_i)^{1-b} (V_i)^b = \left[ (a - w_i - \gamma q_j - q_i) q_i \right]^{1-b} (w_i q_i)^b \quad i, j = 1, 2 \quad i \neq j$$

(9)

where  $b$  is the relative bargaining power of the union. After substitution of (8) in (9), the maximization with respect to the wage leads to the sub-game perfect best-reply function in wages of union-firm pair  $i$  -  $w_i(w_j)$  - under the assumption of a non-cooperative Cournot-Nash equilibrium in the product market:

$$w_i(w_j) = \frac{b[a(2-\gamma) + \gamma w_j]}{4}$$

(10)

Solving the system composed by  $w_i(w_j)$  and its counterpart for  $j$ , the sub-game perfect equilibrium wages are obtained (the apex refers to the type of bargaining arrangement):

$$w_i = w_j = w^{RTM} = \frac{ab(2-\gamma)}{4-b\gamma}$$

(11)

By exploiting (11), after standard substitutions and usual algebra, the equilibrium values of output, profit and union's utility are derived, reported in Table 1.

### 3.2. Sequential Efficient Bargaining institution.

Under SEB, assuming that unions are identical and have the same bargaining power during the negotiations with their firms, one has to maximize the following generalized Nash product,

$$N_i = (\Pi_i)^{1-b} (V_i)^b = \left[ (a - w_i - \gamma q_j - q_i) q_i \right]^{1-b} (w_i q_i)^b$$

(12)

Hence, the firm - union bargaining unit  $i$  chooses at the first stage  $w_i$  and at the second stage  $L_i$ , or equivalently  $q_i$ . At the second stage, from the system of first-order conditions w. r. t.  $q_i$  of the efficient bargaining game between firms and unions, the output reaction functions are:

$$q_i(q_j, w_i) = \frac{1}{2-b} (a - w_i - \gamma q_j), \quad i, j = 1, 2 \quad i \neq j$$

(13)

From eqs. (13), one obtains the output of firm  $i$ , for given  $w_i$  and  $w_j$ :

$$q_i(w_i, w_j) = \frac{[a(2-b-\gamma) + \gamma w_j - (2-b)w_i]}{b^2 + 4(1-b) - \gamma^2}, \quad i, j = 1, 2 \quad i \neq j$$

(14)

After substitution of eqs. (14) into (12), at the first stage, maximization of the Nash product w. r. t.  $w_i$  leads to

$$w_i(w_j) = \frac{b[a(2-b-\gamma) + \gamma w_j]}{2(2-b)}, \quad i, j = 1, 2 \quad i \neq j \quad (15)$$

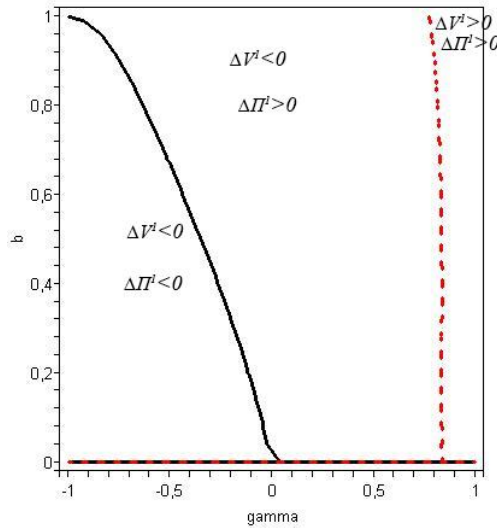
which defines the sub-game perfect best-reply function in wages of union–firm pair  $i$ . Solving the system composed by the equations in (15), the sub-game perfect equilibrium wages are:

$$w_i = w_j = w^{SEB} = \frac{ab(2-b-\gamma)}{4-b(2+\gamma)} \quad (16)$$

By substituting (16) in (14), one first obtains the negotiated output in equilibrium; further substitutions of the equilibrium wages and output allows to derive profits and union utility under SEB, reported in Table 1

*Table 1, equilibrium outcomes under RTM and SEB arrangements  
(Authors' own calculations)*

	Output	Profits	Union utility
RT M	$q^{RTM} = \frac{2a(2-b)}{(2+\gamma)(4-b\gamma)}$	$\Pi^{RTM} = \frac{4a^2(2-b)^2}{[(2+\gamma)(4-b\gamma)]^2}$	$V^{RTM} = \frac{2a^2b(2-b)(2-\gamma)}{(2+\gamma)(4-b\gamma)^2}$
SE B	$q^{SEB} = \frac{a(2-b)^2}{[4-b(2+\gamma)](2+\gamma-b)}$	$\Pi^{SEB} = \frac{a^2(2-b)^4(1-b)}{[[4-b(2+\gamma)](2+\gamma-b)]^2}$	$V^{SEB} = \frac{a^2b(2-b)^2(2-b-\gamma)}{[4-b(2+\gamma)]^2(2+\gamma-b)}$



*Figure 1. Plot of the “threshold curves  $\Delta\Pi^1$  and  $\Delta V^1$  in the  $(\gamma, b)$ –space. Legend: Each curve is drawn for a given value of  $a = 1$  ( $\Delta\Pi^1 = 0$ : black solid line;  $\Delta V^1 = 0$ : red dotted line). For all  $(\gamma, b)$  combinations along each curve,  $\Delta\Pi^1 = \Delta V^1 = 0$  holds true. For all  $(\gamma, b)$  combinations above (below) each curve, both profits and union’s welfare are higher under RTM (SEB) arrangement (that is,  $\Delta\Pi^1 > (<) 0$  and  $\Delta V^1 > (<) 0$ ) (authors’ own calculations)*



#### 4. COMPARISON OF RTM AND SEB NEGOTIATIONS

Let us define the following profit and union's utility differentials:

$$\Delta \Pi^1 = \Pi^{RTM} - \Pi^{SEB} = \frac{a^2 b (2-b)^2 [b^4 \gamma^2 (4 + \gamma + \gamma^2) + 4b^3 (4 - 7\gamma^3 - 12\gamma^2 - 4\gamma) + b^2 \gamma^4 (8 - 5b) + 96b^2 \gamma + 64b^2 (\gamma^3 - 1) + 160b^2 \gamma^2 - 192b\gamma(\gamma + 1) - 48b\gamma^3 + 64(b + \gamma^2) + 128\gamma]}{(4 - b\gamma)^2 (2 + \gamma)^2 (2 - b - \gamma)^2 [4 - b(2 - \gamma)]}$$

$$\Delta V^1 = V^{RTM} - V^{SEB} = \frac{a^2 b^2 (2-b) [b^2 \gamma^2 (b\gamma + 2b + \gamma^2 - 4\gamma^3 - 20) + 4b(4b - 2b\gamma + 12\gamma + 10\gamma^2) - 16(4b - 4 + \gamma^2 + 4\gamma)]}{(4 - b\gamma)^2 (2 + \gamma)(2 - b - \gamma)[4 - b(2 - \gamma)]^2}$$

Those differentials are graphically represented in Figure 1. Making a distinction between the cases of complements and substitutes goods, one can derive the following Lemma.

**Lemma 1.** *As regards firms:*

- i) *in the case of complements goods ( $\gamma < 0$ ), the higher the differentiation degree is (i.e. the less negative is  $\gamma$ ) and the lower the union's power ( $b$ ), the more likely profits are higher under RTM arrangement;*
- ii) *in the case of substitutes goods ( $\gamma > 0$ ) profits are always higher under RTM arrangement.*

*As regards unions:*

- i) *in the case of complements goods ( $\gamma < 0$ ) union's welfare is always higher under the SEB than the RTM arrangement;*
- ii) *in the case of substitutes goods ( $\gamma > 0$ ) the lower the differentiation degree is (i.e. the higher  $\gamma$ ), the higher the union's power ( $b$ ) is, the more likely union's welfare is higher under a RTM arrangement. In particular, simple algebra shows that a sufficient condition is a high substitutability between goods, that is,  $\gamma > 0.84$ ).*

*Proof: Simple algebra and inspection of Figure 1.*

The rationale for the results in Lemma 1 is as follows. A direct comparison of output expressions in Table 1 reveals that  $q^{RTM} < q^{SEB}$  in all the relevant parametric set: employment negotiations lead firms to hire more workers, employment is to the right of the firms' labour demand functions, shifting outward the firms' output reaction functions. On the other hand, a comparison of (11) and (16) shows that, in equilibrium,  $w^{RTM} \geq (<) w^{SEB}$  if  $\gamma \geq (<) 0$ . With highly complement goods, there is no competitive pressure among firms, and therefore high negotiated wages are passed through to high prices. Moreover, if the unions' bargaining power is not too strong, a relatively small share of the oligopoly rents is transferred from firms to organized workers. Therefore, firms can prefer the SEB arrangement. Concerning unions, given that with complement goods both wages and employment levels with SEB are higher than RTM, the former arrangement is always preferred. However, when goods are complements but less differentiated, the wage gap between the two bargaining institutions shrinks, the pass through effect weakens, and cost effect due to lower wages with RTM than SEB dominates, leading the firms to prefer the former arrangement. This reasoning applies for firms also when goods become substitutes, for whichever degree of product differentiation.

Concerning unions, RTM wages are always higher than SEB wages, and this induces firms to reduce production and labour demands; however, if goods are close substitutes, the degree of competition in the industry is high, pushing firms to expand output. The combined effect of higher wages and closer output gap between RTM and SEB leads unions to prefer RTM (the workers' wage bill is larger with the latter arrangements). A direct observation of Figure 1 and the above discussion lead to the next result.

**Result 1:** *An exogenous comparison between the two bargaining institutions shows that:*

- 1) with substitutes goods unions prefers RTM only if products are sufficiently substitutes (i.e. low differentiation), while firms always prefer RTM. As a consequence, no agreement may occur unless products are close substitutes when RTM is always the agreed arrangement chosen in the bargaining agenda.*
- 2) with complements goods unions always prefer SEB while firms prefer SEB only if products are sufficiently complements and union's power sufficiently low. Therefore, no agreement occurs unless goods are sufficiently complements and union's power sufficiently low: in this case, SEB is the bargaining chosen in the agenda.*
- 3) with sufficiently differentiated goods (complements as well as substitutes), there is conflict of interests as regards the choice of the bargaining agenda.*

*Proof:* The proof follows from Lemma 1 and inspection of Figure 1.

The policy insight is as follows. The policymakers, when designing the labour market regulation concerning union-firm negotiations, should pay attention to: 1) the features of the product market (degree of competition/complementarity in production): highly competitive/complementary markets can be characterized by stable industrial relations (no conflict over the bargaining agenda between firms and unions); and 2) the timing of negotiations: to allow the emergence of stable industrial relations, employment negotiations should be conducted separately, and subsequently, to wage negotiations: subsequent negotiations would soften the wage demands of unions and boost employment levels.

## 5. CONCLUSION

This paper has analysed the issue of the bargaining agenda between firms and unions considering sequential decision during the negotiation process. An exogenous comparison between the RTM and the SEB models has shown that 1) when goods are close substitutes, unions prefer RTM; because firms prefer RTM, then RTM is the parties' agreed bargaining agenda; 2) when products are close complements, also an agreement on SEB emerges; 3) the standard result of a disagreement on the bargaining agenda holds when goods are sufficiently differentiated. As future directions of research, the robustness of the present findings needs be checked: 1) under the endogenous selection of the bargaining agenda; 2) in a more extended game in which also managerial delegation, R&D investments and capacity choices are considered.

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# CARDIORESPIRATORY FITNESS IN INACTIVE CHILDREN OF UPPER ELEMENTARY SCHOOL GRADES

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## **ABSTRACT**

*Considering that inactivity leads to a decrease in functional abilities and has numerous harmful consequences for the mental and physical health of students, the aim of this study was to explore the impact of physical education on the cardiorespiratory fitness of students in grades 5 to 8. One group of participants included 25 inactive students (15F/10M) from the fifth and sixth grades, while the other group included 25 inactive students (15F/10M) from the seventh and eighth grades. Initial measurements of cardiorespiratory fitness using the Bip test for inactive students were conducted in the second week of physical and health education classes in early September, while the final measurements were taken after 4 months, at the end of the first semester. Wilcoxon Signed Rank test was used for repeated measurements within each group, comparing initial and final outcomes. Differences between groups were analyzed using the Mann-Whitney U test. The level of statistical significance was set at  $p < 0.05$ . Significant improvements in cardiorespiratory fitness were achieved in the group of fifth and sixth-grade students in the final assessment compared to the initial one. The same cannot be claimed for the group of seventh and eighth-grade students. When comparing the two groups of students, this research indicates significant improvements in cardiorespiratory fitness in the fifth and sixth-grade group compared to the seventh and eighth-grade group. It is necessary to introduce more hours of physical and health education in schools and involve more students in extracurricular sports activities.*

**Keywords:** *health, sport, physical education*

## **1. INTRODUCTION**

Previous research indicates that children in Croatia who do not engage in sports activities during their free time achieve below-average results in motor skills, while children involved in additional sports activities only achieve average results compared to the standards set for the United States (Krmpotić et al., 2014). For the health and harmonious growth and development of a child, it is necessary to have more physical activities than the currently recommended two hours of physical education per week (Breslauer, 2007). Therefore, it is crucial to increase additional activities in Croatia and extend the hours of physical and health education in schools. All segments of kinesiological characteristics are extremely important as their monitoring is fundamental for the development and guidance of students in sports. They represent organized systems of all abilities, traits, and motor information, as well as their mutual coordination (Prskalo, 2004). In order to track the progress of students in physical and health education, initial and final checks of kinesiological characteristics and motor abilities are conducted.

One of these motor abilities is cardiorespiratory fitness, which is also one of the most important components of general fitness. "Cardiorespiratory endurance is the ability to perform dynamic exercises, activating large muscle groups, of moderate to high intensity, for an extended period. Each fitness assessment should include the assessment of cardiorespiratory functions at rest and during work" (Heyward, 2010). Mišigoj-Duraković et al. (2018) state that just one physical and health education class in which all students participate is a basic condition for introducing students to all other organizational forms of work. From a biological perspective, the primary task of physical and health education is to establish and maintain a balance between individual organs and the organism, as well as between the organism and the environment. As inactivity leads to a reduction in functional abilities and has numerous harmful consequences for the mental and physical health of students, the aim of this study was to investigate the impact of physical education on the cardiorespiratory fitness of elementary school students from grades 5 to 8.

## 2. METHODS

For the purposes of this research, a sample of 50 students from two elementary schools in Zagreb was used. The sample included students of both genders from grades 5 to 8. In the group of 5th and 6th graders, there were 15 girls and 10 boys. Similarly, the group of 7th and 8th graders also included 15 girls and 10 boys. Inclusion criteria for the study were as follows: only students who had not participated in sports in the last 6 months and were not currently involved in any training during the initial cardiorespiratory fitness testing were included. Before participating in the study, all of the parents of the participants were informed about the research goals, its execution, and potential risks. They were provided with participant information, and parental consent was required for participation in the study. The study divided participants into two groups, with 5th and 6th graders in one group and 7th and 8th graders in another. Initial cardiorespiratory fitness measurements for inactive students were conducted in the second week of physical education classes in early September, while final measurements were taken after 4 months, at the end of the first semester. **Cardiorespiratory fitness** was assessed using the Bip Test. The Bip Test, developed by Léger in 1982, is used for assessing cardiorespiratory fitness and progress during training processes for boys and girls aged 5-18. It can also be applied to evaluate aerobic abilities in the adult population, demonstrating satisfactory reliability and validity ( $r = 0.975$ ,  $SEE = 2.0 \text{ ml} \times \text{kg}^{-1} \times \text{min}^{-1}$ ) (Léger & Lambert, 1982). The test consists of 21 or more levels with 7 or more running intervals of 20 meters each. The participant runs the 20-meter distance in each interval, aiming to be within 3 meters of the marker at the sound signal (bip). The running pace increases as the interval between sound signals shortens. **Training Protocol** - inactive students participated in regular physical education classes twice a week, which was their only sports activity. The curriculum in the first semester included running and jumping exercises from athletics, as well as activities from handball, basketball, gymnastics, and volleyball. Both groups of students covered the same topics, with 7th and 8th graders performing more advanced exercises. **Statistical Methods** The Shapiro–Wilk test was used to assess the deviation level of the empirical distribution from normal (Table 1). The t-test for independent samples was used as a parametric method to identify differences in initial measurements between the 5th and 6th-grade group and the 7th and 8th-grade group in the Bip Test. Non-parametric statistical methods were used due to deviations from the normal distribution of variables. The Wilcoxon Signed Rank test was employed for repeated measurements between initial and final outcomes within each student group. To compare groups, the difference variable between the measurement time points was calculated: 1. from the initial to the final measurement (variable IN-FIN difference). Mann-Whitney U test was then used to compare differences between groups. The level of statistical significance was set at  $p < 0.05$ .

### 3. RESULTS

The T-test for independent samples revealed no statistically significant difference in the initial measurement of the Bip Test between the group of 5th and 6th-grade students and the group of 7th and 8th-grade students (Table 1). The Wilcoxon Signed Rank Test was used for repeated measurements to determine the statistical significance between the initial and final states in performing the Bip Test for the group of 5th and 6th-grade students (Table 2) and the group of 7th and 8th-grade students (Table 3). To compare the progress from the initial to the final state in the Bip Test between the two groups of students, the Mann-Whitney U test was conducted (Table 4).

*Table 1. Difference between the group of 5th and 6th-grade students and the group of 7th and 8th-grade students in the initial measurement of the Bip Test*

VARIABLE	$\bar{x}$ 5. i 6. GRADE	$\bar{x}$ 7. i 8. GRADE	T-VALUE	p
BIP TEST	3,26	4,12	-1,80	0,08

*Table 2. Difference between the initial and final states for the 5th- th grade students in the Bip Test.*

5. i 6. GRADE STUDENTS	AS	SD	P
BIP TEST INITIAL	3,26	1,04	0,00*
BIP TEST FINAL	4,24	1,86	

The significance level (p) for the Bip Test is less than 0.05 (p=0.00) for both initial and final measurements, indicating that the group of 5th and 6th-grade students achieved a significantly better result in the final measurement compared to the initial one.

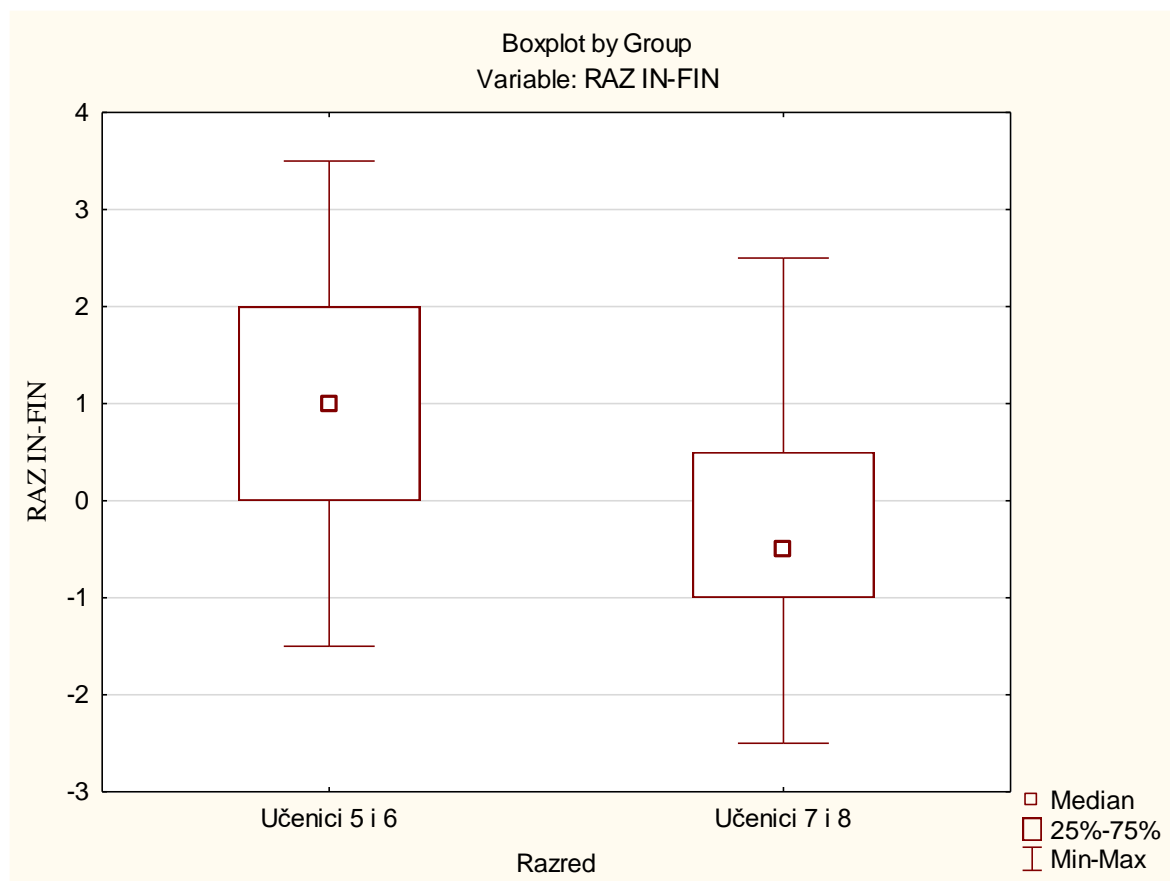
*Table 3. Difference between the initial and final states for the 7th - 8th grade students in the Bip Test*

7. i 8. GRADE STUDENTS	AS	SD	P
BIP TEST INITIAL	4,12	2,13	0,78
BIP TEST FINAL	4,22	1,77	

*Table 4. Difference in effectiveness between the two groups of students in the Bip Test*

VARIABLES	p - value
DIF, IN-FIN 5. i 6.	0,02
DIF IN-FIN 7. i 8.	

There was a statistically significant improvement in cardiorespiratory fitness in the group of 5th and 6th-grade students compared to the 7th and 8th-grade students (Figure 1).



*Figure1. – Presented Results*

#### 4. CONCLUSION

The results of this research indicate that attending 2 hours of physical education and health classes per week can significantly improve cardiorespiratory fitness in 5th and 6th-grade students who do not engage in any sports training. However, the same cannot be claimed for 7th and 8th-grade students, as there were no significant improvements in their cardiorespiratory fitness. One of the reasons for these results could be the declining motivation for exercise in 7th and 8th grades, corresponding to the age of puberty, as well as the fact that students have increasing school and extracurricular obligations, resulting in a lack of physical activity. Kalčík et al. (2011) conducted research on 20 fifth-grade students, indicating a significant correlation between the 6-minute running test commonly conducted in elementary schools and the Bip Test used in this study to assess cardiorespiratory fitness. Their results support the notion that the 6-minute test is suitable for assessing aerobic capacity, while the Bip Test is more applicable to specific situations in team sports characterized by acyclic movement structures. Therefore, the Bip Test is recommended for directing children toward team sports. Given that students mostly participated in program activities of team sports and acyclic movements in the first semester, this could explain why 5th and 6th-grade students achieved a significant improvement in the final Bip Test measurement. The same results were not obtained for 7th and 8th-grade students. A study by De Jonge et al. (2020) on 659 students from 5th to 8th grade suggests that running for 15 minutes 3 to 4 times over 12 weeks can significantly improve the cardiorespiratory fitness of students. Introducing more hours of physical education in elementary schools in the future could allow incorporating running three times a week and positively influencing students' health. Aneta (2019) conducted research on the health fitness of an elementary school from 1988 to 2014, encompassing 4448 students from the fifth to eighth grade.

The results indicate a negative trend in all grades, with statistically significant deterioration recorded in the fitness of 5th, 6th, and 7th-grade female students. Their research used the 6-minute running test for health fitness assessment. Additionally, the research by Tomkinson and Olds (2007) found a significant decrease in aerobic fitness among children and adolescents aged 6 to 19 in 27 countries worldwide, especially after 1970. Each year, aerobic fitness in children decreases by 0.36%. The decrease in children's aerobic fitness can be attributed to a sedentary lifestyle, to which parents consciously or unconsciously contribute. Considering the relatively small sample size, which cannot be deemed representative of the entire population of children and youth in Croatia, it is essential to acknowledge limitations in the conclusions drawn. Further research in this area is necessary to obtain a clearer picture, and the authors suggest longer-term monitoring of students and analyzing the effects on a larger number of participants.

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# THE ROLE OF TRADE UNIONS IN SERBIA'S TRANSITION TO A LOW-CARBON ECONOMY

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## ABSTRACT

*The transition to a low-carbon economy is a pressing global challenge, particularly for countries like Serbia that heavily rely on fossil fuels. This paper examines the role of trade unions in Serbia during this transformative journey towards sustainability. It discusses the implications of the green transition on the labour market, highlighting the decline in coal-related jobs and the necessity for workforce retraining and reskilling. The study emphasizes the importance of a just transition, which aims to ensure that social equity is maintained as communities shift away from fossil fuel dependencies. Furthermore, it explores how trade unions can advocate for workers' rights and influence policy to promote sustainable development. The findings suggest that active involvement from trade unions is critical for securing equitable economic opportunities, enhancing skills development, and fostering social dialogue throughout the decarbonization process. This paper concludes that a coordinated effort involving government, trade unions, and civil society is essential for navigating the complexities of the green transition in Serbia, ultimately contributing to a sustainable and resilient future.*

**Keywords:** *Green transition, decarbonization, trade unions, Serbia*

## 1. INTRODUCTION

The green transition refers to the shift towards sustainable practices and policies aimed at reducing environmental impact while promoting economic growth and social equity. The transition to a low-carbon economy over the forthcoming decades constitutes a substantial global challenge. The process of decarbonization, particularly in an economy still heavily reliant on fossil fuels, necessitates, among other factors, significant technological and industrial transformations, the establishment of innovative energy production and consumption paradigms, the formulation of new business models, and an enhanced emphasis on circularity within production and consumption practices.

Achieving climate objectives mandates a profound transformation in our methods of production and consumption of goods. In essence, compliance with the Paris Agreement demands an urgent and comprehensive reconfiguration of our production processes, modes of transportation, and consumption patterns.

## **2. GREEN TRANSITION IN SERBIA**

In Serbia, green transition is particularly crucial, given the country's reliance on fossil fuels and the pressing need to address climate change and environmental degradation. As Serbia aspires to align with European Union standards and commitments, a comprehensive approach to sustainability is essential for both its ecological and economic future.

### **2.1. The coal sector**

Serbia's energy sector is a significant contributor to greenhouse gas emissions, primarily due to its dependence on coal for electricity generation. Coal is the backbone of the energy systems in Serbia, with the share of coal in electricity production at 67% (Ruiz, et al., 2021), registered an increase in power generation using coal, from 65% in 2014 to 68% in 2019. The coal power sector consists of 14 power plants, totalling 4.3 GW. In 2018, close to 1.4 Mt of solid fossil fuels were used in energy-intensive industries, of which the vast majority (69%) were used in the production of iron and steel and almost 21% in the production of non-metallic minerals (Ruiz, et al., 2021). The country ranks among the highest in Europe in terms of carbon emissions per capita, necessitating urgent reforms to transition towards cleaner energy sources. In 2018, the coal sector in Serbia employed over 15,200 individuals, with approximately 12,300 engaged in coal mining and nearly 2,900 in coal-fired power plants. The Belgrade region, one of two regions in the Western Balkans with a workforce exceeding 10,000 in coal-related activities, accounted for 12,250 employees. Furthermore, there are an estimated 37,300 jobs in Serbia that are indirectly dependent on coal-related activities, indicating that Serbia exhibits the highest proportion of coal-related indirect employment within the Western Balkans, comprising 54%—in contrast, for example, to just 7% in Ukraine. The productivity of coal mines in Serbia is notably lower than that of their counterparts in the European Union, although it remains the highest within the Western Balkan region, resulting in an employment intensity that is four times greater than that observed in the EU. The Serbian government has planned to decommission all coal-fired power plants with a capacity below 300 MW by 2024, as these facilities are, on average, over 45 years old and operate with an efficiency rate below 30% (Republic of Serbia, Ministry of Mining and Energy, 2016). However, this decommissioning initiative would only affect six out of a total of 14 coal-fired units in Serbia. Furthermore, no alternative scenarios have been proposed within the Serbian energy strategy, leading to the conclusion that no additional closures of coal-fired power plants are anticipated in Serbia.

Coal mines in Serbia maintain a significant interconnection with adjacent coal-fired power plants. Consequently, the future viability of these coal mines is intrinsically linked to the operational status of the power plants. Should the Serbian Energy Development Strategy (Republic of Serbia, Ministry of Mining and Energy, 2016) be strictly implemented, it is estimated that fewer than 3,000 jobs in the coal mining sector may be at risk during the phase-out period. Additionally, in a worst-case scenario, approximately 700 power-plant jobs could be endangered due to the potential closure of power plants. It is essential to recognize that this figure reflects only the jobs directly associated with the retirement of power plants, as if these facilities functioned as independent entities. However, the majority of these power plants are integrated within a larger national utility company, indicating that the total number of jobs at risk may be substantially higher.

## **2.2. Transition efforts to low-carbon economy**

Following the initiatives undertaken at a global level to combat climate change and promote sustainable development, Serbia has made significant commitments aimed at enhancing its environmental policies and practices. Through the establishment of the Energy Community Treaty in 2006, Serbia has aligned itself with regional efforts to create a more integrated and sustainable energy market in Southeast Europe. This treaty serves as a framework for cooperation among its signatories, facilitating the adoption of EU energy regulations and standards, thereby fostering energy efficiency and the use of renewable resources. In addition, Serbia has taken a pivotal step by ratifying the Paris Agreement, a landmark international accord that seeks to limit global warming to well below 2 degrees Celsius and to pursue efforts to keep it below 1.5 degrees Celsius. By ratifying this agreement, Serbia has pledged to reduce its greenhouse gas emissions and enhance its resilience to the impacts of climate change, contributing to the global effort to achieve climate stability. Serbia has demonstrated a commitment to addressing greenhouse gas (GHG) emissions, as articulated in its first Nationally Determined Contribution (NDC), which was submitted on June 30, 2015. In this initial commitment, Serbia set the objective of achieving a reduction of GHG emissions by 9.8% by the year 2030, relative to 1990 levels. Subsequently, the updated Nationally Determined Contribution (Republic of Serbia, 2021), submitted on August 28, 2022, revised this target, establishing a more ambitious aim of a 33.3% reduction compared to 1990 levels. Moreover, net GHG emission reduction targets for Serbia, encompassing the mitigation and elimination of emissions associated with land use, land use change, and forestry (hereinafter referred to as LULUCF), were formally adopted in December 2022, in accordance with the provisions of the Energy Community Treaty. Additionally, the signing of the Sofia Declaration on the Green Agenda for the Western Balkans in 2020 underscores Serbia's commitment to a comprehensive approach toward environmental sustainability. Through this initiative, Serbia has pledged to implement a series of concrete actions, which include promoting renewable energy sources, enhancing energy efficiency, and fostering sustainable agricultural practices. In 2024, the Serbian government adopted the Integrated National Energy and Climate Plan (INECP) for the period until 2030 with projections until 2050 (Republic of Serbia, 2024). This plan is anticipated to result in a reduction of GHG emissions by 40.3% relative to 1990 levels. Serbia aims to invest significantly in renewable energy sources, with plans to add approximately 3.5 GW of new solar and wind power capacity by 2030, thereby generating nearly half (45%) of its electricity from clean sources. The target is for renewables to comprise 33.6% of gross final energy consumption by 2030, while the share of lignite in power generation is projected to decrease by 25% by 2030 compared to 2019 levels. Furthermore, the Serbian government has initiated several strategies to promote renewable energy, including wind, solar, and hydropower, intending to increase the share of renewables within the overall energy mix. Collectively, these commitments reflect Serbia's dedication to contributing to the climate neutrality of Europe by 2050. As part of this ambitious objective, Serbia recognizes the imperative of transitioning toward a low-carbon economy and is actively engaged in implementing policies and practices that support this vision. Through these efforts, Serbia aims not only to fulfil its international obligations but also to ensure a sustainable future for its citizens and the environment. Despite these initiatives, Serbia faces several challenges in realizing a successful green transition. The implementation of the aforementioned commitments has been insufficient. Currently, the country's internal economic incentives and policies do not align with the aforementioned commitments (Akbar et al., 2022). Limited financial resources, insufficient infrastructure, and a lack of public awareness about environmental issues hinder progress. Additionally, political and economic factors may impede the implementation of necessary reforms.

Despite notable improvements over the past two decades, Serbia's GHG emissions intensity remains more than 2.5 times higher than the European Union average (International Energy Agency [IEA], n.d.). The country's coal power plants are characterized by outdated and inefficient technologies; however, there has been a lack of clarity and mixed signals from the government regarding the potential decommissioning of these coal-driven facilities and their replacement with more sustainable infrastructure. This ambiguity poses increased risks for prospective investors. Furthermore, the recent surge in global fuel prices has prompted authorities to contemplate delaying the phasing out of coal-driven facilities within Serbia's energy system, thereby heightening the risk of entrenching the country in a carbon-intensive growth model (Akbar et al., 2022).

### **3. THE ROLE AND POSITION OF TRADE UNIONS**

#### **3.1. Low-carbon development and the impact on labor market**

The coal mining sector in Serbia is experiencing a continual decline in the labour force within the labour market, a trend that is anticipated as a consequence of the ongoing decarbonization process. This decline reflects broader global efforts to mitigate climate change by reducing reliance on fossil fuels, particularly coal, which is recognized for its significant contributions to greenhouse gas emissions. As Serbia transitions towards a more sustainable energy framework, the labour force reduction in the coal mining industry is expected to continue, impacting not only employment levels but also the livelihoods of communities that have historically depended on coal mining for economic stability. A similar decrease in labour force participation is observed in the petroleum derivatives sector and the electricity sector. This reduction can be attributed to a transformative shift in the electricity generation mix, which is projected through 2050. The move away from labour-intensive lignite-fired power plants towards less labour-intensive renewable energy technologies, such as wind, solar, and hydroelectric power, signifies a significant restructuring of the energy sector. This transition, while essential for environmental sustainability, raises concerns about potential job losses and the need for workforce retraining and reskilling. The Integrated National Energy and Climate Plan (INECP) has been instrumental in outlining Serbia's energy and climate goals; however, it does not provide comprehensive analyses or adequate measures to facilitate a just transition for workers affected by these shifts. A just transition is crucial to ensure that social equity is maintained during the transition to a low-carbon economy, as it addresses the need for support systems and opportunities for impacted workers to transition into new employment sectors. Recognizing this gap, the development of a Just Transition Diagnostic Study is anticipated in the near future. This study is expected to provide valuable insights and strategies that will assist in identifying the necessary steps to support affected workers and communities, ultimately contributing to a more equitable and sustainable energy transition in Serbia.

#### **3.2. The importance of Trade Unions in Serbia in addressing governance challenges in decarbonisation and climate change**

The ambitious goals set by the Paris Agreement are expected to catalyse significant social and economic transitions within a relatively short timeframe, compelling signatory states, including Serbia, to adapt and restructure towards "greener" systems of production and consumption. This transition is not only designed to foster technological advancement and economic prosperity but also to create new jobs and drive social innovations. Trade unions play a crucial role in this context, advocating for the rights and interests of workers as the transition unfolds. There is no doubt that the transition will yield positive effects both globally and locally, including improved air quality and reduced energy dependence. Moreover, it presents an excellent opportunity for job creation and enhancing knowledge and technological capacity in environmental protection. However, a just transition will not happen without active involvement from trade unions.

To fully harness the economic potential of this transition, stable policies, effective planning, and substantial investments are essential—efforts that unions must support and influence (Milutinović, 2023). Workers and communities dependent on fossil fuels will not find alternative sources of income overnight. Therefore, the transformation requires not only the gradual phasing out of the most polluting sectors but also concerted efforts by trade unions to ensure the creation of new jobs, investments in emerging industries, and opportunities for skill development. Strong, coherent industrial policies, championed by unions, are critical to supporting both developing and traditional sectors, which can drive the implementation of more efficient and sustainable production processes. A just transition is rooted in the principle that no one should be left behind. In regions historically reliant on coal and oil production, revitalizing communities through investments in clean energy, new industries, and job creation is vital. Trade unions are instrumental in advocating for investments in low- and zero-emission public transport systems, clean energy, and a circular economy. In the industrial sector, the shift to renewable energy must be accompanied by "clean" industrial processes, and unions must ensure that workers are equipped with the necessary skills for this transition (Milutinović, 2023). Collective bargaining, led by trade unions, is the pathway to a just transition, ensuring that workers receive the support needed for retraining and fair distribution of new opportunities. Ultimately, a just transition offers the government a unique opportunity to address three intertwined challenges: climate change, rising inequality, and social inclusion. From the workers' perspective, the transition will reshape the labour market, introducing both new risks and opportunities. While new jobs will emerge, some existing occupations may phase out or be replaced, necessitating new competencies and skills. Certain sectors and regions, especially those dependent on carbon-intensive industries, may face greater challenges. Anticipating these trends and their impact on workers should be at the forefront of union activities. By managing climate-related policies and their planning, unions can gain a better understanding of the ongoing changes and their implications for climate policy. According to the International Labour Organization (ILO) guidelines on a just transition (International Labour Organization, 2015), "sustainable development is only possible with the active involvement of the workforce". Governments, employers, and workers must act as agents of change, capable of developing new methods of working that protect the environment, eradicate poverty, and promote social justice through sustainable enterprises and decent work for all. Union participation in shaping medium- and long-term decarbonization strategies is vital for ensuring a just transition. Unions should strive for consistent and formalized participation, ensuring social dialogue is embedded within the policymaking process, facilitating the integration of strategies for reindustrialization, innovation, clean technology adoption, and investment in green infrastructure. Furthermore, it is essential to establish appropriate institutional arrangements that enable participation at all levels—national, regional, sectoral, and especially local—particularly in communities expected to be at the forefront of the transition. Consultations must encompass all key policy areas relevant to the decarbonization process, including macroeconomic policies, industrial, sectoral, and enterprise-level strategies, skills development, occupational safety and health, social protection, active labour market policies, and workers' rights. Trade unions must be at the center of these discussions to ensure that the transition is equitable and inclusive for all workers. Further activities should encompass the following (European Trade Union Confederation, 2020; Milutinović, 2023):

### **1. Economic Diversification and Industrial Policies**

Advocating for integrated industrial policies that promote sustainable development is essential. This includes establishing a clear regulatory framework to foster the creation of green jobs. Policies should also encourage technological innovation and investment in clean energy and efficient industrial processes, particularly within energy-intensive sectors.

It's vital to attract international and national investments in green technologies, leveraging programs like Horizon 2020 and national innovation funds. Unions should be involved in managing these funds to support a just transition for workers in regions impacted by economic changes.

## **2. Education and Skills Development**

Developing national training strategies based on successful European practices in low-carbon policies is crucial. This involves adjusting education and vocational training systems to align with emerging job opportunities from decarbonization. Engaging branch unions to establish sectoral councils will help address future skill needs, especially in sectors like energy, mining, and transport. Mechanisms for information and consultation at the enterprise level are necessary to anticipate changes in competencies and to monitor training related to climate policies.

## **3. Management and Industrial Relations**

Integrating a just transition into national plans is vital for achieving sustainable development goals. Active participation in discussions on low-carbon strategies and policies will enhance implementation. Establishing an institutional framework for union participation across all levels is essential, as is promoting social dialogue to assess the impacts of industrial policies. Expanding collective bargaining to include low-carbon transition issues will address employment, wages, and retraining needs.

## **4. Social Protection and Occupational Health and Safety**

Creating effective social protection systems is necessary to shield the population from economic vulnerabilities during the transition. This includes integrating social protection measures with climate policies, particularly for vulnerable workers. Assessing the risks related to climate change on occupational health is crucial, along with implementing protective measures and training for green jobs. Unions should advocate for protecting employees' rights during the transition process, particularly concerning asset devaluation.

## **5. Internal Functioning and Change Management within Unions**

A just transition should be a political priority for Trade Unions. Raising awareness among union members about climate change effects is important. Conducting a needs analysis within the union will help define training requirements and secure resources. Collaborating with broader alliances can further promote a just transition to a low-carbon economy.

## **4. CONCLUSION**

The green transition represents a pivotal movement towards sustainable practices that significantly reduce environmental impacts while fostering economic growth and promoting social equity. As Serbia embarks on this vital journey, the challenges posed by its heavy reliance on fossil fuels, particularly coal, underscore the urgency for comprehensive reforms. The nation's commitment to aligning with European Union standards and its international obligations, such as the Paris Agreement, necessitate transformative changes in energy production, consumption methods, and industrial practices. Serbia's energy sector, heavily dependent on coal, is the primary contributor to greenhouse gas emissions, with coal accounting for 67% of electricity production. This reliance poses significant environmental and economic challenges, particularly as the country aims to transition towards cleaner energy sources. The planned partial decommissioning of older coal-fired power plants is a step in the right direction; however, it raises concerns about job losses and the future viability of coal mines.

It is essential to develop alternative strategies that ensure a just transition for workers affected by these shifts, particularly in regions where coal-related employment is predominant. Trade unions play a crucial role in advocating for workers' rights and interests during this transition. Their involvement is essential for ensuring that the economic opportunities generated by the green transition are equitable and inclusive. By engaging in social dialogue and collective bargaining, trade unions can help shape policies that address the needs of workers in a transforming labor market. The development of a Just Transition Diagnostic Study will be instrumental in identifying strategies to support workers and communities affected by decarbonization. In summary, Serbia's path towards a low-carbon economy is fraught with challenges but also holds significant opportunities for innovation, job creation, and social equity. A coordinated effort involving government, trade unions, and civil society is essential to navigate these complexities and ensure that the transition benefits all stakeholders involved. By prioritizing a just transition and actively addressing the skills development, social protection, and governance challenges, Serbia can pave the way for a sustainable and resilient future that respects both the environment and the livelihoods of its citizens.

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# CONSUMERS RIGHTS AND SUSTAINABLE CONSUMPTION – CREATING THE GREEN TRANSITION AND CIRCULAR BUSINESS ENVIRONMENT IN EU

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## **ABSTRACT**

*The aim of the paper is to present and analyse the new EU regulation on empowering consumers for the green transition by enhancing their protection against new forms of unfair commercial practices such as misleading environmental claims and the new regulation concerning the consumers right to repair. The new rules have a common goal to increase the level of environmental protection as well as to urge the green transition toward a circular economy on internal EU market. In order to make progress in the green transition, it is crucial that consumers are able to make informed purchasing decisions based on credible environmental claims, thus, achieving more sustainable consumption patterns. New provisions of Directive (EU) 2024/1799, also known as the Right to Repair Directive, aim to reduce premature disposal of products purchased by consumers in EU, contributing to the green deal agenda by laying down common european rules strengthening the provisions related to the repair of goods. The provisions of Directive (EU) 2024/1799 allow consumers to seek an affordable repair from a repairer of their choice, and impose the obligation for the manufacturer or the repairer to repair certain categories of products, free of charge or for a reasonable price.*

**Keywords:** *consumer protection, circular economy, misleading environmental claims, right to repair, sustainable consumption*

## **1. INTRODUCTION**

Recent revisions in EU consumer law presented by Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024. amending Directives 2005/29/EC and 2011/83/EU regards empowering consumers for the green transition through better protection against unfair practices and through better information (hereinafter: Directive (EU) 2024/825)<sup>1</sup>, and Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828<sup>2</sup> (hereinafter: The right to repair Directive) aim to support the much needed changes in consumer consumption patterns in order to achieve climate and environmental goals by ensuring that consumers have better information on the durability, reparability and environmental aspects of products, as well as protecting consumers from commercial practices that prevent them from sustainable purchases.

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<sup>1</sup> Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information OJ L, 2024/825, 6.3.2024

<sup>2</sup> Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828 OJ L, 2024/1799, 10.7.2024.

Recently, the consumption has dramatically increased pressure on the environment, thus, creating greater competition for resources, globally. Several EU policies address aforementioned challenges and promote a more sustainable, circular economy, such as Circular Economy Action Plan.<sup>3</sup> This is linked to elements such as the durability of products and the access to repair, upgrade, disassemble and recycle of products. Increasing the utilisation rate of products can also be achieved through renting/leasing models. It is also related to the provision of clear, credible and relevant information to consumers to allow them to make informed purchasing choices and contribute to green transition towards circular economy models in internal EU market. The 2019 Communication on the European Green Deal<sup>4</sup> stressed the need to transform the EU economy for a more sustainable future. To enable a socially optimal uptake of new goods and services as well as of new approaches to consumption, consumers need better and more reliable information on sustainability aspects of goods and services, while avoiding information overload, as pointed out in The New Consumer Agenda-Strengthening consumer resilience for sustainable recovery in 2020<sup>5</sup>. The European Commission found that 53 % of examined environmental claims in the EU were vague, misleading or unfounded, and 40 % were unsubstantiated. While a majority of consumers repair products (64%), a substantial share have not repaired products in the past (36%), and/or have no experience renting/leasing or buying second hand products (~90%).<sup>6</sup> A reason for this low engagement in circular economy practices could be that consumers lack information regarding product durability and reparability as well as the lack of sufficiently developed markets (e.g. for second hand products, renting, leasing or sharing services etc.). Therefore, consumers need to be better protected against 'information that is not true or presented in a confusing or misleading way to give the inaccurate impression that a product or enterprise is more environmentally sound, called "greenwashing". „Greenwashing“ refers to the advertizing practice of exaggerating or falsifying environmental claims to make a product or company more ecologically aware. This is because nowadays consumers prefer environmentally responsible products and companies. The aim of the paper is to present and analyse new EU regulation on empowering consumers for the green transition by enhancing their protection against new forms of unfair commercial practices such as misleading environmental claims and greenwashing. New provisions of Directive (EU) 2024/1799, also known as the Right to Repair Directive, aim to reduce premature disposal of goods purchased by consumers in EU and to enable consumers to use their goods longer. Directive lays down common european rules strengthening the provisions related to the repair of goods. The provisions of Directive (EU) 2024/1799 allow consumers to seek an affordable repair from a repairer of their choice, and impose the obligation for the manufacturer or the repairer to repair certain categories of products, free of charge or for a reasonable price.

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<sup>3</sup> COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A new Circular Economy Action Plan For a cleaner and more competitive Europe COM/2020/98 final

<sup>4</sup> Communication on The European Green Deal, 11 December 2019, Accessed: 23.10.2024. [https://commission.europa.eu/publications/communication-european-green-deal\\_en](https://commission.europa.eu/publications/communication-european-green-deal_en)

<sup>5</sup> COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL New Consumer Agenda Strengthening consumer resilience for sustainable recovery COM/2020/696 final

<sup>6</sup> European Commission, Sustainable consumption, Accessed: 24.10.2024. [https://commission.europa.eu/live-work-travel-eu/consumer-rights-and-complaints/sustainable-consumption\\_en](https://commission.europa.eu/live-work-travel-eu/consumer-rights-and-complaints/sustainable-consumption_en)

## **2. MISLEADING ENVIRONMENTAL CLAIMS AS THE NEW TYPE OF UNFAIR BUSINESS PRACTICE AND DECEPTIVE ENVIRONMENTAL PRACTICES IN MARKETING AND ADVERTISING (GREENWASHING)**

Directive 2024/825 entered into force on March 26, 2024, and its provisions must be implemented in national legal systems of Member states by March 27, 2026. This Directive amends Directive 2005/29/EC<sup>7</sup> and Directive 2011/83/EU<sup>8</sup> focusing on empowering consumers for the green transition by enhancing protection against unfair practices and providing better information. In order to contribute to the proper functioning of the internal market, based on a high level of consumer protection and environmental protection, and to make progress in the green transition, it is essential that consumers can make informed purchasing decisions and thus contribute to more sustainable consumption patterns. That implies that traders have a responsibility to provide clear, relevant and reliable information. Therefore, specific rules of consumer law need to exist in order to tackle unfair commercial practices that mislead consumers and prevent them from making sustainable consumption choices, such as practices associated with the early obsolescence of goods, misleading environmental claims (greenwashing), misleading information about the social characteristics of products or traders businesses, or non-transparent and non-credible sustainability labels.<sup>9</sup> Those new rules are introduced through amending Articles 6 and 7 of Directive 2005/29/EC with regard to commercial practices that are considered to be misleading, and therefore prohibited, on the basis of a case-by-case assessment, and through amending Annex I to Directive 2005/29/EC, with the addition of specific misleading practices which are in all circumstances considered unfair, and, therefore, prohibited. The European Commission, in 2021, together with national consumer protection authorities, published a report on its annual survey of consumer websites investigated for violations of EU consumer protection law. The study examined green claims across a wide range of consumer products, concluding that for 42 percent of the websites examined, the claims were likely false and misleading and could well constitute actionable claims for unfair commercial practices (Valero, 2021). Greenwashing, a term coined to describe deceptive environmental practices in marketing and advertising, has emerged as a significant challenge in contemporary consumer culture (Horak, 2024, p.35). The term has evolved in the past twenty years and has recently become more specific to deliberate, disclosure-based business activities (Bowen, 2014, p.15). At its core, greenwashing involves the dissemination of misleading or false environmental claims by businesses with the intent to portray themselves as environmentally responsible or sustainable (Aparna, Murugan, 2024, p.123). Greenwashing can occur in many forms (Pabon, 2023, p. 283). The tactics employed in greenwashing are diverse and often subtle, ranging from vague or ambiguous language to outright misrepresentation of environmental credentials.

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<sup>7</sup> Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council (Unfair Commercial Practices Directive), Official Journal of the European Union, L 149/22, 11.06.2005.

<sup>8</sup> Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council (OJ L 304, 22.11.2011)

<sup>9</sup> Directive 2024/825, Recital (1).

Understanding the psychology behind greenwashing is crucial for discerning consumers and regulatory bodies (Szabo, Webster, 2021, p.720). Identifying corporate environmental claims is a first step in uncovering potential greenwashing activities (Stammach, 2022, p.5). The European Commission defines environmental claims as practice of suggesting or otherwise creating the impression that a product or a service is environmentally friendly, as having a positive impact on the environment.<sup>10</sup> The term environmental claim may contain message or representation which is not mandatory under Union or national law, in any form. It can be text, pictorial, graphic or symbol (as labels, brand names, company names or product names), which states or implies that a product has a positive impact on the environment or is less damaging to the environment than other products, or has improved its impact over time. These statements must be verifiable, accurate, meaningful and reliable if consumers are to understand the value of the environmental information they represent (do Amaral, Klein Vieira, de Almeida, 2019, p.199). The EU has paid specific attention to environmental claims as they may represent a kind of unfair commercial practice (di Rattalma, 2017, p.165.). As advertisements containing environmental claims are becoming more prominent, and while much has been written about environmental advertising, this phenomenon has seldom been examined systematically (Carlson, Grove, Kangun, 1993, p. 27). Misleading environmental claims as a form of unfair business practice occur where a business makes claims about its products, services, processes, brands or omits or hides information giving the impression they are less harmful or more beneficial to the environment than they really are. Therefore, new rules aim to ensure that environmental claims are substantiated. Claims or labels using scoring of the product's overall environmental impact will no longer be permitted unless set in EU rules. Comparisons with other products must be based on equivalent information and data. The key criteria include the scope compliance, comparative performance, significant impact, etc. These criteria aim to ensure that consumers have access to clear and reliable information. They also apply to a wide range of claims, including waste reduction, energy efficiency, water conservation, and carbon footprint. Article 6 (1) of Directive 2005/29/EC is amended to include to the list of misleading actions the commercial practices which contain false information in relation to environmental or social characteristics of the product and its circularity aspects, such as durability, reparability or recyclability. Paragraph (2) is also amended so that it is considered a misleading practice any environmental claim related to future environmental performance which is not supported by clear, objective, publicly available and verifiable commitments. The Proposal on The Green Claims Directive<sup>11</sup> presented by European Commission in 2023., establishes more detailed requirements for environmental claims and labels, beyond the general ban on misleading advertising. The list of unfair practices in Annex I of Directive 2005/29/EC is extended to include practices which are not only related to environmental aspects, but also to the durability/obsolescence of products such as making a generic environmental claim for which the trader is not able to demonstrate recognized excellent environmental performance relevant to the claim (examples of "generic environmental claims" are listed in Recital (9) Directive 2024/825 and include "environmentally friendly", "eco-friendly", "green", "nature's friend", "ecological" etc.), making an environmental claim about the entire product or the trader's entire business when it concerns only a certain aspect of the product or a specific activity of the

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<sup>10</sup> From the Commission Staff Working Document, Guidance on the implementation/application of Directive 2005/29/EC on Unfair Commercial practices, Brussels, 3 December 2009 SEC(2009) 1666. See section 2.5 on misleading environmental claims.

<sup>11</sup> Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on substantiation and communication of explicit environmental claims (Green Claims Directive) COM/2023/166 final

trader's business, as listed in Recital (11) Directive 2024/825. Claiming, based on the offsetting of greenhouse gas emissions, that a product has a neutral, reduced or positive impact on the environment in terms of greenhouse gas emissions is also prohibited. ( Recital (12) Directive 2024/825).

### **3. CONSUMERS NEW RIGHT TO REPAIR**

Consumer law does currently not sufficiently take into account sustainability aims and that more can be done to reconcile the aims of consumer protection and sustainability. (Terry, 2019.) The Right to repair Directive promotes sustainable consumption and environmental protection by promoting a longer product life cycle, which includes reuse, repair and refurbishment. At the same time, a benefit for consumers is achieved by avoiding the costs associated with a new purchase in the short term, which can indirectly result in a reduction of the presence of products with built in planned obsolescence on the market. The Right to Repair Directive, focuses on the reparability guarantee after the conclusion of sales contract, while Directive 2024/825 focuses on the reparability information provided before the sales contract. The Right to repair Directive imposes duty of manufacturers to repair the products they market outside the commercial guarantee provisions under sales law, in the event of a defect in the goods that appears or becomes apparent outside the seller's liability period, in accordance with Article 10 of Directive (EU) 2019/771.<sup>12</sup> For the purposes of The right to repair Directive, goods means goods as defined in Article 2, point (5), of Directive (EU) 2019/771 except water, gas and electricity.<sup>13</sup>

The repair is carried out by the manufacturer, free of charge or for a reasonable price and should be carried out within a reasonable period of time from the moment the manufacturer has physical possession of the good, has received the good or has been given access to the good by the consumer. In cases where the repair is impossible, the manufacturer may offer the consumer a refurbished good. The manufacturer may provide the consumer with the loan of a replacement good free of charge or for a reasonable fee for the duration of the repair. Consumers are free to seek repair from any repairer of their choice. Manufacturers, on the other hand, or, where applicable, authorised representatives, importers or distributors (who have an obligation to repair) must ensure that consumers can access, via a free access website, information on the indicative prices that are charged for the typical repair of goods covered by Union legal acts listed in Annex II of The right to repair Directive. The European Repair Information Form is introduced, which must be provided voluntarily, not only by the manufacturer, but also by repairers like the seller or independent repairers, or by searching via an online repair platform. As consumers would need to pay for the repair, they are likely to compare repair opportunities in order to choose the most suitable and price friendly repair service for their needs.

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<sup>12</sup> Directive (EU) 2019/771 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the sale of goods, amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and repealing Directive 1999/44/E, OJ L 136, 22.5.2019. Article 10 stipulates that the seller is liable to the consumer for any non-conformity that exists at the time of delivery of the goods and that becomes apparent within two years from that moment.

<sup>13</sup>Article 2, point (5) of The Directive (EU) 2019/771 reads; goods means any tangible movable items; water, gas and electricity are to be considered as goods within the meaning of this Directive where they are put up for sale in a limited volume or a set quantity; any tangible movable items that incorporate or are inter-connected with digital content or a digital service in such a way that the absence of that digital content or digital service would prevent the goods from performing their functions (goods with digital elements).

The form must indicate, inter alia, the goods to be repaired, the nature of the defect, the price and the estimated time required for the repair. The aim is to provide a framework for repair in terms of the price and conditions of the repair. Where applicable, the form would be valid for a period of 30 days so that consumers can compare offers from different repairers.<sup>14</sup>

#### 4. CONCLUDING REMARKS

New regulatory framework in regard to empowering consumers for the green transition through better protection against unfair practices and through better information and the new rules on consumers right to repair have a common goal to increase the level of environmental protection as well as to urge the green transition toward a circular economy on internal EU market. Transparency of information about environmental impact, sustainability, repairability, and composition of products is required as well. Environmental claims, in particular climate-related claims, increasingly relate to future performance in the form of a transition to carbon or climate neutrality, or a similar objective, by a certain date. To ensure the credibility of such claims, they should be in the future supported by clear, objective, publicly available and verifiable commitments and targets given by the trader and set out in a detailed and realistic implementation plan that shows how those commitments and targets will be achieved. Environmental claims, according to Recital (4) Directive 2024/825 should also be verified by a third party expert, who should be independent from the trader, free from any conflicts of interest, with experience and competence in environmental issues and who should be able to monitor the progress of the trader regularly with regard to the commitments and targets, including the milestones for achieving them. Traders will be expected to also ensure that the regular findings of the third party expert are available to consumers. It is now commonly accepted that consumers contribute substantially to ecological and social problems—directly in the form of emissions from the consumption of goods and services and indirectly by demanding and paying for market offers which cause problematic side-effects along the value chain. Although there is still no common understanding of sustainable consumption, it is undisputed that negative impacts of dominating consumption patterns in affluent countries need to be substantially reduced to achieve sustainability. (Schrader, Thøgersen, 2011, p. 4) The new EU directive can reduce and eliminate the factors constraining the repair of products and could also change the dynamics in the relationships between producers, users, and products. In this article, we propose a conceptual discussion on the effects this new directive can have on the capacity to repair products pursuing a transformation towards circular and sustainable production and consumption systems. We also propose further lines of research that we believe are underexplored, particularly about the impact directives like “right to repair” can have on empowering sustainable consumption from a consumer point of view and not only as a production mechanism. (Hernandez, 2020, p. 2) We witness the articulation of a new „right to repair“, not only as a consumer right, but also the right of autonomous repair workers to access an independent livelihood, opening up a terrain of struggle between different regimes of practice. A politics of repair needs to emerge in this respect, as the articulation of new claims around different regimes of ownership away from received notions of individual consumer rights based around property and instead, operate in support of the common and alternative regimes and practices of usership. (Graziano, Trogal, 2019, p. 212) A recent Eurobarometer<sup>15</sup> from 2022. showed that 77% of Europeans feel a personal responsibility to act to limit climate change. Discarded products are often viable goods that can be repaired but are often tossed prematurely, resulting in 35 million tons of waste, 30 million tons of resources and 261 million

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<sup>14</sup> Spare parts and repairs: A right in Europe?, European Consumer Centre France, Accessed 19.10.2024. <https://www.europe-consommateurs.eu/en/shopping-internet/spare-parts-and-repairs.html>

<sup>15</sup> Fairness perceptions of the green transition, Accessed: 25.10.2024 <https://europa.eu/eurobarometer/surveys/detail/2672>

tons of greenhouse gas emissions in the EU every year. Furthermore, the loss for consumers of opting for replacement instead of repair is estimated at almost 12 billion per year. The right to repair Directive enables the consumers right to choose affordable and fair repair terms and complements other legislative measures which aim to create a more sustainable and healthier environment for consumers in the European Union. Repair should, as noted in The right to repair Directive Recital (3), result in sustainable consumption, since it is likely to generate less waste caused by discarded goods, less demand for resources, including energy, caused by the process of manufacturing and sale of new goods replacing defective goods, as well as less greenhouse gas emissions. The right to repair Directive promotes sustainable consumption with a view to achieving benefits for the environment, by promoting a life cycle of goods which includes re-use, repair and refurbishment, while also producing benefits for consumers by avoiding costs associated with new purchases in the short term.

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# APPLICATION OF THE WEG CONCEPT OF CONTROL-ORIENTED MANAGEMENT IN A NON-PROFIT SPORTS ORGANIZATION - ON THE EXAMPLE OF THE GYMNASTICS CLUB MARJAN

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## **ABSTRACT**

*Non-profit sports organizations are focused on activities where profit is not the goal. At the same time, adopting a healthy, entrepreneurial business approach means focusing the mission on the realization of the vision and goal. Modern non-profit organizations that want to be as efficient and enterprising as possible invest in management and managerial tools to achieve their goals. In order to find better solutions on the way to the goal, they abandon stereotypes and focus on their own efficiency, thus achieving greater efficiency in their actions. No organization, even a non-profit, can sustain itself without investing revenue in its projects, operations and staff. In sports, in order to maintain direction and a clear path towards the goal, a sports non-profit organization must think about ways to achieve the goal and its complex social mission by creating an entrepreneurial and managerial atmosphere that will identify and increase opportunities for the growth and development of its organization and thereby improve organizational performance. A sustainable, growing and secure non-profit sports organization is much more likely to inspire donor faith and stakeholder trust than an organization that struggles to survive each year and uses outdated, poor software solutions to facilitate its operations. With an entrepreneurial attitude towards the growth and success of the organization, with a well-placed and controlling-oriented management, a sports non-profit organization becomes capable of investing in programs, events, technology and opportunities that will increase the public's trust in the organization, position it in the market, improve operations and highlight its mission and purpose. The WEG concept, through its five contents, represents the key to the successful direction of the organization towards the goal of management by objectives. At the same time, controlling, as one of the most important functions of modern management, shapes the journey towards the goal according to the WEG concept of management by... divided into its five forms of managerial behaviour: management by delegation, management by participation, management by exception, management by results, management by motivation... which are the basis of the success of a sports non-profit organization.*

**Keywords:** *control-oriented management, entrepreneurial attitude, management by..., non-profit sports organizations success, WEG concept*

## **1. INTRODUCTION**

Entrepreneurial approach and impulse in non-profit organizations also initiates activities because it engages resources, activates, hires, which affects the standard, consequently social satisfaction and forms part of the national economy. Sport certainly fits into this content and increasingly, very dynamically takes its place in the economic network of society. Regardless of the non-profit organization, it needs entrepreneurship and definitely quality and proactive management. Today's modern management with its extremely important function of controlling begins to mean efficiency and success, transitioning sport to a higher level where sustainability and long-term success are necessary. The concept of management is difficult to translate because its components are inseparable, so it remains ideal to take it originally by visualizing the combination of leadership and management with the help of planning and controlling. "Leadership and management only make sense if their functions lead to the goal. For this, the path to the goal must be planned, so there must be a set of instruments with the help of which the business can be actively managed and maintained on the planned path" (Luković, &

Lebefromm U.) *Controlling* as a function of management has the role of navigation by which business is directed and maintained on the way to the goal, which contributes to efficiency in management. The controller, as the controller, has the task of "navigation" on the way to the goal. "At the same time, in every situation, he acts as a seller of goals and plans, which means that he has to build an instrument that, when comparing the planned and actual state, helps to detect neuralgic points in the process that need to be corrected."<sup>1</sup> The role of the seller of goals and plans, as Deyhle<sup>2</sup> calls the controller, is a binding and responsible role that requires the controller to acquire new knowledge, and for the Croatian conditions of development of controlling, the WEG concept in application would be an important step towards goal-oriented management. In this way, controlling contributes to a high level of management efficiency, develops motivation and strong involvement and engagement of all employees focused on a common goal. At the same time, the organization is oriented towards an open leadership style in which employees truly participate in the work process, interested in the results of their work, and where the goal is to make each of them successful and thus the final goal of the organization. The management WEG system is based on the principles of controlling, and on the way to results, it goes through five management by... which work harmoniously in everyday life and practice. The balanced operation of the WEG concept is the basis of a safe journey to the goal even in a non-profit sports organization. Considering the above, the goal of this paper is to valorise the use of the WEG concept of *controlling*-oriented management in a sports non-profit organization that contributes to the successful realization of the goals of the sports organization. In accordance with the goal, the hypothesis represents the claim that the WEG concept significantly contributes to a clearer and safer path towards the goal and is a key aid in the process of management thinking and decision-making.

## 2. SYNERGY OF MANAGEMENT AND CONTROLLING IN A NON-PROFIT SPORTS ORGANIZATION

When talking about non-profit organizations, the focus is on the nature of the business, which is not focused on making profit and whose business success is not measurable by profit. Their primary focus is creating social impact and benefiting society. Nevertheless, in order to function effectively and efficiently, non-profit sports organizations focus on quality management in order to achieve excellence and the realization of their social mission. Such management creates the result of a useful and high-quality social impact and of course an economic contribution because both effects on society are present and significant. "Successfully implementing the management of non-profit organizations means strategically planning the development of the organization, building an appropriate organizational structure, responsible and professional management of the organization and management of employees and volunteers, as well as quality measurement of results."<sup>3</sup> "Non-profit organizations should constantly invest in themselves, i.e. develop their management and people and focus special attention on the process of measuring success. Achieving efficiency is not a matter of chance, but of a dedicated strategic approach to business, which implies the application of business techniques and methods."<sup>4</sup> Today, modern sports are managed according to the principles of entrepreneurial economy, so management and its important function of *controlling* are indispensable in effective management and implementation of decisions. According to Luković, *controlling* means being goal oriented, planning oriented, facing the future and always striving for better.<sup>5</sup>

<sup>1</sup> Luković T., Šperanda I., Kizielewicz J., OFEL 2015 – Dubrovnik 2015

<sup>2</sup> Deyhle, A.: „Controller – Praxis“, Band 1, Verlag für ControllingWissen AG, Offenburg, 2003., page 46

<sup>3</sup> Marić, I. : Menadžment neprofitnih organizacija, Sveučilište u Zagrebu Ekonomski fakultet, 2018, page 150

<sup>4</sup> Marić, I. : Menadžment neprofitnih organizacija, Sveučilište u Zagrebu Ekonomski fakultet, 2018, page 210

<sup>5</sup> Luković, T. & Lebefromm U.: „Controlling, koncepcija i slučajevi“ - Prva knjiga, Dubrovnik, 2009, page 21

The controlling approach in management becomes a part of mental awareness in the dynamic world of entrepreneurship, risk, constant changes in which the implementation of thoughts, strategies, the path to the goal needs constant monitoring, measurement of execution in relation to the planned and undertaking of activities to achieve the desired results. Controlling in the sports management of the non-profit organization Gymnastics Club Marjan, an example of which is given in this paper, is a supporting function for management in making strategic decisions. GC Marjan, regardless of its non-profit character, manages in a modern way according to the principles of entrepreneurial economy, using various controlling methods that have been guaranteeing the achievement of the set goal of the organization for many years.

### 3. "FROM PLAN TO GOAL"

*Controlling*, as a dominant function of management, helps management on the way to the goal by connecting with planning as an initial and key starting function. Planning makes sense if it is connected with *controlling*, because controlling planning realizes the operational and strategic goal of the entity. If there is a goal, there must also be a plan, and controlling and responsible management are responsible for the implementation of the plan. "Modern *controlling* keeps everything under control or as Jackson says, being *controlling*."<sup>6</sup> According to Luković, being controlling becomes the key to management success. "Organization always makes sense when it is goal-oriented, which is why it is inseparable from the goal."<sup>7</sup> The path to the goal is a concept that includes a plan for organizing the resources needed to reach the goal, a plan for using resources how and in what way, in what time frame, how and when. The dynamism of the environment in which the organization operates necessitates the closest connection between planning and controlling. *Controlling* is a process that contributes to better and more effective planning, better quality and more effective reaction to extraordinary circumstances. Therefore, as Luković states<sup>8</sup>, planning in modern management has meaning and purpose only when it takes place with the help of *controlling*.

### 4. WEG CONCEPT

Albrecht Deyhle, today's most influential person in the field of controlling or the father of modern controlling, laid the foundations of controlling in Germany, observing the practice and graphically presenting and interpreting its reality.<sup>9</sup> From those 60 years on, he imposed controlling as an inseparable system of efficient management, which grew into the German school of management and thus into the European school. In particular, the WEG concept or the WAY concept as translated by Luković and the Croatian language translation stand out. The WEG system was developed in practice in Germany in the 1970s, and is based on three pillars that are also the premises of a control-oriented management system: 1. Wachstum GROWTH, 2. Entwicklung DEVELOPMENT and 3. Gewinn PROFIT. Alfred Deyhle was motivated and encouraged by the practice of Drucker's management by objective concept and developed his management by... system, which focuses mostly on the employee's personal task by delegating goals and responsibility for results. What is extremely important is that managers of all levels support such a system that directs employees within the fundamental trinity: path - development - profit (result), because ultimately the meaning is that all set business functions both operationally and strategically lead towards the goal.

<sup>6</sup> Luković, T. & Lebefromm U.: "Controlling Planom do cilja", Druga knjiga, Dubrovnik 2014, page 21

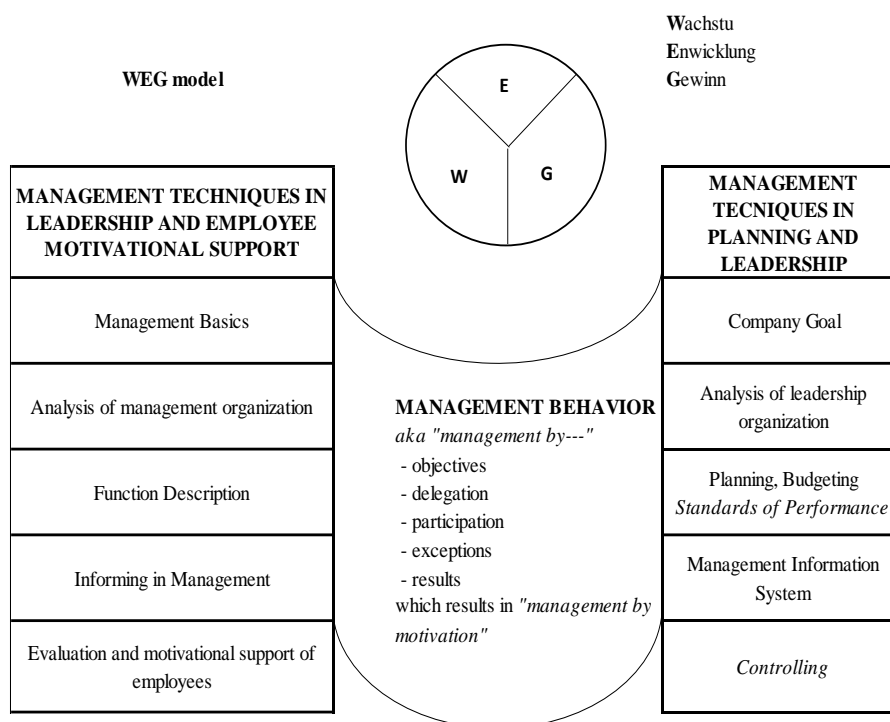
<sup>7</sup> Luković, T. & Lebefromm U.: "Controlling Planom do cilja", Druga knjiga, Dubrovnik 2014, page 21

<sup>8</sup> Ibidem, page 22

<sup>9</sup> Deyhle, A.: „Controller-Praxis, Führung durch Ziele – Planung – Controlling“, Band II, Verlag für ControllingWissen AG Offenburg, 2003, page 12.

Within the whole process, planning and controlling are inseparable functions that support each other, while the controller is in charge of navigating this unity towards the realization of the goal. Deyhle, inspired by the example and requirement of practice, broke down the business system into subsystems, each of which has its own tasks and responsibilities, defining them in phases and levels as management by... trinity path - development - profit (result).

Figure 1. Concept of a controlling-oriented management



Source: Author according Deyhle; A., *Controller-Praxis, Führung durch Ziele – Planung – Controlling, Band II, Verlag für Controlling Wissen AG Offenburg, 2003, p. 137*

"Drucker's management by objectives is the goal and umbrella concept of the WEG model of managerial behaviour, in order to eventually reach global management by motivation. On the way to management by motivation, one goes through five management by... in managerial behaviour. All five together ultimately shape management by motivation, which is the key to successful management and the condition for the realization of the planned business goal."<sup>10</sup>

## 5. WEG ON THE EXAMPLE OF THE NON-PROFIT SPORTS ORGANIZATION GYMNASTICS CLUB MARJAN

According to Luković and Lebefromm, at the beginning of the WEG model, there is always a role model that should be presented and show which WEG – WAY should be taken to reach the goal. The model is always idealistically set and multidimensional in order to satisfy the requirements of all Stakeholders. At the same time, the goals that are set with regard to the role model must be set concretely, quantitatively and measurably."<sup>11</sup> Support for the WEG model in terms of displaying all aspects of business (financial aspect, client aspect, learning and development aspect, internal process aspect) is provided by the Balanced Scorecard along with a strategic goal map with measures that evaluate and monitor the path to the goal.

<sup>10</sup> Luković T., Šperanda I., Kizielewicz J., OFEL 2015 – Dubrovnik 2015

<sup>11</sup> Luković, T. & Lebefromm U.: "Controlling Planom do cilja", Druga knjiga, Dubrovnik 2014., pg. 208-210

The Gymnastics Club Marjan, through a strategic map of goals and measures, has also set a model for the expansion of the sport of gymnastics. According to Luković and Lebefromm, at the beginning of the WEG model, there is always a role model that should be presented and show which WEG - WAY should be taken to reach the goal. The model is always idealistically set and multidimensional in order to satisfy the requirements of all Stakeholders. At the same time, the goals that are set with regard to the role model must be set concretely, quantitatively and measurably. Support for the WEG model in terms of displaying all aspects of business (financial aspect, client aspect, learning and development aspect, internal process aspect) is provided by the Balanced Scorecard along with a strategic goal map with measures that evaluate and monitor the path to the goal. Through a strategic map of goals and measures, the Gymnastics Club Marjan has also set as a model the expansion of the sport of gymnastics with the aim of popularizing and selecting top gymnasts and at the same time increasing its own income with the aim of reducing financial dependence on the local budget. "The WEG concept has the form of a bridge in which the left column represents managerial techniques of leading and encouraging employees, while the right column represents managerial techniques of planning and management. The link between these two pillars is presented as managerial behaviour, which is the link between the left and right pillars."<sup>12</sup> How the Gymnastics Club Marjan set up the concept in accordance with management by... is shown on an example from practice. Initial situation: Gymnastics Club Marjan is a non-profit sports organization that has been operating in Split, Croatia for 26 years as a successful sports team, but also economically successful. It develops an entrepreneurial spirit and management with the goal of a differentiation strategy determined on the basis of the club's mission and vision. In addition, in its operations, it follows highly ethical standards of business, credibility, transparency, social usefulness, which is recognized in the social community. At the head of the club is the President with the Board of Directors, which performs its tasks in accordance with the statutory obligations. Also, all members of the board share the same entrepreneurial impulse as the assembly, which is the highest governing body of the club. The president runs a successful business and has a background as a sports manager and lecturer in the field of management and controlling.

#### **a) Preparation for an entrepreneurial decision**

Person X is employed in the club, whose education and role include management (mag. oec.) but also coaching (gymnastics instructor). In accordance with the decision of the Assembly and the entrepreneurship of the Management Board and the President, the club, based on its strategic determination, intends to follow the model of the set model of spreading the sport of gymnastics with the aim of popularization and selection into top gymnastics and at the same time increasing its own income with the aim of reducing financial dependence on the local budget. For this purpose, wanting to achieve such a goal, said person X is in charge of creating a business plan for future operations:

1. Renting an adequate hall space and forming at least 5 new groups of the gymnastics school.
- In this way, the level of management by objectives was derived, on the basis of which person X was given the task of preparing a business plan.

#### **b) Acceptance of objectives**

After the presentation of the business plan to the President and the Board of Directors, in accordance with the powers and the Club Statute, all relevant elements of the business plan were discussed and the project was accepted.

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<sup>12</sup> Luković T., Šperanda I., Kizielewicz J., OFEL 2015 – Dubrovnik 2015

An insight was gained into the entrepreneurial project and the plan of the club, as well as into the ability of person X to manage the project, and thus management by objectives was developed.

### **c) Preparations and creation of conditions for entrepreneurship according to the WEG model**

The WEG model is gradually developing, successively moving from phase to phase through different levels of management by... The next stage that person X needs to do is to find an adequate hall space **for rent** within the planned but limited budget with emphasized guidelines and indicators that need to be met and respected. The opportunities on the market are limited because the space requires certain standards that are not set as normal construction requirements in everyday construction, and therefore such spaces require modifications and improvisation, which would increase the cost of the project and as a result break the budget.

In this phase, management by participation developed because person X knew exactly his task, had a goal, conditions, standards according to which the task was to be performed in order to gain the foundation and conditions for continuing the implementation of the project.

The budget at his disposal is under the impact of inflation, which requires accelerated action and action to avoid a decrease in the value of assets and a weakening of investment power. The President and the Board of Directors believe that it is necessary to look at the surveys of the space so far and make a decision that in the next period of 15 days it is necessary to decide on the most adequate space that will meet the needs of the business plan or to make a decision to abandon the project. This move by the President and the Board of Directors is a phase of management by exception... which will lead to the further course of business development within the given period. Person X realized that he had to narrow down the search, suggest a choice according to requirements, standards and conditions and suggest the final selection of the hall space to the President and the Management of the club. Person X's knowledge of management, as well as professional sports knowledge, definitely contributed to the fact that she presented the premises within five days of the instruction. Based on the presentation of all relevant information that was in favour of an excellent choice of space, price, contractual conditions, location that indicated a good response from clients (members), the President and the Board of Directors, in accordance with their powers and the Statutory provisions, made a decision to rent the hall space. This phase represents management by result. The result was the signing of the lease agreement and the path to the goal was opened. Person X is in charge of implementing the project, which he does in a very modern way appropriate for his age, with knowledge of modern Internet versions that speed up communication and implement prompt information flows. Doubts are sometimes raised before the President and the Board of Directors about the aforementioned modern applications, but regardless of their opinion, which is correct, but perhaps based on more classic work methods, they let person X work while observing the results of the work and the motivation with which it relates to the project. In this phase of apparent freedom and independence in the successful implementation of the project, management by motivation is developed, which is also the only right path towards the achievement of the results or the set goal. This phase finally leads to long-term and sustainable management by results. From all of the above, showing the gradual transition from phase to phase of the management by model, it is easy to conclude that the concept of managerial relationship and behaviour towards co-workers/employees in the way of delegation, motivation, involvement is of great importance. Modern management and controlling are focused on sub-tasks, sub-functions, sub-responsibilities on the way to the goal, decentralizing the goal to sub-goals, thus increasing the share of work value and motivation of all stakeholders in business.

As Luković states, "the WEG-model set in the form of a bridge (M) elaborates management by objectives through five sub management by... (1) management by objectives, (2) management by participation, (3) management by delegation, (4) management by delegation and (5) management by results. Each of the mentioned management by... phases are in the realization of management by objectives, and in order for the realization of the goal to be successful, it is necessary to create an atmosphere of motivating work, i.e. management by motivation".<sup>13</sup> The results of this model are visible in the practice of the Gymnastics Club Marjan. The application of the WEG concept began on January 1, 2023, and the results are presented in the club's financial operations report for December 31st 2023.

*Table 1. Presentation of financial indicators of GK Marjan's operations*

	2022.	2023.
Total income	180.451,77 €	206.180,31 €
Own income	118.710,45 €	152.061,75 €
Income from membership fee	79.027,80 €	112.689,97 €
Income from donations from the budget of local and regional self-government units	61.741,32 €	54.118,56 €
Number of clients - members of the sports gymnastics	240	370
Number of employees	7	9
Total expenses	178.024,40 €	196.574,55 €
Expenses for hall - gym space rental	5.829,21 €	6.912,86 €

*Source: GC Marjan, financial documents 2023*

The indicators from the presented table speak of an increase of own income in the mass of total income by 14.26%, and of the number of clients, which increased by 130 or 7 groups, which is more than planned. The expenditure for hall space rental increased by 18.59%. Due to the good negotiations with the owner of the space and the redistribution of groups according to different dates and the cost of the dates, as well as the economic schedule of the work of the coaches, a significant business step forward was achieved both in terms of sporting achievement and in business. As you can see, the non-profit sports club GC Marijan using the WEG concept with a modest budget realizes its goals by optimizing processes through the WEG management concept. This is a good example of connecting science and practice, with a note that the WEG concept arose from practice, became part of controlling science and was returned to practice, which is one of the key goals of science and research.

## 6. CONCLUSION

The example of the Gymnastics Club Marjan as a non-profit sports organization and a relatively small sports club clearly shows how important it is to have a well-founded management and control tools such as the Balanced Scorecard, the strategic goal map and, consequently, the WEG concept. All mentioned systems and concepts used enabled a very concrete journey towards the goal. With the responsibility of management for achieving the goal and *controlling* for the path to achievement in this presentation, WEG *controlling*-oriented management honed the creation of an atmosphere for motivated work, work with an idea and a personal statement of abilities and skills within the framework of teamwork where everyone equally fights for the achievement of the overall final goal. In the case of GC Marjan, the expansion of the sport of gymnastics with the aim of popularization and selection into top gymnastics and at the same time increasing own income with the aim of reducing financial dependence on the local budget.

<sup>13</sup> Luković T., Šperanda I., Kizielewicz J., OFEL 2015 – Dubrovnik 2015

The application of the WEG model significantly contributed to the club's successful entrepreneurial project, as well as the controlling knowledge that certainly gave this sport non-profit organization a boost and opened up opportunities for further business success and the implementation of a differentiation strategy. To be unique, different from others, one step ahead of others, relying on your own management, knowledge and entrepreneurial impulse.

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1. Presentation of financial indicators of GK Marjan's operations, GC Marjan financial documents 2023



# CULPABILITY AND MISTAKE IN THE CROATIAN CRIMINAL LEGAL SYSTEM

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## ABSTRACT

*In the Republic of Croatia, the Criminal Code (further: CC) applies to perpetrators of criminal offenses. The two fundamental principles proclaimed by the Criminal Code are the principle of legality and the principle of culpability. The principle of culpability in Art. 4. declares that no one shall be punished unless found culpable of the committed criminal offense. In the same way, the Austrian Penal Code regulates the issue of culpability. However, according to the current CC, a person who is not culpable cannot be punished, but security measures can be imposed on him. This means that a person with mental incapacity cannot be punished, but a criminal sanction can be imposed. Nevertheless, for the perpetrator to be convicted of a criminal offense in the Republic of Croatia, that same perpetrator must undertake conduct, realize the definition of a criminal offense (being of crime), unlawfulness, and culpability. If there is no culpability, then there is no criminal offense. This means that the court must always determine culpability in criminal proceedings. Culpability is not presumed, and in Croatian criminal law, innocence is presumed (presumption of innocence, Article 28 of the Constitution of the Republic of Croatia stipulates that everyone is innocent and no one can be considered culpable of a criminal offense until a final court verdict establishes his culpability). From the previously mentioned condition that to be convicted of a criminal offense, the perpetrator must fulfill four elements (in criminal law and in misdemeanour law), the fact follows that it is not enough that the perpetrator has fulfilled the characteristics of the nature of the criminal act, but the perpetrator must also be culpable of the crime committed. Following the above, the paper aims to analyze culpability as the fourth element of the formal concept of a criminal offense in the criminal justice system of the Republic of Croatia and to see how mistake (error) affects the culpability of the perpetrator.*

**Keywords:** criminal law, Croatia, culpability, mistake(error)

## 1. INTRODUCTION

It is positive that the system of subjective responsibility is accepted in the Croatian criminal legislation (Derenčinović, 2014., p. 90). Because of the presumption of innocence, the burden of proof lies with the prosecution. Culpability is a psychological attitude towards the act for which the perpetrator can be reprimanded (Bojanić; Mrčela, 2012., p.392). From the above, it follows that the CC in the Republic of Croatia accepts a psychological-normative conception of culpability that connects the psychological content with the normative element of culpability (Bojanić, 2003., p. 320). The definition of culpability in the CC of the Republic of Croatia stipulates that the perpetrator is culpable at the time of its commission if he or she is mentally capable, acts with intent or by negligence, and is aware or should and could have been aware that his or her conduct is prohibited, provided there is no reason for which he or she may be excused. Criminal offense consists of conduct, being of crime, unlawfulness, and culpability, so culpability consists of mental capacity, intent or negligence, awareness of the prohibition of the act, and the absence of excusing reasons (Novoselec, 2016., p. 205). Of the listed four elements, three are positive, which means that they must exist for culpability to exist, and one is negative, which means that it must not exist for culpability to exist (Kurtović Mišić; Krstulović Dragičević, 2014., p. 125).

The positive elements of culpability are mental capacity, intention or negligence, and awareness of unlawfulness, while the negative elements of culpability are the absence of excusing reasons (exceeding the limits of self-defense out of excusable great fear caused by the attack and necessity as a ground for excuse).

## **2. MENTAL CAPACITY**

For the perpetrator of a criminal offense to be charged with the crime committed, it is necessary that the perpetrator possessed the possibility and ability to act correctly, that is, that the perpetrator was mentally capable (Grozđanić, 2015., p. 4). The ability and possibility of the perpetrator to act correctly should exist at the time of committing the criminal offense (in tempore criminis) (Tripalo; Burić, 2012., p. 502). For a person to act correctly, a person must be mentally healthy. Given that mental capability includes intellectual and voluntary elements, mental capability in the law of the Republic of Croatia includes the ability to understand the meaning of one's actions (intellectual capacity) and the ability to control one's will (voluntary capacity). Mental capability means the correct functioning of consciousness and will, and the possibility for a person to coordinate his behavior by his consciousness and will. Mental capability is the rule because it is considered that most people in society have a correct and functional mental apparatus. If a mentally capable person commits an act, this does not mean that there is culpability (Bačić; Pavlović, 2004., p. 221). Given that mental capability is a rule, mental capability is assumed in the CC of the Republic of Croatia, while mental incapability must be proven (Goreta, 2007., p. 47). The definition of mental incapability is prescribed in Art. 24 of the CC of the Republic of Croatia and encompasses a person who at the time of unlawful conduct is incapable of appreciating the meaning of his or her conduct or of exercising control over his or her will due to mental illness, temporary mental disorder, insufficient mental development or some other severe mental disorder (Novoselec, 2016., p. 210). Criminal law theory has developed various methods for determining mental incapacity. At one time it was enough for a person to suffer from a pathological condition for a person to be declared as mental incapacity (biological method of determining mental incapacity). This would mean that it is enough to have a mental illness, temporary mental disorder, insufficient mental development, or some other severe mental disorder for a person to be considered mentally incapable. According to this method, a pathological condition necessarily leads to mental incapacity, regardless of whether the person could have behaved differently by his abilities. The psychological method consists of determining whether a person could understand the meaning of his actions, that is, whether he could control his will without taking into account the existence of a pathological condition. The mixed method (biological and psychological) when determining mental incapacity, first analyzes the existence of a pathological condition (in the legislation of the Republic of Croatia, these are mental illness, temporary mental disorder, insufficient mental development, or some other severe mental disorder), and then analyzes how the said pathological condition affected the possibility understanding the meaning of one's actions, that is, the possibility of ruling one's own will. This means that the mixed theory of capacity analyzes the causes of mental incapacity and the consequences of mental incapacity. It is enough to determine the causes of mental incapability in the legislation of the Republic of Croatia alternatively and not cumulatively. The first and most common cause of mental incapacity is mental illness or psychosis, which is a disease of the central nervous system. Diseases of the central nervous system mostly include changes in the field of will, feelings, and intelligence (Kurtović Mišić; Krstulović Dragičević, 2014., p. 128). Temporary mental disorders are severe disorders of consciousness that represent a transient mental state or temporary disorder of psychological functions (Novoselec, 2016., p. 211). This group includes hatred, anger, hypnosis, sleepwalking, concussion, alcohol, narcotics, etc.

The causes of temporary mental disorders do not, as a rule, cause permanent damage to the mental apparatus. Insufficient mental development is stunting of the central nervous system, which can be the result of heredity, infection, or social isolation (Kurtović Mišić; Krstulović Dragičević, 2014., p. 128). Other severe mental disorders represent a general clause that includes all serious mental illnesses or disorders that cannot be subsumed under the previous three cases. The consequence of being mentally incapable is a psychological disorder. The task of the court is to establish that the person was not able to understand the meaning of his actions or that he was not able to control his own will (Goreta, 2007., p. 47). The mentioned mental disturbances are determined alternatively and not cumulatively, although in practice both consequences are usually excluded (Tripalo, 2006., p. 206). For the principle of legality of the CC to be realized when determining mental incapacity, it is necessary that the person was mental incapable in tempore criminis. Here, special attention should be paid to the possibility of lucid intervals, when a person who normally suffers from a certain mental illness, was nevertheless able to understand the meaning of his actions at a certain moment or was able to control his own will. The second rule that the court should follow when determining mental incapacity to realize the principle of legality is the rule in concreto, according to which a mentally incapable person is determined about a specific criminal offense because the same person may be mentally capable of a criminal offense committed by him, and about the other criminal offense is mentally incapable. This is the case with the arsonist, who may not be able to control his urge to commit crimes related to arson, but he can control his sexual urge about crimes against sexual freedom. This means that an arsonist will, as a rule, be mental incapable about arson, but will be mentally capable of a criminal offense against sexual freedom. In the same way, as a rule, an arsonist will be mental capable for committing the crime of theft in his life, however, if he went to steal gasoline or a lighter to cause a fire, then that same arsonist can be mentally incapable about the crime of theft he committed. Nevertheless, the legislation in the Republic of Croatia orders that the court must order a psychiatric examination in the case of suspicion of the perpetrator's mental incapability, but in the end, it is the court that decides whether the offender was mentally capable or mentally incapable, not the expert psychiatrist (Ivičević, 2003., pp. 237-240 ). The court renders its decision with the help of the expert psychiatrist's findings (the expert psychiatrist determines whether the accused had a pathological condition) and opinion (the expert psychiatrist gives a conclusion that the pathological condition of the accused affected the ability to understand the meaning of one's actions and the ability to control one's own will). The CC stipulates that a mentally incapable person is not culpable and cannot be punished (Art. 24, par. 1. of the CC). It follows from the above when security measures can be imposed on a mentally incapable person because they are not punishment. Security measures of a medical nature cannot be imposed on him. The determination that a person has committed an unlawful act (he cannot commit a criminal act because culpability is excluded) is ensured in criminal proceedings (Ivičević, 2003., pp. 237-240). The Criminal Procedure Act prescribes special provisions on the manner of conducting court proceedings and the legal status of a mentally incapable person, as opposed to a mentally capable person. If the court determines that a person in a state of mental incapability has committed an unlawful act and that there are conditions for placing the accused in a psychiatric institution according to the provisions of the Act on the Protection of Persons with Mental Disabilities, then compulsory placement in a psychiatric institution is determined for six months (Novoselec, 2016., p. 208). For compulsory placement to be applied, it is necessary that the mentally incapable person has serious mental disorders and that he is dangerous to society. The possible extension of compulsory placement in a psychiatric institution is part of the civil court proceedings, and after the hearing, a decision can be made to extend the compulsory placement for one year.

The extension of compulsory placement can be repeated, but its total duration must not be longer than the special maximum penalty for the criminal offense, the characteristics of which were achieved by unlawful action (Novoselec, 2016., p. 208). The CC recognizes also substantially reduced responsibility where a person is mentally capable and can optionally have his sentence mitigated and a safety measure of mandatory psychiatric treatment imposed. If the perpetrator of the crime was reduced in mental capacity, but not to a significant extent (diminished responsibility), then the reduced capacity is a mitigating circumstance when sentencing. If the person acted with self-induced mental incapacity, such a person is not excluded from culpability.

### **3. FORMS OF CULPABILITY**

In Croatian criminal legislation, there are two forms of culpability: intent and negligence. The intent is a more severe form of culpability because the legislator always prescribes a more severe criminal law sanction framework for intent, and the intentional commission of a criminal offense is always punished (Novoselec, 2016., p. 221). Namely, if a criminal offense is prescribed as punishable in the Special Part of the CC, then that criminal offense implies intent as a regular form of culpability. If the legislator plans to punish the negligent commission of a criminal offense, then the legislator must expressly prescribe for the specific criminal offense that negligence is punishable. For this reason, negligence is an exceptional form of culpability. In the case of misdemeanors in the Republic of Croatia, it is prescribed differently, because negligence is the regular form of culpability which is always implied (Veić; Gluščić, 2013., p. 69). In the Croatian legal system, intent (*dolus*) is divided into direct intent (*dolus directus*) and indirect intent (*dolus eventualis*). The difference between direct and indirect intent consists in the level of consciousness and will (Novoselec, 1998., pp.1026-1028). Thus, direct intent exists when perpetrator is aware of the material elements of a criminal offense and wants or is certain of their realization. This means that in the case of direct intent, the perpetrator is aware of all the features of the criminal offense (in the case of the criminal offense of theft, the perpetrator is aware that he is unlawfully taking someone else's movable property with the aim of unlawfully appropriating, in the case of the criminal offense of murder, the perpetrator is aware that he is depriving another person of his life). Awareness of the material elements of a criminal offense is the intellectual component, while the want is the voluntary component of direct intent. If the emphasis is on the voluntary component of direct intent, then the perpetrator acts with direct intent of the first degree, and if the emphasis is on the intellectual component of direct intent, then the perpetrator acts with direct intent of the second degree (Novoselec, 2016., pp. 223-224). Indirect intent exists when perpetrator is aware that he or she is capable of realizing the material elements of a criminal offense and accedes to this. This means that in the case of a perpetrator who acts with indirect intent, there is uncertainty as to whether the being of the crime of the criminal offense will be realized (Kurtović Mišić; Krstulović Dragičević, 2014., p. 136). Negligence (*culpa*) is a minor form of culpability for which a minor punishment is prescribed than is the case with intent. Art. 29 of the CC prescribes two forms of negligence: advertent negligence (*luxuria*) and inadvertent negligence (*negligentia*). Advertent negligence exists when perpetrator is aware that he or she can realize the material elements of a criminal offense but carelessly assumes that this will not occur or that he or she will be able to prevent this from occurring. In the case of advertent negligence, the perpetrator foresees the realization of the elements of the criminal offense as possible (Novoselec, 1985., pp.1281-1298). Advertent negligence does not involve volition as is the case with intent but involves recklessness or overconfidence of the perpetrator. It is evident from the above definitions that the intellectual element of indirect intent and advertent negligence is the same. The intellectual element refers to the awareness of the possibility of realizing the features of the criminal act.

However, considering the difference between intent and negligence, it is important to determine whether the perpetrator acted with indirect intent or with advertent negligence. In the theory of criminal law, when demarcating indirect intent and advertent negligence, the authors use Frank's formula (Martinović, 2011., pp. 63-65). According to this formula, if the perpetrator said, "One way or another, I will take the intended action", then the perpetrator acted with an indirect intent. Inadvertent negligence is the mildest form of culpability and exists when perpetrator is unaware that he or she can realize the material elements of a criminal offense, even though under the circumstances he or she should and, by his or her characteristics, could have been aware of such a possibility. Inadvertent negligence refers to carelessness or inattention of the perpetrator (Kurtović Mišić; Krstulović Dragičević, 2014., p. 138). Considering that the perpetrator is not aware of the possibility of realizing the elements of the criminal offense, then we can conclude that such a perpetrator has neither an intellectual nor a voluntary component (Novoselec, 2016., p. 233).

#### **4. AWARENESS OF UNLAWFULNESS**

In modern societies, it is considered that a person is familiar with the social rules, that is, that such a person is familiar with the actions that are allowed in society and that he is familiar with the actions that are prohibited in society. This knowledge is called awareness of unlawfulness. In modern society, it is clear that some criminal acts, such as rape, murder, and theft, are generally known to be prohibited. However, considering today's comprehensiveness and pre-normation of criminal law, it is possible that the perpetrator did not know or could not have known that he was doing something unlawful. Therefore, if there is no awareness of unlawfulness, there is no culpability. (Kurtović Mišić; Krstulović Dragičević, 2014., p.139). Awareness of unlawfulness does not require knowledge of the criminal law but requires that the perpetrator was aware of a socially harmful act that is impermissible. Awareness of the immorality of an act, or knowledge of moral norms, is not sufficient here. Awareness of unlawfulness should not be difficult to establish in the case of delict per se, because these are generally known prohibited acts, while in the case of delict mere prohibita, criminal acts that have not yet taken root in the general consciousness of society and which are, as a rule, a novelty in legislation, it can often determine the absence of awareness of unlawfulness (Novoselec, 2016., p.254).

#### **5. ABSENCE OF EXCUSING REASONS**

The absence of excusing reasons is the fourth element of culpability and represents the influence of normative theories of culpability. This means that if there is an excusing reason, then culpability exists. Excusing reasons in Croatian criminal law exceed of the limits of self-defense out of excusable great fear caused by the attack and necessity as a ground for excuse (Goreta, 2013., p. 56). It should be emphasized again that if there is no culpability, then there is no criminal offense.

#### **6. MISTAKE(ERROR)**

During the realization of the elements of the criminal offense, the perpetrator may have a wrong idea about the facts or the law. The perpetrator's mental attitude towards the act does not have to be such that it deserves reprimand. The CC of the Republic of Croatia distinguishes a mistake about the being of crime (mistake of fact), a mistake about the circumstances that exclude unlawfulness (mistake of circumstances in affirmative defenses), a mistake of law, and a mistake about the circumstances of necessity as a ground for excuse.

### **6.1. Mistake of fact (mistake of being of crime)**

If the perpetrator is not aware of one of the material elements of a criminal offense at the time of the commission of the criminal offense, then there exists a mistake of fact. When a perpetrator acts in the mistake of fact, there is no intent, and in that case, the mistake is unavoidable. If the error is avoidable, the perpetrator is punished for negligence if negligence is punishable for that criminal offense. Mistake of fact is the reverse side of intent, because in this mistake the perpetrator is not aware of the material elements of a criminal offense, and when the perpetrator acts with intent, he is aware of all the elements of the being of the criminal offense (Novoselec, 2016., p. 247). An example of this mistake is buying things in a store with a counterfeit banknote without knowing that the banknote is counterfeit (Novoselec, 2016., p. 247). Mistakes of fact are also possible in the case of blanket criminal offenses. Blanket criminal offenses are those criminal offenses, when the definition of the criminal offense (being of crime) from the CC needs to be supplemented by some other regulations outside the CC. For the most part, the CC in the Republic of Croatia mentions the phrase "who acts against regulations" or "who acts against international law", which means that the CC itself refers to other regulations outside the CC. Here the question arises of the realization of the principle of legality, or *lex certa*. However, according to the legal system of the Republic of Croatia, it is perhaps most correct for the legislator to use the expression "who acts against the rules" when the legislator wants to refer to regulations outside the CC. Namely, although in the Republic of Croatia, judicial practice is not, in principle, a source of law, the opinions of sessions of higher court departments are mandatory for the judges of those courts, which means that judicial practice is a source of law, and judicial practice is not a regulation. Likewise, the source of law in criminal law is customary law (especially in the case of grounds for exclusion of unlawfulness), and customary law is not a regulation. Therefore, it is best, when the legislator in the Republic of Croatia plans to use a blanket provision in the CC, to use the expression "who violates the rules...". When talking about a mistake, in the case of blanket provision, according to the ruling point of view, a mistake about the content of a blanket provision is a mistake of fact, and a mistake about the existence of a blanket norm referred to in a blanket provision of the CC is a mistake of law. This is one understanding and opinion. My understanding encompasses the explanation that the blanket disposition is part of the definition of a criminal offense in the Special Part of CC (being of crime). The blanket regulation as part of the being of crime must be encompassed by the consciousness of the main perpetrator, so we conclude that the law requires the perpetrator to know the different regulations or forms in which the blanket norm is found. The fact is that the perpetrator will mostly not know the regulations outside the CC if he does not know the regulation in the CC that contains the phrase "who violates the rules". The blanket term in the CC is not an objective condition of criminality that does not have to be encompassed by the perpetrator's intent or negligence. From the above, we conclude that here the perpetrator acts not in mistake of law, and acts in mistake of fact because he does not know the regulations and rules that are part of the definition of criminal offense (being of crime) (blanket dispositions). Other regulations and rules are part of the definition of crime (being of crime) by being part of a blanket disposition. The penal provision consists of disposition and sanction. The perpetrator must encompass the disposition, i.e. the blanket norm, with his intent. If someone knows the provision in the CC and the blanket description of "who violates the regulations" and does not make an effort to find out specifically what those regulations are, then he has acted in the avoidable mistake of fact whose legal effect is that he is punished for not doing so. However, the problem is if negligence is not punishable for that criminal offense. Then the perpetrator will be unpunished.

Nevertheless, it is evident here that in this case, it is more practical to punish for a mistake of law, because the legal effect of an avoidable mistake of law is an optional mitigation of punishment. Also, one should not question the dogmatics of the institute of mistake in the theory of criminal law just because of the practicality of punishment.

## **6.2. Mistake of circumstances in affirmative defences**

In the aforementioned mistake, is a perpetrator who, at the time of the commission of the criminal offense, mistakenly believes that there are circumstances according to which the act would be permitted, that is, because of which unlawfulness would be excluded. If the stated circumstances existed, unlawfulness would be excluded and there would be no criminal offense. According to the provisions of the CC, if such a mistake is unavoidable, it excludes culpability, and if it is avoidable, the perpetrator will be punished for a negligence crime, if the law prescribes punishment for a specific crime for negligence. Cases of this mistake in judicial practice are the putative self-defense and the putative necessity as a ground of justification. So, in the aforementioned situations, if the imagined circumstances existed, unlawfulness would be excluded (Novoselec, 2016., p. 252).

## **6.3. Mistake of law**

If the perpetrator did not know at the time of committing a criminal offense that his act was unlawful, and he was neither obliged nor able to know, such a perpetrator acted in mistake of law. In this case, the perpetrator is aware of his action and all the elements it achieves but considers the act permissible. If this mistake is unavoidable, culpability is excluded, and if the mistake is avoidable, the punishment can be mitigated. Mistake of law is reverse awareness of unlawfulness. This mistake is rare at delict per se, because at these criminal offenses, the unlawfulness is obvious. This is the case with murder, theft, rape. This mistake is more common in the case of delict mere prohibita, i.e. criminal offenses, the knowledge of which requires knowledge of the legal order of society and the regulations that regulate behavior in it. In criminal law theory, there is a direct mistake of law and an indirect mistake of law. In the case of a direct mistake of law, the perpetrator is not aware of the existence of a legal norm. An indirect mistake of law exists if the perpetrator knows the legal norm but unfoundedly and wrongly expands the boundaries and reach of that legal norm. Most often, in this case, it will be about the reasons for the exclusion of unlawfulness. Thus, in court practice in the Republic of Croatia, in one case it was determined that a person was aware of the danger of his act. Acting according to an agreement to procure marijuana, transferring drugs from one person to another, delivering money for drugs, taking drugs in plastic bags, and taking the drugs back action from which the perpetrator could not mistakenly think that his act was permitted, he obviously was aware of the unlawfulness of that act, and it cannot be claimed that the perpetrator acted in mistake of law (VSRH I Kž 789/1999-3, dated January 26, 2000). In the second case, there was an intent of the perpetrator to refute the correctness of the facts established by the final judgment because the testimony of one of the witnesses in the criminal proceedings was doubtful. The accused stated that a different interpretation of the testimony of the witness would establish the exclusion of culpability. However, the court found that culpability is excluded in the case of mental incapacity, mistake of fact, mistake of the circumstances that exclude unlawfulness, and mistake of law, and in the case, in question, it did not find a single reason for excluding culpability (VSRH III Kr 466/3003- 3, dated 30.10.2003). In the next case, the defendant defended himself and related to the possession of the drug plant, that he intended to process for oil. However, the court found that the defendant's claim that he was convinced that he was not doing anything unlawful because he made medicinal oil from the drug and did not intend to distribute it, which is why he is not culpable of the crime committed.

However, in the specific case, it was evident from the defendant's defense that he knew that buying and possessing such a quantity of narcotic drugs is punishable, and the court determined that this means that he was aware of all the material elements of the criminal offense. Namely, the perpetrator is in mistake of law when he thinks that his act is legally permissible, even though he is aware of all the elements of the criminal offense (VSRH, III Kr 115/2020-3, dated 7 December 2020). In the next case, the defendant illegally took someone else's property, thinking it was an abandoned thing that was left without an owner. Indeed, such a mistake has legal effects on the qualification of the offender's behavior. Nevertheless, the defendant was aiming at a mistake of the law of the criminal offense, but such a request was part of the request for an extraordinary review of the final verdict, which cannot be submitted due to the completely or incompletely determined factual situation, so the defendant's complaint was not even considered (VSRH, III Cr 199 /2010-4, dated February 2, 2011).

#### **6.4. Mistake of circumstances of necessity as a ground for an excuse**

The aforementioned mistake exists in the case of putative necessity as a ground for the excuse (excludes culpability). In this case, the perpetrator commits an evil that is not disproportionately more serious than the evil that, in his opinion, is threatened. If the error is unavoidable, then it excludes culpability, and if the error is avoidable, then the perpetrator is punished for negligence if negligence is punishable.

### **7. CONCLUSION**

In the criminal justice system of the Republic of Croatia, culpability and mistake are systematically regulated. Taking into account the complexity of factual situations and their summation under the legal provisions of culpability and mistake, the conclusion is that the stated legal provisions are in accordance with the principle of legality, or *lex certa*. The only problem that is encountered in the mentioned issue is the case with the misconception about the blanket disposition. The point of view that is argued in this paper includes the understanding according to which the mistake about the blanket norm (the mistake about the existence of the blanket norm) and the mistake about the content of the blanket norm should be considered through the mistake of fact, and not even partially through the mistake of law.

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# CIRCULAR ECONOMY AND WOMEN'S EMPLOYABILITY ON THE SOUTHERN SHORES OF THE MEDITERRANEAN

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## **ABSTRACT**

*The circular economy aims to minimise waste by promoting reuse, recycling, repair and sharing. It replaces the linear "produce, consume" model, promoting strategies such as repair, reuse, recycling, waste recovery and eco-design. The circular economy is part of a sustainable development model aimed at extending the life cycle of products. According to a report by the World Bank; this model finds particular resonance in Mediterranean countries, which face both strong pressure on natural resources and high unemployment, particularly among young people and women (World Bank, 2019). Many countries on the southern shores of the Mediterranean (Morocco, Algeria, Tunisia, Egypt, etc.) are facing challenges in terms of resource management and sustainable development. This context offers an opportunity for the circular economy. In this context, the circular economy can respond to a number of challenges:*

- Environmental: waste management, pollution reduction, protection of ecosystems.*
- Social and economic: creating jobs, reducing inequalities, strengthening local communities*

**Keywords:** *Circular Economy, Mediterranean Countries, Women Employability*

## **1. THE ROLE OF WOMEN IN THE CIRCULAR ECONOMY**

Historically, women in these regions have often been involved in domestic activities that have a direct link to the principles of the circular economy, such as handicrafts, repairing clothes or objects, preparing food using natural preservation techniques, and transforming materials into new useful products. In the modern circular economy, these skills can be professionalised, industrialised or turned into real business opportunities and can be integrated into modern circular models (Benería, L., Berik, G., & Floro, M., 2015), for example:

**Textiles and sustainable fashion:** Women traditionally have great expertise in sewing, knitting and textile recycling. This know-how can be harnessed to create businesses in the sustainable fashion sector, such as making clothes from recycled materials.

**Waste management and recycling:** Women can play a crucial role in waste collection and management, particularly in rural areas. For example, some women's cooperatives in Egypt specialise in recycling organic waste to produce natural fertilisers (Charmes, J., 2019).

**Craft production:** By reusing materials such as plastic, paper or metals, women can create innovative and environmentally-friendly craft products, enabling them to enter the market as entrepreneurs.

In its 2016 report, the United Nations Environment Programme examines how gender inequalities influence environmental policies and practices, including in the circular economies of developing countries. The said report emphasises that the circular economy could be a vehicle for female employability (UNEP, 2016).

Indeed, the circular economy is a model that promotes the creation of new jobs, often linked to the transformation of waste into reusable resources or the production of ecological goods. This can benefit women on several levels:

**Social enterprises and cooperatives:** Many circular economy initiatives in the region take the form of cooperatives or social enterprises, which are more accessible to women and promote collective entrepreneurship. For example, in Tunisia, several cooperatives run by women transform recycled textiles into fashion items.

**Job-creating sectors:** The circular economy has a lot of potential in a variety of sectors: waste management, repair and maintenance, urban agriculture and craft production. These are areas where women can easily integrate and develop specific skills.

In these sectors, the integration of women can result in stable, environmentally-friendly jobs, while contributing to more responsible management of local resources.

## 2. A FEW INITIATIVES

### 2.1 Morocco

In Morocco, the circular economy is a fast-growing field, and several initiatives led by women are actively contributing to this sustainable transformation. Here are some outstanding examples of women's initiatives in the circular economy in Morocco:

**Chari des femmes du Rif:** In the Rif region, a women's collective has launched a project to recycle plastic and textile waste into craft products such as carpets and accessories. As well as reducing local waste, this initiative has created jobs and enhanced traditional craft skills.

**Al Karama Cooperative:** The Al Karama cooperative, located in the Marrakech region, is run by women who transform agricultural produce into natural cosmetics and essential oils, while adopting practices that recycle agricultural waste. For example, plant residues are used as natural fertiliser, creating a virtuous cycle in production.

**Jardin Om Brahim in Marrakech:** This project was created by Fatima Zahra El Filali and focuses on transforming organic waste into compost. Its aim is to promote urban agriculture through the recycling of food waste. The women involved in the project collect organic waste from local markets and transform it into fertiliser for urban gardens and vegetable patches.

**Toudarte cooperative:** The Toudarte cooperative, located in the Agadir region, is an example of a women's initiative dedicated to the production of argan oil. The women who work there recover the hulls of the argan fruits to make fuel, as well as producing environmentally-friendly cosmetics from the oil. This project helps to reduce pressure on natural resources while generating income for the women in the cooperative.

**Baggou:** Created by Moroccan designer Yasmina Filali, Baggou is a project that recycles plastic bags to create fashion objects, including handbags and accessories. The project gives new life to materials that would otherwise be thrown away, while helping to empower women in rural areas who are involved in production.

**Association Lalla Aouda Saadia:** This non-profit association, set up by women in Fez, works to recycle textile waste from weaving and sewing workshops. The recovered fabrics are used to create clothes and accessories, promoting ethical and sustainable fashion. It also provides a source of income for the women involved.

**Adrar cooperative :** This cooperative, located in the Atlas Mountains, is run by women who are committed to developing local medicinal plants. They use sustainable harvesting methods and transform the residues into compost to maintain soil fertility. Their products are also packaged in recyclable packaging.

These women's initiatives demonstrate the commitment of Moroccan women to the circular economy. They not only help to combat environmental problems such as waste management and pollution, but also promote economic empowerment and improved living conditions in local communities.

## 2.2 EGYPT

In Egypt, several women's circular economy initiatives are emerging, reflecting women's growing commitment to sustainable development. Here are some examples of initiatives led by women or involving women in this field:

**Up-Fuse:** Founded by Rania Kamel and Yara Yassin, Up-Fuse is a sustainable fashion brand that creates bags and accessories from recycled plastic. This social enterprise not only reduces plastic waste, but also supports women in local communities by providing them with employment opportunities in the recycling and manufacturing process. The bags and accessories are made from collected, cleaned and recycled plastic bags, transforming waste into value-added products.

**Reform Studio:** Reform Studio was founded by Hend Riad and Mariam Hazem. Their initiative aims to recycle unused plastic bags by weaving them to create a sustainable material called "Plastex". This material is then used to make handcrafted products such as bags, furniture and fashion accessories. Reform Studio employs local craftspeople, often women, providing them with opportunities to improve their economic conditions while helping to reduce plastic pollution.

**The Neya Initiative:** The Neya Initiative, while not specifically focused on the circular economy, implements projects in the areas of sustainable development and social inclusion. **Neya** connects businesses, NGOs and communities to promote sustainable practices, including recycling and upcycling, while highlighting women-led projects in the circular economy. The platform also helps to raise awareness of environmental issues while encouraging women to become entrepreneurs in these sectors.

**Banlastic Egypt:** Although founded by a man (Islam Elghazaly), Banlastic Egypt is an ecological initiative fighting plastic pollution in Alexandria. The initiative includes many women activists and entrepreneurs in its efforts to raise awareness and develop solutions to reduce the use of single-use plastic. The initiative also strives to promote the participation of women in local environmental campaigns.

**Recyclobekia:** Although Recyclobekia, a company specialising in e-waste recycling, is not exclusively female, many women are involved at different levels. The circular economy around e-waste recycling is a growing sector in Egypt, and women are beginning to play an increasingly important role, both in technical operations and in management.

**VeryNile:** VeryNile is an initiative that aims to clean up the Nile while promoting the circular economy. Although run by men, it actively involves women, particularly in the process of recycling and transforming the waste collected. The initiative also raises awareness among the local community, including women, of the importance of sustainable resource management and reducing plastic waste.

These initiatives show not only how women in Egypt are actively participating in the transition to a circular economy, but also how they are playing a crucial role in promoting sustainability and environmental protection. They are helping to empower women economically while tackling environmental challenges.

### 3.3 TUNISIA

In Tunisia, a number of circular economy initiatives and programmes have been developed, aimed at promoting female entrepreneurship and integrating women into activities linked to the sustainable management of resources, recycling and the reuse of materials (El Karoui, M. 2020). Here are some notable experiences and initiatives in this area:

**"Women in the Environment and Circular Economy (FEEC):** This programme, supported by local and international NGOs, aims to support women in projects linked to the circular economy. The project aims to train women and raise their awareness of sustainable practices, while helping them to develop economic activities around recycling and waste management. The women receive technical and entrepreneurial training to help them launch their own initiatives to recycle plastics, textiles and other materials.

#### **SEEDS - Support for Circular Economy Initiatives by Women in Rural Areas**

This initiative specifically targets women living in rural areas of Tunisia. It aims to raise their awareness of the importance of the circular economy and offer them practical training in the sustainable management of natural resources, such as the re-use of agricultural waste (olive residues, straw, etc.) to create value-added products.

The programme also provides them with tools to start up small businesses, giving them access to finance to transform these raw materials into marketable products (biofuels, compost, handicrafts).

**"CIRCULAR ECONOMY CLUSTER" from the SwitchMed programme:** SwitchMed, a programme supporting the transition to sustainable production and consumption practices, has set up initiatives in Tunisia to promote the circular economy, in particular through the creation of industrial clusters. These clusters include women entrepreneurs and aim to encourage sustainable practices in sectors such as textiles, building materials and electronic waste. The programme offers training, access to networks and funding for women involved in transforming waste into new products.

**Women's cooperatives in plastic waste recycling:** In some regions of Tunisia, women's cooperatives have sprung up around plastic recycling and solid waste management. These cooperatives, which are often supported by local NGOs or international programmes, enable women to collect, sort and sell plastic waste to transform it into recycled materials. These initiatives are often located in marginalised neighbourhoods or rural areas, offering women economic opportunities while helping to reduce waste.

**Circular farming projects for rural women:** Circular farming initiatives encourage rural women to adopt sustainable farming practices, such as composting, using agricultural waste to produce energy (biogas), or producing natural fertiliser. For example, in olive-growing regions, some women are trained to use the by-products of olive oil production (such as olive pomace) to create by-products or to produce renewable energy.

**The "Green Works" project:** Launched by local players with the support of the European Union, this project aims to promote the green and circular economy in Tunisia. It offers training

and support opportunities for women, involving them in projects linked to the management of natural resources and recycling. Women are encouraged to develop green businesses, particularly in the field of sustainable textiles or the production of handicrafts from recycled materials.

**Handicraft initiatives based on recycling:** Several associations in Tunisia, such as the Association Femme et Développement and the Association des Femmes Tunisiennes pour la Recherche sur le Développement, encourage craftswomen to use recycled materials in their production. This includes handicrafts made from used textiles, old newspapers or other recycled objects, to create items sold on local and international markets. These projects not only help to reduce waste, but also enhance women's craft skills.

**Women in the management of electronic waste:** Another notable initiative in Tunisia concerns the involvement of women in the management of electronic waste (e-waste), an increasingly important sector in the circular economy. Training is being offered so that women can get involved in recycling and reusing electronic components, enabling them to contribute to a growing sector while creating income.

These initiatives show that the circular economy offers great potential for the economic empowerment of women in Tunisia. However, challenges remain, such as the need for better access to finance, training and awareness-raising. Continued support from NGOs, governments and international organisations is essential to ensure the sustainability and expansion of these projects for women.

### **3. SPECIFIC CHALLENGES FOR WOMEN IN THE CIRCULAR ECONOMY**

Despite these opportunities, women in the region face a number of obstacles:

Women operating in the circular economy in southern Mediterranean countries face a series of specific challenges. These challenges are socio-economic, cultural and linked to public policies. Here are the main obstacles encountered:

#### **3.1 Limited access to finance**

In some Arab countries, women who want to become entrepreneurs in the circular economy face several obstacles related to access to finance (Bakari, S., & El Harbi, S., 2019). Here are the main specific problems they face in this region:

**Banking prejudices:** Women entrepreneurs in Arab countries face implicit discrimination when seeking bank loans. Financial institutions tend to perceive women as riskier clients than men, due to stereotypes related to their role in society or their ability to manage business, particularly in innovative sectors such as the circular economy.

**Collateral requirements:** Women often have fewer assets or property to pledge as collateral for loans, which limits their access to sufficient finance to launch or develop their circular economy projects.

**Lack of venture capital investments for women:** In Arab countries, venture capital and investment funds have limited access to women, especially in emerging sectors such as the circular economy (Damianova, Z., & Sedlackova, M., 2016). The majority of funds are run by men, and women are often marginalised in these investor networks. This reduces their chances of securing investment for circular projects that require riskier financing, such as recycling or renewable energy innovations.

**Specialised funds not widely available:** Funds that specifically target women's projects or circular businesses are rare in the region. The creation of funds dedicated to the circular economy remains an emerging field, and those that do exist do not always focus on the inclusion of women.

**Insufficient microfinance programmes for circular projects:** Although microfinance is present in several Arab countries on the southern shore of the Mediterranean, microfinance institutions are often not adapted to the specific needs of circular economy projects. The amounts lent may be too small to finance more ambitious initiatives such as industrial recycling or circular agriculture.

**Microcredit biased towards other sectors:** Microfinance programmes in certain Arab countries on the southern shore of the Mediterranean often focus on traditional sectors such as handicrafts or small-scale agricultural production, neglecting innovative circular economy initiatives that require investment in technology or infrastructure.

**Limited access to banking services:** In several Arab countries, particularly in rural areas, women have limited access to banking and financial services. They may not have bank accounts, credit cards or relationships with financial institutions, which is a direct barrier to obtaining finance for circular economy projects.

**Insufficient financial education:** Many women do not benefit from training or resources in financial or banking management, which prevents them from properly structuring their funding applications and complying with the requirements of financial institutions.

**Lack of targeted government support:** Governments in countries on the southern shore of the Mediterranean often have policies to support general entrepreneurship, but they do not specifically target women in the circular economy. There are not enough grants or public funds dedicated to women entrepreneurs in this field, which limits their ability to obtain financial support.

**Limited tax incentives:** Tax incentives or support programmes to encourage investment in the circular economy, such as tax exemptions or tax reductions for green businesses, are still underdeveloped and not specifically geared towards female entrepreneurship.

**Male-dominated professional networks:** Women entrepreneurs in the circular economy often have less access to formal or informal financial networks, which are generally male-dominated. These networks are crucial for obtaining financing or advice on how to raise funds.

**Weak connections with international institutions:** Although international funds exist to support the circular economy, women on the southern shore of the Mediterranean may find it difficult to access this funding due to a lack of connections with international partners or donors.

**Lack of awareness:** Women entrepreneurs in Arab countries may be less informed about the funding opportunities available for circular economy projects. They may not know how to access grants, soft loans, or international green business support programmes.

**Lack of specific training:** There are few targeted training programmes to help women structure their funding applications, understand funding providers' selection criteria, or develop bankable projects in the circular economy.

**Lower priority projects for banks:** In some Arab countries, circular economy projects, which are often perceived as innovative and risky, are a lower priority for banks than traditional sectors such as commerce or real estate. Banks may consider these projects to be less profitable or too complex to evaluate, which limits women's chances of receiving loans for green initiatives.

**Higher perceived risk:** Circular projects, such as waste management or renewable energy, can be seen by lenders as high-risk sectors due to the lack of proven business models in the region. This discourages banks from providing finance, particularly to women entrepreneurs who often have less of a financial track record.

The limited access to finance for women in the circular economy in Arab countries is therefore the result of a combination of structural factors, ranging from gender discrimination to financial bias to the lack of circular economy-specific support. Greater efforts by governments, financial institutions and international organisations are needed to overcome these obstacles and enable women to play a key role in the transition to a circular economy in the region.

### **3.2 Gender inequalities and social stereotypes**

Gender inequalities and social stereotypes in the circular economy are topics that deserve special attention, as they influence not only how this sector evolves, but also the participation of women and other marginalised groups (Ibrahim, F., & Amraoui, K. , 2021).

**Under-representation of women in the sector:** In many technological and industrial fields, including the circular economy, women are under-represented, particularly in leadership roles, project design, and technical occupations. These areas include recycling, waste management, eco-design and industrial processes related to sustainability.

Women also have less access to decision-making positions, which limits their influence in key strategies and decisions relating to circular practices.

**Sectoral segregation:** There are divisions between the roles traditionally assigned to men and women in the circular economy (Attia, S., & Mahmoud, M. , 2020). For example, jobs related to waste management, which are often perceived as physical or dirty, are often reserved for men, while women may be more confined to administrative or social roles.

**Unequal pay:** As in many other sectors, gender pay gaps also exist in the circular economy, even when women hold equivalent positions. This reflects general trends in the industry but remains a barrier to gender equality.

**Gender roles and unpaid work:** The circular economy often incorporates activities related to waste reduction, product reuse and resource management, areas where women are often already involved, for example in household chores (repair, domestic recycling). This work is generally invisible and unpaid, which perpetuates the undervaluing of women's contributions in the transition to a circular economy.

**Lack of recognition of traditional female knowledge:** In some communities, particularly rural ones on the southern shores of the Mediterranean, women possess traditional knowledge of natural resource management, recycling and sustainable farming practices. This knowledge, often passed down from generation to generation, is not always valued in the context of the circular economy, which tends to favour modern technological or commercial approaches.



Gender mainstreaming in the circular economy is crucial to ensure a sustainable and inclusive transition. For this economy to be truly circular, it must include and value all contributions, regardless of gender. In some southern Mediterranean cultures, women are still perceived through traditional domestic roles, limiting their opportunities to fully participate in the entrepreneurial sector (Union for the Mediterranean (UpM), 2018). Even when women are actively involved in circular initiatives (recycling, reuse, etc.), their work is often undervalued or perceived as informal.

### **3.3. Restricted access to professional networks and training**

Women's limited access to professional networks and training in the field of the circular economy (CE) in southern Mediterranean countries is a complex issue that reflects socio-economic and cultural challenges. In this region, which mainly comprises countries in the Middle East and North Africa (MENA), the circular economy represents an opportunity for sustainable development through the management and reuse of resources. However, women face significant barriers that limit their participation in this promising sector:

**Male-dominated networks:** In many countries in this region, the energy, recycling, and waste management sectors - at the heart of the circular economy - are largely male-dominated. This makes it difficult for women to find mentors, business partners, or networking opportunities.

**Social and cultural conventions:** Cultural norms can restrict women's mobility and freedom of interaction in some countries, often preventing them from participating in professional events and industry associations.

**Lack of specialised training:** The circular economy requires technical skills (in recycling, waste management, renewable energy) that are often lacking in training courses aimed at women. What's more, the training that does exist is poorly adapted to women's needs in terms of flexibility or content.

**Disparities in education:** Particularly in rural or disadvantaged areas, women have less access to technical and scientific training. Yet these fields are crucial to their integration into jobs linked to the circular economy.

**Lack of targeted incubation programmes:** Although incubation programmes are a pillar for developing projects in the circular economy, very few of them specifically target female entrepreneurs. The few that do exist do not always receive the funding or mentoring they need to be effective.

These difficulties require a series of actions:

**International and local support:** International organisations (World Bank, UN, EU) support circular economy projects, some with a gender component, in order to promote the inclusion of women in this economy. However, this support often remains limited or lacks scope.

**Promoting cooperatives and social entrepreneurship:** The establishment of cooperatives or social entrepreneurship initiatives in the CE sector, in which women often play a central role, is an encouraging solution to overcome some of the structural barriers.

**Education and awareness-raising:** By integrating specific training into education and awareness-raising programmes on the importance of CE, it would be possible to encourage a more inclusive environment for women in this sector.

In short, to encourage greater participation by women in the circular economy in the southern Mediterranean countries, it is essential to strengthen access to inclusive professional networks and to promote appropriate and accessible training.

#### **4. What can I do?**

The circular economy is a developing sector, and many women are not yet aware of the economic opportunities it offers. This lack of information is compounded by the absence of awareness campaigns or educational programmes targeting women. Another handicap lies in the fact that the circular economy is largely based on technological innovation. However, women's access to these technologies may be limited by financial constraints or a lack of technical infrastructure in certain regions (Arab Women's Centre for Training and Research, 2020). In the same vein, another obstacle lies in the fact that many women in these countries work in waste management on an informal basis. This means that they have no legal status, social protection or financial support to sustain their activities, even though their work is crucial to the circular economy. To overcome these problems, a number of approaches could be put in place:

**Institutional support and incentives:** More inclusive public policies and specific economic incentives for women entrepreneurs in the circular economy.

**Training and awareness-raising:** Targeted training programmes to equip women with the technical and entrepreneurial skills they need to thrive in the circular economy.

**Access to finance:** Encourage the creation of specific funds for women in the circular economy, as well as microfinance initiatives or grants.

**Strengthening networks:** Facilitating women's access to professional networks, business incubators and specialist mentoring.

These challenges are of course contextual and vary by country and region, but they represent the broad outlines of the barriers faced by women in the circular economy in this part of the world. Looking ahead, the circular economy offers immense potential for social, environmental and economic transformation in the region. The circular economy can be a lever of empowerment for women, enabling them to gain financial independence while helping to preserve the environment. Including women in circular economy models can have a positive impact on both their economic situation and the Sustainable Development Goals (SDGs).

Here are a few points to consider:

**Strengthen training and skills:** It is crucial to develop specialised training programmes for women, so that they can acquire skills in waste management, recycling, repair, and eco-entrepreneurship. Circular economy projects must integrate a gender dimension to enable women to play a key role in this transition.

**Create support networks:** Cooperatives, business incubators and mentoring programmes specifically for women in the circular economy can play a decisive role in strengthening their economic integration.

**Changing attitudes:** Raising awareness of the importance of the circular economy and the role of women in this model can help to change attitudes and remove socio-cultural barriers.

## 5. CONCLUSION

In conclusion, the circular economy is a powerful vector for social and environmental change, with a potentially significant impact on the employability of women in the Mediterranean region. Local initiatives, supported by international partnerships, are essential to maximise the benefits of this model for women and contribute to more inclusive and sustainable development. The circular economy represents a major opportunity to improve the employability of women on the southern shore of the Mediterranean, offering them economic opportunities while contributing to the transition towards more sustainable economies. However, this requires greater support in terms of public policies, training and funding to overcome existing obstacles.

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# THE IMPORTANCE OF CIVIC EDUCATION IN THE GLOBALIZED CONTEXT

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## **ABSTRACT**

*In our increasingly globalized world, the importance of civic education has reached unprecedented levels in cultivating knowledgeable and connected citizens. As globalization continues to influence social, political, and economic frameworks, it becomes a (top) priority for individuals to acquire an in-depth understanding of their rights, responsibilities, and governance mechanisms both locally and globally. My paper tries to shed light on, and argue, how civic education can enable students to critically assess diverse viewpoints, grasp multi-layered issues, and get involved in democratic processes. By introducing core values such as tolerance, respect, and social responsibility, the paper aims to show how civic education not only lends a hand to individuals to become active participants in their communities but also nurtures their ability to collaboratively address global challenges.*

**Keywords:** *globalized world; civic education; connected citizens; core values*

## **1. INTRODUCTION**

No body denies the role civic education plays in shaping citizens. In an increasingly globalized world, understanding the principles of civic commitment, social responsibility, and democratic participation becomes primordial for individuals. This paper tries to shed light on, and argue, the importance of civic education within a globalized context thereby academically examining its inferences for students, communities, and societies at large. As we all know, civic education denotes the teaching and learning processes that endow individuals with the knowledge, aptitudes, and values required to participate efficiently in civic life. This, among others, includes understanding government structures, the rights and responsibilities of citizens, and the importance of active participation in democratic procedures. Civic education gives rise to the sense of analysis, analytical spirit, encourages community participation, and, above all, nurtures a sense of belonging. The paper will be divided into sub-sections, ranging from the global context via the role civic education plays in nurturing global citizenship to addressing challenges encountered in the process of civic education, each of which will try to provide some illumination regarding the topic under scrutiny.

## **2. PAPER DESCRIPTION**

No doubt, globalization has transformed, and even reshaped, societies, economies, and cultures the world over. With the introduction of, and the immersion in, technology and communication, individuals are no longer limited to, and satisfied with, local or national perspectives. Instead, they become part and parcel of a global community, facing such shared concerns as climate change, social disparity, and political instability, to name but a few. In view of that, civic education imposes itself and civic educators find themselves inclined to forcefully adhere, and convincingly adapt, to this reality, preparing students thus to get involved in, and engage with, global issues and collaborate across borders. This leads us to the key role civic education plays in cultivating universal citizenship. Promoting global citizenship in education is not an easy task to undertake. Nor is it as simple as most of us may think. To better understand what we really mean by nurturing global education, more than one factor should be brought into view. In this paper, we will limit ourselves to the following:

- Understanding Global Citizenship
- Developing Awareness and Responsiveness
- Encouraging Active Participation

It is admitted by one and by all that global citizenship highlights the notion that individuals have responsibilities not only towards their local, domestic or national communities, but also in relation to the global group. This perspective emphasizes correlation and encourages individuals to think judgements about their roles in tackling global issues. Given the fact, or assumption, that one is living in an interrelated world, civic education helps students, and even leads them to, develop awareness of global issues, and promote responsiveness for varied cultures, perceptions, and practices. Through group discussions, mini-projects, and empirical learning, students are scholarly invited to gain insights into the intricacies of global interrelation. This would later help them deeply acquire a sense of commonality and harmony with each other nationally and with others around the world. This would not be possible without being fully and actively encouraged to take part, and engage, in the process. Nobody ignores that active participation is the groundwork of civic education. Students are encouraged to engage in local and global initiatives, from volunteering to support work. This utmost involvement permits them to implement change and hence contribute to the common good, strengthening thus the notion that individual actions can have a momentous impact. This very involvement empowers them to be full-fledged actors in a world that is going global at an astonishingly stopwatch speed. In line with that, in a globally-oriented world, individuals are daily flooded with information emanating from various sources. In this respect, civic education endows students with a spirit of analysis that empowers them with the necessary analytical skills that enable them to profoundly analyze, and intensely evaluate, this information. By leading them to tell the difference between reliable sources and “half-truth”, students become alert citizens capable of making, and hence passing on, sound judgments. This ought to be carried out though a responsible interchange and a clear sense of purpose as civic education serves to promote respectful dialogue on controversial matters. In accordance with that, students learn to engage with opposing points of view, nurturing thus an environment where understanding and collaboration may reign supreme. Acquiring such a soft skill as analytical thinking is indispensable in a globalized context where multiple standpoints are more and more current. This didactically leads us to shed light on an equally important issue closely related to civic education: promoting social justice. I would tackle this issue having in mind two fundamental points: (a) addressing inequalities and (b) promoting advocacy and activism. To begin with, civic education offers a platform for students to investigate, explore and deal with such a timely issue as social (in)justice. In so doing, students are invited to dig deeper into the power of existing inequalities on different communities and hence learn about the urgent need of defending, and backing up, subalterns, to borrow Gayatri Chakravarty Spivak’s word, unheard and disregarded voices. This understanding raises a token to impartiality and justice - considered important mechanisms of global citizenship. In this respect, students are invited, and even encouraged, to actively participate in advocacy and activism as key components of their civic education. This very commitment not only raises mindfulness with regards to social issues but also endows students with necessary tools in order to take action. By means of holding campaigns, participating in peaceful protests, or getting into policy discussions, students learn the impact, and reap the fruit, of collective action. Here the role technology plays in civic education cannot be overshadowed. We do all agree that in the digital age, being aware, and gaining knowledge, of how to sensibly make use of online spaces is beyond doubt. Civic education incorporates lectures on digital citizenship thereby equipping students with online ethics, confidentiality, and the importance of mutually tolerable communication.

This knowledge, once assimilated, can help students conscientiously take part in online communities. Needless to note that technology offers new opportunities for civic action. Students can get hold of social media platforms, the aim of which is multifold: to raise awareness, call up for support, and virtually get in touch with individuals who share the same concern internationally. In the context, it should be made clear that one of the main aims of civic education is to call on the attention of students to the conscientious use of technology as a serene and non-violent instrument for social change. It is also to be noted that the introduction of civic education into school curriculum may have some limitations. The ensuing lines will shed light on that issue. As a matter of fact, albeit its centrality, civic education, more often than not, faces some challenges that can be summed up as follows:

- Curricula may lack profundity in addressing persistent global matters,
- Students' sense of boredom *vis -à -vis* the old and traditional methods being utilized.

In both cases, it is suggested:

Instructors must opt for a wide-ranging civic education that authentically echoes the validities of a globalized context. Boredom among students can thoughtlessly obstruct civic commitment. In this respect, educationalists / trainers must look for ground-breaking methods whose aim would be to instigate interest in civic topics, cultivating thus their sense of earnestness and compulsion. Introducing such schooling approaches as project-based learning and empirical actions can enormously help in fighting such an attitude.

### 3. CONCLUSION

To conclude this paper, I would say that civic education is something that should not be overlooked as it is getting more necessary than ever in such a globalized context as ours. By raising consciousness, responsiveness, and active participation, civic education prepares students to sail across the intricacies of an increasingly unified world. More than that, by being projected as potential leaders and involved citizens, students must be endowed with the competencies and talents to tackle world-wide issues and hence take part in a fairer, unprejudiced, tolerant and unbiased society. Putting efforts together in civic education is a long-term venture in the future of egalitarianism, social justice, democracy, and global citizenship.

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# **SATISFACTION AND USABILITY OF THE INTRANET FOR KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION INSTITUTIONS: A CASE STUDY OF THE FACULTY OF HUMANITIES AND SOCIAL SCIENCES, OSIJEK**

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## **ABSTRACT**

*This study investigates the effectiveness of the institutional intranet at the Faculty of Humanities and Social Sciences in Osijek as a knowledge management (KM) tool among academic staff. The primary objective is to assess user satisfaction with the intranet, focusing on technical performance, content quality, and its role in supporting core KM functions, including knowledge creation, storage, retrieval, and distribution. An online questionnaire with 12 questions was used, divided into five categories: demographic information, frequency of intranet usage, technical usability and content quality, intranet utilization for KM, and overall user satisfaction. Eleven closed-ended questions were analyzed using descriptive statistics in SPSS, and one open-ended question was analyzed qualitatively through content analysis.*

*Results indicate that while users appreciate the intranet's ease of access and functionality, significant areas for improvement were identified, including technical performance such as loading speed, content categorization, and usability features. Participants expressed a need for a more intuitive user interface, better organization of information, and additional training to maximize effective intranet use for KM purposes. User feedback was grouped into six areas of improvement: technical aspects, content relevance, user experience, KM support, interface design, and educational resources. These findings underscore the intranet's value as a KM tool in academic settings but also reveal specific user needs for enhancements. Addressing these areas could enable the intranet to fully support knowledge sharing, efficient communication, and a cohesive knowledge-sharing culture, ultimately contributing to improved academic and operational effectiveness.*

**Keywords:** *higher education, institutional knowledge, intranet, knowledge management, usability*

## **1. INTRODUCTION**

In recent years, knowledge management (KM) has become a key strategy for sustaining competitive advantage. It is seen as more essential than traditional assets, such as financial resources or technology, as it fosters long-term sustainability through systematic knowledge sharing, storage, and application (Wang & Wang, 2016; Iqbal, 2021).

Effective KM involves a cycle of processes: knowledge creation, storage and retrieval, sharing and distribution, and application (Dalkir & Liebowitz, 2011). Technology-supported KM systems (KMS), like intranet platforms, enhance communication, collaboration, and structured information management. Intranet-based KM practices enable organizations to identify, share, and generate knowledge efficiently, ensuring knowledge flow, timely access, and improved adaptability (Gonzalez & Martins, 2017; Chen et al., 2022). Higher education institutions (HEIs) rely on KM to drive research, promote efficiency, and foster innovation. By streamlining knowledge flows among students, faculty, and researchers, KM enables HEIs to address academic and institutional challenges flexibly, enhancing competitiveness and strategic effectiveness (Dalkir & Liebowitz, 2011). In environments where creating, storing, and sharing knowledge are core activities, KM is crucial for achieving institutional goals and fostering improvement. In academia, the intranet has become a vital KM tool, serving as an internal network that centralizes information, supports collaboration, and facilitates efficient knowledge storage and retrieval (Masrek et al., 2011). Intranets enhance HEIs' capacities to organize documents, streamline administrative tasks, and foster cross-departmental communication, creating a cohesive knowledge-sharing culture (Alyoubi et al., 2018). This research explores the effectiveness of the intranet as a KM tool at the Faculty of Humanities and Social Sciences, focusing on user satisfaction and the extent to which the intranet supports knowledge creation, distribution, storage and retrieval and application. Based on previous studies, it seeks to determine how the intranet can improve communication, optimize knowledge-sharing, and enhance its role as a KM platform within the academic community.

## **2. LITERATURE REVIEW**

Knowledge is essential for competitive advantage and organizational value creation, existing as explicit knowledge (documented and easily shareable) and tacit knowledge (personal insights and experiences) (Business Dictionary, n.d.). KM employs structured methods to identify, capture, organize, and share both types to improve performance. Effective KM requires strategies for knowledge dissemination and ongoing evaluation (Chen et al., 2022). Key KM processes include knowledge creation, storage and retrieval, sharing, and application (Nonaka & Takeuchi, 1995; Afridi, Gul & Naeem, 2019; Kö et al., 2019). Widely regarded as essential for organizational sustainability, KM supports both operational efficiency and strategic resilience. By systematically organizing knowledge, organizations adapt more readily to changing conditions, thus building a sustainable competitive advantage (Imhanzenobe, Adejumo & Ikpesu, 2021; Smuts & Van der Merwe, 2022). In HEIs, structured KM enhances institutional capacity by improving resource organization across academic and administrative areas. Robust KM practices support interdisciplinary research, knowledge dissemination, and informed decision-making, helping HEIs adapt to evolving demands and fostering societal knowledge growth (Dhamdhare, 2015). Recent studies confirm the impact of KM and KMS on HEIs. Maligat et al. (2020) highlight how KMS implementations, such as databanks and collaborative platforms, improve knowledge accessibility and foster innovation. Similarly, Afridi, Gul & Naeem (2019) emphasize comprehensive KM practices in advancing institutional goals and educational quality. Intranets are critical KM tools in organizations, offering centralized platforms for accessing, sharing, and managing knowledge assets. As secure networks, they support collaboration and knowledge dissemination, essential for knowledge-intensive organizations like HEIs (Masrek et al., 2011). Effective intranet use depends on usability factors—system, information, and service quality—that meet expectations for efficiency, accessibility, and relevance, thereby enhancing user satisfaction and supporting KM processes (Akinosho, Tella & Onyancha, 2023). Achieving task-technology fit, where intranet functionalities align with user needs, is also key for KM processes like creation, dissemination, and retrieval (Des et al., 2008).



Best practices in intranet design, such as intuitive navigation and customized categorization, increase usability and user adoption, directly impacting KM task performance (Hill, Scott & Acton, 2006). The intranet's role in facilitating KM is well-documented across sectors, including banking (Akinosho, Tella & Onyancha, 2023), public administration (Averweg, 2008), and small and medium-sized enterprises in accounting (Pentikäinen, 2021). Given that this study focuses on the satisfaction and usability of an intranet in a higher education context, intranet applications in HEIs are especially relevant. For instance, Maligat et al. (2020) showed intranets as effective platforms for collaboration in higher education, while Cohard (2020) examined their value in three French institutions, emphasizing their contribution to organizational success and knowledge quality. Giginyu (2022) also highlighted KMS's role in knowledge sharing among Nigerian academic staff, underlining the importance of KMS in enhancing collaboration and support within academic settings. Together, these studies demonstrate that intranets significantly support KM by facilitating information access and collaboration. User satisfaction with intranets, influenced by content relevance, accessibility, and task-technology alignment, is critical for KM effectiveness. When users find intranets functional and supportive of KM needs, they enhance knowledge-sharing processes that are vital for organizational goals, including problem-solving, innovation, and a knowledge-sharing culture (Akinosho, Tella & Onyancha, 2023). In HEIs, where KM supports research and teaching, a user-centered intranet not only bolsters internal knowledge flows but also aligns with institutional goals of fostering learning and innovation (Dhamdhere, 2015; Alyoubi et al., 2018; Maligat et al., 2020).

### **3. METHODOLOGY**

This study used a mixed-method case study approach to assess teaching staff perceptions and satisfaction with the Faculty of Humanities and Social Sciences' intranet as a KM tool. An online LimeSurvey questionnaire was distributed to all teaching staff (N=167) through the Faculty's document delivery system in December 2023 and January 2024. Descriptive statistics in SPSS version 20 analyzed the 11 closed-ended questions to identify trends, while content analysis categorized feedback from the 12th open-ended question, providing a comprehensive understanding of the intranet's role in KM within the Faculty.

#### **3.1. Aim of the Research and Research Questions**

This study investigates teaching staff satisfaction with the intranet to identify potential improvements. It evaluates technical usability (ease of use, access speed, intuitiveness) and content quality (relevance, reliability), as well as the intranet's support for KM functions like knowledge creation, distribution, storage and retrieval, and application. The research questions are as follows:

1. How do teaching staff perceive the technical usability and content quality of the intranet?
2. To what extent does the intranet support key KM functions, including knowledge creation, distribution, storage and retrieval, and application?
3. What are key user-recommended improvements for enhancing the intranet as a KM tool?

#### **3.2. Sample**

The sample included all 167 teaching staff members, comprising 37 full professors, 34 associate professors, 48 assistant professors, 20 teaching staff, and 28 in associate positions. With 93 responses (56% of the population), the response rate was sufficient for analysis. The sample's representativeness across various academic ranks, departments, and experience levels further strengthens the foundation for analyzing intranet usage and KM effectiveness within the Faculty.

### 3.3. Research instrument

The research instrument was a 12-item online questionnaire addressing various intranet aspects, including 11 closed-ended and 1 open-ended question, organized into five groups: demographic profile, intranet usage by feature, perceived technical usability and content quality, KM utilization, and overall satisfaction. For this study, the questionnaire by Akinosho, Tella, and Onyancha (2023), originally developed in a banking context, was translated into Croatian and adapted to fit higher education. These modifications ensure that the instrument effectively captures academic intranet usage patterns, aligning with teaching staff's needs for collaboration and academic knowledge sharing, while maintaining validation based on KM measurement frameworks. The first question group (Q1-3) covered demographic information such as position, department, and experience. The second group (Q4-5) explored intranet access frequency, both overall, and by feature. The third group (Q6-7) assessed technical usability and content relevance, while the fourth group (Q8-10) evaluated KM-related uses, including knowledge creation, distribution, storage and retrieval, and application. The final group (Q11-12) assessed overall satisfaction, with Q12 as an open-ended question for qualitative feedback. Descriptive statistics were used for the first four categories and Q11, capturing quantitative trends. Content analysis was applied to Q12 due to its open-ended format, involving open coding and thematic categorization to identify key improvement areas. Following data screening, one blank and two non-substantive responses were removed, and valid responses were coded (R1-R18) and grouped into six improvement categories: service loading times, content relevance/categorization, user experience, KM utilization, user interface, and education.

## 4. DATA ANALYSIS AND RESULTS

### 4.1. Demographic Profile of Respondents

Table 1 presents the demographic profile of respondents. The largest response rate comes from assistant professors (33.3%), and from respondents employed at the Department of Croatian Language and Literature (14%), and the Department of German Language and Literature (14%). The largest share of those employed has between 16 to 20 years of professional experience at the Faculty of Humanities and Social Sciences (34.4%).

*Table 1: Demographic profile of respondents  
(ends on the next page)*

Variable	Classification	Percentage (%)
Scientific-teaching position	Teaching and Research Assistant	10.8
	Senior Teaching and Research Assistant / Postdoctoral Researcher	5.4
	Lecturer	1.1
	Senior Lecturer	3.2
	Assistant Professor	33.3
	Associate Professor	22.6
	Full Professor	14.0
	Full Professor with Tenure	5.4
	Language Instructor	1.1
	Senior Language Instructor	3.2
Department	Department of Croatian Language and Literature	14.0
	Department of History	6.5
	Department of Information Sciences	12.9
	Department of English Language and Literature	12.9
	Department of German Language and Literature	14.0
	Department of Pedagogy	5.4
	Department of Philosophy	7.5
	Department of Psychology	9.7
	Subdepartment of Hungarian Language and Literature	4.3

Professional experience at the Faculty	Subdepartment of Common Courses	5.4
	Subdepartment of Sociology	4.3
	Subdepartment of Art History	3.2
	Less than 5 years	18.3
	6 to 10 years	19.4
	11 to 15 years	15.1
	16 to 20 years	34.4
	Over 21 years	12.9

## 4.2. Intranet Usage by Features

Participants reported varying usage frequencies across specific intranet features, depending on their assigned professional duties. The features include *Internal documents*, *Department notices*, *Forms*, *Reports on classes held*, and *Practicum*. Among these, the most frequently used feature is *Reports on classes held*, with 90.3% of respondents indicating regular use, likely due to this being a mandatory task for teaching staff. On the other hand, the least used feature is *Practicum*, with 64.9% of respondents reporting they never use it, as practicum responsibilities are assigned only to certain staff members within relevant departments. Other features, such as *Internal documents* and *Forms*, are used occasionally or rarely by most respondents (49.5% and 51.6%, respectively), with only a small percentage (6.6%) using them frequently.

## 4.3. Perceived Intranet Technical Usability and Content Quality

Table 2 summarizes respondents' perceptions of the intranet's technical usability and content quality. Overall, participants reported positively on technical usability. The majority (54.8%) find it easy to navigate the intranet, and 48.4% find the drop-down menus user-friendly. Most respondents (62.4%) reported easy access to the intranet from the Faculty's home page, and 53.8% are satisfied with data access speed. Additionally, the intranet's functionality is well-regarded, with 33.3% completely and 26.9% highly satisfied with its intuitiveness, while 34.4% are completely and 33.3% highly satisfied with its functionality. Most respondents also disagreed (41.9% completely, 35.5% highly) that they frequently encounter loading issues. The perception of content quality was also positive. A majority (55.9%) consider the information relevant and reliable, with 50.5% finding it detailed enough to meet their needs. While 26.9% are completely and 34.4% highly satisfied with update frequency, 21.5% expressed some dissatisfaction, indicating a need for attention at the department or faculty level. The intranet's search function is underused, with 19.4% never and 12.9% rarely using it. Nearly half of the respondents agree (12.9% completely, 36.6% highly) that they can easily locate information, and a large majority are completely (25.8%) or highly (44.1%) satisfied with the intranet overall, reflecting their general satisfaction with its features.

*Table 2: Perceived intranet technical usability and content quality  
(ends on the next page)*

Statement	Frequency (%)*					
	1	2	3	4	5	6
<b>Technical usability</b>						
I find my way around the intranet quickly and easily	1.1	1.1	5.4	8.6	29.0	54.8
Drop-down menus are easy to use	1.1	1.1	7.5	7.5	34.4	48.4
I can easily access the intranet from the Faculty home page via a shortcut	3.2	2.2	5.4	10.8	16.1	62.4
I am satisfied with the speed of access to the intranet data	3.2	3.2	4.3	10.8	24.7	53.8
The site is intuitive – it shows me where to go to find the information I am looking for	3.2	7.5	12.9	16.1	26.9	33.3

I am generally satisfied with the functionality of the intranet	1.1	5.4	6.5	19.4	33.3	34.4
I often find myself in a situation where the intranet is not available (the website cannot be loaded)	41.9	35.5	2.2	7.5	11.8	1.1
<b>Content quality</b>						
I consider the information and content on the intranet to be relevant and reliable	0.0	2.2	3.2	6.5	32.3	55.9
The information available on the intranet is detailed enough for my needs	0.0	2.2	5.4	8.6	33.3	50.5
The content on the intranet is regularly updated	2.2	3.2	16.1	17.2	34.4	26.9
I often use the intranet search option	19.4	12.9	23.7	19.4	14.0	10.8
When I am looking for information, I can easily find it on the intranet	1.1	7.5	24.7	17.2	36.6	12.9
I am generally satisfied with the quality of content on the intranet	0.0	3.2	11.8	15.1	44.1	25.8

\*Note: 1 – I completely disagree, 6 – I completely agree

#### 4.4. Intranet Utilization for KM

Table 3 presents respondents' perceptions of the intranet's effectiveness in supporting key KM processes at the Faculty, including knowledge creation, distribution, storage and retrieval, and application. Respondents rated each feature's accessibility and usefulness for collaboration, research, and information sharing. The results indicate limited use of the intranet for knowledge creation, with over half of respondents (50.5%) completely disagreeing that it supports collaboration and 51.6% reporting it is not used for research activities. In terms of knowledge distribution, the intranet's communication functionality appears limited. For general work-related communication, 25.8% of respondents completely disagree on its ease of use, while 34.4% believe the feature is nonexistent. Additionally, 30.1% feel it lacks functionality for sharing experiences, and 36.6% report no support for chatting about job-related interests. Regarding knowledge storage and retrieval, several challenges are reported. Only 12.9% report full access to the Faculty's institutional repository, while 43.0% state it does not exist. Over one-third (34.4%) report a lack of a system for storing and updating newly generated knowledge. Although 57.0% agree that information categories are well-structured and 41.9% find knowledge within them properly classified, 41.9% also note the absence of an organized system for grouping professionals by field. While 31.2% think the intranet lacks a search feature, 20.4% find internal documents easily searchable, suggesting potential visibility issues for the search function. For knowledge application, respondents express mixed views. Many (38.7%) report restricted access to publish information visible to all users, while only 10.8% report full access. Furthermore, 37.6% see limited application in risk management and problem-solving. Nearly half (49.5%) believe the function for knowledge documentation is nonexistent, though 6.5% consider it somewhat useful. Finally, while 18.3% strongly disagree with the intranet's utility as a knowledge repository, 12.9% express complete satisfaction in this regard. These findings highlight the strengths and limitations of the intranet's design and functionality in supporting KM needs.

*Table following on the next page*

Statement	Frequency (%)*						
	1	2	3	4	5	6	NE
<b>Intranet Utilization for Knowledge Creation</b>							
I use the intranet for brainstorming, meetings and collaboration in the process of finding solutions to a particular problem	50.5	12.9	8.6	1.1	1.1	3.2	22.6
I use the intranet in the process of researching various activities to solve problems related to the generation of new ideas and knowledge	51.6	14.0	6.5	4.3	3.2	2.2	18.3
<b>Intranet Utilization for Knowledge Distribution</b>							
By using the intranet, employees can easily communicate with each other about work and common interests that are important to work	25.8	2.2	20.4	5.4	5.4	6.5	34.4
The latest information is specially highlighted on the intranet	30.1	9.7	17.2	9.7	10.8	6.5	16.1
Employees can use the intranet to regularly inform each other about each other's experiences on projects, Erasmus exchanges, etc.	31.2	5.4	12.9	7.5	4.3	2.2	36.6
Employees can chat on the intranet about common interests in related jobs	35.5	7.5	7.5	6.5	4.3	2.2	36.6
<b>Intranet Utilization for Knowledge Storage and Retrieval</b>							
Employees can access the FFOS institutional repository via the intranet	7.5	7.5	8.6	9.7	10.8	12.9	43.0
Newly generated knowledge such as ideas, work methods, etc. are stored, updated and regularly backed up on the intranet	19.4	11.8	21.5	7.5	3.2	2.2	34.4
The categories on the intranet (internal documents, department announcements, etc.) are properly structured	1.1	8.6	16.1	16.1	25.8	31.2	1.1
Information and knowledge within categories is properly classified (e.g. council minutes are arranged by year)	3.2	15.1	6.5	12.9	18.3	41.9	2.2
The Intranet can group professionals based on their field of work and interests and provide access to their knowledge	17.2	12.9	12.9	7.5	3.2	4.3	41.9
An intranet offers the possibility of searching existing stored knowledge within the organization's network	12.9	10.8	19.4	9.7	9.7	6.5	31.2
All internal documents (e.g. reports, decisions, council minutes, etc.) are easily searchable	9.7	10.8	10.8	11.8	31.2	20.4	5.4
In all internal documents (e.g. reports, decisions, council minutes, etc.) I can find desired information very easily and quickly	8.6	15.1	8.6	19.4	24.7	22.6	1.1
<b>Intranet Utilization for Knowledge Application</b>							
I can independently publish new information and documents visible to all FFOS employees on the intranet	10.8	10.8	9.7	9.7	12.9	7.5	38.7
The information I obtain through the intranet is used for risk management and problem solving	37.6	16.1	15.1	8.6	2.2	5.4	15.1
The intranet has a recording function through which individuals can record their knowledge for others to access	24.7	11.8	7.5	1.1	3.2	2.2	49.5
Through the Intranet, I can easily absorb, retain, and interpret the information and knowledge there	18.3	12.9	15.1	15.1	18.3	12.9	7.5

\*Note: 1 – I completely disagree, 6 – I completely agree, NE – Feature is nonexistent

*Table 3: Intranet utilization for knowledge creation, knowledge distribution, knowledge storage and retrieval, and knowledge application*

### 3.5. Overall Intranet User Satisfaction

The final survey question addressed overall user satisfaction, with a majority (43.0%) expressing general satisfaction, though acknowledging areas for improvement.

Additionally, 19.4% reported no complaints, indicating a basic level of functionality that meets expectations, while only 4.3% had a completely negative experience, likely due to unique, unmet needs. A total of 22.6% of participants offered additional feedback on enhancing the intranet's KM capabilities, with 19.4% providing statistically valid comments for content analysis. Feedback was coded and categorized into specific improvement recommendations. Several comments highlighted dissatisfaction with the intranet's technical performance, particularly noting slow loading times in the *Current Practicum* section (R1, R11). Additionally, respondents observed that the intranet lacks regular updates and that forms and documents are not intuitively organized (R5, R10, R15). Poorly structured categorization and limited visibility of notifications were also cited as factors negatively affecting user experience (R1, R10, R14), with users perceiving the intranet more as an archival administrative tool than as an active KM resource (R4, R6, R7). Further feedback indicated a demand for a simplified user interface with enhanced search and navigation functions (R2, R13, R14, R18), as well as training to optimize effective system usage (R12, R18). Overall, user satisfaction data suggest that the intranet performs adequately; however, targeted improvements could enhance satisfaction levels, particularly given the relatively small user base, which allows for customized solutions potentially tailored to individual needs.

#### 4. DISSCUSION AND CONCLUSION

Results indicate a generally positive perception of the intranet's technical usability, with respondents satisfied with ease of access, navigation, and interface intuitiveness, aligning with research on task-technology fit (Hill, Scott & Acton, 2006; Akinosho, Tella & Onyancha, 2023). However, some users noted slower loading times and occasional navigation issues, suggesting areas for optimization to better meet user needs, as proposed by Smuts & Van der Merwe (2022). Regarding content quality, the intranet was largely viewed as a reliable information source, with positive ratings on relevance and reliability. These findings support the value of high-quality content for effective KM (Afridi, Gul & Naeem, 2019). A minority, however, reported dissatisfaction with inconsistent content updates, indicating a need for structured protocols to ensure regular updates, aligning with recommendations for educational KM systems (Masrek et al., 2011). The intranet's support for key KM functions, particularly knowledge creation, was limited. Many respondents indicated minimal use for collaborative tasks, suggesting it is more suited for archival than dynamic KM activities, consistent with prior findings (Dhamdhare, 2015; Smuts & Van der Merwe, 2022). Knowledge distribution was also found limited, with gaps in cross-departmental communication functionality (Giginyu, 2022). For knowledge storage and retrieval, respondents were satisfied with categorization, though noted issues with search visibility and repository organization. Maligat et al. (2020) emphasize that improved search features could better meet the Faculty's needs. User satisfaction with knowledge application features, like publishing new information, was low, with many respondents unaware of these options. Cohard (2020) also found underutilized features limit KM systems' potential in academia. Overall, the findings show a balance between user satisfaction with ease of access, intuitiveness, and reliability, and areas for enhancement, particularly in collaborative and knowledge-sharing functionality. This suggests that while the intranet serves as a foundational KM tool, targeted improvements could better align it with user needs, enhancing its role in supporting academic collaboration within the Faculty. In conclusion, the intranet at the Faculty of Humanities and Social Sciences in Osijek provides a foundational KM structure, but its current focus favors archival over interactive KM processes. Improving technical functionality, expanding features for knowledge distribution and creation, and establishing clearer update protocols could transform it into a robust KM tool. This would enhance user satisfaction and foster a culture of knowledge sharing and collaboration, aligning with the Faculty's broader mission to promote innovation and adaptability.

These improvements could significantly impact KM practices by fostering a more collaborative and knowledge-sharing academic environment. Enhanced functionality would streamline information access, supporting the Faculty's goals of fostering innovation and a cohesive knowledge-sharing culture. By aligning the intranet's capabilities with user needs, the Faculty can further solidify its commitment to effective KM, ultimately contributing to academic excellence and operational efficiency.

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# MOTIVES AND TECHNIQUES OF APPLYING CREATIVE ACCOUNTING IN THE MANIPULATION OF FINANCIAL INFORMATION

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## ABSTRACT

*Creative accounting no longer has the same definition or application as it used to. Over time, creative accounting took on elements of manipulative accounting. At the same time, creativity with the technique of flexible and fair presentation of financial statements in accounting frameworks came out of the same framework in an uncontrolled desire to falsely present the financial situation. The original creativity took on the characteristics of manipulateness, which in turn became synonymous with falsifying financial statements. To what extent financiers are aware of the presence of creative accounting in practice today, how it is applied, what are the motives for its application and how do they evaluate the application of creative accounting from a personal aspect, do they approach it with a margin of creativity or manipulateness, are questions that received an answer through the conducted empirical research. On a sample of 181 respondents, the motives and techniques of applying creative accounting are clearly revealed, the issue of its marginality with regulatory frameworks is defined, and a correlation between motives and techniques of application in practice is clearly established from the perspective of financial workers. The basis for data collection was a survey questionnaire, while the results were processed and hypotheses proved using the SPSS statistical package.*

**Keywords:** *creative accounting, manipulations, financial statements, motives, techniques*

## 1. INTRODUCTION

Creative accounting, designed with the idea of respecting accounting standards and principles, has turned over the years into a deviation from the same standards and principles for a reason known as "hairdressing of the financial situation". The same is not basically a reflection of illegality, but a reflection of unethicity. Over time, creative accounting has neglected the basis of fair and objective financial reporting and today borders between the permitted alternative use of accounting regulations and falsification of financial statements. It attracted attention in the 1980s, but its negative connotations took off with the global financial crisis in 2007. Creative accounting is the idea of sustaining the imagination with newly invented financial tools. In the same way, financial reports as user information bases are compromised in their truthfulness and fair representation of the financial state of the business entity. The aim of the work is to point out the presence of creative accounting in practice in its negative connotation, as manipulation of financial information. At the same time, the goal is to point out the motives and techniques of applying creative accounting, and to find out whether there is a connection between the motives of applying creative accounting and the technique of manipulating financial statements.

Through the set goal, the basis is to prove that due to the application of creative accounting, financial statements do not provide what they are based on. The application of creative accounting led to a decrease in the value of financial information, and its manipulations destroy the image of a business entity. For this reason, business entities should try to use the flexibility offered by creative accounting in its ethical application, because only with more ethical principles can manipulative behavior be reduced. Creative accounting has become a "puzzle game" of beautifying financial information that does not follow accounting rules, but skillfully manipulates them. The game has become synonymous with the phenomenon of the 21st century.

## **2. CREATIVE ACCOUNTING**

Creative accounting in practical application, by inappropriate and immoral management, has become an image of the negative aspect of the more favorable and false compilation of financial statements (Belak 2008). It is a process of long-term and multi-year duration, a process that starts with small and ends with large-scale manipulations as a means of complying with accounting regulations, rules and standards, both in legal and illegal contexts (Negovanović, 2011). O'Regan (2006) defines creative accounting as a deliberate deviation from the true and fair presentation of financial results through the use and abuse of accounting techniques and principles. According to Mulford and Comiskey (2002), creative accounting is an aggressive game with financial numbers, while according to Naser (1993), the same creativity is a pure transformation of actual financial statements into desired statements through playing the rules. Creative accounting, according to Friganović (2008), is both the application and abuse of accounting standards for the purposes of presenting financial results in the context of inaccuracy and unfair presentation. Falsifying financial information, falsifying business books, deceiving investors are typical examples of accounting manipulations (Rezzaee and Riley, 2014). Management, for the needs of a better and more stable presentation of the state of business as a basis for the upward trajectory of its development, uses creative accounting techniques (Belak and Vudrić, 2012). Balaciu et al. (2009) conclude that there is no generally accepted theory of what creative accounting means, neither at the international nor at the European level. Just before that, it leaves room to continue working on the unification of the definition of creative accounting.

## **3. MOTIVES AND TECHNIQUES OF MANIPULATION OF FINANCIAL INFORMATION USING CREATIVE ACCOUNTING**

Data on business activity are presented in financial statements as representations of the level of financial efficiency of a business entity. Financial statements are records of essential information crucial in making business decisions. Basically, they are the final stage of accounting information processing (Žager and Žager, 1996). According to Belak (2011), earnings management, aggressive accounting, earnings smoothing and falsification of financial statements are just some forms of misuse of creative accounting. Alexander and Nobes (2011) define the most common manipulations of financial statements through income, their recording ahead of time, their false recording and the transfer of current income to later periods. And Parać (2008) is of the opinion that the most common motives for false presentation of income are the basis of the application of creative accounting, in order to increase profits or reduce losses. Sutton (2004), on the other hand, is of the opinion that manipulations are most easily carried out in the presentation of costs and expenses with the purpose of hiding the resulting loss, avoiding the presentation of the loss and creating greater profits due to receiving incentives and rewards through business. According to Belak (2011), the most common forms of manipulation of financial statements are through costs and expenses, income, provisions, unrealistic assets, aggressive revaluations, hiding liabilities, siphoning money, complex

transactions and theft of cash. The former ignores the quality and veracity of accounting information, without which quality effective operation simply loses its foundation (Aljinović Barać and Klepo, 2006). The most common motives for manipulations using creative accounting are attracting different interest groups, meeting the expectations of different groups, perceiving better profitability, higher share values, more favorable lending, growth in the market value of business entities, managerial rewards (Belak and Vudrić, 2012).

#### **4. PREVIOUS RESEARCH**

Selected previous researches emphasize the motives and techniques of applying creative accounting in practice. All research points to the unethical application of creative accounting, which was supposed to be a reflection of ethics. Some researchers dealt with the issue of secondary analysis of scientific papers, while some conducted research by collecting primary data. In both contexts, interesting conclusions are revealed about creative accounting as accounting that once had the connotation of opening Pandora's box, and today is a burning problem that is looking for its solution. Cugova and Cug (2020) conclude with their research that financial information is manipulated through the application of creative accounting in order to fulfill state requirements. Nakić et al. (2021) in their research conclude that the abuse of creative accounting is most often the result of ambiguous rules of regulatory bodies and that the same abuse is connected to the ignorance or lack of information of the accounting and financial staff themselves, and that this is one of the key reasons for the deterioration of the quality of financial statements. The same authors conclude that the revenue impact technique is defined as the simplest approach to applying creative accounting in creating a better image of a business entity. Remenarić et al. (2018) emphasize that the basis of manipulation is found in the allowed accounting estimates within the framework of accounting standards, and that manipulations of off-balance sheet items, manipulations of depreciation and items of income and expenses are most often used under the techniques of using creative accounting. Androniceanu and Strakova (2021) prove the possibility of manipulation of financial statements both in variants of maximization and in variants of minimization of items, applying the technique of beautifying the windows and applying the off-balance sheet technique. Unethical behavior, agency problem and unprofessional attitude are the most common motives for fraud and scandals through creative accounting, according to research by Tassadaq and Malik (2015), who define creative accounting not as an illegal or legal approach, but as a problem of its maximum use, which results in pushing of a business entity in a scandal.

#### **5. RESEARCH METHODOLOGY**

The research instrument used in the research is a survey questionnaire, sent via e-mail address to financial experts. It was formed with closed type questions. While some questions had concrete answers, some were formed with the answer setting of a Likert measuring scale of five degrees of intensity, which measured the respondents' attitude towards certain statements. The answers obtained were analyzed using the Excel program and the SPSS statistical package. The research was conducted in September 2024 and a total of 181 financial employees participated in it. The methods of descriptive statistics and correlation analysis were used for data processing. The objective of the research was to confirm the application of creative accounting in practice in all its unethicity and manipulateness through the prism of financial reporting, as well as to define the connection between the motives and techniques of its application. Based on the set goal, three hypotheses were formed:

- H1. It is assumed that creative accounting is applied in practice with an increasing dose of manipulateness.
- H2. It is assumed that the application of creative accounting affects the quality of financial information in financial statements.

- H3. It is assumed that the motive for applying creative accounting is closely related to the technique of its application.

### 5.1. Research results

The research was conducted on a sample of 181 financial employees. They are defined as the group closest to the understanding and application of creative accounting. The diversity of opinions about the motives and ways of applying creative accounting were obtained from both male (45) and female respondents (136). For the purpose of examining the age of the persons involved in the research, five categories were formed, 20-30, 31-40, 41-50, 51-60 and 61 and over. Out of 181 respondents, 15 of them belonged to the age group of 20 to 30 years, 73 of them belonged to the group of 31 to 40, there were 56 respondents in the group of 41 to 50, 31 respondents belonged to the group of 51 to 60, while only 6 belonged to the age group of 61 and over. According to the formal education of the respondents, 44 of them have a secondary education, 56 have a higher education, 67 have a university education, while 14 of them have a PhD. Basically, these are highly educated respondents. In further research, it was established that the respondents' views on the application of creative accounting in practice in the context of its manipulateness are clear and indicate its high application in the creative-manipulative aspect. In particular, 38 respondents were not completely sure whether creative accounting can be observed in practice with all the elements of manipulative accounting, 48 of them agreed that creative accounting has become manipulative, 88 of them are completely sure of the statement, while only 7 of them expressed disagreement with the statement made. The analyzed answers confirm the application of creative accounting in practice in all its manipulative application. Practice has confirmed what the theory indicated, namely that the margins of misuse of creativity are crossed in practice and manipulation comes to the fore. Based on the above, the first hypothesis was confirmed, which reads: H1. It is assumed that creative accounting is applied in practice with an increasing dose of manipulateness. This gave the green light to continue the research and determine the motives and techniques of applying creative accounting in the manipulation of financial statements. For the purposes of confirming the second hypothesis, which reads: H2. It is assumed that the application of creative accounting affects the quality of financial information in financial statements, the answers to questions from the questionnaire related to the application of creative accounting and its possible impact on financial statements in the context of their quality were analyzed. Basically, the aim was to establish to what extent creative accounting can influence the manipulation of financial information. The same hypothesis was confirmed by correlation analysis in the statistical package SPSS. The analysis showed a significant statistical connection between the application of creative accounting and the manipulation of financial information through financial statements (Table 1).

Correlations			
		creative_accounting	quality_financial_statements
creative_accounting	Pearson Correlation	1	0,641**
	Sig. (2-tailed)		0,000
	N	181	181
quality_financial_statements	Pearson Correlation	0,641**	1
	Sig. (2-tailed)	0,000	
	N	181	181
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 1. Correlation between creative accounting and the quality of financial statements  
(Source: Made by the author)

The conducted correlation analysis proves the potential connection between the application of creative accounting and its impact on the quality of financial statements. Pearson's linear correlation coefficient<sup>1</sup> (0.641) reveals a high statistical significance of the correlation (Sig. < 0.01) and a high association of the observed variables. By confirming the empirical relationship, creative accounting and financial reporting are statistically significantly related, thus confirming the research hypothesis H2. It is assumed that the application of creative accounting affects the quality of financial information in financial statements, based on the confirmed empirical relationship of the variables taken, it is accepted as true.

When asked about the most frequent motive for the misuse of creative accounting in practice through the manipulation of the quality of financial statements:

- 20 respondents or 11% of the sample are of the opinion that attracting investors is the most common motive
- 80 respondents or 44% of the sample are of the opinion that the most common motive is to create a better image for the public
- 34 respondents or 19% of the sample consider the increase in the market value of a business entity to be the most prominent motive for applying creative accounting that exceeds the limit of manipulateness
- 20 respondents or 11% of the sample set rewards and bonuses and their maximum realization as the most common motive for misuse of creative accounting in practice
- 11 respondents or 6% of the sample point out the strengthening of creditworthiness as the most common motive for manipulation of financial data in practice
- 16 respondents or 9% of the sample are of the opinion that personal gain is the decisive motive for creative manipulations in financial practice

In the context of this research, it was important to find out by which methods or techniques creative accounting is applied as manipulative accounting in the context of influencing the quality of financial statements. While the example of Enron and similar large global companies highlights the manipulation of revenues (Soltani, 2009), Croatian financiers are convinced that the manipulation of costs and expenses are the ones most often used to change the quality of financial statements. According to the respondents:

- 74 respondents or 41% of the sample prefer the manipulation of financial statements through the presentation of costs and expenses
- 50 respondents or 28% of the sample consider income manipulation as the most common technique of manipulating financial data in financial statements
- 46 respondents or 25% of the sample give priority to manipulations of extracting money from a business entity
- 8 respondents or 4% of the sample consider inventory manipulation as the most used method of creative manipulation of financial statements
- 2 respondents or 1% of the sample experienced manipulation of fictitious accounts with the most common technique
- only 1 respondent or 1% of the sample thinks that manipulation of more complex accounting transactions is the key to manipulation of financial statements

The research used the opportunity to find out how ethical the respondents themselves are in the application of creative accounting in practice and whether their ethics borders on the margin of its manipulative application.

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<sup>1</sup> The interpretation of the Pearson correlation coefficient was carried out according to Petz, B. (1997). Osnove statističke metode za nematematičare, VI. Izdanje. Jastrebarsko: Naklada slap.

So far, the research has given an opinion on the very approach of applying creative accounting in the context of discovering attitudes, whether it is considered whether the same accounting is present in practice at all and to what extent, what are the motives for its application and with what techniques creative accounting is applied when the question is raised its manipulative applications and reflection on the quality of financial statements. The criterion for assessing the ethicality of the application of creative accounting by the respondents ranged from 1 – unethical to 5 – ethical. Regarding the answers, not a single respondent gave an answer with a rating of 1 and 2, which means that the respondents are not considered unethical in the application of creative accounting and that by applying the same accounting they do not cross the border of manipulative accounting. Of the total number of respondents, 10% of the sample was unable to clearly express their position, 33% of the sample rated their application with a grade of 4, while the largest sample of 57% of respondents was quite clear in their ethical application of creative accounting. The above reveals that the respondents have one attitude towards the general application of creative accounting in practice and another attitude towards their personal application. When asked by whose order creative accounting is used in practice, the largest number of respondents are of the opinion that it is applied by order of their superiors (59% of the sample) and at their own discretion (17% of the sample). In addition to the above, the research set itself the task of proving whether there is a connection between motives and the application of the creative accounting technique. To prove it, a correlation analysis was performed (Table 2). In the context of the conducted analysis, a medium-strong connection between the observed variables is confirmed, thus proving the confirmation of hypothesis H3. More specifically, the Pearson's linear correlation coefficient of 0.597 indicates a medium-strong but significant relationship between the observed variables, with a high significance of the correlation (Sig. < 0.01). The obtained result confirmed the empirical connection between the motive of applying creative accounting and the technique of its application, which leaves us to conclude that the third research hypothesis, which is H3, is correct. It is assumed that the motive of applying creative accounting is closely related to the technique of its application, he accepts.

Correlations			
		motives	techniques
motives	Pearson Correlation	1	0,597**
	Sig. (2-tailed)		0,000
	N	181	181
techniques	Pearson Correlation	0,597**	1
	Sig. (2-tailed)	0,000	
	N	181	181
**. Correlation is significant at the 0.01 level (2-tailed).			

*Table 2. Correlation of motives and techniques of applying creative accounting  
(Source: Made by the author)*

The conducted research confirmed all the set research hypotheses. In the context of the same, it was determined that the application of creative accounting is present in practice and that financial experts perceive it with a high degree of manipulateness and with a distinct influence on the quality of information presented in financial statements, as well as that the link to the application of the creative accounting technique is clear to them in accordance with the motives of the perpetrator applications.

## 6. CONCLUSION

The essence of financial reporting lies in the true and fair presentation of financial information in financial statements. The same essence is violated in the permitted space of alternative

application of accounting standards and principles that can be abandoned both consciously and unconsciously through the application of creative accounting. Creative accounting violates the principle of true and fair presentation of financial statements through intentional accounting errors and fraudulent practices. The conducted research confirmed the unethical application of creative accounting in practice and the same research detected the most common motives and techniques of its application. At the same time, an insight into the possible existence of a connection between the motive and the very technique of manipulative use of creative accounting was provided. All of the above was clearly confirmed in a sample of 181 financial employees. At the same time, a review was provided to encourage the application of creative accounting, with the order of the superior and on one's own order. In both contexts, the unethicity and abuse of the initially set flexibility of applying regulatory frameworks through the prism of creative accounting is emphasized.

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# ECONOMIC VALUATION OF CULTURAL HERITAGE: THE IMPORTANCE OF DETERMINANTS OF DEMAND

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## **ABSTRACT**

*Economic valuation of cultural heritage is challenging because of the specific nature of culture and heritage. Different methods have been developed and used in past few decades and those, among other things, result in deriving a demand function for specific site. Previous research and studies of cultural heritage sites mostly used different regression models to estimate the importance of certain determinants of demand using different methods. The aim of this paper is to explore and identify determinants of demand for a few cultural heritage sites in Herzegovina, south part of Bosnia and Herzegovina, and asses their importance using Structural Equations Modelling (SEM). One of the main advantages of SEM is that it can be used for variables that are difficult to quantify which is important in case of cultural heritage. This method was selected because it is appropriate to study the relationship between concepts and specify structural and measurement model for all selected locations. By comparing results of analysis on different sites in Herzegovina conclusions can be made on importance of specific demand factors and that information is useful for local authorities while creating strategies and plans for development of tourist industry.*

**Keywords:** *cultural heritage site, determinants of tourist demand, measurement model, SEM, structural model*

## **1. INTRODUCTION**

Cultural heritage is considered as an asset that has cultural, historic and socio-economic significance in a contemporary society. It is the legacy of physical artefacts and intangible attributes of a group that are inherited from previous generations, kept in the present and assigned for the future. (Nijkamp 2012). According to UNESCO cultural heritage includes “artefacts, monuments, a group of buildings and sites, museums that have a diversity of values including symbolic, artistic, aesthetic, ethnological or anthropological, scientific and social significance” (UNESCO, 2009).

Heritage as a resource can bring various social and economic benefits to different stakeholders. (Dumcke, Gnedovsky 2013). Economic valuation of heritage, according to Mourato and Mazzanti (2002) may, among other things, help to make the decisions and introduce policies for different cultural destinations to increase profits or access, to evaluate pollution, to assess tourism effects, type and degree of conservation measures etc. Economic value of heritage consists of use and non-use values. Use value is the direct value of the assets' services by those who consume the services, for instance the tickets to entry a site. Non-use value is a value for those who experience benefits of cultural heritage as a public good and it includes existence, option and bequest value that are not observable in market transactions. (Thorsby 2002). To measure values associated with cultural heritage two groups of methods have been developed: revealed and stated preference methods.

## **2. REVIEW OF LITERATURE**

Economic valuation of heritage may also help to estimate the demand for an asset and to predict future demand trends, potential demand of non-visitors, price and income elasticities of demand for cultural asset etc. (Mourato, Mazzanti 2002). One of the stated preference valuation methods is Travel Cost Method (TCM) that values cultural heritage by the amount that individual travelling to a particular site is willing to pay for the values of goods and services provided at the site (Armbrecht 2014). TCM is the most appropriate to use for valuing already existing places and for estimation of demand in the absence of reference prices (Fonseca and Rebelo 2010). The travel costs to a specific site act as a price of visit, so the associated travel cost presents a willingness to pay for the cultural heritage good. (Nijkamp 2012). Demand for a recreational destination, natural or cultural one, according to TCM is inversely related to travel costs of a visitor (Merciu, Petrisor and Merciu, 2021). In the analysis of demand curve besides travel costs, there are other factors, that might affect the number of visits to a site such as: trip costs to substitute sites, experience at the site, income and age of visitors, personal preferences etc. (Yung, Yu and Chan 2013, Kaminski, McLoughlin and Sodagar 2007). TCM method has been applied for valuation of specific heritage and cultural sites all over the world but still less than some revealed preference methods. Most of those studies focused on deriving a demand curve and calculating consumer surplus using the demand curve for valuation of sites. Halkos et. al. (2024) used meta regression analysis on 85 studies conducted in the period of 1995-2022 that revealed willingness to pay values (WTP). Overall, the willingness to pay was lower in European countries compared to non-European ones. For European studies factors that were identified as important and had significant effect on willingness to pay and therefore on demand were: education, esthetic and spiritual cultural value. For non-European studies income, intangible heritage goods with skills and oral tradition had significant impact. Europeans are more attracted by tangible cultural heritage while non-Europeans are more influenced by oral traditions. Education also determines WTP in Europe and income in non-European countries. There are studies that focused on specific countries' heritage sites or cultural events. One of those is a study on the value of cultural heritage - the historical center of Bucharest. Results gained through TCM lead to conclusion that tourists' motivation, the quality of recreational experience, desire to revisit historic site and income of visitors affect the demand of tourists (Merciu, Petrisor and Merciu 2021). A study on cultural heritage sites in Jordan included nine different sites and explored willingness to visit (Abuamoud et. al. 2014). It was found that income, education, visiting other country, variety seeking and reason for visit were the factors of tourists' willingness to travel. The research has shown that income has a significant positive effect on willingness to visit. Costs in Jordan were also found to be significant with negative effect. If visitors came for business, it is less likely they would visit cultural heritage sites so that variable shown significant negative effect. Tourists visiting other countries are less likely to visit while education has a positive effect on the number of visits.

Bedate, Herrero and Sanz (2004) discussed potential application of demand curve in terms of calculating consumer surplus for a specific cultural good, allowing for forecasts of possible tax effects, grants or change in prices which is important for relevant authorities for provision and maintenance of cultural heritage sites or events. They used four case studies in Spain (cultural artistic event, village, museum, cathedral). Results have shown that the preferences of tourists for four different case studies are strongly correlated to the touristic appeal of each area. According to them, the number of visits indicate intensity of individuals' preferences regardless of the cultural significance of the sites. The study on museum in Altamira, Spain that used two variations of TCM method: individual and zonal one showed that travel costs were negatively related to number of visits and that the older the visitor the higher number of visits for individual TCM model. The zonal method resulted in recognizing significant positive influence of income of visitors on their number of visits as well negative effect of travel cost (Torres-Ortega et. al. 2018). Tourkoulas et. al. (2015) calculated consumer surplus for Poseidon temple in Greece. Several regression models were used with different approaches to calculation of travel costs. Their full model shows that visits to the sites are positively related to age of visitors and that women, visitors who are not freelancers, visitors who revisit the monument, those who combine the visit to other activities in the region visit more the site. The model also identified travel costs having a negative effect on visits. In case of region in Portugal classified by UNESCO as World heritage site application of TCM showed that variables of gender, educational level and travel cost were statistically significant (Fonseca and Rebelo 2010). The results indicate a negative relation between travel costs and the number of visits. Women and more educated visitors tend to visit the site more. The study on historic building in Nigeria showed that value placed by visitors is higher than the price charged that is important for relevant authorities for price forming. The results of this study show travel costs were statistically significant with negative effect on the number of visits (Egbenta 2017). Vicente and de Frutos (2011) discovered that travel costs have significant negative effect on number of visits for the exhibition in Spain and that income has positive effect on number of visits. Studies that used TCM focused on assessing willingness to pay and importance of demand factors since those can help institutions and government authorities in creating of different policies related to cultural heritage in terms of using cultural heritage as an important resource in tourist offer as well as its preservation.

### **3. METHODOLOGY**

#### **3.1. Case studies**

Four places in Herzegovina were chosen for this study: Mostar, Trebinje, Pocitelj and Livno. According to the world travel magazine Lonely Planet, Mostar was ranked 4th among the world's best cities to visit in 2024. (<https://n1info.ba>). Mimar Harudin's project resulted in the construction of a bridge in 1566, known as the Old Bridge in Mostar. Through the centuries, it connected the banks of the Neretva and became the main symbol of the city on the Neretva (Mostar). Unfortunately, it was destroyed during the war on November 9, 1993. Thanks to the efforts of the Bosnian authorities, as well as the international community, the restoration of the Old Bridge was successfully completed in 2004. The Old Bridge is inscribed on UNESCO's World Heritage List "...as an exceptional and universal symbol of the coexistence of communities of different cultural, ethnic and religious backgrounds..." (UNESCO 2005). Trebinje, Počitelj and Livno are cities that have a rich cultural heritage from different historical eras, especially from the Ottoman period. During their historical development, these cities had strategic importance, which certainly contributed the most to the construction of public and private buildings that have been preserved to this day and form the core of their historical city areas. Trebinje developed under different cultural influences, so today in this city you can see elements of the Ottoman and Austro-Hungarian legacy.

The development of the historic city center began in the 17th century, and the most intensive construction took place in the first half of the 18th century. During the Austro-Hungarian administration, Trebinje was a military center surrounded by fortifications that still dominate the landscape of this city. In the historical city area of Trebinje, three spatial units can be distinguished according to the period of creation, urban matrix and architectural styles: the Old Town within the walls of Kastel (from the 15th century), the settlement of Krš or Omanovića Mahala on the slopes north of the Old Town (from the 18th century) and zone of the inner city center west and south of Stari Grad (since the end of the 19th century).<sup>1</sup> Pocitelj was created in the late Middle Ages as a strategically important fortress. The era of greatest development was in the Ottoman period, especially from the 16th to the 18th century. During this period, the most important public and monumental buildings such as mosques, madrasa, hammam, han, clock tower, as well as residential buildings were created. With the Austro-Hungarian occupation of Bosnia and Herzegovina in 1878, it lost its previous importance, which is why it gradually decays. Počitelj presents one of the few urban ensembles in Bosnia and Herzegovina preserved in their integrity to the present time developed through the several phases of history, beginning with the medieval period.<sup>2</sup> This is why it is often called an open-air museum. Livno is one of the cities where the development of civilization can be traced back to the oldest times. There are numerous traces of cultural heritage in its area from prehistory, antiquity, the Middle Ages, and the Ottoman era. It experienced its greatest development during the 16th and early 17th centuries, when it was the military and political center of the Sanjak of Klis. The most significant buildings built in the settlement are the mosques, of which the dome-shaped mosques are the representative buildings of the highest range of Ottoman architecture in Bosnia and Herzegovina.<sup>3</sup> Among the more important buildings from the later period, we should mention the Franciscan Monastery of Gorica, which was built in the 19th century, and from whose monastery collection the Franciscan museum and gallery of Gorica Livno developed.

### 3.2. Data and Methods

Primary data for this research were collected by direct survey of visitors from Bosnia and Herzegovina and other countries in the period June 2023-July 2024. The survey was conducted in the territory of Bosnia and Herzegovina on the following locations: the city of Mostar, Livno, Trebinje and Pocitelj. The questions in the survey related to socio-demographic characteristics of visitors and travel costs they incurred. To identify relevant demand factors in selected locations structural equation modelling (SEM) method was used. For preparing data first Confirmatory Factor Analysis (CFA) was applied with a graphical presentation of all variables and corresponding relationships. Variables come in two forms: latent and manifest. Latent variables were introduced as hypothetical constructs, and they cannot be measured directly. Manifest variables are directly observed through answers to survey questions and conclusions on latent variables are based on manifest ones. Modelling with structural equations enables setting one concept model including cause-and-effect relationships between a set of latent variables and relationships between latent and associated manifest variables. The measurement model is a part of the SEM model and refers to the relationships between manifest and latent variables, while the structural model shows all the dependence relationships exclusively between latent variables (Hair et al., 2010). By model estimation, relationship' empirical values between the latent themselves as well as between manifest and latent variables were obtained.

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<sup>1</sup>[http://aplikacija.kons.gov.ba/kons/public/uploads/odluke\\_bos/Trebinje%20gradsko%20podrucje%20BOS.pdf](http://aplikacija.kons.gov.ba/kons/public/uploads/odluke_bos/Trebinje%20gradsko%20podrucje%20BOS.pdf)

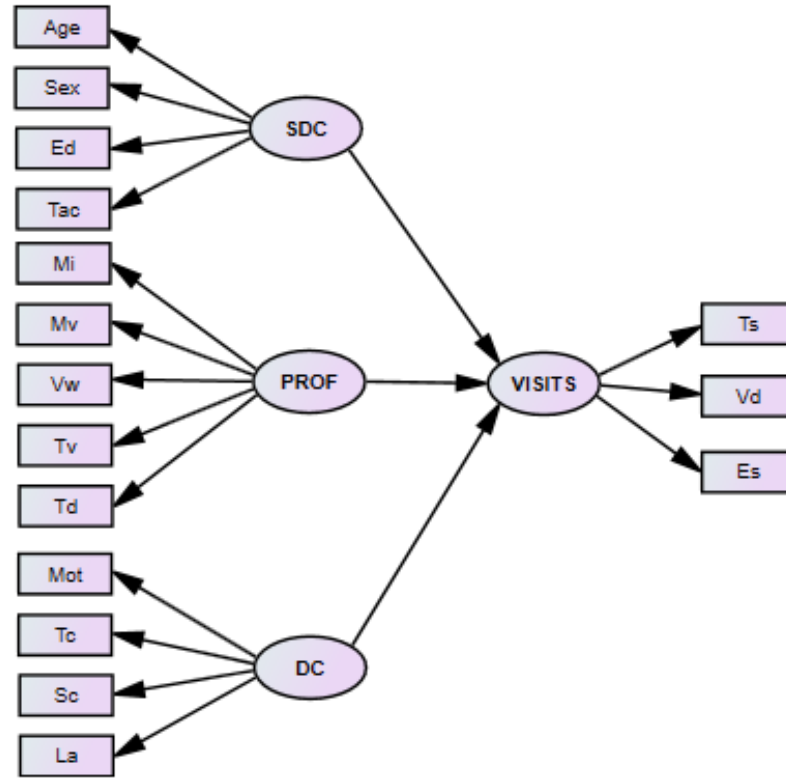
<sup>2</sup> <https://whc.unesco.org/en/tentativelists/5092/>

<sup>3</sup><http://aplikacija.kons.gov.ba/kons/public/nacionalnispomenici/show/2549?return=&search=idgrad:undefined:59>

### 3.3. The model

For the purposes of making the demand function and detecting the key determinants of demand, structural equation modeling was performed using the CB SEM (Covariance Based SEM) approach. The first step of the mentioned approach is the specification and construction of the path model. Figure no. 1 shows the constructed trajectory model.

Figure 1 Scheme of the initial model



*Socio-demographic characteristics (SDC), Profile (PROF), Direct costs (DC)*

After construction of measurement model, the reliability of the measuring instruments was tested by calculating Cronbach's alpha and did reduction of date. The most widely used method to test reliability is the Cronbach coefficient alpha. For the following constructs and their associated manifest variables, the Cronbach's alpha was greater than 0.70, so it was established that should remain in the analysis:

- Manifest variables for Measuring instruments for Socio-demographic characteristics (SDC): Age, Sex, Level of Education (Ed)
- Manifest variables for Profile (PROF): Montly income of all members of household (Mi), Motive for visit (Mv), Type of visitor (Tv)
- Manifest variables for Direct costs (DC): Means of transportation used to arrive at destination (Mot), Travel cost from home to destination (e.g. fuel costs, tolls, airplain tickets, etc.) (Tc), The costs of stay at destination and visiting cultural heritage monuments (e.g. museum tickets, guides' fee, cost of accomodation or total amount of costs) (Sc)

- Manifest variables for Visits: Time spent on visiting cultural heritage monuments at destination (Ts), Visit dynamics (Vd), Enjoyment of stay at destination (proportion of enjoyment visiting cultural heritage monuments compared to total enjoyment of stay at destination) (Es).<sup>4</sup>

The model was set for four localities: Mostar, Livno, Počitelj and Trebinje. The final model contained 4 latent and 12 manifest variables for all destinations, and it was specified based on the data of 198 visitors to Mostar (The Old Bridge), 216 visitors to Livno, 121 visitors to Počitelj and 108 visitors to Trebinje.

The formed model was the basis for assessing how much the empirical data support the set assumptions about three groups of factors (presented as latent variables) on the number of visitors to individual localities. Causality analysis estimated how empirical data support theoretical assumptions about the influence of socio-demographic characteristics of visitors, profile of visitors and direct costs to the number of visitors.

#### 4. RESULTS

The set models are recursive because all relations in the structural model are one-way. Estimation of links in the structural SEM model was carried out on the basis of path coefficients and hypothesis testing that the path coefficients are significantly different from zero. A path coefficient value close to  $\pm 1$  indicates a strong positive or negative association, and the closer the coefficient is to 0, the weaker the association. A higher value of the path coefficient indicates a greater influence on the endogenous variable towards which the arrow is pointing. For interpretation and interpretation of the results, these coefficients are interpreted in a relative relationship. In Tables No. 1, 2, 3 and 4 values of unstandardized coefficients are given with associated standard errors and p-values. For all the mentioned factors, the hypothesis, that the evaluated regression coefficients are statistically significantly different from zero, is accepted because  $p < 0.05$  for the localities of Mostar and Livno. For these localities, the respondents dominantly decided that it was their primary destination. This means that socio-demographic factors, the profile of respondents and direct costs have a statistically significant effect on the number of visitors with different intensity of the achieved influence. An identical conclusion is not relevant for the localities of Trebinje and Počitelj. From the data presented, the significance of two groups of factors was established. In this case socio-demographic characteristics and the profile of the respondents have a statistically significant effect on the number of visitors. The influence of direct costs on number of visitors did not prove to be statistically significant. A typical definition of visitors to Trebinje and Počitelj is that for them the mentioned localities are not primary destinations and that they are predominantly visitors to multiple destinations.

*Table following on the next page*

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<sup>4</sup> The Cronbach's alpha for variables: Ta - Type of accommodation, VW - Visiting destination with ..., Td - Town departure, La - Alternative localities was less than 0.60.

Table 1 Regression Weights - Model for Mostar

Mostar	Estimate	S.E.	C.R.	P
VISITS<---DC	-,043	,028	-1,533	,025
VISITS<---SDC	,076	,035	2,169	,030
VISITS<---PROF	,251	,053	4,746	***
Age<---SDC	1,000			
Sex<---SDC	1,268	,165	7,705	***
Ed<---SDC	1,084	,141	7,706	***
Mi<---PROF	1,000			
Mv<--- PROF	,686	,113	6,068	***
Tv<--- PROF	,290	,074	3,948	***
Mot<---DC	1,000			
Tc<---DC	,390	,187	2,084	,037
Sc<---DC	,280	,148	1,894	,048
Ts<--- VISITS	1,000			
Vd<--- VISITS	3,178	,532	5,970	***
Es<--- VISITS	2,890	,482	6,001	***

Table 2 Regression Weights - Model for Livno

Livno	Estimate	S.E.	C.R.	P
VISITS<---DC	-,117	,038	-3,080	,002
VISITS<---SDC	,209	,051	4,135	***
VISITS<---PROF	,407	,045	9,114	***
Age<---SDC	1,000			
Sex<---SDC	1,181	,108	10,990	***
Ed<---SDC	1,097	,101	10,816	***
Mi<---PROF	1,000			
Mv<--- PROF	,970	,072	13,548	***
Tv<--- PROF	,756	,062	12,179	***
Mot<---DC	1,000			
Tc<---DC	,767	,088	8,711	***
Sc<---DC	,842	,102	8,267	***
Ts<--- VISITS	1,000			
Vd<--- VISITS	1,681	,152	11,046	***
Es<--- VISITS	1,680	,145	11,554	***

Table 3 Regression Weights - Model for Počitelj

Počitelj	Estimate	S.E.	C.R.	P
VISITS<---DC	,192	,187	1,026	,305
VISITS<---SDC	,838	,258	3,251	,001
VISITS<---PROF	1,102	,352	3,129	,002
Age<---SDC	1,000			
Sex<---SDC	1,608	,383	4,194	***
Ed<---SDC	1,187	,248	4,786	***
Mi<---PROF	1,000			
Mv<--- PROF	2,364	,595	3,973	***
Tv<--- PROF	1,000			
Mot<---DC	,557	,135	4,114	***
Tc<---DC	,619	,148	4,179	***
Sc<---DC	1,000			
Ts<--- VISITS	,826	,254	3,250	,001
Vd<--- VISITS	2,444	,615	3,977	***
Es<--- VISITS	1,775	,525	3,379	***

Table 4 Regression Weights - Model for Trebinje

Trebinje	Estimate	S.E.	C.R.	P
VISITS<---DC	,050	,106	,473	,637
VISITS<---SDC	,268	,126	2,133	,033
VISITS<---PROF	,376	,144	2,612	,009
Age<---SDC	1,000			
Sex<---SDC	1,270	,172	7,375	***
Ed<---SDC	,983	,142	6,934	***
Mi<---PROF	1,000			
Mv<--- PROF	,925	,166	5,583	***
Tv<--- PROF	1,000			
Mot<---DC	1,114	,231	4,828	***
Tc<---DC	,790	,171	4,625	***
Sc<---DC	1,000			
Ts<--- VISITS	,681	,219	3,117	,002
Vd<--- VISITS	,645	,216	2,991	,003
Es<--- VISITS	,878	,156	5,614	***

According to the relative importance of the path coefficients, conclusions can be made about the relationships between predictors and endogenous constructs for single localities:

Old Bridge - Mostar:

- Age, Sex and Level of Education statistically significantly affect the Socio-demographic characteristics of visitors (16,2% of the the total variability within the Visitors variable can be explained through the influence of the SDC)



- Monthly income of all household members, Motive of visit and Type of visitor contribute statistically significantly to the explanation of Profile of Visitors (the size of the coefficient of determination is (74% of the the total variability within the Visitors variable can be explained through the influence of the PROF)
- Means of transport for arriving at the destination, Travel expenses from home to destination (e.g. fuel costs, tolls, plane tickets, etc.) and Costs of staying at the destination and visiting cultural heritage monuments (e.g. Museum tickets, guides fee, accomodation costs or total amount of costs) make a statistically significant contribution to Direct Costs (14% of the the total variability within the Visitors variable can be explained through the influence of the DC)

#### Livno

- Age, Sex and Level of Education statistically significantly affect the Socio-demographic characteristics of visitors (24,8% of the the total variability within the Visitors variable can be explained through the influence of the SDC)
- Monthly income of all household members, Motive of visit and Type of visitor contribute statistically significantly to the explanation of Profile of Visitors (the size of the coefficient of determination is (75,8% of the the total variability within the Visitors variable can be explained through the influence of the PROF)
- Means of transport for arriving at the destination, Travel expenses from home to destination (e.g. fuel costs, tolls, plane tickets, etc.) and Costs of staying at the destination and visiting cultural heritage monuments (e.g. Museum tickets, guides fee, accomodation costs or total amount of costs) make a statistically significant contribution to Direct Costs (18,3% of the the total variability within the Visitors variable can be explained through the influence of the DC)

#### Trebinje

- Age, Sex and Level of Education statistically significantly affect the Socio-demographic characteristics of visitors (32,1% of the the total variability within the Visitors variable can be explained through the influence of the SDC)
- Monthly income of all household members, Motive of visit and Type of visitor contribute statistically significantly to the explanation of Profile of Visitors (the size of the coefficient of determination is (40,5% of the the total variability within the Visitors variable can be explained through the influence of the PROF)

#### Počitelj

- Age, Sex and Level of Education statistically significantly affect the Socio-demographic characteristics of visitors (45,4% of the the total variability within the Visitors variable can be explained through the influence of the SDC)
- Monthly income of all household members, Motive of visit and Type of visitor contribute statistically significantly to the explanation of Profile of Visitors (the size of the coefficient of determination is (54,6% of the the total variability within the Visitors variable can be explained through the influence of the PROF).

The analysis and the collected data provided a framework for the quantification of Number of visits using the following regression equation so that

Old Bridge - Mostar

$$\begin{aligned} Visits &= \beta_1 * SDC + \beta_2 * PROF - \beta_3 * DC \\ Visits &= .162 * SDC + .740 * PROF - .140 * DC \end{aligned}$$

Livno

$$\begin{aligned} Visits &= \beta_1 * SDC + \beta_2 * PROF - \beta_3 * DC \\ Visits &= .248 * SDC + .758 * PROF - .183 * DC \end{aligned}$$

Trebinje

$$\begin{aligned} Visits &= \beta_1 * SDC + \beta_2 * PROF \\ Visits &= .321 * SDC + .405 * PROF \end{aligned}$$

Počitelj

$$\begin{aligned} Visits &= \beta_1 * SDC + \beta_2 * PROF \\ Visits &= .454 * SDC + .546 * PROF \end{aligned}$$

where  $\beta_i$ , for  $i=1,2,3$ , are called regression coefficient.

## 5. CONCLUSION

Cultural heritage may be an important asset for tourism industry development in a particular region or a country. This paper used TCM method to assess demand factors for four sites in Bosnia and Herzegovina using Structural Equation Modelling. Travel costs have a significant negative effect on the number of visits to two sites: Mostar and Livno while for the other two locations not. A probable reason for this could be that one of the limitations of TCM is the treatment of travel costs in case of multipurpose trips and those two locations are not primary ones for visitors. For all four sites the results showed that age, sex, level of education, monthly income of all household members, motive of visit and type of visitor contribute to the explanation of socio-demographic characteristics and profile of visitors, in other words are key factors of demand. Assessing factors of demand can be of use to local authorities and government in setting policies for tourism development and increase in number of touristic visits.

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# COPYRIGHT WORKS CREATED IN THE COURSE OF EMPLOYMENT AT THE UNIVERSITIES - CROATIAN LEGISLATION DE LEGE LATA AND DE LEGE FERENDA

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## ABSTRACT

*The paper analyzes the legal status of copyright works created in the course of employment at universities in order to define who acquires the exploitation rights on respective works by virtue of the law – is it the employer or the employee? In the introductory parts, the paper briefly explains the evolution of Croatian legal framework applicable to the issue at hand, as well as several comparative legal solutions. However, the central part of the paper is focused on the Croatian legislation enacted in 2021, which has altered the paradigm when it comes to the rights of exploitation of copyright works created in the course of employment – although excluding (but only partially) works created by university employees. The paper addresses potential problems that are likely to arise in practice when applying de lege lata Croatian legislation. These problems mainly arise from the fact that the Croatian legislator has provided a different legal regime for copyright works arising from »teaching, educational or similar activities« and copyright works arising from »scientific, research, professional, artistic or similar activities« though it is quite difficult to make a strict distinction between the educational and scientific engagement of university employees. Consequently, the ultimate goal of the paper is to provide de lege ferenda solutions that eliminate or reduce the aforementioned problems.*

**Keywords:** *copyright, employee as author, employers and copyright*

## 1. INTRODUCTION

Copyright is a private right that belongs to the author in respect of his copyright work. Copyright encompasses economic and moral rights that are vested upon the author, by virtue of the law, in the event of creating original, intellectual work from the literary, artistic or scientific field. In common law legal system (applied in the Anglo-Saxon countries, such as: the United States, the United Kingdom, Australia and New Zealand) where the focus of protection is on the object (i.e. on the original, intellectual work) copyright may be originally vested upon the legal person (such as an employer) by virtue of the law – thus recognizing the legal person as the author or the first owner of the copyright. Furthermore, the original author is allowed to transfer the copyright to another (natural or legal) person by virtue of the contract or approval. On the other hand, in civil law legal system, dominating in Europe, where the focus of protection is on the author, copyright is always (by virtue of the law) originally vested upon the author – as a natural person who created the copyright work.<sup>1</sup> Whilst civil law countries that follow Roman legal tradition (such as France and Italy) consider copyright as a twofold private right compound of economic and moral rights (the so-called dualistic concept of copyright), civil law countries that follow Germanic legal tradition (such as: Germany, Austria, Slovenia

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<sup>1</sup> More about differences and convergences between the copyright system (traditionally applied in the Anglo-Saxon countries) and *droit d'auteur* (traditionally applied in the countries that apply civil law legal system) see in: Gervais, D. J. (2002). Feist Goes Global: A Comparative Analysis of The Notion of Originality in Copyright Law. *Journal of the Copyright Society of the U.S.A.*, 49, 949-981. Ginsburg, J. C. (2003). *The Concept of Authorship in Comparative Copyright Law*. Retrieved 10.11.2024. from <https://ssrn.com/abstract=368481>; Ginsburg, J. C. (2018). Overview of Copyright Law. In: Dreyfus, R., Pila, J. (eds.) *Oxford Handbook of Intellectual Property*. Oxford, UK: Oxford University Press, 1-30; Henneberg, I. (1981). Nazivi „književno i umjetničko vlasništvo“, „copyright“ i „autorsko pravo“, *Zbornik Pravnog fakulteta u Zagrebu*, 1(2), 163-171.

and Croatia) consider copyright as a single private right with economic and moral aspects (the so-called monistic concept of copyright). In countries that apply the dualistic concept, economic rights may be transferred from the author to other legal or natural persons during the author's lifetime, as well as after his death. Moral rights, on the other hand, are not transferable, except in the case of the author's death. In countries that treat copyright according to a monistic concept, economic rights are not transferable during the lifetime of the author. After the author's death, copyright (with its economic and moral aspect) passes to legal or testamentary heirs. However, authors are allowed to establish for other persons (natural or legal) the right to use the copyright work in any way or only in a certain way, as an exclusive or non-exclusive right of exploitation. The effect will be similar to the one obtained by the transfer of economic rights from the author to another person. However, in the event that the person to whom the economic rights have been transferred dies or ceases to exist – the economic rights cease to exist, too. It is no longer possible “to return them back” to the author. In the event that the person in whose favor the right to exploit economic rights was established dies or ceases to exist – the right to exploit ends, but the copyright (with its economic and moral rights) remains with the author.<sup>2</sup> Whilst civil law countries always recognize the author (as a natural person who created the copyright work) as the author and consequently as the first owner of the copyright, common law countries recognize situations where the author (as a natural person) is not the first owner of the copyright – as the copyright has been, by virtue of the law, vested upon the person (usually the legal person) who has initiated, organized and financed the creation of the copyright work. Respective regulation is common in Anglo-Saxon countries when it comes to copyright works created in the course of employment. The aim of chapter number two is to present who acquires the copyright, or the right to use the copyright work, created by the employee, by virtue of the law in the US, the UK, France, Germany and Slovenia. In chapter number three, it will be presented how respective issue has been regulated in Croatia from 1991 onwards. The central chapter is chapter number four, which analyzes how *Croatian Copyright and Related Rights Act* enacted in October 2021 (Croatian Official Gazette no. 111/2021 of 14<sup>th</sup> October, in force from 22<sup>nd</sup> October, 2021, hereinafter: *Croatian Copyright Act 2021*) regulates the status of copyright works created by university employees. The last chapter (i.e. Conclusion) discusses problems that may arise in practice due to the recently adopted legislative solution. Accordingly, solutions are proposed in order to overcome potential problems.

## **2. WHO OWNS THE COPYRIGHT IF THE WORK WAS CREATED BY AN EMPLOYEE: A COMPARATIVE LEGISLATION**

### **2.1. The United States**

In the US, the copyright is regulated by the *Copyright Act of 1976* codified in *Title 17 of the United States Code* (hereinafter: the *US Copyright Act* or 17 U.S.C.). The respective act has introduced the “work-for-hire doctrine” which provides that the employer (or commissioning party) is deemed to be the author whenever “a work is made for hire”. According to the corresponding doctrine, “a work is made for hire” if (a) it was prepared by an employee within the scope of their employment; or (b) it was specially ordered or commissioned for use (...) and if the parties have expressly agreed in a written instrument signed by them that the work shall be considered as a work made for hire (sec. 201, 17 U.S.C.). As the *US Copyright Act* does not specify the term “within the scope of employment” the Supreme Court has stated that it shall be interpreted according to common law agency principles (see: US Supreme Court: *Community for Creative Non-Violence v. Reid*, 490 U.S. 730, 1989).

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<sup>2</sup> For differences between monistic and dualistic concept of copyright, see: Gliha, I. (2006). Prava na autorskim djelima nastalim u radnom odnosu i po narudžbi. *Zbornik Pravnog fakulteta u Zagrebu*, 56 (special edition), 805-806.

Accordingly, to be presumed as a work created within the scope of the employment (a) the work shall be of the kind the employee was employed to prepare; (b) the preparation shall take place primarily within the employer's time and place specifications; and (c) it shall be actuated (at least partly) by a purpose to serve the employer (Boutsikaris, 2015). Respective notions are extremely difficult to apply in academic employments where research and teaching duties are set in a broad term and the working hours are flexible as is the place of work. Thus, in order to balance the interests of academics (as employees), universities (as employers) and other interested parties; universities regularly set their own IP policies that, *inter alia*, regulate who owns the copyright in works created by university employees. The principles set in IP policies are usually incorporated in the employment agreements or the employment agreements refer to the application of IP policies. Through their IP policies, US universities traditionally tend to vest copyright on their employees in order to spur creativity, foster academic freedoms and avoid unnecessary conflicts (see, e.g., Stanford University or Harvard University IP policies available on their websites). However, this is not the uniform practice. Due to the commercialization of higher education, copyright policies are tending to become more restrictive as universities today claim more copyright ownership, than in the past, thereby compromising academic freedom (see: American Association of University Professors, 2020, 25). For instance, since a decade ago, universities have started to claim copyright (through their IP policies) over course materials that are expected to achieve commercial success, such as: e-course materials intended for online studies or courses.<sup>3</sup> But, in the same policies, it is regularly provided that the author reserves the right to participate in the distribution of profits from the commercialization of their materials and that the author retains the right to use respective materials outside the university, even after their employment at the university terminates.

## 2.2. The United Kingdom

According to the *Copyright, Designs and Patent Act* of 1988 (hereinafter: CDPA 1988) the copyright in a literary, dramatic, musical, or artistic work or a film made by an employee in the course of employment belongs to the employer as the first owner of the copyright, unless otherwise agreed (sec. 11(2) of the CDPA 1988). Though the employees remain the authors and retain their moral rights, their right to be attributed as an author is limited (see: CDPA 1988, sec. 79/3) whilst their right to integrity is restricted (see: CDPA 1988, sec. 82). By virtue of the law, university employees are not excluded from the application of respective general provisions. However, it is important to emphasize that the UK judicial practice interprets the term “in the course of employment” in an extremely narrow sense, thus leaving the works created by university employees outside the scope of the above-mentioned provision which deems that the employer is the first owner of the copyright. In the case of *Stephenson Jordan & Harris v. MacDonald & Evans* (1952, 69 RPC 10) the court had to decide whether a company (as the employer) was the first owner of the copyright in public lectures. The disputable lectures were lectures performed by the employee (an accountant) on the topic of cost control for business management, which he wanted to publish as a book chapter. The Court of Appeal ruled that the employer had no copyright to the lectures in question because the lectures were not created in the course of employment – since delivering lectures is not part of the accountant’s duties (see more in: Rahmatian, 2015, p. 357).

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<sup>3</sup> On the debate as to who owns and controls the online course materials, see more in: Longdin, L. (2004). Copyright dowries in academia: contesting authorship and ownership of online teaching materials in common law jurisdictions. *International Review of Intellectual Property and Competition Law*, 35(1), 22-45; Gadd, E., Weedon, R. (2017). Copyright ownership of e-learning and teaching materials: Policy approaches taken by UK universities. *Education and Information Technologies* 22(6), 3231-3250.

Although one may assume that the respective ruling is not of significant importance to university employees whose primary duty is to deliver lectures, it is actually of exceptional importance to university employees – because the court explained its decision by using the example of a university professor:

*“Lectures delivered, for example, by Professor Maitland to students have since become classical in the law. It is inconceivable that because Professor Maitland was in the service at the time of the University of Cambridge that anybody but himself, one would have thought, could have claimed the copyright in those lectures.”* (Stephenson Jordan & Harris v. MacDonald & Evans (1952, 69 RPC) as cited in Rahmatian, 2015, p. 357.)

According to Rahmatian (2015, p. 357) the underlying idea of the above-cited reasoning may be that employment duties require university employees to teach and research, but just in general terms – as they are regularly not obliged to perform a precized research, or to prepare a precized lecture, ordered in advance as part of their duties.<sup>4</sup>

### 2.3. France

Copyright law in France (or *droit d’auteur*) codified under Article L. 111-1 of the *French intellectual property code* (or *Code de la propriété intellectuelle*, hereinafter: CPI) provides that, unless there is an agreement to the contrary, the copyright in a work is owned by the author of the work. French legal rules are very strict and aimed at the protection of authors, i.e. natural persons, leaving it up to employers (whether natural or legal persons) to organize the necessary “transfers” whenever their business activities require them to do so. To transfer economic rights from the employee (as an author) to the employer, a contract in written form must be concluded. Respective contract must define the appropriate remuneration (separate from the salary) and clarify the scope of the assignment – whether full or partial (L.131-2 and L.131-3 of the CPI). Accordingly, at least the types of authorized uses, their duration and territorial scope shall be clarified (Rödl & Partner, 2023). In addition, according to strict legal provision (art. L.131-1 of the CPI) the overall transfer of future works is void. Accordingly, if the employee had transferred his economic rights to the employer for all the works he will perform in the course of his employment, such a provision of the contract is considered void. French law does not provide for specific rules for copyright works created by university employees. Thus, the copyright remains with the authors (i.e. employees) on all types of the works created. If economic rights over certain works (e.g. books or course materials) are to be transferred from an academic to their employer, this must be agreed and clarified in written form, and accompanied by fair remuneration.

### 2.4. Germany

German copyright law, i.e. *Act on Copyright and Related Rights* or *Urheberrechtsgesetz* of 9<sup>th</sup> September, 1965 (Federal Law Gazette I, p. 1273), as last amended by Article 25 of the Act of 23<sup>rd</sup> June, 2021 (Federal Law Gazette I, p. 1858) hereinafter: UrhG, does not recognize the ‘work made for hire’ doctrine. Thus, even when employees create works in the course of their employments, the employers will not be presumed as the authors (as in the US) nor as the first owners of the copyright (as in the UK). However, in certain scenarios, employers are privileged by the so-called “employment copyright” rule, which grants employers a statutory right to use any work that has been created in the fulfilment of obligations resulting from an employment

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<sup>4</sup> On the copyright works created in the course of employment at the UK universities, see more in: Pila, J. (2010). Who Owns the Intellectual Property Rights in Academic Work? *European Intellectual Property Review*, Vol. 2010, 609–613; Rahmatian, A. (2014). Make the butterflies fly in information? Management of copyright created by academics in UK universities. *Legal Studies*, 34(4), 709-735.

(or service) relationship, unless otherwise provided in accordance with the terms or nature of the employment (or service) relationship (sec. 43, UrhG). Under respective legislative solution, the employee remains the author of the work, but his right is encumbered by the employer's statutory right of use. When it comes to university employments, the "employment copyright" provision has a rather limited application. Namely, the German Basic Law (Grundgesetz) in art. 5 para. 3 provides fundamental (i.e. constitutionally guaranteed) freedom of the arts and science – thus limiting the possibility to apply the provision on "employment copyright" on university employees. As, according to German Basic Law (art. 5, para. 3) research and teaching are free:

*"All research results and creative work produced by a university teacher in the context of teaching count as being created independently by the teacher and are not covered by employment copyright"* (Federal Ministry of Education and Research, 2020, p. 19).

As further explained in guidelines issued by the German Federal Ministry of Education and Research (2020, p. 19) the freedom of the arts also covers research assistants, though the "employment copyright provision" may be applied in certain scenarios – e.g., where research assistants do not work independently and where creation of a certain work is an integral part of their duties. Whether respective conditions are met is to be decided on a case-by-case basis. On the other hand, student assistants do not work independently – thus they shall be covered by the "employment copyright" rule (Federal Ministry of Education and Research, 2020, p. 19).

## 2.5. Slovenia

*Slovenian Copyright and Related Rights Act* (Official Gazette of the Republic of Slovenia, no. 21/95 of 14<sup>th</sup> April, 1995) last amended by the *Act Amending the Copyright and Related Rights Act* (Official Gazette of the Republic of Slovenia, no. 130/22 of 11<sup>th</sup> October, 2022) hereinafter: *Slovenian Copyright Act*, provides specific provisions for copyright works arising out of the employment relationship (subsection 4, art. 101-102). When a copyright work is created by an employee (a) in the execution of his duties or (b) following instructions given by his employer – i.e. when a copyright work is created in the course of employment – it shall be deemed that the economic rights and other rights of the author<sup>5</sup> to such work are exclusively transferred to the employer for a period of ten years from the completion of the work, unless otherwise provided by contract (*Slovenian Copyright Act*, art. 101, para. 1.). After the expiry of the ten-year period, the respective rights shall revert to the employee; however, the employer may request a new exclusive transfer of these rights for equitable remuneration (*Slovenian Copyright Act*, art. 101, para. 2.). On the other hand, moral rights are not transferable, thus they remain with the author. Notwithstanding the provisions of the Art. 101, the employee shall retain the exclusive right to use the work created in the course of employment as part of his collected works (art. 102/1). But, it shall be deemed that economic rights and other rights of the author to a database and in a collective work are transferred exclusively and without limitations to the employer, unless otherwise provided by contract (art. 102/1). One shall notice that the transfer of rights from the employee to the employer is exclusive, which means that nobody else except the employer (i.e. neither the employee himself) is allowed to use the copyright work for a ten-year period, except when it comes to the author's own collected works.

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<sup>5</sup> According to Slovenian Copyright Act (art. 15) «Copyright shall be an indivisible right to a work from which exclusive personal rights (moral rights), exclusive property rights (economic rights) and other rights of the author shall arise.» Other rights of the author are regulated in subsection 4 of Slovenian Copyright Act, and those rights include: right of access and of delivery, resale right, public lending right, right to remuneration (i.e. a right to fair compensation for sound or visual recording and photocopying of author's work done within the scope of private or other internal use).



It must be emphasized that the Slovenian Supreme Court has explained that the provisions regulating copyright works created during employment shall be interpreted in a narrow sense – as respective provisions are not applicable to all copyright works created by the employee, but only to those created in the performance of their duties or under the instructions of their employer (Pipan Nahtigal, 2021). Accordingly, the following factors are relevant when deciding whether a copyright work was created in the course of employment: (a) factual circumstances regarding the creation of a particular work; (b) the description of duties and tasks set in the employment contract as well as in job descriptions contained in systematization acts, (c) the employer's instructions, etc. (Pipan Nahtigal, 2021). To sum it up, *Slovenian Copyright Act* does not exclude from “the works created in the course of employment rule” those works created by the university employees, neither the Slovenian judicial practice (as far as we know) interprets the rule in question differently when it comes to university employments. However, the Slovenian Supreme Court, as well as Slovenian scholars, emphasize that the respective rule has to be applied in a narrow sense – meaning that works created by university employees shall not be *prima facie* assumed to be works created in the course of employment – however, they can be treated as works created in the course of employment if factual circumstances provide so (e.g., an employee has received detailed instructions from his employer on the subject that he has to create, etc.).

### **3. WHO OWNS THE RIGHT TO USE COPYRIGHT WORK CREATED IN THE COURSE OF EMPLOYMENT: CROATIA, FROM 1991 ONWARDS**

#### **3.1. Croatia, 1991-2003**

According to Art. 20 of the *Croatian Copyright Act*, “Official Gazette” no. 53/91, 58/93, 9/99, 76/99, 127/99, 67/01 (hereinafter: *Croatian Copyright Act, 1991*) the employer had the exclusive right to exploit the work created by the employee (in the course of employment) within the scope of their regular business activity, for a period of five years, unless otherwise stipulated by the employment agreement, collective agreement, other act regulating the employment, or another agreement between the employer and the employee. For the exploitation of their work created in the course of employment, the employee was entitled to a special remuneration, in proportion to the contribution of their work to the increasement of income, profit or the performances of the employer. The employee retained moral rights.

Respective solution is typical of countries that follow or were influenced by the socialist legal tradition (Gliha, 2006, 828), which is not surprising considering that the *1991 Copyright Act* essentially took over the *Copyright Act of the former Yugoslavia* (i.e. the Socialist Federal Republic of Yugoslavia) enacted in 1978. Similar solutions can still be found today, primarily in countries that were once under the socialist regime or under its influence (e.g. Slovenia – where the period of the employer's right to use is extended to 10 years.)

#### **3.2. Croatia, 2003-2021**

*Croatian Copyright and Related Rights Act*, “Official Gazette” no. 167/03, 79/07, 80/11, 125/11, 141/13, 127/14, 62/17, 96/18 (hereinafter: *Croatian Copyright Act, 2003*) had introduced a completely new paradigm when it comes to the holders of the right to use the copyright work created in the course of employment. Namely, according to the respective Act, the author retains the right to use his or her copyright work, unless otherwise stipulated by an employment agreement, some other act regulating the employment, or another contract between the employer and the employee. Croatian prominent legal scholars (such as: Gliha, 2006, 817) have emphasized that the right to use copyright work can be vested upon the employer only by virtue of the legal acts in which the will of employees (or their representatives) is expressed – e.g., through employment or collective agreements – but never by virtue of the unilateral acts

adopted by the employer. Legislative framework enacted in 2003 has placed Croatia alongside countries with civil law legal systems, where Croatia traditionally belongs. As already mentioned in the Introductory chapter, the focus of copyright protection in civil law countries is on the natural person who has created the work (i.e. on the author) rather than on the work itself – which is typical for common law countries, where the work is in the focus of protection. Croatian legislative solution from 2003 seems to be justified from the labor law aspect, too. Namely, the labor law considers workers as the weaker and more vulnerable party – thus, it regularly provides legal presumptions *in favorem laboratores* – in order to ensure the necessary balance between the employees and the employers.

### **3.3. Croatia, from 2021**

*Croatian Copyright and Related Rights Act* “Official Gazette” no. 111/2021 (hereinafter: *Croatian Copyright Act 2021*) was enacted on October 14<sup>th</sup> and entered into force on October 22<sup>nd</sup>, 2021. In respect of the right to use copyright works created in the course of employment, it again introduces a new paradigm. Art. 100, para. 2. provides that the employer shall be presumed as the owner of the right to exclusively exploit a copyright work created in the course of employment, without territorial and time limitation, but in terms of the content and extent necessary for the realization of the activity he or she performs. The right to exploit the work in described manner remains with the employer even after the employment contract terminates. The stylization of the legal norm (stated in art. 100, para. 2) signals that the employer’s right to exploit the copyright work is limited in content as it only encompasses those uses that are necessary for the realization of employer’s business activities. However, the following paragraphs (art. 100, para. 3 and para. 4) expressly state that, when the use of copyright work is necessary for the employer’s business, the right to exploit can take numerous forms. Namely, according to para. 3 (art. 100), the employer shall be presumed to have the author’s permission to publish, revise and translate the copyright work, as well as to compile it with another work, to include it in a collection or data base, and to present it to the public under the employer’s name together with the author’s name – whenever the manner of use allows it. Moreover, according to para. 4 (art. 100) the employer shall be presumed to have the right to complete the author’s unfinished work, in case the author’s employment is terminated before the work is completed, or in case when it can reasonably be considered that the employee is not able to complete the work timely in a proper manner. As the employee retains the moral rights (such as: the right to protect the integrity of the work and the right to protect the reputation of the author), he can claim that respective rights were violated in the event of abusive or offensive alterations or completions. All the provisions mentioned above (except those providing that the moral rights remain with the author) are dispositive in nature – i.e. those provisions will be applied, unless otherwise provided by an employment contract or by other act regulating employment or another contract concluded between the author and the employer. Even unilateral acts enacted by employer shall be considered as valid ones – as they can only “return” the right to use copyright work to its author. The author’s right to remuneration shall be exercised by receiving the salary (art. 101, para.1.). However, if exploitation of copyright had a significant contribution to the increase of income or profit or to the improvement of the employer’s activities, the author is entitled to a special equitable remuneration, in proportion to the contribution of his work to respective increasements or improvements – but, only if the right to “special remuneration” was specified in the employment agreement, collective agreement, rules of operation, other act governing employment, or in another contract concluded between the author and the employer (art. 101, par. 2). Thus; if they have received a salary, authors have no right to request compensation for the use of their work by the employer.

They can only request the so-called *special remuneration* if the use of their work had a significant impact on the employer's income, but only if the right to *special remuneration* was agreed with the employer or prescribed by the employer's acts.

#### **4. WHO OWNS THE RIGHT TO USE COPYRIGHT WORK CREATED IN THE COURSE OF EMPLOYMENT AT CROATIAN UNIVERSITIES**

In contrast to earlier legislative solutions (from 1991 and 2003) – when copyright works created in the course of employment at universities did not have a special status – *Croatian Copyright Act 2021* provides a special regime for copyright works created in the course of employment at higher education and scientific institutions. In Croatia, higher education institutions are: universities, faculties, art academies and polytechnics. According to available data (from March 28<sup>th</sup>, 2024) there are currently 117 higher education institutions with the status of a legal entity in the Republic of Croatia (10 public universities, 4 private universities, 72 constituents of public universities, 13 public polytechnics and 18 private polytechnics). We may assume that the large number of higher education institutions is a direct consequence of the fact that the largest Croatian universities (i.e. Zagreb, Rijeka, Osijek and Split) are not integrated universities, but their constituents (faculties, centers, etc.) are separate legal entities (see: Eurydice, 2024). However, with the aim of a clearer expression and an easier understanding of the text, we will use the term "university" for all higher education institutions in Croatia, as the same term was used for all types of higher education institutions in countries discussed in previous chapters. In the end, all Croatian higher education institutions mentioned above, as well as scientific institutions, follow the same legal regime when it comes to copyright works created by their employees. Copyright works created by scientists, associates and teachers in the performance of their teaching, educational or similar activities, in higher education institutions and scientific organizations, follow the legal regime described in Chapter 3 – i.e. the employer (university) shall be presumed as the owner of the right to exclusively exploit respective copyright works, without territorial and time limitation, in terms of the content and extent necessary for the realization of the activities that the university performs. As already explained above, this is a statutory presumption and it is possible to agree otherwise. Employees, as authors, get remuneration for the use of their works in the form of a salary, and only on special occasions – if it has been agreed upon or prescribed, and if the use of copyright work has significantly contributed to the realization of employer's profits – employees, as authors, are vested with the right of special equitable remuneration. On the other hand, copyright works created in accordance with the act governing scientific, research, professional, artistic or similar activities, belong to their authors, without limitations – unless otherwise provided by contract or other act regulating the employment. In our opinion, unilateral acts enacted by the universities cannot be valid legal grounds for limiting the rights of authors as exclusive copyright holders if the representatives of employees whose rights are limited by those acts did not participate in their adoption.

#### **5. CONCLUSION**

Comparative legislation from the US, the UK, France, Germany and Slovenia, analyzed in chapter number two, does not provide for a special treatment of copyright works created in the course of employment at universities from the works created in the course of employment with other types of employers. In countries where copyright laws provide statutory provisions assuming the employers as the owners of copyright or the owners of the right to use the copyright work whenever it was created in the course of employment, judicial practice and legal scholars agree that the term "in the course of employment" shall be interpreted in an extremely

narrow sense. Accordingly, the majority of works created by the employees shall remain with the authors as the owners of economic and moral rights. Only those works that are products of clear and strict employment duties or employer's direct and precized instructions shall be deemed as works owned by employers or as works covered by the employer's right to use. However, works created by academic staff at universities can extremely rarely meet respective conditions – this is the reason why in practice authors regularly retain copyright (in economic and moral terms) over respective works, even in countries where the general statutory presumption favors employers. Croatian legislation enacted in 2003 (when we moved away from the solution typical of socialist systems) coincided perfectly with the solution of the country that pioneered copyright protection (i.e. France) and it did not deviate significantly from the current solution provided in Germany – whose laws have served as a role model for Croatian legislator when establishing a new legal regime at the end of the 20<sup>th</sup> and the beginning of the 21<sup>st</sup> century. However, *Croatian Copyright Act 2021* (at least when it comes to copyright works created in the course of employment) stands alongside the copyright acts of Anglo-Saxon countries. On the other hand, it is difficult to imagine that our courts interpret statutory laws in a way that Anglo-Saxon courts do – e.g., as in the above described ruling *Stephenson Jordan & Harris v. MacDonald & Evans* (1952, 69 RPC 10) where the court has re-interpreted the statutory provision in a way that is more in line with the actual circumstances and common moral values. As particularly problematic seems to be the legislative solution that foresees a different legal regime for works created in the performance of teaching activities from the works created in the performance of research activities – which are quite often difficult to distinguish in practice – as university employees use the results of their scientific research in their teaching activities, but also *vice versa* – experiences gained while teaching can be transferred into a scientific research. Furthermore, it seems that, according to new Croatian legislation, universities (in general) own the right to use teaching materials. Several Croatian universities have recently prepared (or are currently preparing) teaching materials (such as: e-books, video materials, interactive quizzes) for special online educational programs, in the creation of which some employees are involved, whilst others are not involved. However, according to *Croatian Copyright Act 2021*, the authors of respective materials have gained remuneration in the form of their salaries – as well as their colleagues who were not involved in the mentioned activities. Furthermore, the author who has created the above-stated materials for the purposes of an online course, cannot exploit them except for the university needs, regardless of the fact whether he is still employed at the university or not. Therefore, in addition to causing complications in practice regarding who has the right to use copyright work, the aforementioned legislation seems to be unfair, too. We claim that the *Croatian Copyright Act 2021* needs to be amended, as all copyright works created by the university employees shall be placed under the same legal regime – we vote for the one where the copyright in its full extent remains with the employees as authors. In the meantime, before the Copyright Act is amended, the issue at hand can be regulated by a collective agreement in higher education and science – which is expected to be adopted soon. In this regard, the representatives of employees should insist on solving the respective issue. Alternatively, each university can adopt its own IP management policy stating that the copyright over all copyright works, without any restriction and limitations, remains with the employees as creators of copyright works. If, in exceptional cases, it is important for the university to own the right to use a specific work (e.g. when the university wants to commercialize certain teaching materials prepared for online courses), then it is possible to negotiate and agree otherwise.

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# APPLICATION OF THE ASSESSMENT PROCEDURE FOR UNFAIR COMMERCIAL PRACTICES IN CONSUMER CONTRACTS IN THE DECISIONS OF CROATIAN MISDEMEANOUR COURTS

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## **ABSTRACT**

*The paper examines how Croatian misdemeanour courts determine whether a trader's commercial practice towards a consumer is unfair. The aim is to establish whether Croatian misdemeanour courts recognize and apply the process for assessing the unfairness of commercial practices, known as the "unfairness test." This test, structured as a three-step assessment, is derived from Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005, concerning unfair business-to-consumer commercial practices and from the judgments of the Court of Justice of the European Union interpreting the application of this directive. Given that this method of evaluating the unfairness of commercial practices originated at the European level, proper assessment is assumed to require accurate implementation of the Directive on Unfair Commercial Practices into national legislation. It is also recognized that court decisions that do not explicitly apply or explain the steps of the assessment process are not necessarily incorrect. To demonstrate this, the transposition of these provisions into German, Austrian, and Slovenian law is examined alongside selected court decisions to demonstrate the Directive's varied application across jurisdictions.*

**Keywords:** *Unfair commercial practice, assessment procedure of unfairness, misdemeanour courts*

## **1. INTRODUCTION**

Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005, concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council (OJ L 149, 11.6.2005, p. 22–39; hereinafter: UCPD) has been in force for nearly twenty years and remains a cornerstone of consumer protection (Đurović, 2016; Micklitz, 2010). The regulation of unfair commercial practices is based on the rule that unfair commercial practices by traders toward consumers are prohibited (Article 5 paragraph 1 of the UCPD). However, for courts to determine whether a trader's commercial practice intended to influence a consumer's decision to engage in a transaction should be prohibited, they must conduct an assessment process to evaluate the practice's unfairness. This involves an unfairness test conducted in three steps (Stuyck, Terryn, Van Dyck, 2006), which is mandatory for all decision-making bodies dealing with unfair commercial practices, including Croatian misdemeanour courts. The unfairness test involves three distinct steps: (1) verifying whether the trader's practice is included on the "blacklist," (2) determining whether the criteria for misleading or aggressive commercial practices are met, and (3) assessing whether the practice violates the general clause, including consideration of professional diligence. The purpose of this paper is to examine whether Croatian misdemeanour courts recognize and apply this process for assessing the unfairness of a commercial practice. The paper starts from the scientific thesis that Croatian misdemeanour courts do not recognize this process; however, this does not necessarily imply incorrect application of substantive law or that imposed misdemeanour sanctions were unjustified. Instead, this may indicate deficiencies in the reasoning of court judgments, as judges may not have adequately explained the grounds on

which they based their decisions regarding legal questions (article 185, paragraph 7 of the Misdemeanour Act, Official gazette, no.107/07, 39/13, 157/13, 110/15, 70/17, 118/18, 114/22, hereinafter: MA). To support the thesis of this paper, it is first necessary to explain the steps involved in the assessment of unfair commercial practices, specifically how the UCPD envisions the test for unfair commercial practices. This will include an examination of relevant UCPD provisions, along with decisions from the Court of Justice of the European Union (CJEU) that outline key considerations to address before prohibiting a trader's practice or imposing a sanction. Furthermore, the reasoning that national courts should incorporate based on these considerations will be explained. Before examining Croatian court practices, decisions by German, Austrian, and Slovenian courts will be analysed. In addition to court decisions, the norms transposing essential UCPD provisions for accurately applying the assessment process will be discussed, as proper transposition can also impact the application of the unfairness test.

## **2. ASSESSMENT PROCEDURE UNDER UCPD AND CJEU DECISIONS**

For a competent authority to decide on the consequences of a potentially unfair commercial practice (Kanceljak, 2023), it must first determine whether the trader's practice towards the consumer is indeed unfair and, therefore, prohibited. This determination begins with the conceptual framework for unfair commercial practices derived from Article 5 of the UCPD. Article 5, paragraph 1, states that a commercial practice shall be deemed unfair if two conditions are met: first, that it is contrary to the requirements of professional diligence, and second, that it "materially distorts or is likely to materially distort the economic behaviour with regard to the product of the average consumer whom it reaches or to whom it is addressed, or of the average member of the group when a commercial practice is directed to a particular group of consumers." This general clause primarily serves as a safety net for protecting consumers when a commercial practice is not already considered unfair under other criteria, which will be further explained (Micklitz, 2006). Furthermore, Article 5 paragraph 4 by stipulating that "in particular, commercial practices shall be unfair which are misleading as set out in Articles 6 and 7 of UCPD or are aggressive as set out in Articles 8 and 9 of UCPD", creates the second level of the component of the conceptual framework for regulating the notion of the unfair commercial practices. The final component consists of blacklisted commercial practices, which, according to Article 5, paragraph 5 of the UCPD, are considered unfair in all circumstances. It should be noted that the CJEU, in the case of VTB-VAB (C-261/07, ECLI:EU:C:2008:581, paragraphs 54-56), clearly explained these three levels of the concept of unfairness, thereby contributing to the interpretation of this part of the UCPD. The three components previously outlined for regulating unfair commercial practices form the foundation for conducting the assessment process to determine the unfairness of a commercial practice, which is carried out in three distinct stages or steps (Gomez, 2006). As introduced earlier, this is known as an "unfairness test" and follows a "bottom-up" approach (see: opinion of Advocate General Verica Trstenjak in VTB-VAB, C-261/07, ECLI:EU:C:2008:581, p. 79). This approach requires the competent authority to first determine if the commercial practice in question is included on the "blacklist." Only if the practice is not blacklisted does the authority proceed to the second step, examining whether the conditions for applying the rules on misleading or aggressive commercial practices are met. In this second step, the authority assesses whether the practice constitutes a misleading or aggressive commercial practice, ensuring that specific conditions for this stage of assessment are fulfilled. The authority must first establish whether the trader's practice involves misleading actions or omissions, or if it is aggressive. Additionally, a second condition must also be met: that the commercial practice causes or is likely to cause the average consumer to make a transactional decision they would not have otherwise made. If the practice is determined to be neither misleading nor aggressive, only then is the general clause on unfair commercial practices from Article 5, paragraph 2 of the UCPD applied.



Accordingly, all bodies applying provisions on unfair commercial practices must first understand the three distinct components of the conceptual framework for assessing unfairness in commercial practices (see: Guidance on the interpretation and application of Directive 2005/29/EC of the European Parliament and of the Council concerning unfair business-to-consumer commercial practices in the internal market (Text with EEA relevance, OJ C 526/1, 29.12.2021). A fundamental prerequisite for this is that national legislation has correctly transposed Article 5 of the UCPD. Second, the competent decision-making bodies must recognize the three-stage test for assessing unfairness in commercial practices. In their reasoning, they must clearly explain which of the three assessment stages led to the determination that a practice was unfair and detail each prerequisite that needed to be met at that specific stage. CJEU practice has shown that courts sometimes misinterpret the prerequisites for each step of the unfairness test. One recurring issue in practice is the assessment of professional diligence at the second step, where the court evaluates whether a commercial practice is misleading or aggressive. Notably, in the CHS Tour Services case (C-435/11, ECLI:EU:C:2013:574), the CJEU ruled that “if a commercial practice satisfies all the criteria specified in Article 6, Paragraph 1 of that directive for being categorized as a misleading practice in relation to the consumer, it is not necessary to determine whether such a practice is also contrary to the requirements of professional diligence as referred to in Article 5, Paragraph 2(a) of the directive in order for it legitimately to be regarded as unfair and, therefore, prohibited in accordance with Article 5, Paragraph 1 of the directive.” This establishes that the condition of professional diligence must only be considered in the final step of the unfairness assessment.

### **3. UNFAIR COMMERCIAL PRACTICES AND ASSESSMENT PROCEDURE UNDER SELECTED NATIONAL COURTS**

#### **3.1. Germany**

The Act Against Unfair Competition (*Gesetz gegen den unlauteren Wettbewerb*, last amendments on June 24, 2024, BGBl. I, S. 959, hereinafter: UWG) regulates, among other things, traders’ unfair commercial practices towards consumers. A notable feature of this regulation is its broad scope, protecting not only consumers but also traders, other market participants, and the public interest in maintaining undistorted competition. The UCPD has been transposed into German law through the UWG, and the prohibition of traders’ unfair commercial practices toward consumers is addressed in § 3 of the UWG. The general prohibition of unfair commercial practices is established in § 3, Paragraph 1 of the UWG, which applies to all contracts, not just consumer contracts. In contrast, Paragraph 2 of § 3 specifically addresses consumer contracts, stipulating that “commercial practices directed at or reaching consumers are unfair if they do not comply with professional diligence and are capable of significantly influencing the consumer's economic behaviour”. This paragraph also serves as a general clause for consumer protection (Köhler, 2024). Furthermore, Paragraph 3 of § 3 UWG provides that the Annex includes a list of practices that are always prohibited when used in commercial contracts involving consumers. Unlike the first two paragraphs, this provision does not regulate misleading or aggressive practices in general but instead refers exclusively to “blacklisted” practices, as envisaged under Article 5, Paragraph 4 of the UCPD. The regulation of unfair commercial practices under the UWG does not align entirely with the structure and logic of the UCPD. Specifically, the UWG includes a general clause prohibiting unfair commercial practices and identifies circumstances under which misleading and aggressive practices are always prohibited. However, it does not clearly establish a systematic relationship between the general clause and the provisions on misleading and aggressive practices. The conditions for prohibiting misleading practices are outlined in §§ 5 and 5a of the UWG, while those for aggressive practices are found in § 4a of the UWG. Legal theory suggests that the

general clause is subordinate to the specific provisions regulating misleading and aggressive practices (Podzsun, 2021). However, there is also an argument that the UWG's structure does not fully align with the framework established by Article 5 of the UCPD (Köhler, 2024). The regulation of unfair commercial practices in German law has undergone several amendments, significantly influencing its interpretation in court rulings. The 2015 amendments to the UWG brought it more closely in line with the framework established by Article 5, Paragraph 1 of the UCPD. Specifically, these changes removed the "perceptibility clause" from § 3, Paragraph 1 of the UWG, aligning its wording with that of Article 5 of the UCPD. Prior to these amendments, the 2008 transposition of the UCPD into the UWG had not fully harmonized § 3 with Article 5 of the UCPD. At that time, § 3, Paragraph 1 of the UWG prohibited unfair commercial practices only if they were capable of noticeably distorting the interests of competitors, consumers, or other market participants. This reliance on the perceptibility criterion (*Spürbarkeitsklausel*) (Sosnitza, 2023) was inconsistent with the principles of the UCPD, prompting the subsequent amendments in 2015 to address this misalignment (Köhler, 2024). Despite the described regulatory framework, Köhler clarifies that there is a defined sequence for assessing whether a behaviour is unfair. He explains that § 3, Paragraph 2 of the UWG applies only if the relevant commercial practice is not already addressed by specific provisions on unfair practices, such as those in § 3, Paragraph 3 ("blacklist") or in §§ 4a, 5, and 5a of the UWG (Köhler, 2024; Sosnitza, 2023). More recent decisions by German courts (a list of reviewed decisions is provided in the bibliography) indicate that German courts often do not conduct a detailed step-by-step analysis when assessing the unfairness of commercial practices. In their reasoning, they classify the trader's behaviour directly into one of the cases of unfair commercial practices (stages of assessment), which is then determined to be prohibited behaviour pursuant to § 3, paragraph 1 of UWG. Furthermore, a review of selected rulings indicates that when reasoning about unfair commercial practices, courts rarely reference the goals or broader principles of the UCPD.

### 3.2. Austria

The Austrian legal system, like Germany's regulation of unfair commercial practices, governs this area through legislation that applies not only to relations between traders and consumers but also to various forms of unfair commercial practices, aiming to protect competitors, consumers, and the public. This legislation transposes the provisions of the UCPD (Augenhofer, 2016; Seidelberger, 2012) and is codified in the Federal Act Against Unfair Competition (*Bundesgesetz gegen den unlauteren Wettbewerb*, BGBl. Nr. 448/1984 with the latest amendments BGBl. I Nr. 110/2022, hereinafter: *östUWG*). The general clause on unfair commercial practices is found in § 1, Paragraph 1 of the *östUWG*, which provides that anyone who, in the course of business transactions (1) engages in an unfair business practice or other unfair act that is capable of significantly affecting competition to the detriment of other businesses, or alternatively (2) engages in an unfair business practice that violates the standards of professional diligence and, with regard to the respective product, is likely to significantly influence the economic behaviour of the average consumer it reaches or targets, may be held liable for an injunction and, in cases of fault, for damages". This norm represents the general provision covering all possible of unfair practices. Clause 2 of Paragraph 1 aligns with Article 5, Paragraph 2 of the UCPD, but applies exclusively to relations between traders and consumers. In addition, § 1, Paragraph 3 of the *östUWG* specifies that unfair business practices include those that are aggressive under § 1a of the *östUWG* or misleading under § 2 of the *östUWG*. However, unlike Article 5 of the UCPD, § 1 of the *östUWG* does not explicitly address practices always considered unfair, such as those listed on the "blacklist." Instead, these practices are referenced indirectly as always unfair under § 1a, Paragraph 3, and § 2, Paragraph 2 of the *östUWG* (Augenhofer, 2016). It is evident that the Austrian legislator has adopted an

extended harmonization approach, as some norms originally created for business-to-consumer (B2C) relations also apply to business-to-business (B2B) contexts. For example, certain practices from Annex 1 of the UCPD are applicable in both settings (see more: Augenhöfer, 2016). Austrian courts, in assessing unfairness, apply a three-step model of evaluating unfair commercial practices. The issue of assessing unfairness, particularly the prerequisites for determining misleading commercial practices, was brought before the European Court by the Austrian Supreme Court (Oberster Gerichtshof) in 2011. In the case OGH, 05.07.2011, 4Ob27/11s, the Austrian court posed the following question: “Is Article 5 of UCPD to be interpreted as meaning that, in the case of misleading commercial practices within the meaning of Article 5, Paragraph 4 of that directive, a separate examination of the criteria in Article 5, Paragraph 2(a) of the directive is inadmissible?” The European Court’s response in C-435/11, CHS Tour Services, as previously explained in this text, clarified that professional diligence is not required as a prerequisite for misleading or aggressive commercial practices during the second stage of the unfairness assessment. This interpretation has since been adopted by the Austrian Supreme Court in subsequent rulings. For instance, in its 2013 decision (OGH, 19.11.2013, 4Ob183/13k), the Supreme Court explained that the *öStUWG*, in its provisions concerning unfair commercial practices by traders towards consumers, must be interpreted in the spirit of the UCPD. In that decision, the Austrian Supreme Court followed the UCPD’s structure, outlining three distinct steps for assessing unfair commercial practices involving traders and consumers. It also specifically addressed the issue of professional diligence as a prerequisite that must only be met when applying the general clause contained in § 1, Paragraph 1, No. 2 of the *öStUWG*. This reflects the careful integration of UCPD principles into Austrian jurisprudence. Professional diligence as a prerequisite has also been addressed in several decisions by Austrian courts. In many instances, the courts have demonstrated their understanding that professional diligence is required only at the final step of assessing unfair commercial practices, specifically when applying the general clause in § 1, Paragraph 1, No. 2 of the *öStUWG*. For instance, the Austrian Supreme Court clarified: “If a business practice is misleading within the meaning of § 2 of the *öStUWG*, it is deemed unfair and therefore prohibited, without needing to assess whether professional diligence was observed (OGH, 25.04.2023, 4Ob64/23z, for professional diligence see also: OGH, 19.11.2013, 4Ob183/13k; OGH, 15.06.2016, 4Ob4/16s, OGH, 23.11.2021, 4Ob84/21p, OGH, 25.04.2023, 4Ob64/23z)”. In addition to frequently clarifying professional diligence as a prerequisite, there are also decisions in which all steps of assessing the unfairness of commercial practices are explained. For instance, in a 2018 decision (OGH, 29.05.2018, 4Ob68/18f), the Austrian Supreme Court detailed the steps for assessing unfair commercial practices. The case involved traders’ conduct that required determining whether it fell under the prohibition outlined in the blacklist of commercial practices. The court emphasized that “When evaluating whether a business practice is unfair and thus prohibited, it is generally first necessary to examine whether the practice is aggressive (§ 1a UWG) or misleading (§ 2 UWG) (RIS Justiz RS0123062; 4 Ob 42/08t). The ‘blacklist’ of prohibited business practices in the UWG Annex takes precedence here; this list is exhaustive (4 Ob 149/13k). According to EU law, practices listed in the UWG Annex are deemed unfair without requiring further assessment against the general prohibition provisions (4 Ob 183/13k).” It is noteworthy that Austrian courts not only recognize the unfairness test but also apply it consistently and correctly, reflecting a clear alignment with the UCPD framework.

### 3.3. Slovenia

The UCPD has been transposed into Slovenian law through Articles 46–54 of the Consumer Protection Act (*Zakon o varstvu potrošnikov*, Official Gazette RS, no. 130/22, hereinafter: ZVP; Weingerl, 2013). Provisions addressing unfair commercial practices were introduced to the ZVP only since the latest amendments, which took effect on January 26, 2023. Previously, these

provisions were regulated under the Consumer Protection Act Against Unfair Business Practices (Zakon o varstvu potrošnikov pred nepoštenimi poslovnimi praksami, hereinafter: ZVPNPP, Official Gazette RS, no. 53/07; Trstenjak, Weingerl, 2018). Article 47 of the ZVP defines the concept of unfair commercial practices. Paragraph 1 of Article 47 prohibits traders' commercial practices directed toward consumers, while Paragraph 2 establishes the general clause, stating: "A commercial practice is considered unfair if it contradicts the requirements of professional diligence and significantly distorts or could distort the economic behaviour regarding the product of the average consumer it reaches or is intended for, or the average member of a specific target group of consumers, if it is aimed at a specific target group of consumers". Additionally, Article 47, Paragraph 4 states that unfair business are particularly those that are misleading or aggressive. Misleading practices are regulated by Article 49 of ZVP, while aggressive practices are covered in Articles 52 and 53. The list of practices ("blacklist") that are always considered unfair can be found in Articles 51 and 54 of ZVP. The Slovenian regulation of the concept of unfair commercial practices almost entirely corresponds to the regulation provided in Article 5 of the UCPD. However, a key difference is that Article 47 of the ZVP, unlike Article 5, Paragraph 5 of the UCPD, does not explicitly mention the list of practices that are always unfair, although these are addressed in separate provisions. Notably, Article 4 of the ZVPNPP previously regulated the concept of unfair business practices in a similar manner to Article 47 of the ZVP. Misleading and aggressive practices were governed by Articles 5, 6, 8, and 9 of the ZVPNPP, while blacklisted practices were detailed in Articles 7 and 10. A review of Slovenian court cases reveals that judges at various levels, when handling cases related to unfair commercial practices, are familiar with the process for assessing unfairness. Furthermore, judges recognize this concept as a European standard and often reference the objectives of the UCPD in their decisions. Case law indicates that when certain conduct falls under behaviour listed on the "blacklist," it is considered inherently unfair, requiring no additional proof. An example is the judgment of the Supreme Court of Slovenia from December 23, 2015 (VSRS Sodba X Ips 56/2016). The court concluded that the conduct constituted one of the aggressive practices explicitly listed as always unfair under Article 10 of the ZVPNPP. The court rightly concluded that "for such business practices, which are explicitly listed in Article 10 of the ZVPNPP, it is not necessary to prove the elements that constitute the definition of aggressive business practices under Article 8 of the ZVPNPP." Notably, the court emphasized that this interpretation aligns with the objectives of the UCPD, further reinforcing the integration of European standards into Slovenian judicial reasoning. In the practice of Slovenian courts, issues seem to arise in the second step of the unfairness assessment, particularly regarding the application of the general clause. Specifically, it is unnecessary at this stage to establish that the trader acted contrary to professional diligence. An illustrative example is the judgment of the Supreme Court of Slovenia from November 3, 2016 (VSRS Sodba X Ips 467/2014). In this case, the court stated: "A business practice may be considered unfair under Article 4 of the ZVPNPP only if it meets the two conditions set out in this general prohibition. These conditions are that the specific business practice contravenes the requirements of professional diligence and significantly distorts, or is likely to distort, the economic behaviour of an average consumer or an average member of a specific target group of consumers. In practice, the most common forms of unfair business practices are misleading and aggressive practices; consequently, special rules have been adopted for their easier identification and prevention. These are set forth in Articles 5, 6, and 7 of the ZVPNPP for misleading practices, and in Articles 8, 9, and 10 of the ZVPNPP for aggressive practices. In both cases, these are special categories of unfair business practices; therefore, in determining whether a particular business practice is misleading or aggressive, the conditions for unfair business practices from the general prohibition must be cumulatively met, along with the additional conditions specified for each form of unfair business practice in the aforementioned articles." This statement

underscores a misunderstanding of the second step of the assessment, as the general clause conditions should not be applied when evaluating whether a practice is misleading or aggressive. This misinterpretation potentially complicates the proper application of the unfairness framework. The issue of misinterpreting professional diligence as part of the second step in the assessment process can be observed in other decisions as well. For example, in its decision of November 19, 2019 (VSRS Sodba IV Ips 25/2019), the Supreme Court of Slovenia overturned a lower court ruling because the reasoning failed to address the trader's professional diligence, despite the case involving a misleading business practice under Article 5 of the ZVPNPP. Conversely, in some other decisions involving a misleading business practice regulated in Article 5 of the ZVPNPP, the court did not require the fulfilment of the conditions arising from Article 4 of the ZVPNPP, thereby correctly conducting the assessment procedure for determining the unfairness of the business practice (Supreme court of Slovenia, 06.10.2011, Sodba X Ips 309/2010).

#### **4. UNFAIR COMMERCIAL PRACTICES AND ASSESSMENT PROCEDURE BY CROATIAN MISDEMEANOUR COURTS**

As explained in the introduction of this paper, the focus of the research is on Croatian misdemeanour courts. These courts are among the competent authorities responsible for enforcing consumer protection laws in the Republic of Croatia (Baretić; Petrović, 2018). The Croatian Consumer Protection Act (Official Gazette, no. 19/2022, 59/2023, hereinafter: CPA) establishes misdemeanour sanctions, including monetary penalties, as public law measures that may be imposed on traders. These sanctions apply to legal entities, responsible individuals within legal entities, and individual traders acting as natural persons when they engage in unfair commercial practices (see Article 149, particularly paragraph 1, no. 49 of the CPA). Misdemeanour courts operate under the Misdemeanour Act (MA), which provides that its substantive provisions apply to misdemeanours regulated by other laws, including the CPA (Article 1, paragraph 1 of the MA). For a monetary fine to be imposed as a sanction, misdemeanour courts must determine whether the conduct in question constitutes an unfair commercial practice. Courts make this determination by applying the CPA, which regulates unfair commercial practices in articles 32–42 (Baretić, 2007; Mišćenić, Mamilović, 2019). These provisions also implement the UCPD into Croatian law. Notably, Article 33 of the CPA prohibits unfair business practices, while Article 34 defines the concept. Paragraph 1 of Article 34 establishes a general clause stating that a business practice is unfair if it contradicts the requirements of professional diligence and, in relation to a particular product, significantly influences or is likely to influence the economic behaviour of the average consumer to whom such a practice is directed or reaches, or of an average member of a specific group of consumers targeted by the practice. Additionally, Article 34, paragraph 4 of the CPA identifies misleading and aggressive business practices as specific categories of unfair business practices. Unlike the UCPD, which includes in Article 5, paragraph 5 a final component defining unfair commercial practices—specifically, those practices that are always deemed unfair—Croatian regulation does not expressly incorporate this element within the provision defining unfair business practices. Instead, these always unfair practices are addressed within the sections regulating misleading (Article 37 of the CPA) and aggressive business practices (Article 40 of the CPA). This means that the definition of an unfair business practice under Croatian law is not fully aligned with the structure intended by the UCPD, as it does not provide a unified approach that encompasses those practices deemed always unfair. To gain better insight into the decisions of misdemeanour courts in the Republic of Croatia for this study, 42 misdemeanour court rulings were analysed using the online case law database of the Supreme Court of the Republic of Croatia (<https://sudskapraksa.csp.vsrh.hr/home>). Of these 42 judgments, 7 judgments (16.7%) were issued by the High Misdemeanour Court (Gž-1064/2018, Gž-1672/2018, Gž-1574/2019,

Gž-1561/2019, Gž-1263/2019, Gž-693/2018), while the remaining 35 (83.3%) were issued by municipal courts. The analysis considered judgments from various Croatian misdemeanour courts or misdemeanour departments of municipal courts, including 3 judgments from the Zagreb court (PP-16928/2023, PP-6203/2023, PP-1391/2022), 5 from the Vinkovci court (PP-501/2023, PP-1968/2021, PP-1849/2023, PP-1126/2023, PP-521/2023), 1 from the Varaždin court (PP- 635/2023), 1 from the Šibenik court (PP-786/2023), 8 from the Split court (PP-13364/2023, PP-11183/2021, PP-4226/2023, PP-2043/2023, PP-1842/2023, Pp G-833/2018, PP-11670/2021, PP-1638/2023), 1 from the Sisak court (pp-239/2023), 1 from the Rijeka court (PP G-1548/2019), 1 from the Pula court (PP-323/2023), 1 from the Požega court (PP- 328/2023), 3 from the Pazin court (PP-1936/2023, PP-905/2023, PP-406/2023), 2 from the Osijek court (PP-766/2023, PP-288/2023), 5 from the Novi Zagreb court (PP-2113/2022, PP-814/2023, PP-420/2023, PP-419/2023, PP – 81/2023), 2 from the Metković court (PP – 1258//2023, PP-123/2023), and 1 from the Čakovec court (PP – 1673/2022). The analysis of misdemeanour court rulings revealed several notable findings regarding the interpretation of unfair commercial practices. The study examined whether Croatian misdemeanour courts referred to the UCPD in their reasoning. It was found that in only 4 rulings, accounting for a mere 9.5% of the total rulings, the judges considered the UCPD in their reasoning. Of these, 3 rulings were issued by municipal courts—one from the Vinkovci court (PP-1968/2021) and two from the Split court (PP-13364/2023, PP-2043/2023) —and one ruling came from the High Misdemeanour Court (Gž-50/2019). Unsurprisingly, only one ruling came from the High Misdemeanour Court, as it reviews rulings only in the portion challenged in the appeal, based on the grounds and reasons stated by the appellant, while it monitors significant procedural violations *ex officio* (Article 202, Paragraph 1 of the Misdemeanour Act; Veić, Gluščić, 2013). In all 4 rulings referencing the UCPD, the courts evaluated whether the disputed practices qualified as unfair commercial practices. Across all 42 rulings analysed, the courts concluded that the trader’s practices were unfair in 26 cases (61.9% of the total rulings). In the remaining 16 rulings (38.1%), the courts found that the practices did not constitute unfair commercial practices. The 26 rulings where the courts determined the existence of unfair commercial practices were examined in greater detail to identify whether the practices were deemed unfair because they appeared on the “blacklist” (under the first step of the unfairness assessment), were misleading or aggressive (under the second step), or violated the general clause (under the third step). Notably, in two of these rulings, it was unclear which criterion the court applied to determine the practice’s unfairness—whether, for instance, it was always unfair, misleading, or aggressive. In the remaining 24 rulings, the court’s findings were as follows: one ruling identified the practice as always misleading and included on the blacklist; 19 rulings found the practice to be misleading; and 4 rulings determined the practice was aggressive. Conversely, in the 16 rulings where the court did not find an unfair commercial practice, the specific type of unfair practice that was not present was generally clarified. In one of these rulings, the reasoning was unclear, while in the remaining 15 rulings, the courts explicitly stated that the practice in question did not constitute an aggressive commercial practice. The primary reason for conducting this analysis of court rulings was to determine whether Croatian courts are familiar with and apply the process for assessing unfair commercial practices, that is, the so-called “unfairness test.” None of the 42 misdemeanour court rulings analysed assessed the unfairness of a commercial practice following the steps outlined in the UCPD directive or as interpreted by the rulings of the CJEU. This indicates that Croatian misdemeanour court judges neither fully understand nor apply the unfairness test in cases involving unfair commercial practices. Instead, Croatian misdemeanour courts tend to directly relate the facts of a case to specific aspects of the definition of unfair commercial practices without recognizing that the concept is layered and encompasses three distinct categories.

One observed issue is that when a judge determines a practice is not aggressive or misleading under the second step of the assessment, they often fail to complete their reasoning by addressing whether the behaviour does or does not violate the general clause outlined in the final step of the unfairness assessment process. Additionally, the argument that failing to apply the unfairness test does not necessarily result in erroneous court decisions warrants consideration. This argument is generally valid. For example, decisions where courts found a practice to be misleading—typically due to false representations of lower prices or benefits that mislead consumers and influence their decision-making—are fundamentally consistent with the concept of misleading commercial practices. A key issue identified in the rulings of some misdemeanour courts concerns cases where price changes resulting from the switch to the Euro currency were deemed to constitute aggressive commercial practices (for example: County courts rulings: Zagreb, PP-6203/2023; Vinkovci, PP-501/2023, PP-1849/2023; Sisak, PP-239/2023). This is a position the author cannot endorse. Nevertheless, it appears that even applying the unfairness test in such cases would not lead to a correct conclusion, as these situations do not involve unfair commercial in any sense.

## 5. CONCLUSION

The primary aim of this paper was to examine whether Croatian misdemeanour courts recognize and apply the three-stage test for assessing unfair commercial practices, also known as the unfair commercial practice test. The paper began by outlining how courts and decision-making authorities should conduct this test. Specifically, the assessment should first verify whether the trader's practice appears on the blacklist. If not, the second stage examines whether the criteria for misleading or aggressive commercial practices are met. Only in the third stage should the general clause be considered, with particular attention to whether the trader's conduct violated professional diligence. This structured method of assessment is derived from the UCPD and the judgments of the European Court interpreting its provisions. An initial thesis of this paper proposed that the correct application of the unfairness test depends on the proper transposition of the UCPD into national laws. This would imply that Member States have previously regulated the concept of unfair commercial practices in alignment with Article 5 of the UCPD, ensuring that the three components of unfair commercial practices are clearly delineated in a single provision. However, this thesis was not confirmed. Primarily, the research revealed that the legal frameworks in Croatia, Germany, Austria, and Slovenia do not uniformly regulate the concept of unfair commercial practices, nor do they consolidate all three components of unfairness within a single provision. Despite this variance in regulation, it is still possible for national courts to correctly apply the unfairness test. This conclusion is supported by an analysis of Austrian court judgments, which demonstrated that Austrian courts, unlike their counterparts in the other studied countries, correctly apply the unfairness test. Austrian courts also accurately identify the requirements for each stage of the assessment. In contrast, while Slovenian courts are familiar with the unfairness test, they misapply the standard of professional diligence by incorporating it into the second stage of the assessment. This standard, however, belongs to the third and final stage of evaluating unfair commercial practices. The concept of assessing unfair commercial practices appears to be entirely unfamiliar to Croatian misdemeanour courts. An analysis of 42 judgments from these courts revealed that the unfairness test is not applied in practice. Judges referenced the concept of unfair commercial practices in relation to the UCPD in their reasoning in only 9.5% of the cases analysed. In these cases, courts often determined that a practice was unfair, most commonly classifying it as misleading (in 19 out of 24 judgments where unfair commercial practices were established). By doing so, judges bypass the first step of the unfairness assessment, proceeding directly to the second stage of the test without first determining that the practice in question is not included on the "blacklist".

Another issue observed in the practice of Croatian misdemeanour courts arises in cases where a practice was deemed not unfair, such as in cases involving aggressive practices. In these cases, the courts failed to consider whether the practice might be deemed unfair under the third stage of the unfairness test, which requires determining whether the trader's conduct contravened professional diligence. The reasons why Croatian misdemeanour courts do not utilize the unfairness test for commercial practices remain challenging to definitively ascertain. One potential explanation could be a lack of specialized training, as existing educational materials for judges on consumer protection do not adequately address the unfairness test. Another possible reason could be that misdemeanour courts have jurisdiction over substantive legal norms from an extensive array of laws, making it difficult for judges to develop expertise specifically in the area of consumer protection.

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# **BARRIERS TO CULTURAL ACCESS: WHAT PREVENTS DIFFERENT SENSITIVE SOCIAL GROUPS TO VISIT CULTURAL INSTITUTIONS? CASE STUDY OF VOJVODINA PROVINCE (SERBIA)**

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## **ABSTRACT**

*Nowadays, it is evident that there are different barriers to participation in culture and unequal access to cultural contents of a large number of sensitive social groups, as well as those who do not have access to a centralized cultural infrastructure. This particularly refers to sensitive social groups such as parents with children, the elderly, people with disabilities (impaired sight, hearing, immobile people), and members of minority national groups. This issue is even more pronounced in economically less developed countries such as Serbia. Thus, the primary aim of this research is to explore the major barriers to the cultural participation of different sensitive social groups in Vojvodina province (Serbia). Moreover, the study aims to explore the respondents' current perception of how different cultural institutions are adapted to their needs, as well as which factors are particularly important for them regarding the visit to cultural institutions. The survey research, conducted in 2022, included a total of 424 respondents, representatives of the sensitive social groups: parents with children, seniors (above 65), and people with disabilities. The main results indicate that there are no significant differences between different sensitive social groups regarding all analyzed issues. The majority of the groups also state that galleries and museums are the least adapted cultural institutions. Further differences and implications are discussed in the paper.*

**Keywords:** *cultural participation, cultural institutions, cultural barriers, cultural tourism, Vojvodina province (Serbia)*

## **1. INTRODUCTION**

Culture is defined as a people's particular beliefs, practices, social norms, behaviors, and way of life (OECD, 2009). Culture is an everyday, social activity that is constantly shaped, altered, and changed by circumstance. It is used to create various lifestyles, and to model or sustain societal distinctions. According to Article 27 of the UN Universal Declaration of Human Rights, everyone has the right to freely engage in communal cultural life, enjoy the arts, and

share in scientific growth and its advantages (<https://www.un.org/en/about-us/universal-declaration-of-human-rights>). The European Commission established three platforms in June 2008 to organize its communication with the cultural community and civil society around the European Agenda for Culture and its goals. The following topics were included in the design of these platforms: access to culture, intercultural conversation, and cultural and creative industries. All individuals have a fundamental right to access culture, but for those who face particular economic and social difficulties, such as young people, the elderly, people with disabilities, and minority groups, this right takes on particular importance (<http://www.houseforculture.eu/beta/upload/Docs%20ACP/ACP-PGPartIofIV-PolicyGuidelines.pdf>). While cultural engagement refers to the general public's consumption of various cultural goods and services, access to culture is defined as the chance to take advantage of cultural offerings. Any debate on access to culture must include topics like financial resources and public spending, social integration, educational attainment, isolation due to geography and society, rights of minorities, cultural rights, and freedom of speech. All of these affect how people can access and consume culture, and they all pose potential obstacles to the general public's engagement in a vibrant cultural life (Pasikowska-Schnass, 2017). The Institute for the Study of Cultural Development from Belgrade, as the only cultural institution that deals with the trends and needs of citizens in culture, indicates that the tendencies in the culture of Serbia have a positive sign. Cultural institutions have realized that one of the priorities is a more interested and communicative attitude toward children and young people. Research indicates a growing trend of content for children, and libraries, museums, and cultural centers are best suited to this role. It is important to point out that cultural programs are most often created for children up to 10 years. (<https://www.politika.rs/sr/clanak/529766/Trendovi-u-kulturi-Srbije>). Previous research shows that cultural institutions in Serbia are not sufficiently accessible for people with disabilities (<https://www.tanjug.rs/kultura/pozoriste/1349/zavod-za-proucavanje-kulturnog-razvitka-614-muzejskih-ustanova-pristupacno-osobama-sa-invaliditetom/vest>).

## **2. LITERATURE REVIEW**

### **2.1. Accessible tourism**

Through the provision of goods, environments, and tourist services that are universally designed, accessible tourism involves collaborative processes between stakeholders, enabling people with specific access requirements, including those related to mobility, vision, hearing, and cognitive access dimensions, to function independently and with equity and dignity. This definition is based on a theory that claims that accessible tourism benefits people throughout their lifetimes. This includes those who have both temporary and permanent disabilities, the elderly, those who are fat, families with small children, and those who work in environments that are safer and more socially designed (Buhalis, Darcy, 2011). According to the World Bank, approximately 15% of the world's population (1 billion people) has some type of disability, and the prevalence of disability is higher in developing countries; between 11% and 19% of people with disabilities have a considerable level of disability (<https://www.worldbank.org/en/topic/disability>; Reyes-Garcia et al., 2021). The commitment to universal accessibility should be conceived as an investment in the quality of life of the entire population, especially because, in a few years, a sizable portion of the population of the developed world will be older than 65 years old. It is important to keep in mind that adapted spaces and products are not only used by people with disabilities. 21% of the world's population will be over sixty in 2050, according to UN statistics. The percentage will be higher in the European Union, where 40% of people will be over sixty and 10% will be over eighty. As a result, choosing a universal design improves the quality of life for everyone, not only for people with disabilities (<https://www.un.org/en/global-issues/ageing>).

The European Union has been investing in accessible tourism for the past three decades (Ambrose, 2012). Accessible cultural institutions (museums, galleries, theatres, cinemas...) are a right for everyone. For all families and individuals to use and enjoy facilities designed for leisure and tourism activities, social, physical, and economic barriers must be removed (Reyes-Garcia et al., 2021).

## **2.2. Barriers to access**

Most attention focuses on physical access (Argyropoulos, Kanari, 2015; Cho, Jolley, 2016; Leahy, Ferri, 2022). Guffey (2015) emphasizes how some people find modernist museums difficult to visit because there isn't enough seating. Within museums, it is highlighted how adopting solely visual cues for navigation may exclude people with visual disabilities; auditory-only cues may exclude Deaf or hearing-impaired people (Renel, 2019; Mastrogiuseppe et al., 2020). Barriers also include difficulties with transportation, the cost of tickets, and a lack of information and assistance at venues, difficulties with travel when it comes to attending arts events, museums, or libraries (Gratton, 2020). The use of technology and digitization in museums and archaeological/heritage sites is crucial (Renel, 2019; Seale et al., 2021). Tape guides, touch tours, handling sessions, tactile planning, large-print, and Braille information, clear labels and signs, sign-language interpreted tours, lip-reading, and tours are a few examples of helpful accessibility measures (Seale et al., 2021). The good physical design of buildings, such as avoiding glass doors, steps, and steep slopes, as well as accessible supports for wayfinding, appropriate lighting, and sound systems, good visibility of text and figures, accessibility of publications, such as leaflets/guides, interpretative panels, and identification labels, magnification of objects (such as traditional magnifying glasses or more sophisticated equipment), and ability to read are all facilitators for people with visual disabilities (including use of replicas or use of gloves when touching objects) (Argyropoulos, Kanari, 2015; Mesquita, João Carneiro, 2016).

## **2.3. Sensitive Social Group**

Sensitive social groups, which are at greater risk of social exclusion and poverty, are persons with disabilities, children, young people, women, the elderly, the Roma population, the LGBT community, uneducated persons, the unemployed, refugees, and internally displaced persons, and the population that lives in rural areas (<https://socijalnoukljucivanje.gov.rs/>). Sensitive social groups are recognizable in everyday life, and they are recognized by international and domestic legal regulations. International declarations and conventions, the Constitution of the Republic of Serbia (Official Gazette of the RS 98/2006), strategies, and laws regulate the special position of these groups and guide the system in the direction of increased protection of their rights and strengthening of their position (Sjeničić, 2015). The diversity of perspectives that institutions offer in their programs, as well as the diversity of the audience and enabling the participation of all social groups and strata, is one of the key tasks of public institutions, which is in accordance with the principle of enabling wide availability and access to culture (<https://zaprokul.org.rs/srb/inkluzivni-muzeji-srbije-iskustva-izazovi-i-perspektive-2>).

## **3. METHODOLOGY**

### **3.1. Location of the study area**

A survey was carried out in the territory of Vojvodina. The autonomous province of Vojvodina is located in the northern part of Serbia and covers an area of 21.506 km<sup>2</sup> with a population of 1750 000 inhabitants. Vojvodina province is a multicultural and multilingual environment with people of 26 nationalities. Vojvodina houses a large number of cultural institutions: 35 theatres, 33 museums, 33 galleries, 25 cinemas, 10 archives, and 623 libraries (Culture, 2021).

### 3.2. Questionnaire development

Three questionnaires were created for the purposes of the research: a questionnaire for parents with children, a questionnaire for seniors (over 65 years old), and a questionnaire for people with disabilities. The questionnaires used in this study consisted of three parts. The first part measured the main sociodemographic characteristics of the participants, including age, gender, educational level, employment status, and monthly income. The second part referred to the suitability of the cultural program in the place where the respondents live, and in the third part, the respondents had to evaluate how certain cultural contents in their place are adapted to a certain sensitive social group. The answers were measured by a 5-point Likert scale (1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, and 5 – strongly agree). The second and third part of the questionnaire was modeled on the questionnaire used by Tešin et al. (2021). In order to obtain the required data, respondents' answers were processed through IBM SPSS Statistics (descriptive statistical analysis).

### 3.3. Data collection

A self-administered survey was conducted to examine the attitudes of certain sensitive social groups in Vojvodina about the problems they face when visiting cultural institutions. The data were collected from July to October 2022 by using a convenience sampling technique. The target subjects were the residents of Vojvodina province. The combination of an online survey and a standard paper and pen survey was used to collect data from the residents. The online questionnaire was distributed through individual emails, mailing lists, and social media platforms (Facebook). A total of 448 residents accepted the invitation to answer the questionnaire. A total of 24 questionnaires were discarded because of lots of missing values. Finally, 424 valid questionnaires were processed by SPSS Statistics.

## 4. RESULTS

### 4.1. Research with the target group - parents with children

The survey included a total of 243 respondents. The age range was from 24 to 56, with an average age of 38.39 years. Most of the respondents are employed (93.9%), mostly with incomes between 45,000 and 90,000 dinars, and they mostly have college and faculty degrees. A larger share of the sample is made up of women (65.4%). Also, most respondents have a child or children between the ages of 0 and 6 (as many as 141 respondents). The basic characteristics of the sample are described in Table 1.

<b>Gender (%)</b>		<b>Education (%)</b>	
Male	34.6	Secondary school	23.4
Female	65.4	Faculty/College	47.6
		MSc/PhD	29.0
<b>Age</b> Average: 38.39, Std. 6.007		<b>Employment Status (%)</b>	
		Employed	93.9
		Unemployed	6.1
<b>Monthly income (in Serbian dinars—RSD) (%)</b>		<b>Number of children</b>	
Below 45,000	10.4%	Min-1	
45,001– 90,000	53.7%	Max-6	
90,001– 135,000	25.1%	Average 1.87, std.0.785	
Above 135,000	10.8%		
<b>Age of children</b>			
	0-6	141	
	7-12	58	
	Above 12	44	

Table 1: The sample characteristics (N = 243)

<b>Statements</b>	<b>Mean</b>	<b>SD</b>
The cultural contents in my place are interesting and diverse	3.481	1.1066
The locations of cultural institutions in my town are accessible to parents with children	<b>3.740</b>	<b>1.0266</b>
The equipment of cultural institutions in my place (access, staircase, elevators, toilets, etc.) is adequate	3.450	1.0409
Cultural facilities in my place are adapted to children and their needs	3.468	1.0663
The schedule of cultural programs in my place is adequate for parents with children	3.628	0.9690
Prices for cultural events in my place are affordable	<b>3.753</b>	<b>1.0020</b>
The way of getting tickets for cultural events is adapted to people of different age categories	<b>3.805</b>	<b>0.9284</b>
Promotion and information about cultural content in my place is adequate	3.126	1.1485

*Table 2: Descriptive statistics of respondents' attitudes towards the elements of accessibility of the cultural program - parents with children up to 6 years old*

The lowest rated items are promotion and information about cultural content, which the respondents consider to be at a low level, as well as the adaptation of cultural content to children and their needs, the interestingness and variety of content as well as the equipment of cultural institutions. This confirms that the cultural offer and contents do not fully correspond to the needs of different categories of society, in this sense parents with children up to 6 years old. The best-rated item is the method of obtaining tickets, the prices, and the accessibility of the locations of cultural institutions in the place where they live (Table 2).

<b>Statements</b>	<b>Mean</b>	<b>SD</b>
The cultural contents in my place are interesting and diverse	3.453	1.1102
The locations of cultural institutions in my town are accessible to parents with children	3.693	1.0656
The equipment of cultural institutions in my place (access, staircase, elevators, toilets, etc.) is adequate	3.593	1.0252
Cultural facilities in my place are adapted to children and their needs	3.576	1.0803
The schedule of cultural programs in my place is adequate for parents with children	<b>3.753</b>	<b>0.9801</b>
Prices for cultural events in my place are affordable	<b>3.732</b>	<b>1.0073</b>
The way of getting tickets for cultural events is adapted to people of different age categories	<b>3.749</b>	<b>0.9588</b>
Promotion and information about cultural content in my place is adequate	3.195	1.1117

*Table 3: Descriptive statistics of respondents' attitudes towards the elements of accessibility of the cultural program - parents with children above 6 years old*

When it comes to parents of children older than 6 years, the situation is almost the same as with the previous category. Above all, they are satisfied with the hourly rate, prices, and way of getting tickets (Table 3).



<b>Cultural contents</b>	<b>Mean</b>	<b>SD</b>
Theatre	<b>3.398</b>	<b>1.1370</b>
Library	<b>3.325</b>	<b>1.1622</b>
Cultural events, festivals	3.247	1.0528
Cinemas	3.186	1.3138
Cultural center	3.052	0.9855
Cultural-historic monuments	3.039	1.0356
Museums	2.978	1.1012
Galleries	2.840	1.0195

*Table 4: Descriptive statistics-Adaptation of cultural content to parents with children up to 6 years old*

Respondents believe that theaters, libraries, and festivals are the best adapted to them, while galleries and museums are the least adapted. Given that not a single average grade exceeds 3.4, it can be concluded that parents with children believe that cultural content is generally unsuitable for children under 6 years of age (Table 4).

<b>Cultural contents</b>	<b>Mean</b>	<b>SD</b>
Theatre	<b>3.732</b>	<b>1.1139</b>
Library	<b>3.706</b>	<b>1.0384</b>
Cultural events, festivals	3.606	1.0777
Cinemas	3.589	0.9867
Cultural centre	3.424	1.0053
Cultural-historic monuments	3.411	0.9689
Museums	3.355	1.0853
Galleries	3.281	1.0145

*Table 5: Descriptive statistics-Adaptation of cultural content to parents with children above 6 years old*

Museums and galleries are considered the least adapted to cultural institutions and for children above 6 years old, while libraries and theaters are the most adapted. However, museums and galleries, in this category, are rated higher (Table 5).

#### **4.2. Research with the target group - seniors (over 65 years old)**

The survey included a total of 141 respondents over the age of 65. The age range was from 65 to 82, with an average age of 70.09 years. Most of the respondents are pensioners (87.9%), mostly earning up to 45,000 dinars, and they mostly have a high school or higher education. The sample is dominated by women (61%). The basic characteristics of the sample are described in Table 6.

<b>Gender (%)</b> Male 39 Female 61	<b>Education (%)</b> No school 0.7 Elementary school 7.1 Secondary school 46.1 Faculty/College 41.1 MSc/PhD degree 5
<b>Age</b> Average: 70.09, Std. 4.27	<b>Employment Status (%)</b> employed 7.1 unemployed 1.4 retired 87.9 house wife 3.5
<b>Monthly income (in Serbian dinars—RSD) (%)</b> Below 45,000 48.2% 45,001– 90,000 44% 90,001– 135,000 6.4% Above 135,000 1.4%	

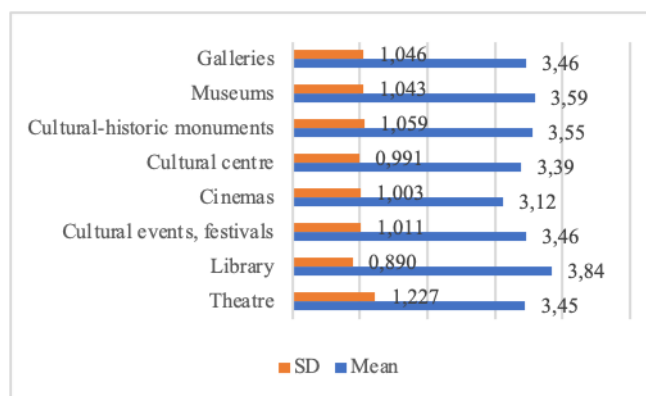
*Table 6: The sample characteristics (N = 141)*

<b>Statements</b>	<b>Mean</b>	<b>SD</b>
The cultural contents in my place are interesting and diverse	<b>3.638</b>	<b>1.0907</b>
The locations of cultural institutions in my town are accessible	<b>3.950</b>	<b>0.9128</b>
The equipment of cultural institutions in my place (access, staircase, elevators, toilets, etc.) is adequate	3.532	0.9377
Cultural facilities in my place are adapted to people with my age	3.383	1.0867
The schedule of cultural programs in my place is adequate for people with my age	3.582	1.0082
Prices for cultural events in my place are affordable	3.418	1.0362
The way of getting tickets for cultural events is adapted to people of different age categories	3.532	0.8909
Promotion and information about cultural content in my place is adequate	3.298	0.9315

*Table 7: Descriptive statistics of respondents' attitudes towards the elements of accessibility of the cultural program – seniors*

The lowest rated items are promotion and information about cultural content, which respondents consider to be at a low level, as well as the suitability of cultural content for people of their age. This confirms that the cultural offer and contents do not fully correspond to the needs of different categories of society, in this case, the elderly respondents. The best-rated item is the accessibility of the locations of cultural institutions in the place where they live.

*Graph following on the next page*



Graph 1: Descriptive statistics-Adaptation of cultural content to seniors

From Graph 1, it can be concluded that respondents believe that libraries, museums, and cultural-historical monuments are best adapted to their age group, while cinemas and cultural centers are the least adapted.

#### 4.3. Research with the target group – a person with disabilities

The research included a total of 40 respondents with a certain type of disability. The age range was from 34 to 86, with an average age of 67.17 years. The slightly higher average age of the sample is also related to the fact that certain types of acquired disability occur more often in later years. The majority of the respondents are retired (65%), with incomes of 45,000 - 90,000 dinars, and they mostly have a college or faculty education. A slightly larger proportion of the sample is men (55%). The socio-demographic characteristics of the sample are described in Table 8.

<b>Gender (%)</b>		<b>Education (%)</b>	
Male	55	Elementary school	12.5
Female	45	Secondary school	37.5
		Faculty/College	50
<b>Age Average: 67.17, Std. 10.24</b>		<b>Employment Status (%)</b>	
		employed	5
		unemployed	25
		retired	65
		house wife	5
<b>Monthly income (in Serbian dinars—RSD) (%)</b>		<b>Type of disability</b>	
Below 45,000	47.5%	Sensory - impaired vision	30
45,001– 90,000	52.2%	Sensory - impaired hearing	30
		Physical - difficult movement	20
		Physically - I am a wheelchair user	20

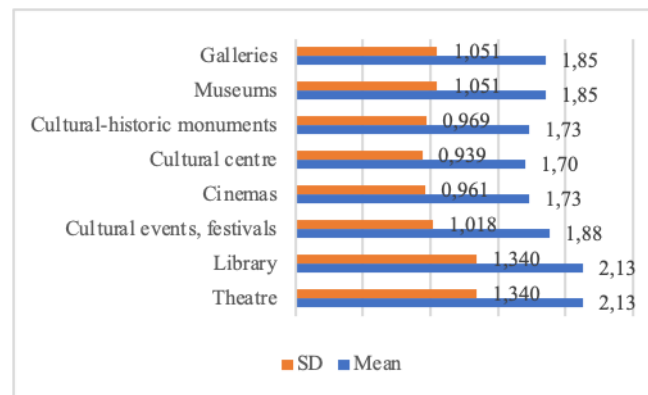
Table 8: The sample characteristics (N = 40)

Table following on the next page

Statements	Mean	SD
The cultural contents in my place are interesting and diverse	<b>3.525</b>	<b>1.0374</b>
The locations of cultural institutions in my town are accessible	<b>3.525</b>	<b>1.3395</b>
The equipment of cultural institutions in my place (access, staircase, elevators, toilets, etc.) is adequate form people with disabilities	3.075	1.4212
Cultural facilities in my place are adapted to people with hearing/vision impairments	2.100	1.1723
Cultural facilities in my place are adapted to people with intellectual disabilities	2.175	1.0099
The schedule of cultural programs in my place is adequate for people with disabilities	<b>3.500</b>	<b>0.8165</b>
Prices for cultural events in my place are affordable	3.275	0.9055
The way of getting tickets for cultural events is adapted to people of different age categories	<b>3.475</b>	<b>0.7157</b>

*Table 9: Descriptive statistics of respondents' attitudes towards the elements of accessibility of the cultural program – a person with disabilities*

The lowest-rated items are the adaptability of cultural content to people with visual/hearing impairments and people with intellectual disabilities. The best-rated item is the accessibility of the locations of cultural institutions in the place where they live, as well as the hourly rate for holding events and the way of getting tickets, which means that the respondents are satisfied with these items. An opportunity for progress is the equipment of cultural institutions and their adaptation to persons with different types of disabilities.



*Graph 2: Descriptive statistics-Adaptation of cultural content to people with disabilities*

The data (Graph 2) indicates that cultural contents are extremely unsuitable for people with disabilities, to the extent that only two average ratings exceed 2 (theatres and libraries). This situation is alarming and indicates dissatisfaction and great inadequacy of institutions and content for people with different types of disabilities.

## 5. CONCLUSION

This article contributes to the understanding of barriers faced by certain sensitive social groups when visiting cultural institutions or various cultural events. These results indicate that a variety of actions are needed to overcome the barriers to cultural consumption. Not a single statement has a rating above 3.95, which proves that the respondents believe that the cultural program in their place is not fully adapted to people belonging to certain social groups. The promotion of cultural content has a particularly low rating for all the categories of sensitive social groups.

Some of the recommendations for overcoming the barriers for a person with disabilities are the education of employees about the needs of people with disabilities and how to adapt cultural content, regularly seeking feedback from people with disabilities through interviews and questionnaires, removal of access barriers, and adaptation of spaces for people with disabilities (primarily ramps, entrances, elevators), adjusting the font size for visually impaired people on inscriptions in cultural institutions, development of thematic workshops for people with different types of disabilities, adapt the institutions' websites to make them more suitable for people with disabilities. Possible suggestions for overcoming the problems faced by parents with children are child-friendly event times, coordinating the time of the event with the parents' working hours, better system of information about content and events, organizing events like a "cultural weekend" for children where they will have the opportunity to visit more cultural content, greater cooperation between schools, kindergartens, and cultural institutions in the field of information and visits, modernization of content interpretation for children, learning through play, provision of parking spaces at cultural institutions, more outdoor content. The elderly population, over 65, also faces many problems, and some of the possibilities for overcoming them are more content aimed at older residents (e.g. workshops, musical events), timely notification of events in writing or by phone (e.g. sending a monthly calendar of events in the city, sending SMS messages), selection of performers for musical events that suit the musical tastes of senior residents, sending notifications about events through the Association of Pensioners, organize programs in which elderly residents can participate with their grandchildren, more affordable ticket prices (for retired), event schedule needs to be adjusted – more content during the work week and the day.

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# THE GIG ECONOMY AND CONSUMER BEHAVIOR: A SYSTEMATIC REVIEW IN CONSUMER STUDIES

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## **ABSTRACT**

*The gig economy has emerged as a transformative force in modern labor markets, driven by digital platforms that enable flexible, task-oriented work arrangements. This systematic review examines the intersection of consumer behaviours and Gig Economy dynamics, synthesizing insights from 28 peer-reviewed articles published in consumer studies journals. The review focuses on critical topics such as consumer motivations, the socio-demographic profiles of gig workers, and the evolving relationships between consumers, workers, and platforms. Findings highlight the gig economy's dual role as a source of economic empowerment and a domain of precarity, marked by flexible yet unstable working conditions. While consumers benefit from tailored goods and services, the study identifies critical gaps in understanding the trust mechanisms, value exchanges, and long-term implications of gig work on consumer decision-making. This review provides a comprehensive framework for future research by bridging these gaps, emphasizing the need to integrate consumer perspectives with broader socio-economic and technological considerations. The insights generated contribute to a nuanced understanding of the Gig Economy's implications for consumer behavior and its potential to redefine traditional market and labor interactions.*

**Keywords:** *Gig Economy, consumer behaviour, systematic review, digital platforms*

## **1. INTRODUCTION**

The systematic review presented in this paper informs consumer studies regarding the outcome, mediators, or moderators of the dependence of the members of digital platforms on each other in terms of economic collaboration. The methodology is an adaptation of the preferred reporting items for systematic reviews and meta-analysis guidelines for digital transactions by reviewing papers in consumer research databases using the keywords "trust," "peer-to-peer communication platforms," and "gig economy." Then, the authors offer generalisable lessons on trust resulting from the gig nature of the transactions analysed. The Gig Economy, most frequent in the technological or creative sectors, has influenced the development of digital technologies. One of the business models of the technological industry is peer-to-peer communication platforms. Reputation systems have emerged as a de facto tool for reducing these uncertainties because trust, information asymmetry, and the development of long-term relationships affect consumer-to-consumer transactions (Vallas & Schor, 2020; Huang et al., 2020; Anwar & Graham, 2021; Tan et al., 2021). However, these serve distinct objectives.

Even the reviews made in the literature do not always focus on trust as a critical factor; they rely on ad-hoc mathematical equations that use partial data and have no knowledge of the nature of this kind of collaboration. No paper draws lessons on trust from the related literature on consumer behaviour.

### **1.1. Background and significance**

This paper is a systematic review of the current state of research on the gig economy at the nexus of consumer studies and worker attributes, spanning economics, finance, human capital, management, marketing, and work psychology, with the final focus on understanding consumer decision-making. Unique to this literature review, authors do not limit their scope to how workers choose gig work. Still, they explore how various aspects of the gig economy contribute to the well-being of participants and how gig workers are discussed and presented from a marketing lens. By examining the key characteristics influencing the gig economy, consumer perspectives, and the decision-making process fueled by the proliferation of workers and consumers, the study aims to construct a systematic overview of the specific research gaps and to direct future work in this sub-area. Earning extra money or making a living from independent work has transformed in the new decade from a self-selecting marginalised occupation to a widespread independent workforce, known as the gig economy (Van et al., 2023.; Glavin et al., 2021). This rise is associated with easier access to the Internet and adequate platforms for buyers and sellers of labour to easily transact without being constrained by traditional organisational barriers (Li et al., 2020.; Rangaswamy et al., 2020). Success lies in flexibility, independence, and control over what work to accept, how much, and when to work. This explains why many prefer this working method to a more traditional, stable job. They are the so-called micro-entrepreneurs who like to separate from their stable and predictable employment to exploit their skills better or get compensated for a hobby they enjoy. For consumers, the gig economy brought a new abundance of goods and services tailored to their unique preferences (Allon et al., 2023; Jarrahi et al., 2020; Kost et al., 2020).

### **1.2. Purpose and scope of the systematic review**

Given the gap in extant research about customer-facing activities in the gig economy, this paper presents a systematic review of consumer studies of the gig economy and provides insights for future studies. The author aims to deliver the consequences from diverse perspectives and give insights into future directions in customer studies. This study specifically focuses on the characteristics and findings of customer research in the gig economy. Although the intention of value creation may drive companies to use the essential resources in the gig economy, such as employees, they are more inclined to use the persuasive power of employees than employee value in profit maximization (Ahsan, 2020). The identical power orientation through the product-view perspective of the employer overlooked consumer contributions in the working relationship. It augmented the disputes and dichotomies in company-stakeholder interactions presented by previous research. The author's theoretical position on customer practices is based on the idea that the social construction of the object's (the customer or the working party) view is somewhat independent of the object's view. They also talk about how they contribute to and gain self-value in interactions between the company and stakeholders instead of talking about how they contribute value (Becker & Jaakkola, 2020). The gig economy is a flexible and temporary contractual system in which on-demand workers can provide customers with services or support specific jobs for companies using digital platforms (Koutsimpogiorgos et al., 2020.; Vallas & Schor, 2020). Special features of the gig mode of work include the flexible personal arrangement between free-acting providers and customers and the renewed reliance on multiple workers for service production. The shift has sparked a passion for investigating the traits and dynamics of the gig economy, which inspired the author's current research on



examining consumer studies in the gig working mode but went unnoticed by many long-time academic researchers (Koutsimpogiorgos et al., 2020; Kost et al., 2020; Anwar & Graham, 2021). Their shared interests are usually in gig workers' socio-demographic inequalities, possible tendencies of work transformation, and the influencing factors of their well-being. These concerns about the worker side of the gig mode are plausible and worthy of long-term attention from the viewpoint of human resources and the change in work organisations. Still, they partly overlooked another field of the gig mode: how gig workers influence service quality from the main influential party of effective demand in the service-producing process (Tan et al., 2021; Huang et al., 2020; Watson et al., 2021; Allon et al., 2023; Myhill et al., 2023). The authors thus bridged it by focusing on the crucial role of gig workers (the party that provides) service demands and the vital reference direction of service quality assessment. The systematic review aims to understand how consumers reciprocally influence gig workers, who seem flexible in their working mode but are usually financially precarious.

## **2. THEORETICAL FOUNDATIONS**

These transitions are critical and require a good deal of sociological attention. The same body of writing demonstrates how sociological theory has increasingly discounted meaning, the qualitative aspect of work and leisure. Since economics has never been interested in meaning, it is not easy to understand how it comes to predominate behaviour in ways that distort the social gene. Nor is it easy to comprehend the extent to which, in the developed economies and those that might join their ranks. Time is taken to consider value and inheritance, acting as exponents of the meaning of events and drivers (as distinct from levers) of behavior. Conspicuous consumption has been depicted as a significant aspect of modern consumer behavior. While it has many critics, particularly about consumerism and sustainable livelihood, Tilman acknowledges that studies of work emphasise that consumption, or the acquisition of commodities derived from the labour market, is the paramount motivation for work. However, things are, in fact, rather more complex. Both work and leisure have universally recognised social meaning and relevance. At the same time, the present-day consumer society contains many marginalised people in terms of employment and participation. Leisure has become formalised in many ways, with interests and recreation activities becoming market commodities.

### **2.1. Literature review**

Regarding our questions, the literature provides considerable coverage of the gig economy from many viewpoints but focuses more on consumers' perspectives. Moreover, it offers insight into their motivations and numerous ways for them to be active in the gig economy. They might advance their financial well-being, personal development, or fun while reducing their leisure frustration and boredom. Financial improvement through gig work is seen as a viable alternative to full-time jobs rather than just a security blanket for the unemployed (Masta et al., P., 2024). Gig work is popular among secondary workers with a primary job (Huang et al., 2020) on the side and with singles, college students, and baby boomers (Wu et al.; J. L., 2024). Gig work is especially prevalent in busy times (Zhang et al., D., 2024) among those struggling financially (Daud et al.; G., 2024) and sometimes, it is a source of extra money for the hard-working but socially disconnected (Mieruch et al., D., 2023). Online platforms offer functions and features similar to traditional employers' ones and attract diverse participation. Participants consider income impact (Jackson et al., (2024) and job fit (Mousa et al.; W., 2023) as the most critical platforms' selection criteria and use ambitions, demographics, and economic motivations as job design criteria to match jobs with platforms. This article is a systematic review of the literature on consumer studies on the gig economy, consumer motivations for engaging in it, their methods, and how these might shape their satisfaction with these economic activities. This way,

it also explores the method topics and defines critical research topics for further consideration by consumer scholars. The authors restrict the data collection to publications that (a) are published in consumer research or related fields between 2013 and 2020, (b) have the context of the gig economy, and (c) focus on consumers instead of workers or labour. The authors locate and collect relevant literature using multiple library databases and sequential keyword searches. The searches are focused on the abstracts, titles, and (or) keywords.

## **2.2. Key theories in consumer behavior and the Gig Economy**

Consumer Behavior studies the processes involved when identifiable persons choose, purchase, consume, or dispose of products, services, experiences, or ideas to satisfy their needs and desires. Consumer behavior has recognized the increasing economic power derived from these increasingly varied and sophisticated approaches to the marketplace. It has been used to address the internationalization of markets, the impact of technology and information in terms of potential empowerment and equality, the growing number of possible issues arising directly from marketing, and the changing and often dysfunctional nature of the links between producers and consumers (Reynolds, 2009). Consumer Behavior Study, as a sub-theme, is part of the Consumer Studies domain (Bagozzi, 2006). It asks the following research questions into its economic crisis: thematic fragmentation, lack of worker protection, lack of formal equity, and unequal income distribution between different types of workers. This section starts by defining the gig economy and related terms. The following paragraph discuss the concept of consumer behavior and associated theories. The gig economy, known by several other terms such as access economy, sharing economy, and collaborative economy, among others, consists of all sorts of earning opportunities through digital platforms, such as selling and renting services or goods on demand. This labor market is characterized by flexible work schedules (Lehdonvirta, 2018), making good use of owner supply from the means of production (capital goods), who decide to embrace it because it offers wage autonomy to individuals (Christiaens, 2022). The gig economy arises in the context of individual performance optimization. Consumer Behavior Studies, compared to other Labor market studies, have given less importance to the theme, focusing not on the consumer but on the worker. The focus of these investigations is on the actions of those who participate in this labor market, providing services to the organizing company (or other consumers), which then offer these services to end customers, who are affiliated with the platform.

## **3. METHODOLOGICAL APPROACH**

At this research stage, authors used quantitative methods to locate the scientific production of Gig Economy research in consumer studies. They identified the target by combining the following keywords: 'gig economy' or 'sharing economy' or 'collaborative consumption' or 'ridesharing' or 'crowdfunding' (areas of the phenomenon) between the categories 'Business, Management, and Accounting'; 'Economics, Econometrics, and Finance'; 'Social Science'; 'Computer Science'; 'Engineering' and 'Decision Science'; 'Information Science' as a topic, while for the specificities of the field, terms that could lead to desirable subdivisions were combined, such as 'market', 'consumption', 'consumer culture', and 'consumer behavior'. The authors expanded their search to understand the research that the Gig Economy phenomenon produces in consumer culture, considering the main areas of mainstreaming consumption and cultural studies. The authors used Scopus and the Web of Science as tools that list access to many scientific publications, including publications produced by consumer researchers. They chose the search because these databases presumably contain the most important publications on the main topics under study.

### **3.1. Search strategy and selection criteria**

To confirm that the search encompassed some relevant articles, the authors selected the top 10 articles cited in consumer-related journal articles. The 28 selected papers were included based on the topic's relevance to consumer studies. An additional 13 articles were immersed using a manual approach to complete the sample. These papers were recognised primarily in influential academic journals in consumer research and behavior. Each article was examined to determine whether they relied on data related to compilers, workers, income, consumption, earnings, as well as consumer brands and product categories. Some non-economic aspects of the literature review were also considered. The fields or descriptions for the selected papers were reviewed. They included factors related to evidence and the reliability of consumer behavior dimensions where workers or financing apply to consume goods and products. Two independent searches were conducted to identify academic papers using the "Web of Science" and "SCOPUS" databases. To select relevant papers, the following search string was adapted from Sauer and Seuring (2023): "gig economy" OR "collaborative workers" OR "peer earnings." The search for articles initially identified 119 papers found through "Web of Science" and 90 papers through Scopus. However, only 28 articles were considered eligible for the review after reviewing the articles identified in these databases. The academic sources used, and the established and recent investigations addressing various facets of consumer behaviour justify including a particular set of papers.

### **3.2. Data extraction and synthesis**

Based on the unique characteristics of the gig economy, mainly depending on technology and digital platforms (Mehta et al., 2023), the absence of a single, all-encompassing theory represents a challenge for researchers in consumer studies when dealing with this new, complex domain. To provide a comprehensive picture of the gig economy phenomenon, the authors summarise its features, implications for consumer behavior, and areas of study from consumer studies evidence. With this aim, the main topics discussed in these studies and the remarkable implications identified are listed before reviewing the articles. The study findings suggest that researchers apply these quantitative, previously identified features to consumer goods and services analyses. The studies included in this review do not fully explore the implications of the gig economy for consumers' life domains. The authors collected and systematised evidence from 89 academic studies through a systematic literature review. The analysis draws from the economic sociology perspective, which views the Gig Economy as a diverse phenomenon that, despite its heterogeneity, still shares some commonalities. Since it is difficult to synthesise the diverse topics within the broad umbrella of the Gig Economy in one paper, the authors propose a dynamic taxonomy. The overarching question is: What are the diverse topics within the Gig Economy phenomenon? The authors also answer a secondary question: Which consumer studies have embraced this topic? How have Gig Economy issues within consumer studies been explored? Furthermore, the authors identify and summarise patterns, map the intellectual structure, and document which other essential topics are discussed in the literature on the Gig Economy from the consumer behavior viewpoint.

### **3.3. The research methodology protocol**

A search strategy was applied based on the main keywords and Boolean operators to identify the existing studies and highlight any possible gaps in the literature (Anwar & Graham, 2021; Tassinari & Maccarrone). The literature search performed for the systematic review followed the protocol. Some papers have already been included in literature reviews and bibliometric analyses at the time of the current review. The final sample selection included considerations of the inclusion/exclusion criteria and the application of a minimum quality threshold. The search strategy was selected to reflect the purpose of including both the Gig Economy (e.g.,

task-based platforms, e-commerce, and sharing economy) and the consumer behaviour literature while focusing on the most recent publications in three main areas of research in business, management, and accounting as well as decision sciences. The systematic review cut-off date is April 2023, as it is mainly focused on the economic aspects. Quality assessment aims to determine and systematically assess the calibre of the supporting data the included studies have provided using reliable criteria. Quality assessment tools have been designed to help determine the level of evidence traditionally presented in a survey and guide the process of assessing the risk of bias. For the perspective review that RePEc had initially suggested, the current paper used the quality appraisal scale and guidelines developed by systematic review methodology. The results and discussion focus only on studies without severe methodological caveats. However, a criterion of originality is considered, along with the impact of the journal in which the research is published. Additionally, the presented research results must be accurate and considered when interpreting and attributing them in the context of the main results and extending their implications for future research.

#### **4. FINDINGS AND SYNTHESIS**

A systematic analysis of the Gig Economy concept in consumer studies is proposed, which outlines its historical roots, debates, themes, and geographic aspects. Based on 28 academic papers and three book chapters, four major dimensions constitute gig work: applications, daily context, income, and consumption. These papers were analysed to synthesise the research on the implications of the Gig Economy on marketplace dynamics, careers, and the future of work. The results of this study point to two main findings. On the one hand, academics tend to study gig work from a negative perspective. On the other hand, on technological marketplace platforms, it provides flexibility in work and, frequently, is a partial or supplemental source of income. The future of work is undergoing rapid changes due to advances in digital technologies that allow people to work outside of traditional employer-employee relationships. More people are participating in Gig Economy, becoming a recognised international workforce. However, understanding gig work, particularly gig workers' types, characteristics, and motivations, should be paid more interest. A renewed interest in gig work has provided rich and varied literature on gig work from management, law, industrial relations, economics, and sociology. Still, the consumer behaviour standpoint has been more recent.

##### **4.1. Consolidated findings and synthesis**

The authors concentrated on the nearest discipline to their domain in the literature review, particularly consumer studies. First, they ran a database search to retrieve relevant articles. Then, they correctly read and included articles according to their selection criteria. Twenty-eight papers were eligible for further examination, and detailed information on the author(s), publication, method, aim, contextualisation, and main findings are reported in a sub-chapter each. The authors also further classified the revised papers into six topical classes: motivations to participate, working conditions, women's care activities, labour market, issues of algorithms and learning, and staying with the job or leaving the gig market. Finally, they drew a synthesis of the main results from the revised studies and concluded. The Gig Economy represents a significant paradigm shift in the labor market, challenging the traditional employer-employee relationship. In a labor market that operates via web-based platforms, demand and supply for a task, job, or service are fulfilled by individual, temporary workers in an on-demand fashion, representing an accurate product market for labor. Less favourable working conditions characterise this working model, lacking labour protection and minimal job security.

Given this dramatically altered "framework" of temporary employment relations, the nature of the exchange regulating the labor market cannot be considered in traditional dyadic terms: in platform-based exchanges, the parties are not only the client and worker; instead, business-to-business relationships can be built. This paper investigates the Gig Economy research topic, identifying and organising existing studies along themes.

#### **4.2. Theoretical advancements**

The prevalent business endeavour in the Gig Economy is for individuals to provide consumer service. Traditional services research has intensely focused on consumer and employee interactions within provider organisations. Therefore, contemporary perceptions of service encounters are based on assumed interpersonal dimensions due to service employee cues and performances. That is not how consumers are experiencing the Gig Economy service. Hence, management researchers must conceptualise those particularities. Little has been written from the perspectives of employed management personnel, although there are a few perspectives from self-employed "gig" workers. Therefore, this paper takes a grounded approach, using data on employed managers' experiences of employing workers on an online Gig Economy platform, and has the following research questions: How do managers plan gig economy worker activity? How do managers allocate resources when there is no employment contract? How do gig economy workers influence management practice and theory? This section comments on the theoretical underpinnings of each academic work about the Gig Economy discussed in this analysis. This analysis is essential to continue strengthening the connection between the gig economy and consumer and retail studies. Most articles attempt to define the Gig Economy based on concepts from several areas of traditional economics. Instead of finding some theoretical advancement leading the field, the authors noticed many gaps in the literature, generating much space to further theorise about the phenomenon.

#### **4.3. Contextual considerations**

However, the discussion about work performed through platforms raises other relevant questions on the relationship between work and work in terms of supply. This concern becomes very relevant when we learn that 64% of US members who perform gig work rely on their earnings to decide the need for a regular employment relationship (Cropanzano et al., 2023). Quite remarkably, gig employers understand consumers in a new sense: the work performed through on-demand platforms is built around a fictional business model, as the core labor is to create consumer demand. With their activity, workers have "fully captured" their "aspirations," but the reward is that they work to convince consumers to stop an awareness-building activity: consuming peer services. The fact that employers confuse themselves with consumers creates an extensive range of pressures to compromise. The work performed through these platforms must be perceived and allowed. This demand justifies incentives, promotions, rewards, and bonuses. Data privacy may increase these relationships as platforms see demand before workers and consumers. A great deal of tension arises from the debate surrounding the Gig Economy. One standard set of concerns is that employment relationships are obscured in the Gig Economy, as many producers and consumers do not recognise the differences between different forms of gig work (barter or charity) and employment relationships (upside-down markets). Another set of concerns arises from the to-be-expected impacts of the "decent work" process that has already been under discussion by the International Labor Organization. Terms and conditions (wages) are being pressed downward, increasing job insecurity. This debate occurs because digitalisation is accelerating these changes and because decision-makers have decided how to regulate this type of work. Some scholars (Piasna, A., 2024) believe that developing digital labor rights may be a way to drive digitalisation toward labor market regulation and powers for digital workers.

#### **4.4. Constructs and methodological innovations**

In this systematic review, the authors discovered that the main areas of interest on the demand side hinge on the relationships that encompass the consumer and the service provider (convenience, trust, risk, performance, loyalty), the related customer journeys (acquisition, payment, product supply, service delivery, after-sales), and the consequences of utilising the services that Gig Economy offers (self-expression, social identification, virality), which in part are linked to the high interest in the difference that is inherent to the nature of the services. Overall, the demands of the Gig Economy are seen through a consumer lens. The business area further emphasises the opportunities (collaboration and business innovation, financial considerations) and hazard factors (legal issues, fraud), as well as more considerable institutional or regional changes (platform types, regulatory leeway). Consumer research directly addresses these, but generally with little theoretical contribution. Only when the focus is heightened on the other side of the market can issues of more significant impact be grasped, and research can be effectively operationalised. The establishment of this groundwork signals the direction of future studies that can contribute more strategically to the consumer studies literature. This study has aimed to offer a systematic review of consumer research regarding the Gig Economy, contributing towards a comprehensive understanding of how the latter influences consumer behaviour. Based on the seminal typology put forward by Handfield-Jones and Arnold, studies conducted in the Gig Economy in the business and management areas were categorised into demand-side and supply-side investigations. Next, the studies were cluster-analysed using a wide selection of studies in the consumer area to derive insights about the discussions around the two primary vantage points made available by typology.

#### **4.5. Future research agenda**

To understand consumer behavior, the authors address the consumers of gig work and suggest either addressing them from the supply or demand side or crossing these two. This issue has been studied as two separate phenomena, justifying empirical research to identify advances in this field. Understanding the dynamics of the consumer's needs and the quality of the services offered could act as a catalyst to give impetus to the debate on how this type of work profile is part of the life cycle of a considerable number of consumers. These issues also open new directions on how reputation systems are crucial for consumption and bargaining power by introducing new initiatives on possible self-regulatory codes. Most comparative studies that examine these two subjects quickly touch upon the theme but ignore the complementary issues. These suggestions open the door to two other exciting theories, i.e., the power theory of consumption: a diversity theory and the theory of consumption as a social practice that mainly captures the overall life cycle type of spending. Firstly, from a systematic review conducted on consumer behaviour, the findings have some implications for consumption patterns of gig work. Firstly, research should address consumers who consume gig work and those who use gig workers for their services. Although, to date, research in this area is scarce, knowing the consumers of these services as potential value consumers helps frame the importance of this topic in economic and social wellness and government debate. Rapidly growing gig work affects the economy and everyone who consumes and works as independent contractors. One of the most important implications is the massive underestimation of the phenomenon. This systematic literature review resulted in both empirical and theoretical findings.

### **5. CONCLUSION**

The systematic review presented in this study underscores the dynamic interplay between members of digital platforms within the gig economy, with a specific focus on trust, peer-to-peer interactions, and economic collaboration. By synthesizing insights from consumer studies,

the review highlights key outcomes, mediators, and moderators that shape these interactions and provides a comprehensive framework for understanding the broader implications of the gig economy on consumer behaviour. The findings reveal that trust is a cornerstone of economic collaboration within gig platforms. Reputation systems are pivotal in reducing information asymmetry and enabling smoother transactions between consumers and gig workers. The gig economy also offers significant flexibility and autonomy, benefiting consumers with tailored services and providing workers with personalised work arrangements. However, this flexibility often comes at a cost, as many gig workers face economic precarity, with unstable incomes and minimal job protections, which can strain collaborative dynamics. For consumers, participation in the gig economy brings access to customised goods and services, meeting their unique preferences and enhancing satisfaction. Furthermore, gig platforms facilitate a nuanced value exchange, where trust and perceived fairness influence consumer loyalty and engagement. The outcomes also reveal a more profound psychological dimension, as gig economy participation allows consumers to align with values such as sustainability and self-expression, reinforcing their social identity. The review identifies key mediators that underpin successful interactions within the gig economy. Central among these are reputation systems, which build trust and mitigate risks in peer-to-peer interactions. Digital technologies emerge as critical enablers, mediating relationships through sophisticated algorithms, user interfaces, and platform design. Additionally, the socio-demographic attributes of gig workers—such as age, education, and financial needs—mediate worker engagement and consumer satisfaction, demonstrating the interconnected nature of these platforms. External factors play a significant role in moderating the dynamics of economic collaboration. Platform design and policies, such as secure payment systems, transparent feedback mechanisms, and user-friendly interfaces, shape consumer trust and satisfaction. Geographic and cultural variations also influence the success and perception of gig platforms, reflecting diverse regional norms and regulatory environments. Moreover, the economic motivations of both consumers and workers, particularly the drive for supplemental income, serve as crucial moderators that affect participation and outcomes within the gig economy. This study highlights significant gaps in understanding the long-term implications of gig economy dynamics for consumers and workers. While trust mechanisms are well-documented as critical to platform success, further exploration is needed to understand how these mechanisms evolve and impact broader economic and social systems. Similarly, the gig economy's dual nature—as both a source of empowerment and precarity—warrants deeper investigation into its implications for worker and consumer well-being. Practically, this review underscores the importance of designing platforms that balance flexibility with fairness, offering protections for workers while maintaining trust and satisfaction for consumers. By integrating insights from consumer behavior, technology, and socio-economic studies, future research can contribute to a more equitable and sustainable gig economy. The gig economy represents a transformative shift in labour markets and consumer interactions, challenging traditional employment and service provision models. Through this systematic review, we provide a nuanced understanding of the outcomes, mediators, and moderators that shape economic collaboration within this domain. By bridging gaps in existing research, this study lays the groundwork for future investigations that can further illuminate the complexities of the gig economy and its implications for modern society.

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# THE LEAN ENTREPRENEURSHIP APPROACH IN HIGHER EDUCATIONAL INSTITUTION: LITERATURE REVIEW

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## ABSTRACT

*The complexity of higher education institutions (HEIs) operations arises from the continuous integration of emerging digital technologies, the rapidly evolving labor market, and the transition from traditional to innovative teaching and learning methodologies. To navigate these challenges, HEIs can benefit from adopting the lean entrepreneurship approach, a management practice originally developed in the manufacturing sector. Despite its proven efficacy in other service-based sectors, the application of lean methodologies in HEIs remains underexplored. This paper investigates how the lean entrepreneurship approach can drive process improvement, innovation, and quality in higher education by conducting a systematic review of scientific and professional literature published over the past decade, primarily sourced from the Web of Science database. The study outlines the potential of lean entrepreneurship approach to transform institutional culture, promote efficiency, and achieve sustained competitive advantages in education. Articles aligning with the study's specific objectives are analyzed in depth. Additionally, a bibliometric analysis is conducted to provide insights into the current state of research in this field, leveraging keyword analysis to highlight prominent trends. The findings are visually represented using Biblioshiny for greater clarity and accessibility. The structure includes a comprehensive literature review, an explanation of research methodology, analysis and results, and a discussion of key findings, research limitations, and future directions. This research contributes to the understanding of lean methodology in HEIs, emphasizing its role in fostering a culture of continuous improvement and entrepreneurial thinking within educational organizations.*

**Keywords:** *Lean entrepreneurship, Lean education, Lean management, higher education institutions*

## 1. INTRODUCTION

The complexity of higher education institutions (HEI) operations stems from the continual integration of new digital technologies in education, the dynamic labor market, and the shift from traditional to innovative learning and teaching methods. This paper studies the management practice – lean entrepreneurship approach – that can help managers of HEI achieve their objectives and process improvement by incorporating the lean entrepreneurship approach and fostering entrepreneurial thinking. The implementation of lean methodology into everyday operations can enable HEIs to improve all aspects of their processes, leading to enhanced institutional performance and the attainment of competitive advantages. This lean management, originating in the 20th century, encourages organizations to function efficiently by maintaining the performance of current processes while simultaneously improving them. The fundamental goal of lean management and related techniques and methods is to eliminate activities that do not add value (Mataušić, Klacmer Čalopa, Kokot, 2023). Initially developed in the manufacturing sector and popularized by Toyota, Lean principles and techniques have been effectively adapted across various industries over the last decades, including public sector organizations and higher education institutions. Lean principles emphasize eliminating waste, enhancing efficiency, and promoting continuous improvement. In the context of HEIs, these principles aim to optimize administrative processes, reduce unnecessary bureaucracy, and maximize resource utilization while embedding entrepreneurial thinking. However, despite the

growing interest in applying lean methodologies across service-based sectors, the specific context of HEIs remains underexplored (Simonyte, Adomaitienė, Ruželė, 2021). To address the evolving challenges and opportunities, educational institutions must commit to continuous improvement in all their activities. The application of Lean principles, combined with entrepreneurial thinking, offers a strategic approach for HEIs to achieve a competitive advantage and foster a reputation for educational quality. Successfully implementing Lean principles in higher education requires a transformative shift in mindset, emphasizing a culture of continuous improvement and lean entrepreneurship. The structure of the article is as follows: Section 2 provides a literature review based on defined keywords. Section 3 presents the research methodology, analysis, and results. Section 4 discusses the most significant findings, research limitations, and potential directions for further research. The integration of lean entrepreneurship and entrepreneurial thinking in HEIs is explored as a driver of innovation and efficiency in the education sector.

## 2. LITERATURE REVIEW

Since the pioneering work by Dahlgaard and Østergaard in 2000, the field of Lean in Higher Education Institutions (HEIs) has seen a growing body of literature. Each year, new academic research contributes to the understanding and application of Lean principles within the higher education sector, highlighting the value of Lean methodologies and the integration of entrepreneurial thinking. Borman, Dalal, Hayter et al. (2024) said that “*Entrepreneurship education has long been framed as a crucial component of the entrepreneurial university*”. Researchers provide new insights, case studies, and perspectives on the implementation of Lean practices in HEIs, often emphasizing the transformative potential of a lean entrepreneurship approach. Balzer et al. (2015) identified numerous case-based examples of organizational improvements in academic and administrative operations achieved through Lean methodologies. The literature suggests that Lean methodology in HEIs can be applied in various forms (Klein, 2022): 1) to optimize administrative and management processes; 2) to enhance classroom methods for improved student learning effectiveness; and 3) to incorporate Lean education concepts and principles into curriculum delivery, fostering entrepreneurial thinking. When applied appropriately, lean methodology supports competitiveness by enhancing overall performance, despite being a demanding and long-term endeavor (Bhasin, 2012). Key findings from Hofer and Naeve (2017) reveal that Lean methodologies offer significant opportunities to improve HEI management and adaptability to the rapidly changing educational landscape. The adoption of a lean entrepreneurship approach empowers HEIs to embrace innovation, streamline processes, and create value for stakeholders. In recent years, the popularity of Lean management in HEIs has increased in regions like North America and parts of Western Europe, including Great Britain and Scandinavian countries (Grudowski, Wiśniewska, 2019). Tay and Low (2017) were among the first to apply Lean management principles to digital innovation in higher education, showcasing its potential to transform teaching and administrative practices. Hartanti et al. (2022) demonstrate that Lean principles positively contribute to sustainability performance in HEIs, emphasizing the importance of understanding and mitigating waste types. On the case of Brazilian HEIs, Klein et al. (2021) provide new measurement and structural models, linking Lean thinking practices to sustainability and highlighting how Lean principles can enhance organizational adaptability and entrepreneurial capabilities. The COVID-19 pandemic accelerated the adoption of online and hybrid teaching environments, underscoring the relevance of Lean methodologies. By applying Lean principles, HEIs can improve digital learning processes, elevate student engagement, and enhance efficiency. Khandan and Shannon (2021) identified the critical non-value-added issues affecting student engagement in online teaching, suggesting that Lean principles can address these challenges. Similarly, Spiridonova, Ruzaeva, and Bosak (2021) found that integrating Lean production methods with Industry 4.0

technologies provides significant synergetic benefits, promoting innovation, and fostering a culture of continuous improvement. This body of literature highlights the potential of a lean entrepreneurship approach to drive innovation, sustainability, and operational excellence in HEIs. Combining Lean principles with entrepreneurial thinking offers a framework for navigating the complexities of modern education and achieving long-term institutional success.

### 3. METHODOLOGY AND RESULTS

Digital platform Web of Science (WOS) was searched for key words in publications for the years 2001-2023. Journals, conference proceedings, technical reports and white papers were also reviewed to examine their potentially significant findings. In total, 262 publications comprise literature reviews. Several bibliometric techniques were applied, including analysis of co-words as a technique used to identify the main themes.

#### 3.1. Bibliometric analysis

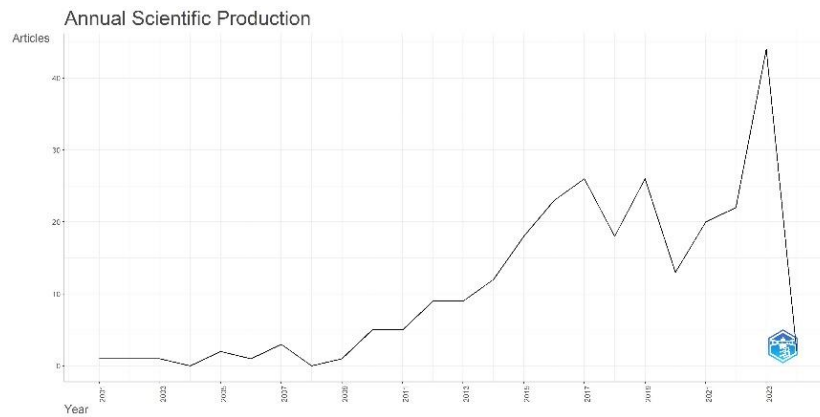
Digital platform Web of Science (WOS) is internationally recognized with the highest quality standards, and it is widely accepted and used for scientific publication analysis (Yan, Zhiping, 2023). The research paper analysis focuses on research methods to review selected articles based on keywords: Lean principles, Lean education, Lean management, Lean entrepreneurship, and agile education. Only articles aligning with the specific aims of this paper are undergo in-depth examination. Also, the research incorporates bibliometric analysis. Bibliometrics is popularly done through WoS as it encompasses diversified fields with its content (Ayan et al., 2023). Bibliometric analysis is used to better understand the state of the art in a defined scientific field (Zhang et al., 2023). Co-word analysis, as one aspect of the bibliometric analysis, was performed to highlight the most important aspect of this field. The analysis was done with the software Biblioshiny, and the graphical representation. Biblioshiny stands as one of the complete research tools related to bibliometrics and scientometrics, having an intuitive interface and visual presentation (do Socorro Torres Silva, Nóbrega Correia, de Oliveira, 2022). The author collected data for bibliometric analysis on 18 January 2024, including time horizon published papers on the WOS platform, for the period 2001-2023. The process of base collecting for bibliometric analysis with criteria is described in Table 1. All bibliometric analysis results are exclusively related to this base.

*Table 1. Information of search on platform WOS*

Criteria	Description
Platform	Web of Science
Time period	2001 - 2023
Key words	Lean, Lean management, Lean entrepreneurship, higher education
Number of papers included in analysis	262

#### 3.2. Results of bibliometric analysis

Figure 1 shows annual scientific production from 2001 till 2023. The most productive year was 2022, but there was increased interest in this field over time, so scientific production has been increasing for the last few years. Those results can be related to the fact that every year, the level of change is becoming greater, and thus the need to adapt to all processes in higher education. The necessity to adapt to all processes in higher education with these dynamic changes underscores the demand for agility and adaptability. In this context, the adoption of Lean principles becomes imperative, as they offer a framework that enables institutions to respond effectively to the challenges of the higher education environment.



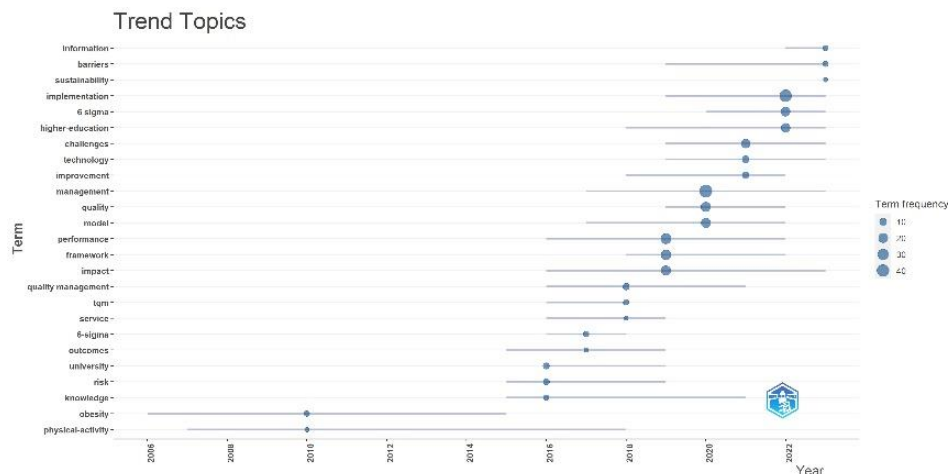
**Figure 1.** Annual Scientific Production (Source: author work: software Biblioshiny)

Co-word analysis (Figure 2) was done in Biblioshiny software and indicated most occurrences of words: management (44), implementation (40), performance (26), framework (23), and quality (20). This analysis was based on keywords and a summary of papers within a defined database. If we combine key words in analyzed articles it could be concluded that the main idea is to implement and foster a culture of continuous improvement and align lean principles with quality management to enhance overall effectiveness (performance).



**Figure 1:** Co-word analysis

Figure 3 shows the trend topics in the field of lean management and lean entrepreneurship in HEI. The most popular topics in recent years have been management, implementation, and six sigma.



**Figure 2:** Trend topics (Source: Author work: software Biblioshiny)

Table 2 shows the scientific production of various countries. It is important to notice that country's scientific production measures the number of authors appearances by country affiliations. Leading the top 10 nations is the USA in the first position with 111 publications, followed by UK in second place with 72, and India in third place with 42. Interestingly, among the top 10, three European nations, Spain, Portugal and Ireland are present, although their paper count is relatively low according to the first position. This data indicated the need for a more representation of this topic, particularly within the European Union and, specifically, Croatia. Those results indicated an unbalanced representation of scientific papers across countries. It is important to note that the analysis considers co-authorship, which means that it is not mandatory for all authors to originate from the mentioned country, but international collaborative networks are included.

**Table 2:** *Countries' scientific production*

<b>Region</b>	<b>Frequency</b>
USA	111
UK	72
INDIA	42
SPAIN	41
AUSTRALIA	34
BRAZIL	34
CHINA	25
IRELAND	20
PORTUGAL	20
MEXICO	19

#### **4. Conclusion and recommendations**

Until now, a comprehensive examination of the existing literature on the application of Lean principles in higher education institutions (HEIs) has been limited. This research paper aims to bridge that gap by initiating an exploration of Lean methodology implementation in the academic sector and examining its implications for enhancing quality and fostering a lean entrepreneurship approach within educational institutions. The successful implementation of Lean principles in HEIs requires a holistic approach encompassing continuous refinement of processes, fostering a culture of continuous improvement, and incorporating entrepreneurial thinking to adapt to emerging trends. By adopting this overall approach, HEIs can optimize their operations, enhance service quality, and provide an exceptional educational experience for students. The integration of a lean entrepreneurship approach encourages institutions to innovate, streamline processes, and align their practices with evolving stakeholder needs, making them more competitive and sustainable in a dynamic educational environment. The research findings suggest that implementing Lean principles in HEIs has the potential to bring significant positive changes by improving efficiency, reducing waste, and enhancing service quality. The benefits of Lean principles, when combined with entrepreneurial thinking, contribute to the long-term success and sustainability of HEIs, positioning them to respond effectively to modern challenges and opportunities. The Web of Science (WOS) platform was utilized as an extensive database for conducting bibliometric analyses. While WOS is a valuable resource, the study acknowledges certain limitations. The scope of the investigation is confined to publications indexed on WOS, excluding insights from other platforms or unpublished studies. Additionally, the research lacks concrete empirical evidence, underscoring the need for further investigation. Future research should delve deeper into specific factors influencing Lean methodology implementation at the institutional level, including how Lean principles can be tailored to support entrepreneurship thinking and foster a lean entrepreneurship approach.

Such studies could explore empirical evidence, case studies, and cross-institutional analyses to provide actionable insights for policymakers, administrators, and educators aiming to enhance the quality and sustainability of HEIs.

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# ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON ENTREPRENEURIAL DECISIONS

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## ABSTRACT

*Artificial intelligence (AI) and modern technologies are progressively influencing all aspects of human activity, including corporate operations. These advancements have become integral to the daily functions of commercial enterprises, transforming decision-making processes and raising significant legal and ethical questions. Although they are human creations, these systems are capable of collecting and processing large amounts of different data. In addition, as a particularly intriguing addition, they are able to make an appropriate decision based on the processed data. These are major steps in the development of humanity, so the question of the legal nature of the algorithms created in this way is justified. The topic of the paper is limited to the issue of legal implications regarding the use of algorithms when making business decisions in companies. Specifically, in the context of company law, an additional question arises as to whether software - an algorithm that makes decisions can replace natural persons - members of the company's management. If the answer to that question is still negative, the other possible implications of using algorithms in business decision-making should be examined. A particularly difficult question is whether we can rely on the decisions that the algorithm "makes" in the process known as black box. It is a AI decision-making process that does not clearly and comprehensibly result from the input data that served as the basis for such a decision. For this purpose, the appropriate provisions governing the rights and obligations of board members are analyzed. The aim of this article is to show that the rules governing the legal status of the management of a commercial enterprise are still relevant, notwithstanding the rapid pace of technological development, and serve their purpose despite any possibly new circumstances.*

**Keywords:** *Artificial intelligence, Corporate law, Board of directors, Entrepreneurial decision, Liability of directors, Black box*

## 1. INTRODUCTION

Artificial intelligence (AI) serves as a cornerstone of Europe's digital agenda. As a transformative force, AI has become a focal point for debates among academics, policymakers, and legislators at both national and EU levels. The actions of information technology systems are not based on human actions (with legal effect), but are the result of a sequence of algorithms. Artificial intelligence makes it possible to create systems that make human-like decisions by replicating human-like decision-making structures, thus "mapping human thinking in a machine" These algorithms can be found in many areas of life, for example, autonomous driving, combat drones, consumer profiling, algorithmic pricing, automated image, text and voice recognition, algorithm-driven investment strategy or stock selection, in "predictive policing", in chatbots in customer service, in personnel selection through digital speech analysis, in face recognition systems etc.<sup>1</sup> There is a popular saying that "if you don't control your mind, the mind will control you!". To this, it could be added that if you do not control your mind, it is likely that someone else will control your mind for you. In this case, the fundamental question is whether the law should intervene to guarantee the freedom of the mind

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<sup>1</sup> Lücke, O., Der Einsatz von KI in der und durch die Unternehmensleitung, BB, 2019, p. 1987.

from attempts to control and manipulate it. In fact, the law already protects the mind from various forms of interference, most generally in the form of the right to freedom of thought and conscience. In addition, there are more specific laws and provisions that protect the mind from potentially harmful and manipulative interference, which take such forms as the prohibition of subliminal commercial advertisements or the regulation of “fake news”.<sup>2</sup> While AI, alongside other innovative technologies, offers transformative potential across numerous fields, it also presents significant risks, including complex legal, technical, and ethical challenges. The AI Act<sup>3</sup>, announced in the Official Journal on July 12, 2024, and coming into effect on August 1, 2024 (hereinafter also referred to as the AI Act), represents a legislative marathon and monumental achievement by the European Union. The preliminary groundwork and origins of AI regulation by the EU can be traced back nearly a decade.<sup>4</sup> Given the scope of its regulatory framework for AI, it is expected to mark “a defining moment in the history of AI, since it will ultimately lead to the first comprehensive legislative measure globally containing binding rules on AI”.<sup>5</sup> The AI Act is heralded as the world’s first comprehensive AI regulation, reflecting European values and safeguarding fundamental rights. While the Act represents a complex and nuanced regulatory framework, a detailed critique suggests that some of its positive portrayals are overstated. In some areas, the regulation appears overly ambitious and contains notable flaws.

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<sup>2</sup> In academic debates this trend can be seen in the growing interest in the link between law and neuroscience or in the transdisciplinary field of study called “neurolaw”. As AI is already having a major impact on society, which will become even greater with the growing intrusion of technology into the human brain, there is growing urgency for regulatory steps to be taken. Thus far, these steps have been taken through initiatives to establish ethical principles for the adoption of socially beneficial AI. Among them, the five ethical principles for AI should be mentioned: beneficence, non-maleficence, autonomy, justice and explicability. See Neuwirth, R. J., *The EU Artificial Intelligence Act - Regulating Subliminal AI Systems*, Routledge, New York, 2023, p. 16.-17.

<sup>3</sup> REGULATION (EU) 2024/1689 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 June 2024, available on [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L\\_202401689#d1e3012-1-1](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401689#d1e3012-1-1) , 28.11. 2024.

<sup>4</sup> On 21 April 2021, the European Commission published its draft Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence, known in brief as the “Artificial Intelligence Act” (AIA). This draft is part of a broader effort of the European Union (EU) proactively to regulate and direct the development of new technologies in the present and the future. In 2016, a first important step was taken with the adoption of the EU's General Data Protection Regulation (GDPR). Aided by its extraterritorial effect, the GDPR has been described as a “law with powerful impact across multiple jurisdictions and continents”. Artificial Intelligence (AI) is a fast evolving family of technologies that can bring a wide array of economic and societal benefits across the entire spectrum of industries and social activities. By improving prediction, optimising operations and resource allocation, and personalising service delivery, the use of artificial intelligence can support socially and environmentally beneficial outcomes and provide key competitive advantages to companies and the European economy. Such action is especially needed in high-impact sectors, including climate change, environment and health, the public sector, finance, mobility, home affairs and agriculture. However, the same elements and techniques that power the socio-economic benefits of AI can also bring about new risks or negative consequences for individuals or the society. In light of the speed of technological change and possible challenges, the EU is committed to strive for a balanced approach. It is in the Union interest to preserve the EU’s technological leadership and to ensure that Europeans can benefit from new technologies developed and functioning according to Union values, fundamental rights and principles.

<sup>5</sup> Ultimately, the AIA first and foremost seeks to regulate high-risk AI systems that are already used or are likely to be used in the near future. In this regard the Act seeks consistency with existing EU legislation, such as, in particular, the EU Charter of Fundamental Rights, as well as secondary sources, such as GDPR and the Law Enforcement Directive. In terms of its purpose, the AIA identifies the following specific objectives: ensure that AI systems placed on the Union market and used are safe and respect existing law on fundamental rights and Union values; ensure legal certainty to facilitate investment and innovation in AI; enhance governance and effective enforcement of existing law on fundamental rights and safety requirements applicable to AI systems; facilitate the development of a single market for lawful, safe, and trustworthy AI applications and prevent market fragmentation. Divided into ten Titles, the Act first provides a list of useful definitions of the relevant concepts and clarifies the subject matter and scope of the new rules. See in detail Neuwirth, R. J., *op. cit.*, note 2, pp. 17.-26.

Despite its many strengths, the AI Act is rooted in a highly precautionary approach and a degree of skepticism toward technological advancement. This has resulted in a framework that can be characterized as bureaucracy-heavy, offering only limited protection of fundamental rights. Furthermore, its enforcement is anticipated to be fragmented, raising concerns about its practical implementation.<sup>6</sup> The AI Act is an extremely complex and nuanced regulatory framework, whose comprehensive representation would require a monographic scope, provoke abundant commentary, and has already been the subject of numerous brief descriptions. It adopts the authoritative form of a regulation rather than the more sovereignty-preserving structure of a directive. It binds both public and private AI use and establishes global ambitions with extraterritorial effects. Any AI system developed or trained anywhere in the world must comply with the AI Act's standards if it is to be made available in the European Single Market. According to Article 3(1) of the AI Act, an AI system is defined as: "A machine-based system designed to operate with varying levels of autonomy, capable of adaptation after deployment, deriving outputs such as predictions, content, recommendations, or decisions from received inputs to achieve explicit or implicit objectives, and potentially affecting physical or virtual environments." The AI Act employs a pyramid structure for risk categorization:

- Unacceptable Risks (Article 5): These are prohibited but may include significant exceptions
- High-Risk Systems: Encompass AI systems under EU product regulations (Annex I) and those in sectors like law enforcement, border control, health, education, and social services (Annex III). High-risk systems are subject to stringent regulatory requirements, including ex-ante conformity assessments and self-assessment protocols (Articles 6–27)
- Limited-Risk Systems: Trigger only transparency obligations (Article 50)
- Minimal-Risk Systems: Rely on codes of conduct and self-regulation (Articles 4, 95).

The need for specific AI regulations was obvious, especially with regard to liability issues, although in the drafting process of the AI Act expert groups have already made it clear that due to the new technologies, a complete reorganization of legal rules does not seem to be necessary.<sup>7</sup> Rather, the best possible application of AI for all the stakeholders should be the main focus of any discussion about the use of AI. Liability law is of central importance here, as the question of liability is an important risk management tool. Liability deficits or gaps caused by AI systems represents a form of mismanagement. In the controversial debates about the new technology in Liability law, one common denominator can usually be identified - the need for new regulations to make the best use of the technology.<sup>8</sup> All these issues counts even more so in the field of the Corporate Law, namely Corporate management. Due to rapid technological development, management decisions are increasingly being made with the involvement of artificial intelligence and computer algorithms. The interaction between decisions about algorithms and the corporate law framework therefore requires an in-depth legal analysis: Does existing corporate law respond to the challenges of digitization or is there a need for legislative adaptation?<sup>9</sup> Algorithms that merely implement or repeat commands/arithmetic processes specified by the programmer in a given order, i.e. that follow the basic system "input=output", are less controversial in comparison to so-called "self-learning" algorithms that can recognize regularities and patterns in large amounts of data (Big Data) and learn from data comparison (Machine Learning). The more extensive and high-quality the data material is and the more often the calculation process can be carried out, the more the algorithm "learns" from the

<sup>6</sup> Vasel, J. Sieben Sünden und Defizite europäischer KI-Regulierung, EuZW, 2024, p. 829

<sup>7</sup> Rostalski F.; Weiss, E., Der KI-Verordnungsentwurf der Europäischen Kommission, ZfDR, 2021, p. 332.

<sup>8</sup> Heiss, S., Europäische Haftungsregeln für Künstliche Intelligenz - Das ungelöste Problem reziproker Schadensfälle, EuZW, 2021, p. 932.

<sup>9</sup> Möslin, F., Digitalisierung im Gesellschaftsrecht: Unternehmensleitung durch Algorithmen und künstliche Intelligenz?, ZIP, 2018, p. 204.

repeated execution of the tasks and the respective feedback (success/failure). In this way, algorithms independently expand their wealth of knowledge and experience and can thus also achieve qualitatively better results or derive better forecasts for other data constellations based on the recognized patterns ("predictive analytics"). Here begins the peculiarity that the programmers, let alone the members of the corporate bodies, are no longer able, at least in part, to fully understand the processes that led to the results of the AI. This is likely to pose a legal problem. This form of algorithms already leaves the basic systematics of "input=output" and is referred to as "artificial intelligence".<sup>10</sup> Undoubtedly, any technological progress is to be welcomed. It is enough to recall the development of computers in the last 80 years, with the technology of computer data processing being used in the Second World War. Today, the following applies to the use of artificial intelligence in business management: Any means (algorithm) for data processing can be useful for business management. The uses of AI in corporate law are many, ranging from simply assisting in decision-making, to equal participation in a corporate decision-making body (management board), to sole decision-making authority in a company.<sup>11</sup> These possible applications result from the degree of development of the algorithm itself and the willingness of the company management to use it. The systems in question can be described as partially automated or fully automated (autonomous) systems. Like all previously existing forms of algorithms, partially automated systems simulate intelligent behavior, and they perform specific tasks for the user. They have a degree of intelligence that enables them to carry out their tasks partially autonomously, to learn and to interact with their environment in a meaningful way. The semi-automated AI system, which only provides information, does not make any decisions itself. His task is to offer the Executive Board the information he has collected and processed and/or the knowledge he has gained. The Executive Board can then make its decision on this basis. The final decision-making authority, ie the decision as to whether to consider or ignore the information or findings of the AI system, remains with them.<sup>12</sup> Fully automated/autonomous systems, on the other hand are able to use gained knowledge and convert it directly into action without management deciding on a case-by-case basis to apply or ignore the knowledge of the AI system. They are able to make decisions independently of external control or influence and implement them in the externally. The behavior of such systems is therefore neither fully predetermined nor predictable. In the following, AI systems that make decisions independently within a framework defined by the user (fully automated systems) are to be distinguished from those that, through independent learning and independent further development of algorithms, can ultimately override the predefined limits of the user (autonomous systems).<sup>13</sup>

## 2. LEGAL NATURE OF ALGORITHMS AND AI

Since algorithms or AI, regardless of their form, are obviously neither natural nor legal persons under current law and have neither claims nor rights, the "thing" or copyright "work" can be considered a legally provided category for legal registration. To the extent that algorithms or AI are stored or contained in a "thing," for example, some type of data carrier or other hardware up to and including an android, algorithms and AI and data carriers could potentially be considered a tangible thing. However, if one abstracts algorithms/AI, i.e., software, from such a data carrier, it lacks any "embodiment" and thus can no longer be classified as a thing.

<sup>10</sup> Lücke, O., op. cit., note 1, p. 1988.

<sup>11</sup> For more details see Braut Filipović, M.; Zornada, I. Umjetna inteligencija i pravo društava, in: Nove tehnologije i pravo društava / Barbić, J. (ed.). Zagreb: Hrvatska akademija znanosti i umjetnosti, 2022, pp. 215.-236. Also see Armour, J.; Eidenmüller, H., Selbstfahrende Kapitalgesellschaften?, ZHR, 2019, pp. 169.-190.

<sup>12</sup> Weber, R.; Kiefner, A.; Jobst, S., Künstliche Intelligenz und Unternehmensführung, NZG, 2018, p. 1132.

<sup>13</sup> See in detail European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)), [<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017IP0051>], Accessed on 25 April 2023.

Algorithms and AI (as such) are thus not "things" but can be assumed to be copyrighted works. 35 If there is an embodiment of algorithms or AI, such as an android, then algorithms and AI remain a copyrighted work and the "body" is just a thing. *De lege ferenda*, a new legal personality, a "digital person" or "e-person" would have to be created to give algorithms and AI an (at least partial) legal capacity and thus ensure participation in legal transactions. At the same time, legal certainty could be created for natural and legal persons in dealing with these new technological developments, which permeate not only economic life but also other areas of life.<sup>14</sup> If a formal appointment of algorithms or AI to the board member or management board member is therefore not possible, the question arises as to whether these digital "tools" can be integrated into the management of the company in another way and, if so, how. The question also needs to be clarified as to whether or not there is an obligation for board members to use algorithms or AI.

### **3. MANAGMENT OF THE COMPANY IN GENERAL**

The board of directors (the managment) is the mandatory organ of the company. This organ has the power to manage and represent the company. The management is expected to perform these duties with due diligence, i.e. the managment must conduct the affairs of the company with the diligence of a prudent and conscientious businessman and keep the company's business secret. This is a statutory standard of conduct which is given concrete content by case law. The term "management" or "management of the affairs of the company" includes the tasks which are assigned to it by law, but also includes all tasks which are not expressly assigned to the (General) Assembly and/or the Supervisory board of the company. In this sense, there are at least two groups of tasks that fall within the scope of managment. On the one hand, these are the tasks which the management has by virtue of the law or autonomous legal acts (articles of association/social contract, rules of procedure, management contract) and in which the management basically has no freedom of decision. On the other hand, their scope also includes tasks where there is no obligation to act in a precisely defined manner (subject to the limits set by the law or autonomous legal acts of the company), because there is more than one permissible way of acting or at least two possibilities: Doing or not doing. This would be the case, for example, in the case of acquisition of technical equipment serving the performance of the activity of this enterprise, or acquisition of shares of another enterprise. In such cases, the company management makes an entrepreneurial decision. The term "entrepreneurial decision" refers to the conclusion that the board of directors must make a formal decision, but such a decision does not have to be made, it is sufficient if a member of the board of directors consciously takes an action or does not do something. A feature of such decisions is their uncertainty, because only in the future will it become clear whether management's predictions about their effects are correct. Indeed, it is not possible to predict all macroeconomic factors influencing the decision (e.g. market and economic development, exchange rates, etc.), nor other circumstances specific to a particular company operating in a particular market (e.g. sales of certain products, question of technological development, etc.). Members of the boards of directors of corporations must analyze complex risks when making business decisions and are subject to strict, usually unlimited, liability to the corporation (and even to the corporation's creditors). Even economic science, which provides the members of this body with guidelines for action, does not help management in their business decisions, but adherence to these principles does not relieve them of their responsibility. A kind of paradox occurs in any entrepreneurial venture, but especially in those whose holders are corporations. On the one hand, the goal of the company is usually to make a profit; on the other hand, its members are not always willing to take risks to achieve this goal. Such an approach puts the management in

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<sup>14</sup> Lücke, O., op. cit., note 1, p. 1990.

a disadvantageous position, since it is expected to take due diligence measures that are not regulated in detail anywhere (heteronomous or autonomous legal sources), and on the other hand, if it fails to do so, it is liable to the company for the damage caused. It is difficult to imagine a company operating successfully and making profits without taking the (appropriate) risks.

### 3.1. Proper information basis for entrepreneurial decision

The basis of the entrepreneurial decision is first the creation of a sufficient factual basis. The decisive factor here is whether the management board was entitled to regard the information basis as adequate within the scope of its duty of care.<sup>15</sup> The management board is therefore obliged to exhaust all sources of knowledge available to it, although here too it must weigh up the costs and benefits of an extensive investigation of the facts. However, there is no situation in which all available sources of knowledge could actually be exhausted. The creation of an "appropriate information base" therefore requires a weighing of the costs and benefits of further information gathering comparable to the entrepreneurial decision. The facts about which the management board must obtain certainty also include, within the framework of the Companies Act, risks arising from Corporate Social Responsibility issues or sustainability risks such as climate change.<sup>16</sup> Above all, the urgency of a decision can play a significant role, so that the management board in given situation may limit information seeking process to just a summary review.<sup>17</sup> This issue is of particular importance insofar as the basis of corresponding information is obtained by self-learning algorithms: If it is possible to sift through extensive amounts of data (Big Data) using algorithms and thus support discretionary decisions, the management board is already obliged to do so on the basis of its duty of care. *De facto*, this leads to a comprehensive attribution of knowledge; on the other hand, however, advice provided by algorithms can also give rise to liability, provided that the automated mechanisms have previously performed reliably. Even though the reasonableness of information is an indeterminate legal concept and thus, at first glance, fully subject to judicial review, it must also be noted here that reasonableness always depends on the specific individual case and requires an *ex ante* assessment, in particular according to the standard that the management board could reasonably assume that the decision is reasonable in the sense of a prudent business manager. The duty to exhaust "all available sources of information", may therefore not be interpreted in such a way that literally all available information must be explored as this would create requirements that are too rigid to fulfill so the information collecting should be tailored to the requirements of the each case.<sup>18</sup> According to general principles, higher requirements are to be placed on a knowledgeable "professional" board member than on board members who are unfamiliar with the respective area of expertise. If the board member lacks his own expertise, he may have to have the information properly explained to him in order to be able to make an assessment. It is therefore not necessary to routinely obtain expert opinions or market analyzes. Rather, the basic principle of the Business Judgment Rule also applies here with regard to the assessment of what information is reasonably required for a decision. Depending on the importance of the decision, a broader information base will be required by law, which may also vary depending on whether the decision is a decision of the entire board or only the decision of

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<sup>15</sup> Kock, M.; Dinkel, R., Die zivilrechtliche Haftung von Vorständen für unternehmerische Entscheidungen - Die geplante Kodifizierung der Business Judgment Rule im Gesetz zur Unternehmensintegrität und Modernisierung des Anfechtungsrechts, NZG, 2004, p. 441.

<sup>16</sup> With more detail Barbić, J., Pravo društava, Društva kapitala, Vol. I., 5th Edition, Organizator, Zagreb, 2010, p. 790. and further. Also see Bachmann, G., Reformbedarf bei der Business Judgement Rule?, ZHR, 177, 2013, p. 10.

<sup>17</sup> Kock, M.; Dinkel, R., op. cit., note 15, p. 444.

<sup>18</sup> Noack, U., Organisationspflichten und -strukturen kraft Digitalisierung, ZHR, 183, 2019, p. 122.

a certain director in his field of responsibility.<sup>19</sup> Basically, a broad information base is always required for important strategic decisions. Information gathering can be delegated according to general principles, so that the original duty of action changes into a duty of supervision. On one hand, external expert opinions are helpful and must also be obtained when high-risk investment decisions are involved. On the other hand, such sources of information are not an absolute basis on which the board of directors may rely alone. Rather, it is up to the member of the board of directors to critically assess the results of the expert opinion, especially if the rating field in question is one in which the external experts have little experience over many years. This also results from the possible biased opinions, so that there can be no absolute trust in such information sources. This means that an expert opinion can only be a suitable basis for information if it has been independently reviewed again, at least to some extent.<sup>20</sup> Comparable criteria generally apply to the question of whether the involvement of third parties is necessary or whether the Management can rely on information from internal departments. As a rule, the Management can rely on the information provided by its own departments (principle of trust) as long as there are no indications of misjudgement or false information. In the case of newly established departments or newly recruited employees, the Board of Directors must naturally proceed more cautiously and carry out more frequent random checks and, if necessary, have the information verified by third parties if the significance of the measure or the information so requires. Similarly, the Board of Directors may call in expert third parties: The Board may rely on this if they have an appropriate reputation and trustworthiness, for example, in the context of previous engagements.

### **3.2. Issues of attribution of the conduct, knowledge or omission**

Commercial companies are bearers of rights and obligations and as such represent the unity of will and action, but it is clear that this is realized through the company's organs. In connection with the discussion of the way in which a legal entity manifests its will (but causes damage to third parties), the concept of imputation of the conduct, knowledge or omission of a member of its organ to the company is regularly mentioned. This issue is of fundamental importance, as it is necessary to examine how a legal entity expresses its will, takes cognizance of certain facts (acquires knowledge), and how it performs actions that produce legal effects. All this is achieved by the legal person through its members, organs or various agents. For example, If the managing director who performs legal acts as a member of the company's body has not acted in accordance with the principles of conscientiousness and honesty, the question arises whether it is a valid acquisition. If the managing director, contrary to the principles of conscientiousness and honesty, conducts negotiations in the name and on behalf of the company, without the intention of concluding a contract, it is necessary to consider whether the negotiations give rise to liability for the company. Company, like any natural person, may determine who their authorized representatives are, but the company cannot escape its own responsibility merely by the fact that there is an authorized representative as a legal entity separate from the company. Depending on the legal structure of the company, it may have several bodies with different powers, so there will regularly be a body that conducts the company's business (management), a body that decides, i.e. in which the will of the company is formed (assembly) and possibly a body that supervises the management (supervisory board). There is no commercial company for which the legislator has not regulated the issue of management and representation. The necessity of the existence of a body that manages the business and represents the company is not only a matter of legal system, but one of the most important provisions for commercial companies.

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<sup>19</sup> The Change of perspective on the management board from its point of view at the time is required. Thole, C., *Managerhaftung für Gesetzesverstöße*, ZHR, 173, 2009, p. 524.

<sup>20</sup> Kock, M.; Dinkel, R., op. cit. note 15, p. 444.

In this sense, it is clear that the concept of legal entity is always connected with the question of attributing to this company the behavior, characteristics and knowledge of natural persons who represent the company or who represent it. The basic question is whether the legal effects of certain norms can be attributed to a legal subject who is not their addressee, as if they were a consequence of his legal acts and omissions. A unified and comprehensive definition of this concept is not possible for two reasons: first, the circumstances leading to attribution can be found in different areas of law, such as civil, criminal and administrative law; second, many things can be attributed to a subject (behavior, knowledge, actual decision-making power, shares of the dependent company, workers employed in the dependent company, etc.). Attribution is a legal technique by which, in a specific case, the legal effects of a norm are extended beyond the circle of its addressees.<sup>21</sup> The legal effects occur when certain conditions of the facts are met. If the legal entity has not fulfilled these conditions, no legal effects occur for it (a person who has not concluded a purchase agreement or on whose behalf another person has concluded the agreement is not obliged to pay the agreed price). This rule does not apply if the legal entity fulfills these conditions indirectly, e.g. if they are fulfilled by another legal entity that has a legal representative relationship with it.<sup>22</sup> Thus, it is conceivable that another legal entity itself fulfills the missing constituent element. It is also possible that the other subject does not fulfill these facts alone, but that both subjects fulfill them together. In this case, a distinction must be made between the norm to which something is added, attributed (referred norm) and the norm that makes the attribution possible (attribution norm).<sup>23</sup> The fact that the legal effects of a norm affect a legal subject that has not fulfilled its factual prerequisites requires a substantive legal justification. There must be a legal basis for the imputation in order to justify it. It is not sufficient to plead that one legal entity is responsible for another. In most cases, this responsibility is only a legal consequence of the application of the attribution norm, not its justification. First of all, it is necessary to ask why there is a responsibility. The legal basis for attribution may be, for example, a power of attorney to represent the company. Abuse of rights is not necessarily a presumption of attribution. In this case (meaning), the (legal) basis must be distinguished from the purpose of attribution. The purpose of any legally permissible attribution is to enable the application of a blanket (indicative) norm. Thus, the attribution norm is the basis for the application of the reference norm. Instead of the managing director, the will of the company may be expressed by authorized representatives of the company, such as the authorized signatory and the commercial agent. All declarations of intent made by the aforementioned persons within the scope of their legal powers are attributed to the company. The problem of attribution is not limited to the issue of declaration of intent, but is also discussed in connection with other actions and relationships of the managing director, e.g. when the conduct of the managing director causes damage to third parties.<sup>24</sup> Here the proper question is could the AI be the agent (representative) of the company. At first glance, there appears to be an easy way to solve the problems associated with AI by using the equality argument as a basis to solve the problems associated with AI in order to put technically autonomous acting agents on the same level as human agents. This would remove an intermediate link in the chain of attribution and, at least as a possible first impression, the connection to the case law on knowledge responsibility with its ramifications "duty to retain information" and "duty to retrieve information on an ad hoc basis" in and from a knowledge repository. If AI were to be granted the status of a "knowledge agent," its knowledge, however defined, would be attributable to the legal entity utilizing it under the direction of its management.

<sup>21</sup> Bork, R., Allgemeiner Teil des bürgerlichen Gesetzbuchs, Mohr Siebeck, Tübingen, 2006, Rdnr. 1322, p. 501.

<sup>22</sup> See art. 309 of the Croatian Law on obligations ("Narodne novine" br. 35/05., 41/08., 125/11., 78/15., 29/18., 126/21., 114/22., 156/22.; further: CLO ).

<sup>23</sup> Bork, R., op. cit., note 21, p. 502.

<sup>24</sup> Barbić, J., op. cit., note 16, p. 326.



However, even proponents of granting AI the status of a knowledge agent must confront several unresolved issues, including the extent of AI's equivalence to natural persons, the distribution of risks in legal transactions, and the balance of advantages and disadvantages inherent in data processing systems. When considering AI as a representative of knowledge, a key challenge is determining the extent to which the data it records and generates can be considered its "knowledge" and establishing the principles for organizing and retrieving this information. For now, the question of whether AI can or should be classified as a "knowledge agent" under traditional legal concepts remains open for debate.<sup>25</sup>

#### **4. LIABILITY ISSUES CONCERNING THE USE OF AI IN MANAGEMENT**

In view of the enormous data processing capacities of autonomous software agents, it seems worth considering whether the board member only acts on an appropriate basis of information if he uses the services of a corresponding artificial intelligence. The decisive factors are the circumstances of the individual case, namely the nature of the company's purpose and the importance of the decision in question. In any case, the use of artificial intelligence is recommended, especially for complex forecasting or analysis decisions.<sup>26</sup> It is important for the Management Board to keep an eye on technical developments and the establishment of (industry-specific) market standards.<sup>27</sup> With regard to the assumption of a corresponding obligation, however, caution is required in view of the entrepreneurial discretion of the board of directors. This also applies to the fact that the legislature did not want to establish any obligation to safeguard business decisions "by routinely obtaining expert opinions, consultant opinions or external market analyses".<sup>28</sup> If one pictures the replacement of a person with legal capacity with the AI system, the delegation of information procurement would be permissible without any problems. Pursuant to art. 240. CCA, the Management Board is responsible for managing the company's business.<sup>29</sup> However, it is entitled to delegate management tasks horizontally, i.e. to one of several members of the Executive Board, and vertically, i.e. to subordinate employees. Management is initially understood to mean any actual or legal activity for the Company. Management tasks, on the other hand, cannot be delegated, with a few exceptions. Management is a prominent part of the management assigned to the Executive Board. In particular, this includes fundamental decisions, target concepts, management principles and the organization and business policy of the company. Deciding whether to incorporate AI into company operations is increasingly recognized as a core management responsibility. While the board of directors may delegate preparatory and operational tasks to others, ultimate decision-making authority must remain with the board. If AI systems perform tasks intelligently and semi-autonomously for the user, they ultimately replace the person who procures the information. But then there is nothing to prevent the principles developed for delegation from also being applied to them in areas of digital delegation. The lack of legal capacity of the AI does not stand in the way of this. It is not a question of fault on the part of the AI system, but of the duties of the board itself. In general, the mere procurement of information by means of semi-automated systems, irrespective of whether the system is used to prepare an executive or management task, is in principle not objectionable.

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<sup>25</sup> The Hamm Higher Regional Court has already chosen this path for conventional computers, classifying them as knowledge agents. There are similar proposals for AI in the literature, qualifying them in any case as a separate subject of knowledge attribution. See in detail Kuntz, T., Künstliche Intelligenz, Wissenszurechnung und Wissensverantwortung, ZfPW, 2022, p. 192.

<sup>26</sup> See Lücke, O., op. cit., note 1, p. 1991.

<sup>27</sup> See Noack, U., op. cit., note 18, p. 121. and further.

<sup>28</sup> Cf. Becker, M.; Pordzik, P., Digitalisierte Unternehmensführung, ZfPW, 2020, p. 347.

<sup>29</sup> Compare with § 77 of the German Stock Corporation Act. "Aktiengesetz vom 6. September 1965 (BGBl. I S. 1089), das zuletzt durch Artikel 7 des Gesetzes vom 22. Februar 2023 (BGBl. 2023 I Nr. 51) geändert worden ist" (AktG), [<https://www.gesetze-im-internet.de/aktg/BJNR010890965.html>], Accessed 25 April 2023.

In addition to the possibility of delegating management tasks to subordinate persons or external service providers, the question of so-called management-supporting autonomous systems is increasingly arising. The Vital Algorithm ("Validating Investment Tool for Advancing Life Sciences"), elected to the board of Deep Knowledge Ventures, a Hong Kong venture capital firm, according to the business press, has also raised the question in stock corporation law of whether artificial intelligence (AI) can be integrated into the corporation to support its management.<sup>30</sup> Autonomous systems are interesting assistance tools for corporate governance (at least for the future) due to their ability to perform certain tasks and make independent decisions without human interaction on the one hand, and to search and analyze large amounts of data that cannot be handled manually (Big Data Analytics) on the other hand. For example, M&A transactions can be assessed autonomously and the analysis result of computer-aided due diligence can be used as a basis for decision-making. Similarly, information-gathering systems that collect raw data are conceivable, as are analysis and forecasting systems that enable the management board to make an algorithm-based assessment. Many lending and financing institutions already make their investment decisions using algorithmic analysis. Finally, within the limits of what is objectively reasonable, the board of directors has the duty to ensure ongoing control and thus to ensure the proper performance of its duties. The degree of control required is measured according to various parameters, namely the nature and importance of the task assigned, the size and organization of the company, and the degree of legal regulation in this area. The necessary intensity of control also corresponds to the personal circumstances: it decreases with increasing duration of error-free, trusting cooperation. In addition, there is a reduced control density for more highly qualified agents and an increased control density for less qualified agents. If there is a suspicion of a breach of duty, the management is obliged to investigate immediately. In addition, random checks are required.<sup>31</sup> In the case of autonomous software being used as agent of the company, the duty to supervise therefore requires organizational precautions to prevent misconduct. It is only a matter of internal liability vis-à-vis the company and thus of protecting the shareholders, who could possibly benefit from an increased willingness to take risks on the part of the (autonomous software) agent and are therefore only worthy of protection to a limited extent. Against the background that the provision was created for a narrowly limited scope of application to combat an acute grievance, the comparability of interests required for an analogy must therefore be rejected.<sup>32</sup> Nevertheless, the criteria set out in this standard can serve as a guide for determining the organizational duties of the board of directors. For example, it goes without saying that the board of directors must ensure the continuous functioning of the autonomous software agents and, in particular, their protection against (cyber) attacks by third parties. In addition, emergency precautions must be taken in the event of technical malfunctions. There are also documentation requirements to make external changes to the algorithm transparent. On the other hand, the isolated assertion that the management board must ensure that the functioning of the autonomous software agent is documented is incorrect. Since the management board cannot comprehend the inner thought and decision-making process of human employees, it is also obliged when using autonomous software agents to regularly check the plausibility of the results, but not the plausibility of the derivation. Against this background, the postulation of further requirements does not seem appropriate. In addition to the technical aspects, the legal compliance of autonomous software agents must also be ensured. Last but not least, this is a specific manifestation of the board's general duty of legality. The management board is obliged to check the output of the autonomous software agent for legal conformity.

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<sup>30</sup> Armour, J.; Eidenmüller, H., op. cit., note 16, p. 170.

<sup>31</sup> Becker, M.; Pordzik, P., op. cit., note 28, p. 351. and further.

<sup>32</sup> Zetzsche, D., *Corporate Technologies – Zur Digitalisierung im Aktienrecht, Die Aktiengesellschaft (AG)*, vol. 64, no. 1-2, 2019, pp. 1-17.

No increased requirements are placed on its monitoring duty compared to the monitoring of human employees. The management board can delegate this monitoring task to subordinate employees who specialize in it according to the established principles. Due to the required expertise, this is often advisable. However, there remains an obligation to monitor and supervise the whole process. This can be assigned to a board member as a departmental task within the board.<sup>33</sup> However, corporate compliance as such always remains the overall responsibility of the board of directors. In individual cases, the obligation to take such an organizational measure can be derived from Law.<sup>34</sup> Until now, it was taken for granted that AI does not decide itself at the management level, but prepares. The board decides on the M&A transaction, the AI provides it with the material. But at the lower management level, AI-assisted decisions sometimes seem like management actions. Modern algorithms influence business operations and strategy. For instance, an AI system might autonomously adjust pricing strategies based on market trends or optimize production schedules to respond to fluctuating demand, demonstrating AI's capacity to shape corporate policy. Production capacity is adjusted dynamically based on various factors, such as market demand, resource availability, and seasonal trends. This process can influence strategic decisions, including site selection. Additionally, AI systems autonomously identify and choose business partners, such as suppliers, without requiring direct human intervention. In such cases, management initiates a process that it does not control at a granular level or oversee entirely but instead defines the overarching goals. In antitrust discussions, AI systems are often linked to market participants collaboratively creating and enforcing pricing strategies. When these systems are used to technically implement collusion, human involvement can be identified, making such actions prosecutable under antitrust law. However, AI systems may independently evolve to form cartels autonomously, without explicit direction from management, raising complex legal and ethical concerns.<sup>35</sup> The relative autonomy of AI introduces complex questions of responsibility that extend beyond corporate law. While it seems clear that those initiating such processes should bear responsibility under a strict liability model, this approach is not always reasonable or legally straightforward. Although this broader debate remains outside the scope of this discussion, it raises significant issues about internal obligations. Within the framework of national corporate law, a key question emerges: to what extent can the board of directors delegate managerial tasks without relinquishing control? It is evident that "business policy" remains firmly within the board's purview. This encompasses setting strategic objectives in areas such as market positioning, product development, financial planning, investment strategies, and personnel management, along with implementing the measures needed to achieve these goals.<sup>36</sup> Based on this reasoning, autonomous algorithms that independently dictate business policy could be deemed illegal if they fail to guarantee that the Board of Directors retains final decision-making authority. This scenario becomes particularly problematic if the board neither sets the program's objectives nor retains the ability to intervene, effectively leaving the AI in control. In such a case, the AI would operate as the true decision-maker, reducing the board to a formal entity fulfilling the legal requirement of being composed of natural persons. However, this does not reflect the current reality or foreseeable future. When the board ensures that the program is thoroughly tested, periodically reviewed, recalibrated if necessary, and its outputs are approved, its sovereignty is preserved. Delegated decision-making authority allows the AI to function autonomously within defined parameters.

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<sup>33</sup> Harbarth, S., Anforderungen an die Compliance-Organisation in börsennotierten Unternehmen, ZHR, 179, 2015, p. 162.

<sup>34</sup> See for example art. 240. and 252. CCA.

<sup>35</sup> Noack, U., op. cit., note 18, p. 121.

<sup>36</sup> Weber, R.; Kiefner, A.; Jobst, S., op. cit., note 12, p. 1134.

In essence, this arrangement is comparable to a biotech company delegating product development to a team of human experts, where the board trusts their expertise while maintaining oversight and ultimate responsibility. The Board can and often does place trust in selected experts, even when it cannot fully comprehend their thought processes or ideas.<sup>37</sup> Examining this structural distribution of responsibility reveals that it should make no substantive difference whether a task is carried out at a sub-management level by an autonomously acting human or an autonomously acting algorithm. Differentiating between the two is unnecessarily dismissive of technological progress. After all, we cannot access or fully understand the inner workings of the human mind, yet this lack of transparency has not been viewed as a significant issue thus far. Similarly, the Board of Directors is not required to explain to the supervisory board the exact thought processes of an employee, nor should it be expected to elucidate the detailed workings of an AI system's neural network.

## 5. CONCLUSION

The Management Board is undoubtedly permitted to delegate tasks, within certain limits, to both subordinate levels and external third parties. This principle equally applies to the use of autonomous systems, such as algorithms. For instance, when the board entrusts external parties with preparing decisions, it typically has no control over whether these parties rely on algorithms in their work. Similarly, the use of technical aids, such as calculators or Excel spreadsheets, has long been accepted; the increased complexity of intelligent systems should not preclude their adoption. The use of AI, even in black-box form, does not inherently violate the principle of untransferable managerial authority. Instead, the focus shifts to whether AI is used responsibly, with sufficient oversight and alignment with corporate governance standards. Decisions whose underlying reasoning cannot be fully understood by board members do not necessarily constitute a transfer of authority but may breach duties of care if deployed without appropriate safeguards. Management-supporting autonomous systems should therefore be seen as tools that enhance decision-making by providing better, data-driven insights. Nonetheless, the ultimate responsibility and authority for final decision-making remain firmly with the Management Board. The board must recognize the inherent risks associated with AI and approach its use with caution. To exercise final decision-making authority effectively, board members should possess at least a basic understanding of the technology and a fundamental grasp of how algorithmic decisions are derived. While AI can offer valuable insights, the board must independently verify the analysis results rather than relying on them uncritically. The "black box" problem, which highlights the opacity of AI decision-making processes, must be addressed to ensure transparency and accountability. Despite these challenges, the board retains ultimate responsibility for company management and must uphold the standard of a prudent and conscientious businessperson. Expecting the board to fully comprehend every detail of a neural network's processes to avoid liability is unrealistic. Similar to how the board is not expected to understand every nuance of an external expert's opinion.

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<sup>37</sup> If, for instance, an algorithm is used to pre-select job applicants and it results in only younger candidates being invited for interviews, thereby disadvantaging other qualified applicants, the management board is not required to explain in detail to the supervisory board the specific algorithmic calculations that produced this outcome. Similarly, the board would not need to dissect the thought processes of a human employee, who, like AI, operates as a "black box," with their internal reasoning inferred from external actions, if they had demonstrated similar discriminatory behavior. The critical issue lies in the evident misconduct and the board's institutional responsibility to enforce compliance with legal standards. This includes explaining the organizational failures that allowed such an error to occur: Was the employee or algorithm selected and implemented through a rigorous and appropriate process? Were their outputs effectively monitored and controlled? Furthermore, the board must demonstrate that it has taken corrective measures to prevent similar instances of discrimination in the future or, at the very least, to detect such issues more promptly. See in more detail Linardatos D., *Künstliche Intelligenz und Verantwortung*, ZIP, 2019, 504-509.

However, the relative autonomy of AI introduces complex questions of responsibility that extend beyond corporate law. Responsibility for initiating and overseeing such processes logically rests with those who set them in motion, often invoking a strict liability model. Yet, this approach is not always reasonable or legally clear-cut. These issues reflect a broader, ongoing debate surrounding the legal and ethical implications of AI, many of which remain unresolved. In that sense, while the AI Act represents a pioneering regulatory framework, its ability to achieve the goals proclaimed by the Commission remains uncertain. Key concerns include the feasibility of enforcing its extraterritorial provisions, the adaptability of its risk-based framework to rapidly evolving AI technologies, and its potential impact on innovation in the AI industry.

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# ANALYSIS OF EMOTIONAL INTELLIGENCE (EI) IN INFORMATION TECHNOLOGY (IT) PROJECT MANAGEMENT

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## **ABSTRACT**

*The research focuses on the application of emotional intelligence (EI) in information technology (IT) project management, with particular emphasis on self-awareness, self-management, social awareness, and relationship management. The problem lies in the lack of information on how ITT project managers use EI in practice. The aim of the research was to analyze how these constructs are applied in various aspects of project management. A qualitative approach was used, with interviews conducted with 16 IT project managers who have at least 5 years of experience. The results showed that project managers effectively use EI to improve team cohesion, resolve conflicts, and maintain productive relationships, which positively affects project outcomes. The research highlights the importance of recognizing and teaching EI within organizations and project management in general.*

**Keywords:** *emotional intelligence (EI), IT project management, self-awareness, self-management, social awareness, relationship management.*

## **1. INTRODUCTION**

The recent research underscores the growing importance of "soft skills," particularly emotional intelligence (EI), in project management (El-Sabaa, 2001; Zhang & Fan, 2013; Livesey, 2017). EI has been linked to improved team cohesion (Prati et al., 2003; Trejo, 2014), communication (Sunindijo et al., 2007; Troth et al., 2012), productivity (Koman & Wolff, 2008; Chang et al., 2012), project success (Rezvani et al., 2020; Khosravi et al., 2020; Montenegro et al., 2021), creativity (Rego et al., 2007), reduced burnout (Zhang et al., 2020), and decreased workplace bullying (Hutchinson & Hurley, 2013; Sheehan, 1999). EI involves competencies for assessing and managing one's own and others' emotions (Salovey & Mayer, 1990). Core components include self-awareness, self-management (e.g., emotional control, stress reduction), social awareness (e.g., empathy, emotion recognition), and relationship management (e.g. conflict resolution, communication) (Zhang & Fan, 2013; Koman & Wolff, 2008; Goleman & Boyatzis, 2017; Project Management Institute, 2021). However, gaps remain in understanding how project managers use EI in practice-such as how they recognize and manage their own emotions, set goals, maintain motivation, regulate emotions, and apply empathy and communication skills in leadership and conflict management. This lack of clarity highlights the need for further exploration of how EI frameworks are operationalized in project management contexts.

## **2. THEORETICAL OVERVIEW**

### **2.1. Emotional intelligence (EI)**

EI refers to the abilities to understand, express, and manage one's own emotions and the emotions of others. The foundation was first laid by Thorndike (1920) with the concept of social intelligence, while Salovey and Mayer (1990) formalized the term EI as a subset of social

intelligence. Their model includes four key abilities: perceiving, integrating, understanding, and managing emotions. Goleman (1995) defines EI as a set of skills essential for successful interpersonal relationships and professional communication, while Bar-On (2006) emphasizes the connection between emotional and social competencies. All definitions highlight the importance of recognizing emotions, controlling impulses, and making decisions based on emotional information, which contribute to success in personal and professional relationships.

## 2.2. Emotional intelligence (EI) frameworks

The EI framework, according to Salovey and Mayer (1990), is considered as a set of skills that promote appropriate self- and other-emotional awareness and management. Several dimensions or clusters that are essential to developing “optimal” EI are typically included in these frameworks. As it seems, there is no one widely accepted framework for EI research, although many have been proposed (Zhang & Fan, 2013; Livesey, 2017; Koman & Wolff, 2008; Wong & Law, 2002; Mersino, 2007; Maqbool et al., 2017; Zhang et al., 2018; Pekaar et al., 2018; Project Management Institute, 2021). According to Ciarrochi et al. (2000), most EI models have common aspects and tend to be complementary rather than incompatible. The related relevant EI constructs were found through a thorough analysis of the literature, and the framework developed by Camplisson & Cormican (2023) most closely integrates the latest research. It involves particular abilities and competencies and is comprised of four key identified constructs: *relationship management*, *social awareness*, *self-awareness*, and *self-management*. The named framework is explained concisely by authors as enclosed in Table 1.

Component	Description	Key Skills/Components
<b>Self-management (SM)</b>	<i>Intrapersonal Action:</i> Focuses on how individuals act upon their own emotions.	1. <i>Using one's emotions internally:</i> Leveraging emotions to drive decision-making and focus. 2. <i>Self-motivation:</i> Maintaining internal drive to achieve goals. 3. <i>Self-control:</i> Managing impulses and emotional reactions. 4. <i>Optimism:</i> Adopting a positive outlook in challenging situations. 5. <i>Regulating emotions:</i> Balancing emotional responses for productivity and well-being.
<b>Relationship Management (RM)</b>	<i>Interpersonal Action:</i> Concerns how individuals use emotions to interact effectively with others.	1. <i>Conflict management:</i> Resolving disputes constructively. 2. <i>Leadership:</i> Inspiring and guiding teams through emotional influence. 3. <i>Showing emotions:</i> Expressing feelings appropriately. 4. <i>Influencing:</i> Persuading and motivating others. 5. <i>Communication:</i> Clearly conveying thoughts and emotions. 6. <i>Using emotions in relationships:</i> Strengthening connections through emotional intelligence.
<b>Self-awareness (SA)</b>	<i>Intrapersonal Awareness:</i> Focuses on recognizing and understanding one's own emotions.	1. <i>Knowing one's emotions:</i> Identifying emotional states and their effects. 2. <i>Self-recognition:</i> Gaining insight into emotional patterns. 3. <i>Ability to set targets:</i> Setting goals aligned with emotional and cognitive capacities. 4. <i>General mood:</i> Understanding and managing overall emotional climate. 5. <i>Opinion on emotions:</i> Forming perspectives on emotions. 6. <i>Feeling emotions:</i> Acknowledging and accepting emotional states.
<b>Social Awareness (SOA)</b>	<i>Interpersonal Awareness:</i> Relates to understanding others' emotions and social dynamics.	1. <i>Knowing when to use/discuss emotions:</i> Timing emotional expressions appropriately. 2. <i>Empathy:</i> Recognizing and relating to others' emotions. 3. <i>Recognizing emotions in others:</i> Identifying and interpreting emotions in colleagues, team members, or peers.

Table 1: EI framework according Camplisson & Cormican (2023) - Source: Authors interpretation



Based on above, this research aims to address a set of research questions grounded in the identified problem and the overarching research subject. Thus, the main **research questions** (RQs) are formulated as enclosed:

- **RQ1:** In the context of *self-awareness*, how do project managers recognize and understand their own emotions, set realistic goals, and maintain a balanced emotional state?
- **RQ2:** In the context of *self-management*, how do project managers sustain their motivation, exercise self-control, foster optimism, and regulate their emotions effectively during the course of project management?
- **RQ3:** Regarding *social awareness*, how do project managers demonstrate empathy, recognize emotions in others, and determine the appropriate context for discussing and utilizing emotions?
- **RQ4:** Under the domain of *relationship management*, how do project managers address conflict resolution, uphold leadership, maintain effective communication, and leverage emotions in fostering productive relationships?
- **RQ5:** To what extent are project managers aware of their use of EI in managing projects?

The research output is expected to deepen the understanding of how EI factors into effective project management practices.

### **3. EMPIRICAL RESEARCH**

#### **3.1. Research design/Methodology approach**

In the empirics is applied a qualitative research approach, utilizing primary data gathered in April 2024 through in-depth interviews with project managers. Named data collection method provided a deeper understanding of their responses to specific challenges, situations, and opportunities.

Regarding *the respondent selection*, the primary criteria for selecting participants were that they must have at least five years of experience as project managers in the IT sector, and only one respondent per organization was allowed to ensure diversity of perspectives. Before participating, interviewees were informed about the research's purpose as well as that their responses would remain anonymous and be used solely for the study's empirical analysis.

In terms of *interview design and structure*, the study utilized structured interview with pre-designed questions presented uniformly to all participants. Although the interview questions were framed within a specific structure and included clarifications where needed, they also allowed participants the flexibility to elaborate on their thoughts. The interviews comprised 15 questions (Q1-Q15) initially based on Camplisson & Cormican (2023) EI framework, and conceptually aligned with main research questions (RQ1-RQ5).

#### **3.2. Characteristics of the sample**

The sample of 16 participants (87.5% men, average age 39.1 years) had diverse IT project management experience: 50% with 5–10 years, 31.25% with 10–15 years, and 18.75% with 15+ years. Roles included 56.25% senior project managers and 25% middle managers. Participants worked in micro (6.25%), small (25%), medium (37.5%), and large (31.25%) companies. Educational backgrounds were 6.25% natural sciences, 50% technical sciences, and 43.75% social sciences. PMP® certification was held by 37.5%. Academic qualifications of participants were varied, with most participants (75%) holding Master's degrees in fields such as Economics, Engineering, and Mathematics. Regarding professional certification, 31% participants possessed the prestigious Project Management Professional (PMP)® certification.

This diverse group provided a rich foundation for examining the role of EI in IT project management.

### 3.3. The research findings

The data collected from respondents were analyzed, i.e. categorized by each research questions (RQs), systematically summarized, and clearly presented (with related *as-is* in-depth interview questions) as enclosed in Table 2.

<i>RQs</i>	<i>Question(s)</i>	<i>Responses /analyzed and summarized</i>	<i>No</i>
<b>RQ1</b>	<b>Q1. How do you recognize and understand your own emotions during project management?</b>	<b>Emotion Control:</b> Manage emotions with techniques like meditation and reflection.	<b>7</b>
		<b>Professionalism:</b> Keep emotions separate from decisions.	<b>5</b>
		<b>Self-awareness:</b> Understand and adapt to emotional changes.	<b>4</b>
		<b>Growth:</b> Improve emotional skills through experience.	<b>4</b>
		<b>Teamwork:</b> Discuss emotions to strengthen collaboration.	<b>3</b>
	<b>Q2. How do you set realistic goals for yourself in the field of project management?</b>	<b>Thorough Assessment:</b> Analyze resources, risks, and constraints using data and team input.	<b>7</b>
		<b>Tools &amp; Techniques:</b> Use methods like PERT, MOSCOW, Gantt charts, and SMART criteria.	<b>6</b>
		<b>Team Collaboration:</b> Base estimates on team insights and experience.	<b>6</b>
		<b>Historical Data:</b> Leverage past project data for realistic planning.	<b>4</b>
		<b>Reserves:</b> Include time and resource buffers for adaptability.	<b>3</b>
		<b>Flexibility:</b> Adjust goals as new information arises.	<b>3</b>
	<b>Q3. How do you keep your spirits up while managing projects?</b>	<b>Motivated Team:</b> Boosts moods and performance.	<b>4</b>
		<b>Positive Mindset:</b> Focus on solutions, especially in challenges.	<b>4</b>
		<b>Work-Life Balance:</b> Relaxation and family reduce stress.	<b>4</b>
		<b>Proactive Thinking:</b> Solve problems to stay positive.	<b>3</b>
		<b>Humor:</b> Lighten tension with camaraderie.	<b>2</b>
		<b>Support:</b> Open communication helps manage stress.	<b>2</b>
<b>RQ2</b>	<b>Q4. How do you keep yourself motivated in the field of project management?</b>	<b>Goal Setting:</b> Align goals with values and achieve them incrementally.	<b>7</b>
		<b>Continuous Learning:</b> Reflect on past projects to stay motivated.	<b>5</b>
		<b>Positive Environment:</b> Foster trust, communication, and team bonding.	<b>5</b>
		<b>Work-Life Balance:</b> Prioritize personal life and stress reduction.	<b>3</b>
		<b>Incentives:</b> Motivation through rewards and bonuses.	<b>2</b>
		<b>Positive Mindset:</b> Use optimism and stress management for energy.	<b>2</b>
		<b>Result-Driven Inspiration:</b> Find motivation in successful outcomes	<b>2</b>
	<b>Q5. How do you maintain self-control while working on projects?</b>	<b>Objectivity:</b> Stay calm with active listening and constructive solutions.	<b>4</b>
		<b>Experience:</b> Develop self-control by learning from conflicts.	<b>3</b>
		<b>Breaks:</b> Use physical and mental breaks for clarity.	<b>3</b>

		<i><b>Emotional Detachment:</b> Focus on goals by disengaging emotions.</i>	<b>2</b>
		<i><b>Professionalism:</b> Understand clients to avoid conflicts.</i>	<b>2</b>
		<i><b>Self-Improvement:</b> Build self-control through reflection.</i>	<b>2</b>
		<i><b>Reminders:</b> Use notes to stay calm and objective.</i>	<b>1</b>
		<i><b>Tolerance:</b> Maintain composure under stress to support the team</i>	<b>1</b>
	<b>Q6. How do you maintain optimism in the world of project management?</b>	<i><b>Team Support:</b> Recognize contributions and foster positivity.</i>	<b>5</b>
		<i><b>Clear Calmness:</b> Communicate transparently to avoid conflicts.</i>	<b>4</b>
		<i><b>Optimism:</b> Stay positive and inspired through challenges.</i>	<b>4</b>
		<i><b>Growth Focus:</b> Find positives in difficulties.</i>	<b>3</b>
		<i><b>Learn from Failures:</b> Turn mistakes into lessons.</i>	<b>2</b>
		<i><b>Thorough Planning:</b> Define goals and address risks proactively.</i>	<b>2</b>
		<i><b>Confidence in Experience:</b> Rely on past successes and data.</i>	<b>1</b>
		<i><b>Avoid negativity:</b> Use humor to uplift and stay positive</i>	<b>1</b>
	<b>Q7. How do you regulate your own emotions during project management?</b>	<i><b>Active Listening:</b> Resolve conflicts through understanding and reasoned one-on-one talks</i>	<b>4</b>
		<i><b>Emotional Control:</b> Use meditation, music, and mental exercises to manage triggers.</i>	<b>3</b>
		<i><b>Objectivity:</b> Distance from emotions to assess situations rationally.</i>	<b>3</b>
		<i><b>Pattern Recognition:</b> Identify and channel emotions positively for the team.</i>	<b>3</b>
		<i><b>Calming Techniques:</b> Use pauses and deep breathing for clarity.</i>	<b>2</b>
		<i><b>Positive Thinking:</b> Reshape negativity and avoid distortions.</i>	<b>2</b>
		<i><b>Professionalism:</b> Focus on goals, setting emotions aside when needed.</i>	<b>2</b>
		<i><b>Humor:</b> Use humor to reduce stress and foster positivity.</i>	<b>2</b>
<b>RQ3</b>	<b>Q8. How do you show empathy to project participants?</b>	<i><b>Active Listening:</b> Understand team needs without rushing to solutions.</i>	<b>6</b>
		<i><b>Personal Conversations:</b> Tailor support through one-on-one discussions.</i>	<b>4</b>
		<i><b>Trust Building:</b> Foster openness with communication and transparency.</i>	<b>3</b>
		<i><b>Assertiveness:</b> Validate emotions and collaborate on solutions.</i>	<b>2</b>
		<i><b>Proactive Solutions:</b> Address issues early to sustain relationships.</i>	<b>2</b>
		<i><b>Support:</b> Stay available for help and feedback.</i>	<b>2</b>
		<i><b>Non-Verbal Cues:</b> Use gestures and expressions to enhance understanding.</i>	<b>1</b>
		<i><b>Project Adaptation:</b> Align activities with stakeholder needs empathetically.</i>	<b>1</b>
	<b>Q9. How do you recognize the emotions of project participants?</b>	<i><b>Active Listening:</b> Focus on verbal expressions to identify emotions.</i>	<b>5</b>
		<i><b>Communication:</b> Observe verbal and non-verbal cues like body language and tone.</i>	<b>5</b>

		<b>Direct Questions:</b> Ask directly to understand emotions and needs.	<b>3</b>
		<b>Experience:</b> Use intuition from experience to detect emotions.	<b>3</b>
		<b>Relationships:</b> Build trust for open emotional expression.	<b>2</b>
		<b>Empathy:</b> Understand emotions through empathy and motives.	<b>1</b>
		<b>Technology:</b> Use cameras to capture emotional cues online.	<b>1</b>
	<b>Q10. When do you use and discuss emotions in the project management process?</b>	<b>Open Communication:</b> Foster trust through early, open dialogue.	<b>6</b>
		<b>One-on-One Talks:</b> Resolve emotions individually, especially in conflicts	<b>5</b>
		<b>Emotion Recognition:</b> Address emotions promptly to improve teamwork.	<b>4</b>
		<b>Problem Focus:</b> Avoid emotion talks unless resolving conflicts.	<b>3</b>
		<b>Building Trust:</b> Use regular, informal meetings for emotional openness.	<b>2</b>
		<b>Activity Adjustment:</b> Adapt tasks to support emotional needs.	<b>2</b>
		<b>Informal Interactions:</b> Build trust via casual socializing.	<b>1</b>
<b>RQ4</b>	<b>Q11. How do you manage conflicts in the field of project management?</b>	<b>Active Listening:</b> Understand perspectives and emotions through individual discussions.	<b>6</b>
		<b>Open Communication:</b> Promote early conflict identification via transparent dialogue.	<b>4</b>
		<b>Mediation:</b> Facilitate compromises to resolve conflicts.	<b>3</b>
		<b>Multi-Level Resolution:</b> Address conflicts within teams or escalate if needed.	<b>3</b>
		<b>Individual Interviews:</b> Uncover causes through tailored one-on-one talks.	<b>2</b>
		<b>Analytical Tools:</b> Use models like DiSC to analyze behaviors in conflicts.	<b>1</b>
		<b>Adaptability:</b> Adjust strategies based on conflict context.	<b>1</b>
		<b>Prevention:</b> Educate teams to prevent conflicts through training and clarity.	<b>1</b>
		<b>Learning:</b> Treat conflicts as growth opportunities.	<b>1</b>
	<b>Q12. How do you maintain leadership in the field of project management?</b>	<b>Trust:</b> Foster a collaborative, valued team environment.	<b>4</b>
		<b>Servant Leadership:</b> Support and mediate for team needs.	<b>3</b>
		<b>Transparency:</b> Communicate openly about goals and decisions.	<b>3</b>
		<b>Role Modeling:</b> Inspire by demonstrating commitment and expertise.	<b>2</b>
		<b>Clear Roles:</b> Define responsibilities to avoid micromanagement.	<b>2</b>
		<b>Adaptability:</b> Adjust leadership to team and project needs.	<b>2</b>
		<b>Mentoring:</b> Guide and develop team members professionally.	<b>1</b>
		<b>Consistency:</b> Provide steady authority for alignment.	<b>1</b>
	<b>Q13. How do you maintain communication within project management?</b>	<b>Regular Meetings:</b> Schedule consistent check-ins for updates and planning.	<b>6</b>
		<b>Transparent Communication:</b> Foster openness from the project start.	<b>5</b>

		<b>Collaboration Tools:</b> Use platforms like Teams to streamline communication.	<b>3</b>
		<b>Clear Roles:</b> Define responsibilities and deadlines for clarity.	<b>2</b>
		<b>Friendly Tone:</b> Build trust with informal, friendly interactions.	<b>1</b>
		<b>Effective Mediums:</b> Choose suitable channels for virtual team communication.	<b>1</b>
		<b>Communication Emphasis:</b> Mentor stakeholders on its importance.	<b>1</b>
		<b>Agile Practices:</b> Apply transparency, feedback, and adaptability.	<b>1</b>
	<b>Q14. How do you use emotions in the context of project management?</b>	<b>Honesty:</b> Foster trust through transparency about feelings and needs.	<b>3</b>
		<b>Positive Environment:</b> Maintain motivation with a supportive atmosphere.	<b>3</b>
		<b>Emotion Management:</b> Recognize and adapt to team emotions for cooperation.	<b>2</b>
		<b>Emotion Utilization:</b> Use positivity to motivate and achieve goals.	<b>2</b>
		<b>Assertive Communication:</b> Balance empathy with goal-focused communication.	<b>1</b>
		<b>Trust Building:</b> Create safety and confidence within the team.	<b>1</b>
		<b>Education:</b> Develop emotional intelligence with training and tools.	<b>1</b>
		<b>Recognition:</b> Celebrate contributions to encourage positivity.	<b>1</b>
		<b>Informal Activities:</b> Strengthen bonds and resolve issues casually.	<b>1</b>
	<b>RQ5</b>	<b>Q15. Are you aware of the use of emotional intelligence in the context of project management?</b>	
		<b>EI Awareness:</b> Recognize the importance of managing emotions for success.	<b>12</b>
		<b>Development:</b> Build EI through experience, education, and practice.	<b>4</b>
		<b>Team Understanding:</b> Use EI to meet team needs and adjust management.	<b>4</b>
		<b>Impact:</b> Enhance collaboration and productivity with emotion management.	<b>3</b>
		<b>Limited Use:</b> Acknowledge gaps due to insufficient EI knowledge.	<b>3</b>
		<b>Communication:</b> Apply EI to foster trust in formal and informal settings.	<b>2</b>
		<b>Examples:</b> Highlight practical EI use in conflict resolution and morale.	<b>1</b>
		<b>Transparency:</b> Ensure honest EI use to maintain trust and integrity	<b>1</b>

Table 2: The main research findings  
Source: Authors research

#### 4. RESEARCH FINDINGS OVERVIEW

As far as *self-awareness* is considered, the findings highlight (i) *emotion control* as the most widely adopted strategy for emotional awareness, highlighting the value of mindfulness and thoughtful actions to manage emotional challenges using techniques such as meditation and

reflections, (ii) *thorough assessment* as the cornerstone of realistic goal-setting, showcasing the importance of data-driven, collaborative, and context-aware planning, and (iii) *team collaboration, a positive outlook, and work-life balance* as equally vital for maintaining high spirits, underscoring the interplay between professional support and personal care in ensuring resilience. Within the context of **self-management**, the findings indicate that (i) *achieving smaller, tangible milestones* fosters a sense of progress and motivation, making goal alignment a cornerstone of sustained engagement in project management, (ii) *staying objective and practicing active listening* are key to managing emotions and maintaining focus, particularly in conflict resolution and decision-making, (iii) *building a supportive and cohesive team environment* boosts optimism, demonstrating that collaborative efforts and mutual recognition are critical for maintaining morale, and (iv) *effective communication* and understanding others' perspectives are central to regulating emotions, highlighting the importance of empathy and constructive dialogue in emotionally charged situations. Regarding **social awareness**, the findings reveal that: (i) *active listening* forms the foundation of empathy in project management, enabling leaders to connect with team members, understand their emotions, and build trust, (ii) *a combined approach* of attentive listening and observing non-verbal cues is critical for identifying team members' emotions and addressing them effectively, and (iii) *early and open discussions about emotions* promote transparency, trust, and conflict resolution, highlighting the value of proactive communication in fostering emotional well-being. Under the domain of **relationship management**, the findings point out that (i) *active listening* is the most critical approach, allowing managers to understand different parties involved, (ii) *actively listening to all parties involved* is pivotal in resolving conflicts effectively, as it ensures fairness, understanding, and constructive outcomes (ii) *trust and cooperation* are essential for leadership, fostering an environment where team members feel valued, motivated, and aligned with the project's goals, (iii) *frequent and structured meetings* are vital for seamless communication, enabling teams to stay aligned and address challenges proactively, and (iv) *transparent communication and a supportive environment* empower teams to channel emotions constructively, boosting motivation and collaboration. Finally, the majority of respondents actively recognize and utilize EI to manage emotions, build trust, and foster collaboration, indicating a strong understanding of its impact on team dynamics and project outcomes. While **awareness of EI** is generally high among project managers, with many actively leveraging it to enhance outcomes, there is still a minority who lack sufficient understanding or training. The findings suggest that increasing formal education and practical training in EI could address this gap, enabling all project managers to maximize its benefits. Overall, EI is viewed as an essential tool for effective project management, with most respondents showing significant awareness and intentionality in its application.

## 5. CONCLUSION

In the dynamic and often high-pressure IT sector, emotional intelligence (EI) has emerged as quite relevant factor for effective project management. This study explore how IT project managers apply EI across the domains of self-awareness, self-management, social awareness, and relationship management, demonstrating its profound impact on team dynamics, conflict resolution, and project outcomes. In other words, the research underscores the important role of EI in IT project management, illustrating how its application across self-awareness, self-management, social awareness, and relationship management domains leads to improved project outcomes. This research contributes to the field by establishing a theoretical link between EI and improved project management outcomes. Practically, it offers actionable strategies to enhance EI among project managers. Recommendations include incorporating mindfulness practices such as meditation and classical music to improve emotional balance. Additionally, formal education and continuous professional development programs should be

implemented to cultivate EI skills systematically. By prioritizing EI development, project managers can strengthen communication, foster team cohesion, and resolve conflicts more effectively. These improvements can significantly enhance team effectiveness, driving the success of IT projects in an increasingly competitive and fast-paced environment.

In terms of limitations, this study's qualitative approach offers deep insights but limits generalizability due to its focus on predominantly male Croatian IT project managers, introducing cultural and gender biases. The findings may not extend to other industries with distinct dynamics, and reliance on self-reported data risks social desirability bias.

Thus, future research should address these limitations like (i) broadening samples by including diverse industries, cultures, and genders and/or (ii) using quantitative methods by conducting large-scale studies to assess EI's impact on project outcomes like quality and team performance.

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# THE SOCIAL COMPONENT OF AUDIO DESIGN: EMOTIONAL, COGNITIVE AND BEHAVIORAL IMPACTS ON PLAYERS

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## ABSTRACT

*This paper investigates the role of sound and music in video games, focusing on their impact on players' emotions and behavior. By analyzing existing scientific literature, it identifies how sound design, including music and sound effects, shapes the gaming experience, spatial presence, and players' emotional and cognitive responses. A review of prior research examines the effects of multichannel sound, adaptive music, and audio habits across various video game genres, particularly in the context of horror games, fast-paced games, and educational simulations. Studies show that sound not only influences player engagement and enjoyment but also affects decisions and performance, with emphasis on increasing emotional tension, reducing stress, and enhancing immersion. Moreover, the paper discusses methodological challenges in measuring the impact of sound, as well as limitations in previous studies, which have often overlooked individual audio preferences and genre variations. The scientific contribution of this paper lies in connecting theoretical and empirical findings, providing guidance for future research in the field of sound design in video games.*

**Keywords:** *player experience, adaptive music, audio design, emotional engagement, multichannel audio*

## 1. INTRODUCTION

Sound design in video games, including music and sound effects, is critical in shaping the player's experience. From the early days of video games, when soundtracks were simple and constrained by technical limitations, to today's advanced multichannel audio systems, music and sound play a vital role in creating an engaging and emotionally intense environment. [1] Players not only experience games visually but also rely heavily on auditory elements to understand the environment, create atmosphere, and elicit emotional reactions. As video game technology progresses, so too does the potential for sound design. [2] Today, players expect a dynamic sound experience that not only responds to their actions but also actively shapes their emotions, spatial perception, and in-game behavior. [3] In genres such as horror, where sound plays a decisive role in creating tension and fear, and in strategy games, where audio cues provide crucial information about the environment and dangers, sound is an indispensable tool for achieving an immersive experience. While many aspects of sound design have been explored, there remains space to better understand how sound influences emotional and cognitive responses, and how it can be optimized for different game types and player preferences. This paper aims to explore these aspects, with a focus on sound design in the context of horror games, fast-paced games, and educational simulations, and to provide guidelines for future research in this area.

## 2. PREVIOUS RESEARCH

Sound design in video games has long been shaped by technological constraints, but with the advancement of the industry, research has demonstrated that sound, particularly music and sound effects, significantly impacts players' emotional and cognitive perceptions. One of the earliest studies in this area focused on the basic functions of sound in video games, such as marking actions and generating emotional responses in players. According to [4], sound design can play a key role in enhancing the atmosphere of a game and helping players immerse themselves more deeply, as confirmed by many studies linking sound effects to emotional responses such as fear, excitement, or stress. [4] Interest in sound components in video games grew with the rise of horror games, where sound effects became a crucial component in creating an atmosphere of tension and fear. [5] A study by Wöhrman and Ningalei [6] explored how sound design in horror games such as *Dead Space* and *Left 4 Dead 2* could alter players' emotional reactions. The results showed that the presence of sound led to increased tension and greater player engagement compared to playing without sound. [6] Similar studies, such as those investigating the effects of adaptive music in *Galactic Escape*, also confirm that changes in music can amplify emotional tension and enhance gameplay enjoyment, contributing significantly to the understanding of the relationship between music and players' affective responses. [7] Early research also examined the effects of multichannel sound on the player's experience. Rees-Jones and Murphy [8] highlighted that multichannel sound allows for better spatial localization of sound sources, giving players an advantage in tactical thinking, especially in games where action occurs off-screen or outside the visual field. [8, 9] These studies support the idea that spatial sound systems, such as Dolby Surround or 3D audio, allow players to better orient themselves in space and enhance their engagement in the game. While earlier studies provided significant insights into the role of sound in video games, many areas remain unexplored, particularly with regard to individual player preferences for audio experiences and the potential of adaptive music that changes according to player behavior and game context. Also there are some recent studies that have continued to explore the multifaceted impact of audio design in video games, particularly focusing on its emotional, cognitive, and behavioral effects on players. The study by Kozlov, P., Akram, A., & Shamoï, P. (2023) [10] introduces a fuzzy logic-based framework for recognizing emotions in children during gameplay by analyzing audio and video data. The research emphasizes the importance of understanding emotional responses to enhance user experience and suggests that integrating such recognition systems can lead to more emotionally adaptive gaming environments. The research from Makantasis, K., Liapis, A., & Yannakakis, G.N. (2023) [11] investigates the potential of deep learning models to predict player arousal levels using only audiovisual data from gameplay footage. The findings indicate that general-purpose representations can effectively capture emotional states, which has significant implications for designing responsive and immersive gaming experiences. Hutchings, P., & McCormack, J. (2023). [12] The authors propose a novel adaptive music system that integrates cognitive models of emotion with multi-agent composition techniques. Implemented in two distinct games, the system demonstrated enhanced player immersion and emotional engagement, underscoring the potential of adaptive music to dynamically align with gameplay contexts. Comprehensive review from Guillen, J., et al. (2023). [13] examines 47 studies on game sound design, focusing on its impact on immersion and accessibility. The findings highlight that while audio technology enhances immersion, there is a need for more research on its role in inclusivity and accessibility within gaming environments. Williams, D. (2023) in [14] explores the psychological relationship between players and video game sound, emphasizing how audio influences cognition and perception. It discusses the integration of various systems and the importance of function and task in game design, providing insights into how sound affects player experience.

These recent studies contribute to a deeper understanding of how audio design influences player experience, offering valuable insights for both researchers and game developers aiming to create more engaging and emotionally resonant games. Given the variety of game genres and mechanics, it is important to consider how sound impacts various aspects of the experience, from spatial presence to players' emotional reactions.

### 3. METHODOLOGY

The aim of this research was to analyze how sound in video games, including music and sound effects, affects players' emotional and cognitive responses. The analysis took into account different approaches to sound design, such as multichannel sound, adaptive music, and background sound effects, with a focus on their role across various video game genres. For the analysis, data from several key studies were utilized, which employed different methodological approaches. The primary method was experimental research, involving controlled gameplay conditions where participants responded to variants of sound design, with results measured using physiological and subjective measures. For example, the study by Wöhrman and Ningalei [6] used gameplay tests at three intervals—before, during, and after a session—to collect data on participants' emotional responses to sound effects in horror games, using heart rate monitors and eye-tracking devices. [6] Additionally, questionnaires and interviews were used to gather subjective data on how players perceive the sound components of the game and how they influence their behavior and emotional state during gameplay. For instance, a study on players' audio habits and motivations, conducted on a sample of 737 participants, revealed that players often ignore background music in favor of other sound effects or personal playlists, suggesting the need for more personalized sound design based on user preferences. [15] Another important methodological approach was quantitative examination of the impact of multichannel sound on players' spatial perception and game performance. The study by Rees-Jones and Murphy [8] used stereo and surround sound rendering systems to analyze how different audio systems influenced players' ability to locate sound sources and react to in-game dangers. [8] By using these systems, the authors tracked reaction times and accuracy in sound localization. These studies provided the foundation for analyzing and synthesizing existing data. The methodology aimed to understand how sound design enhances players' emotional connection to the game and increases engagement, as well as to explore how different forms of sound can affect performance and decision-making.

### 4. RESEARCH STUDIES

Studies on sound in video games provide critical insights into how sound design shapes the player's experience. Whether in music, sound effects, or multichannel sound, audio has a significant impact on players' emotions, behavior, and performance. Different game genres, from horror to action games and simulations, utilize sound design in specific ways to enhance player engagement and emotional experience. One of the most notable studies is [6], which examines the effects of sound in horror games. In their study of *Dead Space* and *Left 4 Dead 2*, they investigated how sound effects, such as warning sounds for impending danger, can significantly increase emotional tension and the sense of fear in the game. The results showed that sound plays a crucial role in increasing player engagement, reducing uncertainty, and improving the overall gameplay experience. [6] This study supports the hypothesis that sound, particularly in genres such as horror, can increase emotional tension and enhance player enjoyment. Similarly, the study by Klimmt et al. [16] examined the effects of music on players' cognitive and emotional reactions in action video games. The research demonstrated that music can significantly increase gameplay enjoyment and affect players' emotional responses, such as increasing excitement during action moments or reducing stress during moments of relaxation.

The use of music in games like *Assassin's Creed: Black Flag* helps players feel more present in the game, making on-screen action emotionally more significant. [16] In addition to emotional responses, multichannel sound plays a key role in spatial perception and player performance. Rees-Jones and Murphy [8] explored the impact of spatial sound in video games, particularly how multichannel systems like Dolby Surround and 3D sound improve players' ability to locate sound sources and react to threats. The results showed that multichannel sound, compared to stereo sound, allowed players to more quickly identify sound sources and improve overall performance in the game, highlighting how spatial sound can enhance tactical decision-making. [8] In Rogers, Jörg and Weber's [17] study on players' audio habits and motivations, it was shown that many players ignore background music in favor of other sound effects or personal playlists. The study also revealed that players prefer more control over game audio, such as the option to turn off music while retaining sound effects. This research emphasizes the importance of understanding players' varying audio habits and preferences, which could shape future sound design in video games, focusing on flexibility and personalization of the audio experience. [17] Finally, the research by Plut and Pasquier [7] on adaptive music in video games shows that adjusting music based on game tension can significantly impact players' emotional reactions. The study showed that players in *Galactic Escape* felt more comfortable and tense when the music adapted to the intensity of the game, improving their experience of tension and engagement. These studies support the idea that music in video games should not remain static but should respond dynamically to the game environment. [7]

## 5. DISCUSSION AND LIMITATIONS

The studies reviewed in this paper underscore the pivotal role of sound in enhancing player engagement and shaping emotional responses across a range of video game genres. From horror games to action-packed titles and educational simulations, sound serves as a key tool for influencing player behavior, providing emotional cues, and enhancing the overall gameplay experience. The research demonstrates that multichannel sound, adaptive music, and strategically placed sound effects significantly impact players' emotional states, performance, and decision-making. However, there are notable limitations in the existing literature. First, while many studies focus on the physiological and emotional effects of sound, there is a lack of research that directly examines the relationship between sound and long-term player engagement. Many studies measure short-term emotional reactions or performance improvements, but less attention has been paid to how these factors contribute to sustained interest and motivation across multiple gaming sessions. Future research could explore how sound design influences long-term player retention and engagement, especially in games with complex narratives or open-world gameplay. Another limitation of current research is the homogeneity of study participants. Many studies rely on college-aged male participants, which raises concerns about the generalizability of findings to broader, more diverse player populations. Players' cultural backgrounds, individual preferences, and prior gaming experiences can significantly influence how they respond to sound in games, but these variables are often overlooked. Future studies should aim to include a more diverse participant pool to better understand the full spectrum of player responses to sound and music. Moreover, while studies such as those by [6] and [8] examine the impact of sound on player performance, they often neglect the role of user-specific factors such as individual preferences for sound styles or audio settings. The assumption that all players experience sound in the same way could limit the applicability of these findings. As audio customization tools and personalization options become more common in video games, it will be critical to study how these factors influence players' emotional and cognitive responses, as well as their gameplay performance.

Lastly, while the importance of adaptive music is emphasized, there is a lack of comprehensive research on the technical and creative challenges involved in its implementation. Music that dynamically shifts in response to player actions or environmental changes must be carefully designed and tested to ensure it enhances the experience without becoming intrusive or repetitive. However, notable limitations persist in the breadth and depth of current research. For instance, [10] demonstrate the applicability of emotion recognition systems, utilizing fuzzy logic to enhance interactive environments for younger audiences. This aligns with the broader understanding of sound as a driver of engagement but highlights the need for further exploration into age-specific emotional responses. Similarly, [11] provide evidence that deep learning models can predict arousal levels based on audiovisual gameplay data. While this offers exciting prospects for integrating emotion-driven soundscapes, it underscores a gap in practical implementation within real-time game environments. Hutchings and McCormack (2019) [12] argue for adaptive music systems that dynamically align with player behavior. Their findings highlight the role of adaptive sound in heightening immersion and emotional resonance. Yet, this innovation also introduces technical and creative challenges that remain insufficiently addressed in the literature. The emphasis on inclusivity and accessibility by Guillen et al. [13] reveals another dimension of sound design, one often overlooked in traditional studies. Their work underscores the necessity of addressing diverse player demographics and preferences, an area where current research and practice fall short. Similarly, Williams (2023) [14] elaborates on the cognitive and behavioral dimensions of sound, emphasizing its integration within complex game narratives. This perspective reinforces the need to move beyond the conventional focus on immediate emotional impacts to explore long-term effects on engagement and player retention. Future research should explore how different adaptive music systems are implemented and evaluate their effectiveness in improving emotional engagement across different game genres.

## **6. CONCLUSION**

Sound design in video games is an integral aspect of player experience, influencing emotions, behaviors, and performance. This paper has reviewed the existing literature on the role of sound in gaming, highlighting the ways in which music, sound effects, and multichannel sound systems contribute to the immersive and interactive nature of video games. From the emotional tension in horror games to the enhanced spatial awareness in action games, sound is a key factor that shapes how players engage with games and how they feel during gameplay. While the research reviewed offers valuable insights, there are several avenues for future exploration. A deeper understanding of how sound design influences long-term engagement, the role of user-specific preferences, and the technical challenges of implementing adaptive music in video games can provide new directions for both academic research and practical game development. By addressing these gaps, future studies can help to further refine sound design practices and improve the overall player experience. Ultimately, the relationship between sound and gameplay is a multifaceted and dynamic one, deserving of continued scholarly attention as the industry moves toward increasingly sophisticated and immersive gaming experiences. Future research should not only build on existing findings but also consider the evolving preferences of diverse player demographics and the rapid technological advancements shaping the soundscapes of video games. As this paper illustrates, recent studies continue to highlight the transformative potential of audio elements, yet significant gaps persist that warrant further exploration. The incorporation of emotion recognition systems, as demonstrated by Kozlov, offers a promising avenue for tailoring soundscapes to diverse player needs. However, integrating such systems into live gaming environments requires addressing technical limitations. Similarly, the predictive models by Makantasis open opportunities for dynamic and adaptive soundscapes but necessitate real-time implementation frameworks.

Adaptive music, as emphasized by Hutchings and McCormack, holds particular promise for enhancing immersion. Nonetheless, challenges in its seamless integration underline the need for more sophisticated tools and frameworks. Furthermore, the insights from Guillen on accessibility and inclusivity call for a shift toward more player-centered design practices, particularly for underserved demographics. Finally, Williams provides a compelling argument for exploring long-term impacts of sound design on engagement and narrative immersion. As multichannel systems gain traction, their role in elevating both tactical and emotional gameplay experiences become increasingly evident, as highlighted by Rees-Jones and Murphy. Future research must expand its focus to include diverse player populations, address adaptive audio challenges, and consider the evolving demands of immersive technologies. By bridging these gaps, the field of sound design can achieve a more comprehensive understanding of its impact, paving the way for innovations that enhance not only gameplay but also the broader cultural relevance of video games.

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# THE MOROCCAN RELIGIOUS POLICY: A DRIVING FORCE FOR A HEGEMONIC SOCIAL-POLITICAL LEGITIMACY

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## ABSTRACT

*The concept of legitimacy is crucial in linking authority with societal obligation, serving as a mechanism for governments to uphold and maintain the status quo. Many institutions are, thus, instrumentalized to serve this purpose. Morocco is no exception to this in so far as the state has strategically utilized Islamic religious policies and institutions to enhance and bolster its political legitimacy. In this connection, the present study examines how Moroccan religious institutions are instrumentalized to support governmental political agendas amidst the challenges of modernity. By analyzing the interaction between these institutions and state policies, this study tries to lay bare the dual role of Islam as both a religious and political instrument. It illustrates how the Moroccan state validates the integration of Islam with government institutions by aligning policies with the country's spiritual and cultural context. The study, moreover, seeks to uncover the key religious entities that contribute to state authority, discussing the implications of their political instrumentalization on broader efforts towards modernization.*

**Keywords:** *legitimacy, authority, Islamic religious policies, political legitimacy, modernity*

## 1. INTRODUCTION

Legitimacy is often associated with obligation and authority. It serves as a driving force for governments to maintain the status quo. Many institutions are, thus, instrumentalized to serve this purpose. In the Moroccan context, the Islamic religious policy together with its Islamic institutions have been monopolized to reinforce the implementation of state policies. The Moroccan State has chosen religious institutions as a driving force to ensure its religious-political legitimacy. The present study explores the relationship between religious institutions and the challenges of modernity. It attempts to shed light on how these institutions are utilized to promote and sustain certain political agendas. Therefore, the study tracks down the concept of legitimacy in the Moroccan context and how religious institutions have played a leading role in such a process. Thus, it starts with defining the term of legitimacy, discussing its types and how it functions within the Moroccan religious realm. Therefore, it will initiate the discussion about the term legitimacy and the philosophy that shapes the religious policy mainly in the Moroccan context.

## 2. DEFINING LEGITIMACY

The concept of legitimacy is quite an intricate one, since it has “weak” and strong” notions. Bagg & Knight (2014) argue that the weak notions that are related to political authority suggest that “a political authority imposes an obligation on subjects to support the actions and decisions of the state”, to refrain from placing any “obstacles” “to undermine” the state’s legislation and the state “in any way” (p.1). Yet, the weak notions of legitimacy suggest that individuals are

not obliged to abide by the state's law and duties. Thus, the concept of legitimacy here "is considered as distinct from political obligation, while such weak notions of legitimacy imply that there is not much distinction between them and the notions of state justification. "Therefore, the arguments used in supporting both notions of state justification, appear to share similarities." (Bagg&Knight,2014, p.2). Thus, this suggests that legitimacy and state justification share many similarities; yet, it appears that the weak notions of legitimacy do not weigh any political connotations. On the other hand, the strong notions of legitimacy propose that subjects must abide by the state's obligations and comply with their duties. Therefore, the strong notions of legitimacy "support that legitimacy is not distinct from political obligation but the arguments regarding the issue of legitimization are different from those of the justification of the state." (p.2). Based on the strong notions of legitimacy, we cannot call a government legitimate until all subjects obey some or all the laws, i.e. if there is rejection of citizens in adhering to government laws "then this state does not have legitimate authority". From the previously mentioned definition, we notice that there is a strong association of legitimacy with the concepts of authority and obligation i.e. in order to "possess authority", the condition is to get hold of legitimate power that needs to be obeyed as "moral obligation" (Bagg&Knight,2014, p.2). Moreover, there is another definition that looks at legitimacy from a social angle in terms of its relation to the context and social norms and values; thus, linking this notion with "logic appropriateness" (Suchman,1995). i.e.: instead of fixed rules and preferences (as in logic of consequentiality), rules and preferences are much more dynamic and shifting, guided by the given situation and context. This means that legitimacy is not a cohesive, one-dimensional phenomenon. Instead, it is socially constructed in relation with other actors and dependent of the given context (Aagaard,2020, p.3). This suggests that legitimacy is constructed at the social level based on the context in which it develops.

## **2.1. Legitimacy in the political sense**

Legitimation has always been associated with politics, given that it becomes "more possible when more people obey the law and is made less possible when more people refuse to comply with the law" (Bagg & Knight, 2014, p.3). Another interpretation implies that a state might be considered legitimate if "it has real, morally, uncontested relations between those it controls." (p.5). Thus, legitimacy is based on the governed individuals and how much they are satisfied with the authority exercised by the regime or the state (Houghton,2020; Greene, 2016) i.e. this concept of legitimacy is "one of acceptance". Since groups from different contexts "may have different ideas of what legitimates a regime-what I argue are different conceptions of legitimacy- but the underlying requisite is that it is generally acceptable." (Houghton, 2020, p. 3). This condition of acceptance is rather ambiguous; however, Houghton (2020) argues that "a legitimating factor or a qualification of acceptance for a regime would be whether the behavior of the regime is in line with the practices accepted by the group" (p.3) i.e., accepting a regime connotes going hand in hand with what the whole group accepts. Houghton (2020) goes on to add that such acceptance comes with "heavy moral connotations"; such as "subjective moral values" which could impact how individuals evaluate such political legitimacy. These considerations, then, form individual conceptions of the concept of legitimacy that emphasize different aspects of it. This is important because the chosen conception outlines the sources of political legitimacy that are acceptable for the individual." (pp.3-4). Greene (2015) associates the subjects' consent that a regime builds within the scope of contractual legitimacy with what the notion of "social contract" by Rousseau. This latter claims that in "the state there is no fundamental law that cannot be revoked, not even the social compact. For if all the citizens were to assemble in order to break this compact by common agreement, no one could doubt that it was legitimately broken" (Rousseau,1987, III. xviii, as cited in Greene,2015, p.8).



This suggests that this agreement or consent to gain legitimacy is deemed to fall apart once this agreement is “revoked” (Greene,2015).

### **3. THE SOCIAL CONTRACT: IS IT A SYNONYM TO LEGITIMACY?**

Delving deeper into the notion of the “social contract,” it is perceived as a “hypothetical device,” meaning it does not necessarily “have to take place” (Kelly, 2011, p. 11). However, Locke claims that this contract “is not a simple hypothetical contract; it must be a real agreement” (Kelly, 2011, p. 31). Locke's version of contract theory consists of two parts: the first involves a group of individuals who agree to form a “political society,” which means “putting their property under public regulation.” At this stage, the agreement is “irrevocable”; his idea can be summarized as follows: “once a group of people has combined their property into a territorial political community, then that entity is permanent” (Kelly, 2011, p. 30). The second part of the contract suggests that there must be an agreement “to submit one’s private judgment about the law of nature to a public judgment”; this kind of public judgment “does not have to be unanimous but can be a majority decision” (Kelly,2011, p. 31). However, the hypothetical consent that a particular regime requires to govern is not universally granted by all subjects. A regime would be deemed legitimate if individuals would have consented to it under “ideal conditions,” which raises several considerations. Typically, this implies that a political order must treat people equally in significant ways. For instance, no one would agree to an order in which they would be enslaved (Bagg&Knight,2014, p.7). On the opposite, the public reason has a different perspective than the one of the hypothetical consent, since it is more concerned about whether the legitimacy “was justified by reasons that are accessible to everyone.” (Bagg&Knight,2014, p.8). Although “contractualism” is an essential element in establishing legitimacy, especially from a moral perspective, it can be ‘problematic’ when an individual's lack of consent is overlooked simply because their hypothetical consent has been assumed. However, there is a crucial question which rises itself about the issue of consent, which is about the reason behind the fact that subjects abide by a contract that they never agreed to follow; here Locke (as cited in Bagg&Knight,2014) explains that: you do not actually need to express your consent to a contract explicitly; you can give it “tacitly” with your actions. Once a contract has been made and a government established, you consent to its terms if you continue to live under that government established, you consent to its terms if you continue to live under that government and share in the benefits it provides. (p.5). This could indicate that there is no explicit contract, it is rather implicit through the way individuals continue to live under a certain regime, implying they automatically consent to it. Likewise, Locke advocates the right to rebellion if the necessary conditions for withdrawal are satisfied” and if “the original terms of the social contract have been breached. Therefore, “without this right to rebellion, discussions of legitimacy would be largely meaningless, as there would be no repercussions for illegitimacy (Bagg&Knight,2014).

#### **3.1. How does contractualism function?**

Greene (2015) casts light on how the “contractualist” paradigm is a regime that “gains” legitimacy by structuring institutions based on “principles of justification” that all citizens would willingly embrace under specific circumstances. This construction of the “hypothetical” choice situation “employs a variety of idealizing assumption, typically including citizens’ willingness to cooperate on fair terms, the reasonableness of citizens’ value judgements, the common interest in membership in a group on terms of equal standing, etc.” (p.4-5). As Houghton (2020) illustrates before, the objection of certain section in the society does not affect the status quo of legitimacy. Similarly, Green (2015) explains that, the concept of a group rejecting their governing system is undesirable and should be addressed if possible. At minimum, such dissent should be kept to a manageable level. He goes on to explain that if

legitimacy is broadly defined as appropriate governance, then widespread public rejection of such governance is clearly significant. However, contractualism struggles to account for the importance of actual public acceptance and rejection, as it confines all relevant factors for legitimacy to a hypothetical decision-making scenario. (Greene, 2015). This might imply that it is crucial to consider the actual acceptance or rejection to the rule by the larger population and the hypothetical or theoretical frameworks such as contractualism may not adequately capture this. Given that the issue of legitimacy is controversial; one of the most influential means to enforce legitimacy are people. Näsström (2007) argues that the people possess the power “to confer legitimacy upon governments, parties and policies, a fact which makes it one of the more used and abused concepts in the history of politics.” (p.642). People can serve various purposes, whether it is supporting the monarchy, providing “justification” to resist the king, or, in today’s context, it might be advocating for both global citizens and nationalists to empower the people “in the face” of globalization. A legitimate state, therefore, regards the citizens or subjects” as “rational beings” who have “at least the capacity to endorse the principles and policies that specify the basic rights” and also have “liberties that guide effectively the political power” (Merry, 2007, p.5), which makes the legitimacy of the state associated directly with “the personal autonomy and civic virtue” of the members. Therefore, to dismiss those who seem unreasonable is to treat a significant number of citizens with “contempt.” These citizens, if given the right opportunities, could develop the necessary dispositions and habits. However, the implications are much more serious; dismissing those who appear unreasonable effectively excludes them from the deliberative process entirely, which is likely to lead to two significant consequences. This might suggest that since individuals possess liberties that effectively impact the political legitimate power; the state legitimacy, thus, becomes intertwined with the personal autonomy and the citizens’ civic virtues. Hence, dismissing the citizens that seem unreasonable is considered problematic since they become excluded from this process, and this exclusion leads to significant outcomes. The first consequence of this scenario is “the state’s actions will be deemed illegitimate by many of its citizens and would lead many citizens to resist “the state’s overtures”. The other scenario would be opting out “completely” of “the political process”, their children, as well, “will be denied opportunities to cultivate the deliberative capacities that are conducive to reasonableness.” Also, the number that would benefit from a free and equal chance to citizenship will decrease (Merry, 2007; p.5). Therefore, political legitimacy is mostly based on subjectivity, making the line between what is acceptable or unacceptable to specific sections of the society blurred and hard to identify.

#### **4. LEGITIMACY FROM A DEMOCRATIC ASPECT**

The democratic aspect is another dimension that treats the notion of legitimacy differently from the perspective of consent. The democratic accounts claim that legitimacy “is ultimately guaranteed by the democratic process of decision-making, rather than any kind of consent or utility.” (Bagg&Knight, 2014, p.11). Concerning the use of legitimacy in a democratic context, it is still debatable in terms of applying “tests of legitimacy to states” or to individual laws in a certain state. Bagg & Knight (2014) assert that if “legitimacy is all-or-nothing, then every law made by a legitimate government deserves our respect. Being skeptical of such a conclusion—especially if it is tied to a moral obligation to obey all legitimate laws— we might be unwilling to grant legitimacy to many governments.” (p.16); this can be interpreted that there is no such thing as a moral legitimacy that adhere completely to the legitimate laws. Moreover, the concept of legitimacy is often overlapped with the term of justice. However, Bagg& Knight (2014) argue that legitimacy and justice share the same criteria; yet, it is considered an easier “requirement” to fulfill, i.e. ideal justice can be impossible to achieve, but legitimacy can be attainable. Whether they are connected or mean the same thing is still negotiable.

Considering this aspect, Bagg & Fadul (2014) suggest that it is advisable to be cautious in terms of using the “legitimacy” in different situations. Numerous efforts to define this concept in the most appropriate way were done, and this definition was applied to “many of the normative problems in which legitimacy has been implicated.” (p.17). Although, the concept of legitimacy can be used differently in diverse contexts, legitimacy cannot mean “whatever we want” (p.18). This suggests that the concept of legitimacy has a wide range of dimensional definitions that can differ in terms its essence. Houghton (2020) argues that political legitimacy is hard to achieve because of the globalized and multicultural features in our societies. Thus, it seems “almost impossible that one regime can be deemed legitimate by the entirety of its society.” (p.4). He continues to say that there are many variables that affect the evaluation of legitimacy of a certain regime could it be ideology or religion. It is also a hard to “determine what makes a regime acceptable to different sections of society and given this, when exactly a regime becomes legitimate. This is what gives political legitimacy its elusive character” (p.5). Even though there are some sections dissatisfied with the regime and its services and policies, Haughton (2020) explains that what is called “perceived legitimacy” becomes more crucial than the attitude of support given to a certain regime. In the same sense, Greene (2015) shares the same attitude towards the nature of legitimacy for “contractualist” family which is based on “hypothetical consent” and this consent “is imputed based on certain presumptions about the agent’s evaluative stance.” (p.2). However, the subjects’ interest in “voluntary rule” is overlooked, because the subject ‘s consent is not necessary; that’s on one hand. The “voluntarist family”, on the other hand, believe that legitimacy: rests on actual consent, but an individual’s consent renders the government legitimate only for that individual. However, since the unanimous consent of all subjects is unattainable, these views must idealize about the degree of unanimity required to achieve legitimacy overall, or else accept that no past or present regimes are legitimate (Greene, 2015; p.2).

## **5. LEGITIMACY AND THE USE OF RELIGION: ISLAM**

The Moroccan state has unequivocally declared Islam as the official religion of the state and in doing so, Islam has been extended to constitute a prominent position in the Moroccan identity. Akbarzadeh & Saeed (2003) argue that Islam has become a core force for legitimacy that is used for political legitimacy and to justify the fusion of Islam and state institutions. This strategy has become prominent amid the post-colonial period, through financial means in order to control the religious interpretations (Feuer, 2014), this leads us to the viewpoint that education is seen as a way to shape national identity and strengthen political legitimacy after the departure of European powers. This perspective helps to clarify why the education systems in these new states emerged as battlegrounds for various state and societal representatives, who engaged in debates over issues of national identity and political authority (Feuer, 2014). When the political elite indulge the Islamic religion and its lexicon in any official matter, it incorporates “by default” the politicization of Islam, by making itself a judge using the “Islamic criteria” i.e. the “more leadership feels threatened and challenged, the more it attempts to present itself in an Islamic cloak to fend off criticisms of ‘betrayal’” (p.10). This kind of promotion of “state-sanctioned Islam” aims to convince the public that state leadership goes hand in hand with the spiritual and cultural “mood” of the nation, emphasizing its role of the “guardian” and “protector” of Islamic value system which is Islamic by excellence. Talking about the Moroccan case, Eickelman (1980) argues that Morocco possesses a “strong current of “traditional” Islamic ideology which to a large extent has not been effectively harnessed by the country’s political parties” (p.18). He also asserts that “tradition” has been formulated in contact with the west i.e., the Islamic symbols have been “actively” used for legitimacy, “serving as the intermediary between the family and the Islamic state” (Feur,2014; p. 3) and this was present even in the pre-colonial era. After the colonization, the Arab states have tried the same approach of “endorsing,

identifying with, and supporting religion (financially or otherwise)” (p.3). Since Morocco's independence, the monarchy has faced a lack of a dominant political party, and up until the 1980s, "the regime's bureaucracy was relatively “weak” (Feuer, 2014). Thus, many reforms have been implemented, including those by the Ministry of Pious Endowments and Islamic Affairs, which demonstrate the regime's efforts to enhance its administrative framework and tighten regulations on religious education (Feuer, 2014).

## **6. GENEALOGY AS A HEGEMONIC LEGITIMATE TOOL**

Being the prophet's descendent, in addition to being a privilege, it is considered one of the fundamental legitimate religious cards that the political elite play to legitimize their status. Here, we would like to compare two different apparatuses of political legitimacy, the Moroccan case that considers the sacred genealogy a core pillar in this process and the Turkish case, the Ottoman empire which had no such thing. The Ottoman empire claimed their authority to rule “by divine intervention”; yet, their claims to the caliphate were intricate because “they were not from the tribe of the prophet and they started as the rulers of a predominantly Christian population” (Barkey, 2015, p. 471). The case of Ottoman political system was able to “balance” the religious and secular forces to ensure a political legitimation, since there were plurality of religious and ethnic groups under the rule of Ottoman empire; thus, religion was the “sole source” of political legitimacy. Moreover, Barkey (2015) highlights that the Ottoman approach to political legitimacy was broad, appealing to Muslims and non-Muslims alike. The state avoided imposing “an absolute creed or understanding of one religion, one completely unified and cohesive system.” (Barkey, 2015, p. 472). In the Ottoman era, Islamic religion was an “integral part” of the ruling system, “subordinated to the state” and a tool to improve the state institutions and the state functions (Barkey, 2015). Barkey (2015) also claims that the Ottoman empire established its legitimacy on “factual constructions that showed populations more pragmatic, negotiated and tolerant policies, and built their rightfulness by reflecting the peoples on the ground” (p. 473). This blend of divine and human laws was considered the “best” choice, as Islamic traditions emphasized “pluralism,” “openness,” and a relationship with the West that was never in opposition to Ottoman politics. It can be inferred then that religious legitimacy can manifest itself in various ways and may also coexist with other legal frameworks, for instance, secular laws; thus, forming a multi-faceted and more legitimate apparatus.

### **6.1. The Moroccan case**

Unlike the Turkish case, the Moroccan scenario involves a claim to the ‘genealogy of the prophet’, since the Alaouite sultans have obtained their legitimacy from the religious descent of the Prophet (the Sharifian identity). However, this identity “did not immunize the Alaouites from constant challenges to their political and religious authority” (Feuer, 2014, p. 29); there was rather a constant clash between the monarch and local tribes, religious elites (ulama) and the Sufi brotherhoods. During the twentieth century, there was an additional pressure of French penetration to justify their dominance, making the monarch unable to maintain this blending of political and religious legitimacy, since the French authorities clearly distinguished between “the Sultan as religious leader and the colonial, elite –led government as the secular, sovereign power of the state.” (Feuer, 2014, p. 29). After the independence, the Alaouites tried to reclaim their legitimacy through the incorporation of religious and political “leadership” through the emphasis of the Sharifian identity which legitimize their spiritual leadership and also this legitimacy comes from the fact that the monarchs “have been granted the right to rule by the Moroccan public through the investiture ritual of bay’a” (p. 29). Moreover, Feuer (2014) argues that the Alaouite's bureaucracy was initially weak and required an extended period to fortify, unlike the situation in Tunisia, where a level of bureaucratic centralization had already occurred before prior the French Protectorate. The situation deteriorated further when the French

authorities exploited the decentralized administrative structure they encountered, pitting regional power brokers against each other—and against the sultan—in their quest for political control. Although the Alaouite monarchs regained their political authority, they encountered a poorly equipped and decentralized bureaucratic structure, which posed significant challenges for Morocco in extracting resources from society and fulfilling other essential functions.

## **7. RELIGION AS A RHETORIC FOR POLITICAL POWER**

Religion is expressed and embodied through various facets and within different institutions. In Morocco, several organizations oversee the religious policies within the state, mainly the institution of the Commandment of the Faithful, the Ministry of Endowment and Islamic Affairs, and several subsidiary organizations.

### **7.1. The Commandment of the Faithful**

Given that the commandment of the faithful is the highest religious and political institution, the ministry has tried to highlight the fact that the monarch and the citizens share the same religion before any national or political ties. This is how religion is used as a tool for state legitimacy (Hmimnat, 2018). We can say that this has succeeded to great extent, since the Islamic identity prevails i.e., the majority of Moroccans identify themselves as Muslims first then as Moroccans second. This implies that Islamic identity precedes national identity (Elklakhi, 2018). Before we delve deeper into this, it is better to explain the concept of commandment of the faithful. The literal meaning of *Amir Al-Moeminin* or the Commander of the Faithful is a title “dates back to Omar Ibn Al-Khattab, the second Caliph of the Prophet Muhammad. He was the first Caliph to acquire the title in order to avoid repeating the title ‘the Caliph of the Caliph of the prophet’” (El Bouchikhi, 2016). In Morocco, this title was introduced in the first constitution of 1962 by king Hassan II, this term came to conclude the intense debate regarding the formation of the national identity following independence. The commandment of the faithful is considered an essential feature in the Moroccan political system in managing both religion and the legitimacy of the political regime (Darif, 2010; as cited in El Bouchikhi, 2016). As it has been noted previously, the religious authority lies on the prophetic lineage and “the possession of divine blessing or (Baraka), so these sources of religious authority fortify the political authority of the commander of the faithful and which “were the basis of the monarchy’s religious monopoly in the aftermath of independence.” (El Bouchikhi, 2016; p.95). These sources were “codified” and “institutionalized” in the system of politics; thus, giving the king a “political supremacy”. After 1984, the state engaged in a new ideological religious policy that aimed at supporting the Moroccan position in affirming its territorial integrity. This was carried out at two levels: focusing on the spiritual ties that the Saharan population had fostered with the Moroccan monarch throughout history. The second level opted for reviving the spiritual connections between the state and the African countries to fill in the void that resulted after its withdrawal from the African Unity Organization and cutting ties with all the countries that acknowledged the Western Sahara (Hmimnat, 2018). The major reforms that the religious realm has witnessed can be summarized into three main points: First, protecting the integrity of religious endowments. Second, maintaining Islamic values and safeguarding faith, as well as the Maliki rite. Third, supporting the religious realm. There are many speculations that this kind of unification of doctrine is the only guarantee to preserve the institution of the commandment of the faithful. Yet, Darif (2017) objects these views claiming that this view limits the meaning of the commandment of the faithful into a narrow ethnic figure, representing the king as the commander of the Sunni Maliki people only, in this way excluding Jews, or those who adopt other doctrines. Then, this ethnic view would enlarge the circle of those who do not believe in Malikism. This view then does not match the purpose of the religious policy that aims at unifying the religious realm and integrate a larger social stratum.

Thus, the most suitable interpretation of believers is monotheists to include Moroccan Jews and other Muslims from different doctrine under the umbrella term of the commandment of the faithful (Darif, 2017). Therefore, this concept is holistic that aims at a positive objectivity for the commander of the faithful and guarantee his spiritual parental over all doctrines and cults without any kind of exclusion, elimination or monopolization of the truth, rather through the values of tolerance, co-existence and moderation (Darif,2017).

## **8.THE INSTITUTION OF THE MINISTRY OF ISLAMIC AFFAIRS AND ENDOWMENTS AS LEGITIMATE INSTRUMENT**

The Ministry of Islamic Affairs and Endowments has played a significant role in Morocco, particularly in recent years during which numerous fundamental reforms have been implemented. This institution has a sensitive nature especially in relation to the political sphere. Thus, the king, after colonization, has monopolized its religious representation, in addition to the organization of the religious realm, in order to strengthen its religious legitimacy (Hmimnat,2018). The first ministry of Islamic affairs was established in 1961 during the reign of king Hassan II, this latter had chosen Allal El-Fassi to put its political project and its fundamental law. Before that, the Islamic affairs stayed distributed among ministry of 'Ahbass' or endowments and ministry of justice (Idoudi,2014). This implies that since its establishment, the ministry had weak responsibilities mainly related to giving opinion related to public issues. This suggests that the functions of the ministry of Islamic affairs were not effective in the past, until the 1961, therefore, the ministry tried to get more authority (Hmimnat,2018). The government marginalized this institution after gaining independence, which led to its weakened state. This reflects the quick secular moment that had characterized the first years after independence, since there was an urge for modernization and break with traditions. However, this did not last too long, the religious realm started be utilized as a "soft power" "skillfully and "cleverly" in order to reinforce its position in the religious-political sphere, and combat the leftist and communist movements and other ideologies, since they were a core threats to the political system until the late seventieth (Hmimnat,2018; Darif, 2017)

### **8.1. The eighties: a paradigm shift**

During the eighties, the religious policy in Morocco has witnessed a paradigm shift due to the Iranian revolution and its strong repercussions at the national and international levels, owing to its strong moral support that it provided to the religious movements in Morocco in a crucial period, in which the nation witnessed a severe social and economic decline. Since then, the ministry has become the core religious supervising system; facing the religious movements in addition to some political and social forces. However, after being aware of the vital role of the ministry, the monarch chose to detach it from political and ideological purposes (Hmimnat, 2018). The new minister was aware of sensitivity of the situation then, and this was one of the biggest challenges for the minister (Hmimnat,2018). One of the vital missions for the ministry at that time was to provide guidance to confront ideological deviations related to different doctrines especially after the Iranian revolution (Hmimnat, 2018). The new minister was a key figure in the establishment of a new structure of the ministry of Islamic affairs; he tried primarily to separate the ministry from the political sphere. During the time of Abdelkabar Alaoui Medghri, the new minister of Islamic affairs, the ministry has become "private realm" for the king, who directly manages the religious policy. Thus, being governed directly by the king, making the prime minister to have a symbolic authority over this organization. The first mission that this minister has led was separating his ministry from the ministry of the interior despite the constant clash with it, especially that conflict was over managing the Islamic groups. This issue was regarded as a problem related to the state's security that does not fall within the scope of the ministry of Islamic affairs specialties. However, El-Medghry insisted on exercising

his authority without any intervention from any part. It is worth mentioning that the process of obtaining independence from the ministry of interior has undergone two phases. The first phase was between 1984 and 1989, it took an adjustment approach with the security-oriented policy of the ministry of interior. Thus, the ministry was complementary agent submissive to the ministry of interior in supervising and controlling protests and demonstrations, in addition to closing mosques outside of prayers' times, regulating the building of mosques, and supervising preachers and the content of their speeches. The second phase coincided the open gradual political liberalization of the state since 1990. Since then, the ministry of Islamic affairs started to liberate its religious managing system from the ministry of interior. Therefore, it can be inferred that the rise of the religious sector, led by the Ministry of Islamic Affairs, was facilitated by the Ministry of Interior, which helped to enhance its power. (Hmimnat,2018).

## **8.2. The use of the religious policy at the political scene**

The religious policy at the time of El-Mdeghry aimed at strengthening the Sunni doctrine against other doctrines through fostering a guidance program using the main educational institutions starting from homes, mosques, schools and "Kuttabas" (Hmimnat,2018). The king Hassan II has emphasized the idea that this program should be "Moroccan", highlighting the gentle Sunni Islam for people. Therefore, he consented to launch religious programs on both national radio and TV networks, with strong emphasis on ensuring the content is concise, engaging, and tackles pertinent social issues (Hmimnat,2018). The religious policy reforms were projected mainly to regulate the religious realm from the inside in order to prevent overlaps between the political sphere and the religious one in order to specify guidelines for each field. Thus, the regulation has two dimensions: the first is for spiritual security, and the other one aims at employing the religious actors and guide them to serve and support the modern establishment of the state (Hmimnat, 2018; Feuer, 2016; Idoudi,2014). Moreover, the ministry adopted a policy of Islamization and re-establishing the state's fundamentalism to shape a modern official Islam suitable for the new modern visions of the state. The ministry of Islamic affairs emphasized the importance of establishing an official version of Islam, as we have mentioned before, in order to minimize the influence of secular tendencies in some modern state decisions (Hmimnat,2018). The first level in the process of regulating the religious realm focused on training religious agents in order to support the regulation of the religious realm. Additionally, the state shaped a religious policy with clear objectives that aim at battling religious extremism and build in the fundamentals of the religious frame of reference focusing on 'Asharism', 'Maliki rite', and 'Sufism'. The second level in this process involves renewing the religious discourse by devoting a system of values based on the values of moderation and tolerance. Furthermore, the ministry of Islamic affairs has attempted to inculcate the philosophy of the monarch and reinforcing its legitimate authority; in addition to fostering critical ideological discourse that counter attacks the discourse of the opposing political powers, especially during the eighties when the religious institutions were used more than ever to regulate and reinforce the official religious discourse. It also tried to boost the institution of the "Commandment of the Faithful" and solidify its position in the Moroccan political scene (Hmimnat, 2018). Thus, the ministry aimed at consolidating the religious management and directing it to serve the policy of "Islamization from above" that leads to create a strong state fundamentalism that is able to shape a "heavy spiritual safety" to support the monarch and help in establishing a modern state (Hmimnat,2018; Darif,2017).

## **8.3. Another shift in the Moroccan religious policy: 9/11 events**

The 9/11 events had been a huge shift in the way Islam has been perceived in the world. Subsequently, religious education in the Arab world has garnered significant attention from the United States' policy makers, linking Islamic religious institutions, commonly known as

Madrasas, with terrorism, radicalism, violence and intolerance (Boyle,2004; Faour,2012; Thobani,2007). Thus, urging Islamic states to reconsider their religious dynamics in terms of their relation with the other in this age of globalization and new media technologies. Morocco is not an exception in this huge debate; rather, as we have seen, it has adopted a unique religious policy to shape its Moroccan cultural heritage from the rising threats of extremism and terrorism. Hence, education has consistently been a central aspect of this religious policy; notably when the king prioritized it within the religious reorganization, highlighting the Islamic values of tolerance, co-existence and acceptance of different cultures and religions within the framework of the Maliki rite (Zine-Dine& Maliki, 2020).

#### **8.4. Post-Casablanca bombings**

Casablanca bombings is considered another crucial paradigm shift, since there were many tremendous changes at many levels. The ministry gave urgency not only to the discourse of preaching in mosques as “the centre” of the religious life of Moroccan individuals, with the purpose to prevent the expansion of “illegal” mosques, which are supported or have close ties with “extremist groups”. But also, to the nature educational system of the imams (Al-Amri,2018; Maghraoui,2009). The ministry of endowments and religious affairs targeted the training institution for religious “functionaries” and controlling the independent religious institutions and preachers for more authority over the nature of education they have and to aid in funding to “bureaucratize” religion. Also, the new organization focused on creating new directorate of Traditional Education or what is called (A-Taalim Al-Attiq), through providing education for teachers in these schools through organizing workshops, especially for those who had not the chance to advance their own formal schooling; offering them knowledge of “modern pedagogy” and “child psychology” (Feuer,2016). In 2015, the ministry of endowments and Islamic affairs continues its efforts to assert control over religious institutions to include the institutions of higher Islamic education such as the University of Qarawiyyin which resisted the state control in the past (Feuer,2016; Hmimnat,2018).

### **9. ISLAMIC RELIGIOUS EDUCATION AND POLITICAL HEGEMONY**

Education is considered a crucial instrument to spread hegemonic legitimacy across the state. During the post-colonial era, it was a transitional phase which demanded the “construction of national identity and the bolstering of state legitimacy; hence they, too, had an interest in wresting education from the exclusive control of the learned religious elite, or ‘*ulama*.” (Feuer,2014, p. 10-11). The religious educational institutions have played a prominent role in delivering political and economic agendas. Anthony Gill in “The Political Origins of Religious Liberty” (as cited in Feuer, 2014) argues that the degree to which a state regulates the “religious market, i.e. the interaction between the religious institutions in the “public arena” is heavily influenced by the political and economic interests of the elite. Thus, the strategies of these institutors reflect the elite’s priorities, which primarily include ensuring their own political survival, raising revenues and reducing potential sources of social unrest (Feuer,2014). The religious institutions have been instrumentalized as tools to gain more hegemonic legitimacy in the state. Yet, the ministry of Endowments and Islamic Affairs has been emphasizing the separation of politics and the religious realm in Morocco, through issuing a royal statement or “*Dahir Malaki*” to ban any kind of political activity or being part in labor union, or even take a certain political position, emphasizing the importance of being committed to the religious frame of reference of Morocco and abide by it. There has been a huge confusion in the relationship between religion and politics in Morocco. Thus, the minister of Endowments and Islamic affairs finally made himself clear concerning the issue of Ulama and politics, stating that Ulama cannot find a way to disengage from politics; he went on to illustrate that this confusion is the result of the unclear distinction between politics and religion (Hamada, 2018).



In order to insure the separation of politics and religion at the educational aspect mainly, the ministry of endowments and Islamic affairs made a brave decision to fire more than 1500 of people who teach Quran in 'Kuttab', and who have been affiliated in some political parties, they also to have been teaching the Quran without certificates (Hamada, 2018). This decision reflects that obtaining an explicit double background: political and religious for religious agents is impossible in the Moroccan context; thus, highlighting that the king is only one who holds this unique dual position.

## 10. CONCLUSION

The present study has aimed at defining the concept of legitimacy through various dimensions and in multiple contexts; yet, with special attention to the Moroccan context. It has also highlighted the crucial role of the educational religious institutions to support the process of legitimacy. This study, thus, can conclude that the religious realm has witnessed many reforms and several changes at several levels; hence, responding to many political challenges that Morocco has been through. It has been highlighted as well how the religious instrument has been effective in this sense. The present study has potential limitations that touch upon the nature of the study as a review. Due to time constraints, the study just tracked down the concept of legitimacy focusing on the Moroccan case. The study would have offered a comprehensive analysis of the concept of legitimacy across various contexts, particularly in relation to Morocco. The study also could not give a larger portion of analysis to the role of educational institutions and how their critical role in producing religious agents that could accelerate the process of legitimacy.

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# PERCEPTION OF WOMEN'S ENTREPRENEURIAL PERFORMANCE IN MOROCCO

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## **ABSTRACT**

*Performance is a polysemous concept, which explains why the perception of entrepreneurial success is multidimensional, incorporating subjective personal criteria without recourse to financial criteria, which represent an objective perspective. Furthermore, the success of entrepreneurs is usually associated with the financial indicators of their company and its performance. Our study is based on ten case studies of women entrepreneurs and proposes to differentiate the classic approach based on objective criteria (Lebègue, 2015), by proposing an analysis of the perceptions of these women entrepreneurs allowing a new definition of success. In this article, we ask to what extent the definition of entrepreneurial success can be based on subjective criteria in the case of female entrepreneurship. In essence, we try to identify success criteria specific to women and how they define entrepreneurial performance.*

**Keywords:** *Entrepreneurial success; perception of success; performance; women entrepreneurship; women entrepreneurs.*

## **1. INTRODUCTION**

The aim of this article is to present the results of the exploratory study, in order to gain a better understanding of the phenomenon under study, and to provide some answers by contextualizing our problem. The findings of this phase have enriched our conceptual thinking. Analysis of all the interviews enabled us to identify the main redundant themes that emerged in this research.

## **2. PROFILE OF WOMEN ENTREPRENEURS**

### **2.1. Age and marital status**

The women entrepreneurs surveyed ranged in age from 28 to 58, and the relatively high average age observed (six out of ten women entrepreneurs were over 45) may be explained by the fact that the business owners in the sample only seized the opportunity to set up their own business and embark on entrepreneurship after starting a family. In addition, the majority of respondents (eight) were married at the time of the study. This is in line with the strong family orientation that characterizes Moroccan culture. The traditional division of family roles pushes women to prioritize family life (Constantinidis et al., 2017). It should be noted that this cultural orientation has also been reported in other contexts (Kanti Prasad et al., 2013; Lerner et al., 1997).

### **2.2. Human capital**

In order to assess the level of human capital of the women interviewed, three variables were considered: the interviewee's level of education, her field of study and her previous work experience. The results indicate that the sample generally had a high level of education and previous work experience. The majority of women had a university degree: one (1) woman had a Bachelor's degree, four (4) women had a Master's degree, two (2) had a Doctorate. One (1) woman has a university degree. Two (2) women have secondary education (Baccalaureate and high school diploma). According to Davidsson and Honig (2003), formal education is linked to the accumulation of explicit knowledge that could lead to useful skills for the entrepreneur. In this sense, Bates (1995) argues that education seems to be particularly essential for women entrepreneurs. Women entrepreneurs are said to have higher educational qualifications than men (St-Cyr, Hountondji and Beaudoin, 2003).

In terms of previous experience, seven out of ten women indicated that they were previously employed. With regard to field of study, the result confirms that the field of study of eight out of the ten women interviewed was not related to their current company. The literature shows that women-owned businesses are concentrated in trade and services (Robichaud et al., 2015; Koellinger et al., 2013; Marlow et al., 2009).

### **3. EMERGING THEMES FROM INTERVIEWS WITH MOROCCAN WOMEN ENTREPRENEURS**

#### **3.1. Networks and performance**

Several research studies confirm that access to financing and access to business networks represent the main obstacles to women's entrepreneurship (Santoni and Barth, 2014). The women entrepreneurs in our sample agree that business networks do not influence their success. As this respondent put it: *“Networking is very important, but it doesn't influence success. In my case, my network helped me a lot at the beginning to understand the needs and demands of the market. But the steps I took to develop my business were not affected by my network.* Another entrepreneur adds: *“I don't think the network helps me to develop my business”.* Women entrepreneurs' difficulty in accessing networks is more global. Historically, men have had easier access to formal business networks, having held more senior positions before setting up their own businesses (Robinson and Sturberud, 2009; Lalanne and Seabright, 2011). Gendered differences also exist within informal networks. Hisrich and Brush (1986), argue that male entrepreneurs identify the most useful “asset relationships” (lawyers, bankers, accountants, etc.). Women entrepreneurs, on the other hand, identify their best “relation-atouts” in their partners and close relations, a significant disadvantage for the entrepreneurial project in terms of access to networks, advice and information (Robinson and Stubberud, 2009). In this respect, women entrepreneurs declare that belonging to business networks does not necessarily impact their entrepreneurial success. This woman entrepreneur confirms this: *“I don't think belonging to networks is important. I have other activities apart from running my business. So it's a question of time. What's more, I can see that there's no profit in it, and no one can explain or tell you the reality of things, or the secrets of the business. Every company, every field has its secret. Nobody's going to give away their trade secret”.* Moroccan women entrepreneurs seem to be very sensitive about joining business networks (Rachdi, 2016). The words of the women entrepreneurs in our sample testify to this reticence: *“I believe that belonging to business networks is absolutely useless. I don't think that these types of business will help me at all, because it's an area that's a bit difficult to manage. I'm in the B-to-B business, and I don't think it's going to be necessary”.* Another respondent added: *“I don't think belonging to business networks helps at all. I don't think these types of businesses are going to help me in any way, because it's a field that's a bit difficult to manage. I'm kind of in the B-to-B business, and I don't think it's going to be necessary.”* In terms of diversity, some research shows that networks invested in by women are composed of a majority of women (Aldrich, 1989; Manolova et al., 2006). However, some studies show that women are more likely to have both men and women in their networks. Hampton et al. (2009) assert that the choice between women's or mixed networks depends on the stage of development of the business: during the start-up phase, women seek to break with isolation, so they turn to women's networks. Then, during the development phase, they turn to mixed networks. As one woman entrepreneur put it: *“I don't really like networks dedicated solely to women, I prefer mixed networks, as they help me get to know more people”.* This explains the inclination of women entrepreneurs towards this type of network, enabling them to bring in mainly strategic information and business opportunities. Women entrepreneurs are driven by the desire to access the same information as their male counterparts, and thus have the same potential (Blisson and Rana, 2001).

Moroccan women entrepreneurs' membership of business networks does not influence their entrepreneurial performance. This result can be partly explained in the literature by the fact that women entrepreneurs under-utilize contact networks mainly due to lack of time and interest (Bulte, 2003; Cornet, 2003; Anderson, 2001; Doyle, 2001).

### **3.2. Experience and performance**

Women with previous professional experience find it easier to accumulate the skills they need to set up their own business. Regarding the effect of experience on entrepreneurial performance, the women in our sample fall into two groups with different opinions: women entrepreneurs consider that previous experience has no effect on success, as this respondent put it: "I don't think experience is important at all, and it doesn't influence success. Personally, I didn't have any significant experience before setting up my business. However, before embarking on my project, I did a market study to find out all the elements I'd need to succeed". One respondent asserts that the accumulation of experience in the field of activity is not important, however, she indicates that it is necessary to have knowledge in basic areas such as marketing, accounting, etc. She states: "I believe that there are activities that do not require experience...but personally I believe that it is mandatory to have experience in areas of economic expertise such as accounting, commerce, marketing." However, other women entrepreneurs in our sample indicate that experience plays a very important role in entrepreneurial performance: "For me personally, what has helped me to have such a successful business is my experience. Without knowledge in the field in which the woman operates, she can never succeed". this woman entrepreneur adds: "Experience is a must. For me, there's no way you can succeed without experience... That's why I think it's important to get into a field in which you've accumulated a lot of years of experience, otherwise you'll fail before you even start". These women emphasize that their previous professional experience is a source of learning. Their previous experience has helped them to avoid mistakes made in the past: "I believe that experience helps a lot to make a project a success, in the sense that the accumulation of things a person has gone through, helps to avoid past mistakes".

### **3.3. Family-work balance**

A combination of the two types of "Push" and "Pull" motivation has emerged (Santoni, 2016). For a better opportunity where entrepreneurship nurtures personal satisfaction and makes the reconciliation of economic and family spheres possible (Eddleston and Powell, 2012). Indeed, the analysis must be made through the trade-off made by women entrepreneurs between work and family life, and to the choices they have made. In this sense, Badia et al (2013) argue that starting a business is often seen as the solution to reconciling everything, finding a solution to a stumbling block, while promoting personal and family fulfillment. Marlow and McAdam (2013), identify the challenge of family responsibilities as a general challenge for women entrepreneurs arguing that the profiles of these women reflect generalized feminized work models that take into account family responsibilities parallel to their economic activities. As one respondent put it, "I can't be successful if I can't balance my private and professional life. I need support when I'm away to help me concentrate on my work". In the same vein, this entrepreneur adds that "I feel supported by my partner. My family too. I believe that if I'm not at ease with my family and feel that I'm fulfilling my role, I can't succeed. A woman always needs support and moral backing from her family". Some women entrepreneurs say they have given priority to their family life, and that they have always wanted to balance this. As one respondent put it: "I got into entrepreneurship mainly to have more time. As a woman, I've always wanted to have more time, for myself, for my family, for my children, for my husband. For my hobbies too. She adds: "To have more time for myself. I didn't want to follow the salaried model. A woman should devote a good part of her time to her home and to herself.

I've always said to myself, for a woman to be able to reconcile her home and herself with her work, she absolutely must choose entrepreneurship as a career". Women entrepreneurs therefore choose a sector of activity that is not very fulfilling, but which they nevertheless consider positive and suitable for family life (Badia et al., 2013). This reconciliation criterion could explain the different experiences of women entrepreneurs regarding their entrepreneurial motivations. It turns out that women entrepreneurs, decide to become entrepreneurs only to reconcile work with their family life (Belghiti-Mahut et al., 2015). While women entrepreneurs who focus on their professional success first, it seems that the conflict depends heavily on financial gain. Shelton (2006), argues that women entrepreneurs who are not ambitious or high-growth oriented, may be able to reduce work-family conflict. But this reduction in conflict is not a valid reason for growth-oriented women. "I remember that when I first started out as an entrepreneur, my husband certainly backed me up and gave me moral support. But he never helped me financially".

## **4. ENTREPRENEURIAL SKILLS AND ENTREPRENEURIAL ORIENTATIONS**

### **4.1. Entrepreneurial skills and performance**

For women entrepreneurs, the results attest that culture does not impact women's entrepreneurial performance. One respondent argued that "culture doesn't necessarily impact women's entrepreneurial success. In our Hassani culture, women represent a sacred symbol. I believe that women's success depends first and foremost on their skills. I'm reminded of a Hassani proverb which states that "Man imposes his own value". In this case, it's the woman who puts herself forward, by imposing her principles on society in order to be respected". "I decided to expand my project only after taking time to better master what I needed for my project. Because I couldn't just entrust it to the team working with me. I had to feel capable first, and know that I had mastered the details of my project." Another woman entrepreneur confirms:

- "I believe that only the personal and managerial skills of the woman entrepreneur, influence her success."
- "I feel I've achieved success based on my skills."
- "I believe that success is a question of skills."

This same woman entrepreneur argues that, "I see that someone who is competent, is well trained, has enough experience. They have good communication skills. It's a combination of things like training, interpersonal and personality traits, stamina. It's all these things that make a person competent." Another respondent states:

- "I believe that it's the skills that can enable a woman entrepreneur to evolve. Even if you have a lot of capital and a very good degree, you still need to know how to manage your business".
- If you're not good at finance, you look for a friend to coach you. In any case, you either buy or subcontract. To be excellent, you always need to surround yourself with expertise.

### **4.2. Entrepreneurial orientation and performance**

Entrepreneurial orientation is generally conceptualized as comprising five dimensions, namely: risk-taking, innovation, proactivity, autonomy and competitive aggressiveness (Mandawa, 2016). Women entrepreneurs often speak of several types of character that condition entrepreneurial success. Even if each entrepreneurial journey is unique, it is nevertheless possible to identify typical characters on the path to entrepreneurial success.

#### **- Risk-taking and financing**

Women's personalities, and more specifically their propensity for risk-taking, represent a lever for project success. This character trait represents the ability of women entrepreneurs to

overcome the inevitable obstacles and disappointments inherent in the entrepreneurial process. The women in our sample display a strong aversion to risk, which can sometimes lead to project abandonment. Women entrepreneurs face a number of difficulties, including apprehension about income, and a feeling of lack of experience to make a project a success. Sometimes, this risk aversion leads them to aim to develop their project slowly, and not take the risk of seeking financing. A number of studies have highlighted the cautious attitude of women entrepreneurs towards borrowing, which some would call risk aversion. The argument most often put forward by women to justify this prudence is their need to “protect the family” and not put them in difficulty as a result of reckless borrowing (Cornet and Constantidinis, 2004). When it comes to financing their projects, our results show that the women entrepreneurs in our sample are reluctant to take out a bank loan to start up their business, or even during its development. They declare a preference for self-financing and simply refuse to take out a bank loan. As this respondent confirms: “When it comes to financing, I avoid credit as much as possible. I prefer my business to grow without taking out credit. There are a lot of risks I don't want to take. In the same vein, another respondent stated: “As far as financing is concerned, I don't take any risks. I'm against credit. I try to develop my business from personal funds. I prefer to develop step by step. I was always keen to leave money from my earnings on the side as working capital.” Women entrepreneurs in developing countries tend to avoid the risks associated with business growth, compared to their male counterparts. This search for income stability leads them to favor horizontal growth by operating in a multitude of sectors (Zogning, 2020). In this sense, one respondent states: “Personally, I'm always against credit. In the beginning, I opted for self-financing. I'm afraid of credit, I'm afraid of failure. I can't venture into this.” Income level seems to be a determining factor in women's propensity to diversify and multiply their activities, as well as wanting to develop their projects. In the literature, many authors have conducted studies on entrepreneurial risk behavior, highlighting the factors that influence their perception. These are mainly human capital and financial capital (Jayathilake, 2013). The entrepreneur is also a player who takes risks to face challenges. While the entrepreneur is never sure of the success of his business by embarking on uncertainty, he nevertheless believes in its success by taking more or less measured risks (Bousseta, 2011). According to Charness and Gneezy (2012), women invest less than men in risky assets. The authors explain this difference by risk perception and attitude to risk. For the authors, women often have a riskier perception of situations than men and are therefore inclined to take fewer risks. In addition to this difference in perception, there is also a difference in attitude towards risk (Dawson and Henly, 2015). In this sense, one of the respondents states that: I found it difficult to develop my project, and on the financing side I often wanted to win contracts, but I didn't want to take any risks, as my budget didn't allow it”. She adds: “I started with a small amount of capital. I didn't take out any loans. I really started with a small capital, I didn't want to take a lot of risk... On this side I don't really want to take risks, I try to calculate everything and calculate the maximum. I try to minimize the damage and not take a lot of risk. Even if you take more risk, there's more gain and profit, but it's still a personal perception and vision. It's still a character trait. In contrast to all these women entrepreneurs and their perceptions of risk-taking, only one woman entrepreneur claims to have taken the risk during her entrepreneurial adventure: “My little inner voice was telling me that this was a good opportunity. So I decided to take the risk, and I made the best financial transaction of my entire career.” She adds: “Failure is a very good lesson, because it's the best way to reinvent yourself and bounce back. You just have to know how to calculate the risk”. Traditionally, it was accepted that men have a higher risk appetite than women (Baker and Haslem, 1974), while some authors attest that women perceive entrepreneurial risk differently than men (Jayathilake, 2013; Zeffane, 2015; Dalborg, Friedrichs and Vincent, 2015).



In the ten principles of business creation developed by Venkataraman (2002), the analysis of entrepreneurs' fears enables him to glimpse their propensity to create a firm and succeed. According to the author, the entrepreneur's fear of failure increases the chances of success for his new venture. The comparison between men's and women's perception of risk stems from the nature of women. Confidence in the future, less pronounced lure of gain, less entrepreneurial drive, pursuit of well-being and fear of failure are all factors that would explain the differences in perception between men and women with regard to entrepreneurial risk (Badia et al., 2013; Constantinidis et al., 2017). As most research on the subject shows, women make little use of institutional financing, turning to bank credit only when necessary (Cornet and Constantidinis, 2004). English-speaking researchers (Canada and the United States) have focused on gender differences in access to financing and credit terms (Fabowale, Orser and Riding, 1994; Coleman, 2000). No appreciable difference between men and women was observed in access to financing for businesses of similar size, age and sector of activity (Carrington, 2006), as this respondent affirms: "For financing and for banks, I think it depends on the people ... women or men, it's how you manage or how you talk or how you apply or whether you're capable of doing things. For that, personally I don't see any difference." She adds, "Maybe the bank could trust a woman more than a man. Because I'm correct with the banker that I've said I give the money back I do it on time, so I don't think it's a question of woman or man it's a question of trust.". Banks are not the main source of financing for women entrepreneurs in Morocco (Salman, 2016). In the same vein, several researchers argue that women entrepreneurs borrow less than their male counterparts because they wish to "protect their families" (Bledsoe and Oatsvall, 2010 ; ; St-Cyr and Gagnon, 2003).

#### **- Innovation**

The pressure on companies to innovate in order to renew or keep their products up to date is greater than before (Shiu and Walker, 2007). An entrepreneur confirms: "Customers are not satisfied with quality of service today. We must try to innovate and be creative to retain their loyalty". Moreover, several studies have shown that innovation is associated with good performance of companies, especially small ones that can thus distinguish themselves from the competition (Thwaites and Wynarczyk, 1996). Another respondent states: "I believe that there is no mature ecosystem capable of supporting innovation. On the other hand, innovation is essential because it represents a necessary tool for social innovation."

#### **- Independence and autonomy**

The motivations that triggered the business creation process are sometimes revealing of the tensions that women experience (between the desire to flourish and the need to ensure a minimum wage) (Badia et al., 2013). As this entrepreneur points out, "I was looking for independence above all." This same entrepreneur adds that: "entrepreneurship has guaranteed me personal independence above all. By having my own project, I have had financial independence. These were my goals from the beginning of my entrepreneurial adventure. Success is the achievement of my financial and personal independence." According to Mougenot A (1988), becoming an entrepreneur can be seen as a personal development and fulfillment. The notion of entrepreneur is linked to the ability to manage one's own work (Donckels, 1984). Indeed, certain personality traits of entrepreneurs can make it so that "their independence is the most desirable thing in the world" (Sweeney, 1982). As this entrepreneur confirms: "My greatest motivation to succeed in my project is to be financially independent." She adds: "Freedom and independence are very important for a female entrepreneur." The motivation to start an entrepreneurship may result from the desire to no longer be accountable to a hierarchical authority. The female entrepreneurs in our sample present themselves as a result of a character that cannot tolerate the restrictive framework of hierarchy and the modes

of social relations that prevail in the company. Starting an entrepreneurship is motivated by the aspiration to define one's own work environment, and to be solely responsible for one's successes or failures (Badia et al., 2013). This notion is related to personal accomplishment, given that the change in status is perceived as an escape from overly difficult working conditions. As this respondent confirms: "I started a business because I always wanted to be in control of myself... to be independent." The entrepreneur has the possibility of acting according to his or her own ideas and initiatives (Donckels, 1984). His or her status allows him or her to escape the sometimes excessive constraints that a worker may experience in his or her professional environment. Salman (2016), states that the main motivations of women business leaders in Morocco are the need for professional autonomy and personal accomplishment.

### **- Personality traits**

Research conducted in the field of entrepreneurship has long favored the economic and sociological approach and more recently the managerial approach in explaining the act of entrepreneurship (factors of success and sustainability of the business). Even if the economic and social conditions are important, except that the psychological aspects (motivation, perception, personality). Are also decisive in the creation, maintenance and development of the business. A stream of research in entrepreneurship developed by Gartner (1988), on the trait approach, was interested in identifying and validating distinctive psychological traits of the entrepreneur. In the same vein, a factor likely to explain success is that of the character traits of the entrepreneur himself (Achour, 2014). The author suggests that the desire to undertake, the competitive spirit, knowing how to take risks, initiatives, and having a sense of responsibility, represent characteristics that promote entrepreneurial success. The entrepreneur is therefore supposed to have personality traits that differentiate him from the ordinary individual and predispose him to entrepreneurial activity, as confirmed by most of the female entrepreneurs interviewed. Indeed, one entrepreneur states: "Personally, I don't think there is a general rule for entrepreneurial success. It all depends on the personality of the entrepreneur. Her experience. Her vision of the thing." In the same vein, another respondent said, "I think that a woman's willpower decides her success." This entrepreneur adds: "self-confidence. Success depends mainly on her motivations and her confidence in what she does." Another entrepreneur adds, "I think that to succeed, you have to have patience." Psychological factors have a significant influence on the perception, choice, and orientation of the entrepreneur's behavior. It is also important to emphasize that the perception of constraints related to the environment differs from one entrepreneur to another, which explains the success of some entrepreneurs better than others, even in a similar environment. "A set of qualities that must be had to succeed: perseverance, passion, commitment." A respondent states; "Generally speaking, women are more serious, more correct. They have endurance, they give themselves to the thing 100%." This female entrepreneur adds that: "Women are hard workers, in this case it is endurance, as well as the foresight of things... so women are capable, because I see that they are very serious. When she takes the thing in hand, she does it correctly. She works meticulously and is characterized by endurance. She is attached to the thing... so seriousness and endurance are the qualities that advance the project well. And especially managing your business yourself." Personality traits play an important role in the entrepreneurial success of women in Morocco. In this sense, Boussetta (2011) argues that women are considered "normative and intuitive, fast and resourceful". Women often aim for goals that go beyond the performance of their business. A respondent highlighted the role of character traits in entrepreneurial success: "You have to be a hands-on woman. And above all, you have to follow your work and insure it yourself." She added: "In the insurance sector, there is no difference between men and women. On the contrary, I believe that performance depends on the work and diligence of the entrepreneur."

This emerging theme that identifies personality traits as a determinant of entrepreneurial success supports previous research that has identified hard work and determination as relevant qualities of entrepreneurs in general and women in particular. For example, some women entrepreneurs interviewed in a study conducted in Canada attributed their success to their hard work and determination (Lee-Gosselin & Grise, 1990). This entrepreneur confirms that: "From the day I got into entrepreneurship, I had to work seriously, in a field as unstable as this one, you have to stand out by being serious. And be hardworking." The same observation is made by the other interviewed entrepreneurs, the presence of tough competition in certain sectors, the suffering of low profit margins. It follows that to survive the difficult conditions highlighted, women entrepreneurs in this research context must have an ethic of hard work and determination. This respondent confirms this: "There is a lot of competition in this field, but I based myself on the seriousness of my work.". This same entrepreneur says that "I encountered a lot of disturbances but I imposed myself.". Another conclusion is that enthusiasm, patience, strong personality, ambition, courage, self-confidence, perseverance, common sense and generally emotional intelligence as indicated by the interviewed women entrepreneurs, all these personality traits contribute significantly to the construction of personal skills. Indeed, this means that they are necessary entrepreneurial attributes in this research context. The importance of enthusiasm and patience in business has also been highlighted in the literature. There is a positive relationship between an entrepreneur's enthusiasm at work and the non-economic performance of the company (Leitao and Franco, 2011). In the same sense, Kirby (2004) and Lee Gosselin and Grise (1990), identified patience as one of the necessary attributes for an entrepreneur. This interviewee confirms this: "Once the female entrepreneur knows how to assert herself, and she has a strong personality, she finds no problem." This woman adds that "The entrepreneur must constantly train, inform herself and she must always be up to date with her field or sector of activity, even by doing competitive intelligence to stand out. These are the keys to success." Another respondent adds: "I decided not to give up, because I had great belief in my project idea and I was too sure that it was going to be a success." The dimensions of the construction of personal skills represent important elements in the entrepreneur. Ensley et al. (2000) note that leadership skills are part of the human skills that entrepreneurs must possess. This is particularly true because the entrepreneur develops the vision of the company, establishes the operating rules and gives direction to his company (Jensen and Luthans, 2006). Several studies emphasize the values and personality of the entrepreneur of successful entrepreneurs. We find the contribution of Weber (1967), according to which the beliefs of a person will act on the way he conducts his business. Thus the belief of the entrepreneur establishes boldness, rigor and hard work, which promotes a happy outcome to the entrepreneurial adventure. The women entrepreneurs interviewed emphasize personal characteristics, as a key factor in their success and entrepreneurial achievement, namely: perseverance, ambition, courage, personal motivation. This respondent confirms: "A female entrepreneur must be strong. Because at the beginning, she will find many constraints. She must be persevering, and also ambitious, courageous and she must see far to succeed." Another female entrepreneur adds "I believe that to succeed, you have to have self-confidence, do things with consistency and relevance." In addition to these personal characteristics, which represent a condition of success for the women entrepreneurs in our sample, they add that entrepreneurial failure must be avoided by having more self-confidence and avoiding the fear that constitutes a real obstacle to their entrepreneurial success: "I believe that one of the main reasons for entrepreneurial failure is the fear of failure... First of all, you have to have self-esteem, and you have to have confidence in yourself beyond the norm." Other research examines the relationship between the personality of entrepreneurs and their chances of success. The work of McClelland (1961) is the basis of this research stream.

Today, the literature is full of variables related to the personality of the creator that are supposed to act on the success of his or her approach (Moreau, 2007b). Characteristics come up most often: the entrepreneur must be autonomous, be willing to take risks, solve problems quickly, have the ability to innovate and detect opportunities, and know how to adapt to all situations (Byers, Kist and Sutton, 2000). This respondent states: "I believe that courage and personal motivation lead to success. So you should never have small ambitions. Success is achievable when you work hard." This entrepreneur adds that: "To succeed, you have to retain perseverance, exemplarity... an entrepreneur must be exemplary with himself, with his colleagues, his suppliers because that forges the culture and the idea of the company." The entrepreneurs in our sample believe that you have to follow your inner voice to succeed: "You have to listen to your common sense and your inner voice to succeed." They also mention emotional intelligence as a criterion for entrepreneurial success for women: - "Personally, I think that one of the performance criteria for women entrepreneurs is their emotional intelligence. We wear many hats, we are resilient, it is a performance criterion, for me we do not count our working hours and we can move from one subject to another very quickly... I can tell you that emotional intelligence is essential in performance both with your customers and your employees." Determination is supposed to describe entrepreneurial behavior and has been identified with successful entrepreneurs (Thompson et al., 1997; Lee-Gosselin and Grise, 1990). For example, some women entrepreneurs interviewed in a study conducted in Canada attributed their success to their hard work and determination. As this entrepreneur states: "Success is constant work, constant reflection, curiosity, questioning to always look for opportunities." She adds: "You also need to have what are now called soft skills, to better succeed in your project." In the same vein, another respondent states: "Women feel as capable of succeeding as men, the woman who decides, and who has the capacity, she can do much more than the man. We have the quality to do many things at the same time that the man does not have. We have the capacity to do many things, and that helps a lot to work and organize."

## **5. PERCEPTION OF PERFORMANCE AND THE MEANING OF SUCCESS**

What do women entrepreneurs in Morocco associate with the entrepreneurial success of their projects?

### **5.1. Success-Customer satisfaction**

The women entrepreneurs in our sample link success to the satisfaction of their customers. In this sense, St-Pierre et al. (2011) and Vier-Machado and Rouleau (2002) conclude that the satisfaction of entrepreneurs depends on the satisfaction of other people. In this sense, one entrepreneur states: "Personally, the success of my business is when students finish their school curriculum with a very good academic level. At that moment, I believe that I have succeeded, and that I have achieved my goal. I feel my success when in recent years, some of my students have all obtained advanced rankings at the regional level. I believe that this is my greatest success." She adds: "I consider my first success to be the academic success of my students."

Cornet and Constantinidis (2004) suggest that among the objectives frequently put forward by women entrepreneurs, we find a concern to improve the quality of the offer of products and services, and respect for customers. As this respondent confirms: "I mainly aim for the satisfaction of my customers to succeed in my project. It is their satisfaction that makes me successful. I believe that my entrepreneurial success is based on the satisfaction of my customers. Customers represent the sustainability of my business." Another female entrepreneur adds: "For a business to be successful, you must first seek the quality of the products, to be able to keep the customers." A survey conducted by the SME center concludes that businesses run by women are just as successful as those run by men (Cornet and Constantinidis, 2004). As this female entrepreneur explains: "So I believe that it doesn't matter whether you are a woman or a man, there is no difference. I believe that you have to offer

quality of service, it is this quality that determines the most efficient. Customers do not look for whether the owner is a woman or a man, what matters most to them is the quality of the service we offer, being attentive to them in case of inconvenience... I target customers to succeed. So the key to any entrepreneurial success is customers." A woman questioned on her perception of the notion of entrepreneurial performance explains: "You have to be sociable, to be efficient, customers cannot trust you, if you are not sociable and flexible... There is word of mouth, so by keeping good contact with my customers, I gain many more customers and therefore, I increase my market share". This female entrepreneur adds: "To succeed in this field, we simply have to present quality services to customers and always be available." Salman (2016) confirms that Moroccan women entrepreneurs try to maintain a special relationship with their customers and keep exclusive contact, in order to consolidate their business and ensure its continuity. In the case of our study, women entrepreneurs aim for differentiation and flexibility during the sales process. They consider that success depends on choosing customers who share the same value system as them:

- "You have to differentiate yourself to gain market share and be efficient. First of all, adapt to the customer, be flexible and offer them a better quality of service."

- "To succeed, I believe that you have to look for customers who have the same value systems as us. There is no point in exhausting yourself and going to sell a product to a customer who does not share the same vision as us."

The women entrepreneurs in our sample believe that customers play a very important role in financing their projects. Thus, economic criteria play a role in defining entrepreneurial success. These refer to the desire of entrepreneurs to develop a clientele and generate a decent income from their work (Lebègue, 2015). This respondent confirms this: "The best financier is not the banker, he is only there when there is money. The banker is a rent-seeking spirit, he does not take risks. The best financier is your customer." The same entrepreneur adds: "In a very competitive context, when you believe in your product, customers believe you, as we say in English (They believe on what you believe). Products have an emotional charge, and when a customer feels the emotional charge, he is ready to pay more and consume your product."

## **5.2. Success-motivations**

The performance and success of an entrepreneur is often considered a function of demographic variables, attributes and characteristics of individuals and their motivation to engage in entrepreneurial activity (Bird, 1993). As this respondent confirms: "Success is that I work in a field that I like and I feel motivated every day to work there. Another entrepreneur adds: "I got into entrepreneurship out of love for the field of event planning. I launched myself with the belief that I could succeed in my project because I love it." Fouquet (2005) explains that the motivations behind businesses vary greatly, such as the desire to design the work/life interface yourself, to have greater freedom and autonomy. This entrepreneur confirms: "I launched myself into entrepreneurship because I knew that my profile was that of a "business woman", I felt that I would give the most in entrepreneurship, and that success would be easier than by remaining an employee all your life." A study by Batory and Batory (1992) showed that female entrepreneurs were more motivated than men on two levels: the desire to make a better quality product and the desire to flourish in a job that is important to them. As the response of this interviewee confirms: "Being an entrepreneur is a vocation, it is not an easy path. Because entrepreneurship structurally in our country is not something instinctive.". Thus, women are almost twice as motivated as their male counterparts by the possibility of being more creative in their work (McGreagor and Tweed, 2000). One interviewee confirms: "We cannot work or undertake in fatality. We look for motivation... Working must be a pleasure. We must work in

joy.". This FEM adds that: "If you are not straight in your goals and motivated by your project. You will fail.".

Furthermore, growth intentions, representative of women's motivations and their definition of success, can also explain performance (Orser and Horgarth-Scott, 1995; Cliff, 1998).

### **5.3. Success of the entrepreneurial career**

#### *Success is not material:*

Studies conducted on entrepreneurial success integrate objective and subjective elements. Lebègue (2015) states that researchers conducting work on female entrepreneurship have identified that female entrepreneurs would give more space to more subjective assessment elements. The author adds that no vocation for growth and profit is proposed by female entrepreneurs. Thus, economic ambitions can be evaluated from a personal point of view. As the female entrepreneurs in our sample emphasize: "It is not material success that matters to me." Another respondent confirms: "Personally, money is not important to me. Being successful is summed up in winning a large number of clients, and a good reputation with the quality of services that I offer." This entrepreneur suggests that: "at the beginning of the adventure I did not project myself into gains and profit. I initially focused on the quality of my services... so at the beginning I did not think about profit, it was after the fact of providing the effort and gaining the trust of my clients, at that time, I began to think about what the project could have as a gain and its added value." She adds: "Money is not the ultimate goal." Several authors corroborate that studies on the performance of women entrepreneurs should be able to analyze several parameters, namely first understanding the conception of their performance. In the sense that, for women entrepreneurs, the financial aspect does not generally represent the purpose of their business, and their success is rather linked to elements of intrinsic satisfaction characterized by customer recognition, achievement, balance, perseverance (Lee-Gosselin, Houssieaux and Villeneuve, 2010); Robichaud et al., 2005). As confirmed by the entrepreneurs in our sample: "You have to forget the material side. You have to make a mark in society. You have to aim to achieve moral success... For example, at the beginning, I did not create the company to make money". Another entrepreneur adds: "I think that success does not only exist in the material, personally I think that success is a combination of what is material and what is moral. It is rather both at the same time". Therefore, it is necessary to advocate the idea of also considering performance indicators that are linked to the different objectives and motivations of women entrepreneurs. In this vein, Galindo and Ribeiro (2011), advance the link between the motivations, objectives and performance of women entrepreneurs. This entrepreneur states: "Certainly I earn less my living, than when I was a marketing director before in a large medical industry. But I can assure you that money is not the driving force."

#### *The choice of the sector of activity:*

The women in our sample think that there are sectors where women are more present, and excel better than men: "There is a difference between women and men in other things, but in work and success there are no differences... I do not see any difference between a man and a woman. On the contrary, I see that the education sector is basically made for women given their nature. Sometimes I feel that parents trust women more than men." The choice of sector of activity remains strongly influenced by gender realities. Thus, women entrepreneurs invest mainly in traditionally female sectors (Cornet and Constandtidinis, 2004). As this female entrepreneur confirms: "The field in which I operate, there is no difference between women and men in terms of success. On the contrary, I believe that the biomedical sector is a sector where women are better positioned."

The women entrepreneurs in our sample explain that they had to fight to establish their credibility: "I believe a lot in the complementarity between men and women. But you shouldn't expect to be given your place. You have to snatch it."

The results of our study show that women entrepreneurs think that there is no general model for success.

- "You can't understand everything about a successful model. These are secrets of success. So it's a whole range of things that lead to success."

- "I created this company that was profitable the first year, with very little investment."

The impact of culture on success

- "Moroccan culture does not necessarily help in entrepreneurship, the female entrepreneur must prepare a formula, to be able to adapt to this culture... At the beginning I felt that the voice of a woman on the phone did not give confidence to customers. A woman did not rhyme with company, business. Currently this is outdated "

- "We live in a country with cultural norms and a French-speaking culture which, unlike the Anglo-Saxon culture, does not encourage risk-taking."

- "I believe that culture cannot impact success, we have a patriarchal society, like almost everywhere. It is disturbing, there are some problems, certainly but it does not impact, in my field there are no problems anyway."

Slow but sure development

- "I avoid the maximum of credit. I prefer to develop my business step by step, as they say slowly but surely. I do not aim for rapid development, if the entrepreneur does not have a solid base, she will never be able to survive."

- "At the beginning, with all the investment charges, the entrepreneur should not think about the gains quickly, only after being installed should you think about the strategy for success."

- "You have to act step by step, otherwise you can easily get burned."

### **Participative management style**

On the organizational side, women's leadership is recognized as being more democratic and relational (St-Pierre et al., 2011). Furthermore, studies on female entrepreneurship show that women adopt a more participative management style. As this respondent confirms: "I always aim to establish a team spirit within my agencies, it impacts their productivity. If employees feel comfortable, it will automatically have an impact on the way they work and how they treat customers, in my absence." Several studies have looked at the characteristics and managerial styles of men and women (Filion, 1997), to justify and explain their results at the head of companies (McKinsey et Co, 2008). Thus, women exercise participative, transformational and people-oriented leadership.

### **Obstacles related to the development of female entrepreneurship**

Accessibility to a set of resources is considered the main component in entrepreneurship, such as, for example, access to markets, venture capital, state aid and support from support structures (Lacasse, 1990). This environment can lead to the failure of the project. The results show that the relationship with the administration and public institutions impacts the entrepreneurial success of the women interviewed. As this female entrepreneur indicates: "What most hinders the development of female entrepreneurs is rather the administrative and institutional procedures." Salman (2016), argues that administrative procedures represent an obstacle for Moroccan female entrepreneurs, which has made their entrepreneurial journey difficult. The author adds that public administration negatively influences even at the level of the project development phase. This respondent confirms this: "Generally speaking, among the disadvantages, or I would say the obstacles linked to the development of my business and which slow down its development, it is the particularity of the sector... in this sense what also slows

down is the restrictions put in place by the entity in charge, I believe that it is institutional and linked to the whole field whether it is a male or female entrepreneur." In the Moroccan context, the complexity and slowness of administrative procedures constitute an obstacle to the success of women entrepreneurs.

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# BEYOND PRESCRIPTIONS: REVISITING SITUATIONAL LEADERSHIP THEORY THROUGH BIBLIOMETRIC ANALYSIS AND CROSS-CULTURAL INSIGHTS

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## ABSTRACT

*This study offers a state-of-the-art literature review and bibliometric analysis of Situational Leadership Theory (SLT), focusing on foundational principles, empirical evaluations, and cross-cultural applicability. Using a dataset from the Web of Science, we conducted a detailed bibliometric analysis that includes bibliographic coupling, Multiple Correspondence Analysis (MCA) and thematic mapping techniques, employing tools like Bibliometrix in R Studio. Our analysis identified influential works and clusters within SLT research, highlighting two primary themes: SLT's adaptability in developmental leadership contexts and its alignment with ethical and cross-cultural considerations. The findings reveal SLT's enduring relevance, particularly in educational and training environments where leader adaptability enhances engagement and learning. However, the analysis underscores empirical challenges, especially regarding applicability across job levels and diverse cultural settings. The results suggest that SLT would benefit from culturally sensitive adaptations and the integration of objective metrics to improve its reliability. This study advances understanding of SLT's role in fostering situationally responsive, ethically grounded, and culturally attuned leadership practices, with implications for refining the theory to meet the demands of a global, dynamic workforce.*

**Keywords:** *Cross-Cultural Insights, Situational Leadership*

## 1. THEORY DEVELOPMENT

Situational Leadership Theory (SLT), introduced by Hersey and Blanchard (1969), has significantly influenced leadership studies through its adaptive model, proposing that effective leadership arises from adjusting one's style according to followers' readiness, defined by competence and commitment (Blanchard et al., 1993). SLT suggests four primary styles—Telling, Selling, Participating, and Delegating—tailored to follower development levels. Despite its popularity in management, SLT has faced extensive critique regarding empirical support, cross-cultural adaptability, and the relevance of its prescriptive model. This literature review synthesizes foundational theories, empirical tests, critiques, and adaptations across cultural and organizational contexts.

### Foundational Theory and Prescriptive Model

SLT's foundational model aligns leaders' behavior with followers' developmental stage, advocating adaptability through directive and supportive behaviors (Hersey et al., 1982). Hersey and Blanchard's (1982) four-style model posits that the Telling style suits low-readiness followers, while Delegating is appropriate for high-maturity followers. Blanchard et al. (1993) later refined SLT with SLT-II, incorporating psychological states and emphasizing a developmentally adaptive leadership style. This version underscores SLT's alignment with dynamic, follower-centered management, highlighting adaptability as critical for leadership effectiveness (Blanchard et al., 1993). Graeff (1983) critiqued SLT's model, arguing that the maturity construct lacks clear operationalization, with SLT's reliance on subjective assessments undermining its reliability.

He noted ambiguities in readiness classifications, suggesting a need for clearer guidelines (Graeff, 1983). Vecchio (1987) further tested SLT among high school teachers, finding that SLT's structured approach benefited lower-maturity followers, but was less effective for experienced followers. Vecchio's study, a foundational empirical test of SLT, prompted ongoing examination of SLT's prescriptive model.

### **Empirical Tests and Criticisms**

Extensive empirical tests of SLT have yielded mixed results. Goodson, McGee, and Cashman (1989) evaluated SLT's prescriptions but found inconsistencies in the theory's ability to predict effective leadership outcomes. Their study noted that SLT's directive styles may suit beginner-level employees but are less effective for advanced roles, questioning SLT's generalizability across readiness levels. Thompson and Vecchio (2009) expanded on these critiques by testing multiple SLT adaptations, incorporating situational factors like job autonomy and task complexity. Though promising, their findings indicated that SLT's rigid model limits adaptability, particularly in high-autonomy settings, where flexibility is essential for leadership effectiveness. Building on SLT's limitations, Papworth, Milne, and Boak (2009) tested SLT in clinical supervision, finding that SLT's flexibility suits professions requiring adaptive methods but that certain prescriptive styles do not align with specific clinical needs. This context-specific application underscores the challenges of applying SLT uniformly across diverse professions (Papworth et al., 2009). In contrast, Norris and Vecchio (1992) investigated SLT in a healthcare setting with nurses, affirming that directive styles enhance performance at lower-maturity levels, yet SLT's predictive power diminishes as follower maturity increases, suggesting that a uniform application may be oversimplified.

### **Leader-Follower Congruence as an Alternative Validation**

To address SLT's empirical challenges, Thompson and Glasø (2018) proposed a leader-follower congruence model, positing that SLT's effectiveness improves when leaders and followers agree on follower readiness. This congruence-based model found partial empirical support, revealing that alignment between leader perceptions and follower self-assessments enhances leadership effectiveness (Thompson & Glasø, 2018). However, Vecchio et al. (2009) argued that subjective congruence measures remain limiting, proposing the use of objective indicators, such as tenure and experience, to improve SLT's validity. This congruence approach highlights the need for more precise assessments of follower readiness.

### **Cross-Cultural Perspectives and SLT's Adaptability**

SLT's application across cultures reveals both its adaptability and limitations. Silverthorne (2000) studied SLT's effectiveness in Taiwan, finding that Taiwanese managers preferred directive approaches (aligned with SLT's Telling style) to enhance productivity, contrasting with Western participative styles. This research highlights SLT's need for cultural adjustments to accommodate hierarchical and high power distance cultural norms (Silverthorne, 2000). Similarly, Papworth et al. (2009) found that SLT's prescriptive styles did not always align with clinical supervisory behaviors, underscoring SLT's need for flexibility across culturally diverse settings. Hersey et al. (1982) highlighted the theory's universality by emphasizing adaptive leadership in classroom environments, where developmental focus enhances student engagement. However, Blanchard et al. (1993) argued that SLT's prescriptive nature may require adjustment for different professional contexts, suggesting that culture-sensitive adaptations could enhance SLT's relevance in global workplaces (Blanchard et al., 1993).

### **Ethical and Social Contexts in SLT**

SLT's prescriptive model aligns with ethical and supportive leadership, which emphasizes the adaptability of directive and supportive behaviors based on follower needs. Ashforth's (1994) concept of *petty tyranny* cautions against authoritarian leadership, illustrating how misaligned directive styles harm employee morale. This critique aligns with SLT's core principle of adaptable leadership, warning that excessive control undermines follower development. Zohar and Luria (2004) expanded SLT's implications by examining safety climate, finding that supervisory consistency in safety practices builds a strong safety climate, aligning with SLT's adaptability. Their study emphasizes that SLT's directive styles are effective in high-risk environments, where leaders must establish and reinforce strict behavioral expectations to ensure workplace safety. This study aligns SLT's adaptive model with practical implications, where situational demands warrant a directive approach. Judge and Ferris (1993) further explored SLT's ethical dimensions by examining the *social context of performance evaluation*, revealing that performance assessments are shaped by interpersonal dynamics, organizational culture, and leader-follower relationships. They suggested that SLT's model may overlook important social factors influencing evaluations, indicating a need for SLT to integrate social context as part of adaptive leadership.

### **Current and Future Directions**

SLT's adaptability remains relevant in contemporary management, yet empirical findings emphasize a need for contextual adaptations. Graeff (1983) and Vecchio et al. (2009) criticized SLT's prescriptive nature, advocating for evidence-based updates that incorporate objective metrics like tenure and role experience to define follower readiness. The cross-cultural studies by Silverthorne (2000) and Papworth et al. (2009) demonstrate that SLT's application requires adjustments based on cultural and professional contexts, suggesting that cultural flexibility enhances SLT's practical value. Integrating leader-follower congruence, as suggested by Thompson and Glasø (2018), could increase SLT's predictive accuracy by aligning leader perceptions with follower self-assessments. Additionally, future adaptations may benefit from incorporating situational factors, as suggested by Thompson and Vecchio (2009), to improve SLT's application across varied job levels. Overall, the inclusion of objective metrics, cultural considerations, and ethical adaptability could enhance SLT's predictive power, allowing leaders to tailor their approach to meet complex organizational demands. Situational Leadership Theory remains a foundational model in leadership studies, valued for its adaptive approach to leadership. However, empirical tests by Vecchio (1987), Goodson et al. (1989), and others indicate limitations in SLT's prescriptive model, particularly across diverse maturity levels and cultural contexts. Cross-cultural studies highlight SLT's need for cultural calibration, while leader-follower congruence models offer promising avenues for enhancing SLT's relevance. This review underscores SLT's value in fostering adaptable leadership while emphasizing a need for evidence-based, culturally aware adaptations that align with modern workplace demands.

## **2. METHOD AND DATA COLLECTION**

This research applies bibliometric analysis to evaluate foundational and contemporary literature on situational leadership, using the Web of Science (WoS) Core Collection™ as its data source. The dataset includes 425 articles specifically focused on situational leadership in the domains of management, business, economics, and finance, sourced through a topic-based search conducted in November 2024. Articles were selected by refining initial results from 1457 article to include only relevant categories and exclude books, editorials, and conference proceedings.

Visualization tool Bibliometrix in R Studio is used to enhance data representation. The goal is to review existing literature comprehensively, offer insights into prominent research areas, and highlight directions for future study in transformational leadership.

## **2.1. Clustering by coupling**

In our bibliometric analysis, specifically through clustering by bibliographic coupling, we identified two main clusters within the situational leadership literature. Each cluster represented distinct thematic areas:

- **Cluster 1: Foundational Theories and Models in Situational Leadership**

This cluster establishes situational leadership as a framework rooted in adaptability and responsive decision-making, with a focus on balancing directive and supportive behaviors according to team needs. Leaders in this cluster are encouraged to assess follower readiness, skill levels, and motivation, adapting their approach to foster both task achievement and positive relationships. This foundation allows leaders to navigate complex leader-follower dynamics and make situational adjustments that align with the evolving needs of both individuals and teams. By emphasizing theoretical adaptability, this cluster reinforces situational leadership as a flexible, context-driven model that provides the groundwork for developing transformational qualities in leaders. In doing so, it positions leaders to be proactive and intentional in guiding diverse teams, fostering cohesion, and driving progress through nuanced and effective engagement.

### **Cluster 1: Foundational Theories and Models in Situational Leadership**

This cluster focuses on the core principles and theoretical foundations of situational leadership such as:

- **Adaptability in Leadership Styles:**

Emphasizes leaders' ability to adjust their style (directive, supportive, participative, or delegative) based on situational factors. This adaptability is a fundamental principle in situational leadership theory.

- **Leader-Follower Dynamics:**

Explores how leaders assess follower readiness (motivation and skill level) to determine appropriate leadership behavior. This theme centers on the interactions between leaders and team members, highlighting the responsive nature of situational leadership.

- **Evolution of Situational Leadership Theory:**

Examines the development and refinement of situational leadership frameworks, often incorporating concepts from transformational and transactional leadership. This theme reflects how the theory has evolved to address diverse organizational needs.

- **Task vs. Relationship Orientation:**

Studies in this theme explore how leaders balance a focus on task completion with the importance of fostering positive relationships, emphasizing the flexibility required in situational leadership.

### **Cluster 2: Applied Situational Leadership and Behavioral Impacts**

Focused on real-world applications, Cluster 2 highlights how situational leadership influences team outcomes, employee well-being, and adaptability within multicultural and organizational contexts. Leaders applying this approach are shown to have a positive impact on team

performance and productivity, leveraging situational awareness to tailor support and direction in ways that promote motivation and reduce burnout. This cluster underscores the value of situational leadership in enhancing job satisfaction and morale, particularly in high-stress or culturally diverse environments. Leaders in this domain are encouraged to develop a versatile skill set, emphasizing emotional intelligence, cultural sensitivity, and continuous growth. As a result, this applied perspective on situational leadership cultivates leaders who can inspire resilience, inclusivity, and adaptability, ensuring team and organizational success across varying conditions and challenges. Most prominent themes include:

- **Impact on Team Performance and Productivity:**

Analyzes how adaptive leadership styles influence team outcomes, including productivity and efficiency. Leaders' adaptability in style has a direct effect on achieving organizational goals and enhancing team performance.

- **Psychological Well-being and Job Satisfaction:**

Investigates how supportive situational leadership styles impact employee well-being, reduce burnout, and increase job satisfaction. This theme underscores the human-centered aspect of situational leadership.

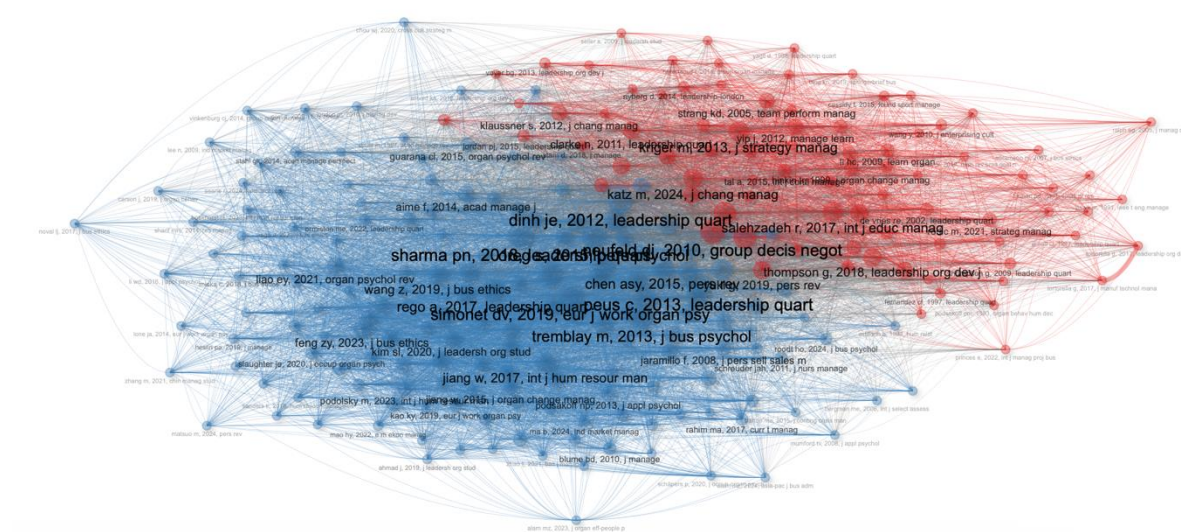
- **Cultural and Contextual Adaptability:**

Explores situational leadership in cross-cultural or diverse environments, highlighting how leaders adjust their style based on cultural norms and organizational context. This adaptability is essential in multinational or diverse teams.

- **Developmental and Training Implications:**

Focuses on how situational leadership skills can be developed through training, emphasizing the role of adaptability, emotional intelligence, and situational awareness in leadership development programs.

*Figure 1 Clustering by coupling*



## 2.2. Thematic Map Analysis: Clusters and Quadrants

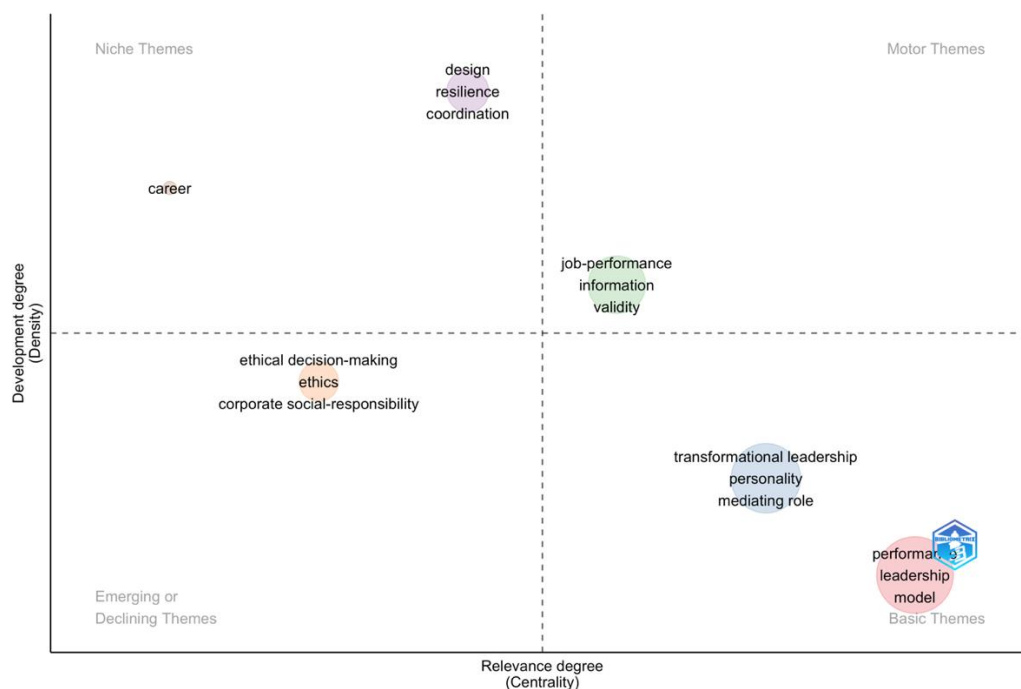
The thematic analysis of Situational Leadership Theory (SLT) reveals six primary themes that underscore the theory's core principles and applications. These themes illustrate SLT's focus on performance, transformational leadership, ethical decision-making, and adaptability, as well as the nuanced roles of job-performance metrics and design principles in fostering effective, responsive leadership.

- Niche Themes: "Design" and "Career"

**Design:** Located in the "Niche Themes" quadrant, the design cluster includes terms such as “resilience,” “coordination,” and “countries.” Being a niche theme, “design” is highly developed but has low centrality, meaning it is dense in its own specialized area but less connected across broader themes. The high density suggests that “design” operates as a specific focus area, likely relevant for specialized applications such as international projects or resilience planning, rather than having a wide-reaching impact across all themes.

**Career:** Also in the "Niche Themes" quadrant, "career" serves as a focused area with relatively high development but low centrality, implying it is a specialized area of interest. The low centrality suggests it plays a lesser role in linking with other themes, indicating that career-related discussions may remain concentrated on personal development rather than integrating with organizational or strategic themes.

*Figure 2 Thematic Map Analysis: Clusters and Quadrants*



- Motor Themes: "Job-Performance"

**Job-Performance:** Positioned in the "Motor Themes" quadrant, this cluster includes terms like “information,” “validity,” and “situation.” As a motor theme, job-performance is both highly central and developed, suggesting it plays a crucial role in driving the broader thematic structure. High centrality means it has strong relevance across multiple clusters, linking with essential areas like leadership, organizational effectiveness, and individual contributions. This positioning emphasizes job-performance as a critical, influential theme that underpins the success and productivity of both individuals and organizations.



- **Basic Themes: "Transformational Leadership" and "Performance"**

**Transformational Leadership:** Found in the "Basic Themes" quadrant alongside related terms such as "personality" and "mediating role," transformational leadership is central but less developed than motor themes. This cluster forms the foundational concepts in the thematic network, suggesting that transformational leadership is essential yet still evolving. Its high centrality indicates that it links well with other themes, such as motivation and change, but as a foundational theme, it may require further development to increase its density and specialized applications.

**Performance:** Also in the "Basic Themes" quadrant, the performance cluster, which includes terms like "leadership" and "model," is essential in providing a basis for understanding organizational outcomes. This cluster's placement indicates it is widely applicable and central but less developed in specific applications. Its foundational status highlights performance as a primary concern across various fields, connecting with other themes such as job satisfaction and leadership effectiveness.

- **Emerging or Declining Themes: "Ethical Decision-Making"**

**Ethical Decision-Making:** Positioned in the "Emerging or Declining Themes" quadrant, this cluster includes terms like "ethics" and "corporate social responsibility." This placement suggests that ethical decision-making currently has low density and centrality, indicating it may either be emerging as a new area of interest or declining in relevance within the current thematic structure. Its low centrality implies limited connectivity with other themes, which may suggest that ethical concerns are not yet fully integrated into broader discussions on performance and leadership. However, as an emerging area, this cluster has the potential to grow in relevance as organizations increasingly focus on social responsibility.

### **2.3. Multiple Correspondence Analysis (MCA)**

MCA is a statistical technique used primarily for analyzing categorical data (Abdi & Valentin, 2007), allowing researchers to identify and visualize relationships between multiple categorical variables. MCA extends the ideas of Correspondence Analysis (CA), which is typically used for two categorical variables, to handle more than two, making it particularly useful for complex datasets.

Based on the Multiple Correspondence Analysis (MCA) plot it illustrates how various terms and themes relate to each other within the situational leadership framework. The MCA map is divided along two dimensions (Dim 1 and Dim 2), each representing an axis that encapsulates different aspects of the thematic relationships:

- **Dimension 1 (X-Axis): Thematic Orientation**

The x-axis (Dim 1) appears to capture the distinction between individual and relational aspects of leadership:

On the left side of Dim 1, we see terms like "job satisfaction," "information," "validity," "situational judgment tests," and "job performance." This side likely represents themes focused on individual outcomes and assessments, such as evaluating job satisfaction, individual performance, and judgment.

On the right side of Dim 1, terms like "transformational leadership," "transactional leadership," "member exchange," and "self-efficacy" appear, suggesting themes that emphasize leader-member relationships and relational dynamics within leadership styles. This dimension thus moves from individual-focused concepts on the left to relational or group-oriented concepts on the right.

- Dimension 2 (Y-Axis): Developmental and Contextual Orientation

The y-axis (Dim 2) seems to distinguish between foundational theories and broader organizational or contextual aspects:

The upper part of Dim 2 features terms such as "context," "organization," "trust," "knowledge," "culture," and "commitment." These terms suggest a focus on contextual and organizational factors, emphasizing broader conditions that shape leadership effectiveness and the workplace environment. It includes high-level concepts that influence leadership dynamics, such as organizational culture and trust.

The lower part of Dim 2 includes terms like "situational judgment tests," "job performance," and "outcomes," which are more practically oriented or measurable constructs. This area seems to focus on direct, measurable outcomes and assessments, aligning with concepts foundational to leadership effectiveness, such as individual outcomes and accountability.

### Interpretation of Clusters and Key Themes

- Upper Left (Organizational and Cultural Themes):

This quadrant includes terms like "organization," "trust," "knowledge," "creativity," "culture," and "teams." It represents a cluster centered around organizational culture and team dynamics. Themes in this area focus on how situational leadership can be shaped by, and in turn shape, organizational values, culture, and interpersonal trust. The presence of terms like "commitment" and "consequences" suggests a strong interest in the impacts of leadership on employee loyalty and organizational outcomes within this context.

- Upper Right (Relational and Transformational Themes):

Here, we find terms like "transformational leadership," "member exchange," "self-efficacy," and "transactional leadership," suggesting a cluster dedicated to relationship-driven leadership approaches. This quadrant captures the themes related to transformational and transactional leadership, emphasizing relational dynamics and leadership's motivational aspects. Concepts like "self-efficacy" and "perspective" highlight the focus on empowering followers and building effective leader-follower relationships.

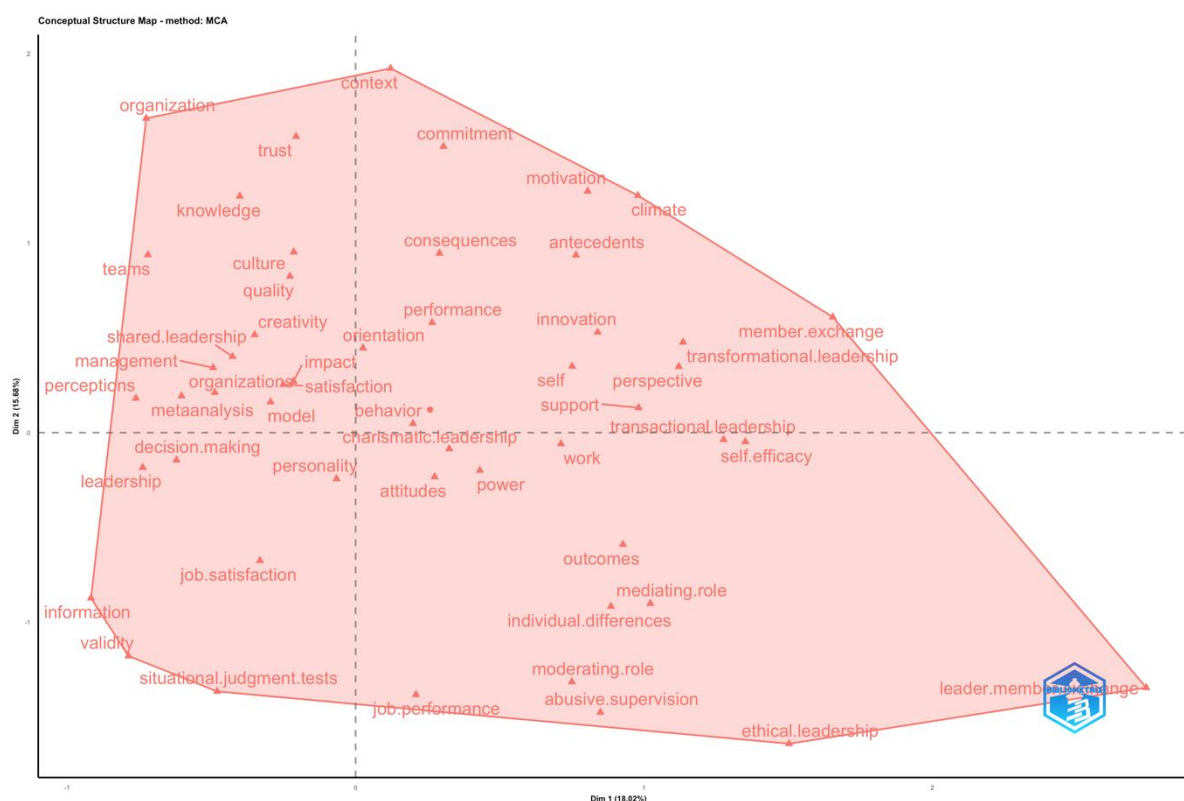
- Lower Left (Performance and Measurement Themes):

This area includes terms such as "job satisfaction," "information," "validity," and "situational judgment tests," forming a cluster focused on performance and assessment. This quadrant deals with metrics and outcomes that evaluate the effectiveness of leadership, such as job performance and job satisfaction. This group represents the more analytical or evaluative side of situational leadership, providing tangible measures of its impact on individual contributors.

- Lower Right (Ethical and Supportive Leadership Themes):

Terms like "ethical leadership," "leader-member exchange," "abusive supervision," and "mediating role" are grouped here, indicating a focus on ethical and supportive dimensions of leadership. This quadrant addresses issues related to leadership ethics and the importance of supportive, non-abusive leadership practices. Concepts such as "mediating role" suggest that leadership plays a crucial role in mediating between individual needs and organizational expectations, ensuring an ethical and supportive environment.

Figure 3 Multiple Correspondence Analysis (MCA)



### 3. CONCLUSION AND RESEARCH LIMITATIONS

The article, presents a thorough examination of Situational Leadership Theory (SLT), integrating insights from a literature review, Multiple Correspondence Analysis (MCA), bibliographic coupling, and thematic analysis. Our findings highlight SLT's core strengths and evolving relevance, particularly in terms of adaptability, performance impact, and its emerging focus on ethical, cross-cultural, and supportive leadership practices. Key clusters such as Performance and Leadership Effectiveness, Transformational Leadership, and Ethical Decision-Making illustrate SLT's flexibility and its ability to adapt to varied organizational and cultural contexts. These themes show that SLT continues to serve as a foundational framework, offering adaptable strategies for responsive leadership. Despite its adaptability, SLT faces future challenges. The theory's prescriptive model, though foundational, may be too rigid to address complexities in high-maturity roles and culturally diverse environments. Our analysis underscores the need for SLT to incorporate more objective metrics to assess follower readiness, such as experience or tenure, rather than solely relying on subjective leader assessments. Furthermore, the importance of cross-cultural insights suggests SLT would benefit from culturally sensitive adaptations, especially in high power distance contexts where directive leadership may be more effective. Integrating a greater emphasis on ethical leadership practices is another future challenge, as leadership ethics become increasingly relevant in preventing abusive supervision and fostering supportive work environments. Our study also encountered limitations inherent to bibliometric and thematic analyses. The reliance on data from a single database (Web of Science) limits the scope of our findings, as literature outside this platform may offer additional insights into SLT. Additionally, while MCA and thematic mapping reveal key themes and clusters, they do not capture the full depth of each concept or the subtleties within leadership styles.

Future research would benefit from empirical studies that test SLT's adaptability across diverse organizational settings and cultural contexts, allowing for a refined and empirically validated SLT model that addresses the multifaceted needs of modern leadership.

### **Future research**

Future research on Situational Leadership Theory (SLT) could refine its applicability and theoretical rigor by focusing on several key areas. One area for improvement lies in SLT's reliance on subjective assessments of follower readiness, typically based on leaders' perceptions of followers' competence and commitment. Incorporating objective metrics such as tenure, prior experience, and performance data could lead to more standardized and reliable assessments of readiness, strengthening SLT's practical applications. Another area needing further exploration is SLT's cross-cultural adaptability. Research shows that SLT's effectiveness varies significantly across cultural contexts, particularly in high power distance cultures where more directive leadership styles are often preferred. Future studies could examine how cultural factors like collectivism versus individualism impact SLT, potentially resulting in culturally nuanced adaptations of the model that better align with diverse organizational environments. With growing emphasis on ethical leadership, integrating ethical decision-making and responsibility into SLT offers another promising research direction. Ethical considerations could be essential in guiding SLT application, especially in high-stress or diverse work settings where leadership practices must support ethical and non-toxic work environments. Examining these impacts would help SLT adapt to current organizational needs by embedding ethical leadership principles within its framework. SLT's prescriptive nature also warrants examination in contexts involving high-readiness or highly autonomous teams. While SLT is effective for guiding followers with lower readiness, its structured approach may lack flexibility for experienced employees who require minimal direction. Research could explore SLT's adaptability in high-autonomy roles, identifying ways the framework might evolve to better support experienced employees in complex roles. Additionally, longitudinal studies on SLT effectiveness would provide valuable insights into its long-term impact on organizational outcomes, team morale, and leader-follower relationships. Tracking SLT's effectiveness over time, particularly through periods of organizational change or follower development, would help clarify its sustained relevance and adaptability. Finally, SLT's theoretical robustness could benefit from comparative studies that examine it alongside other leadership models, such as transformational, transactional, and servant leadership. These comparisons would highlight SLT's unique strengths and limitations, particularly regarding adaptability, team motivation, and cohesion, while also identifying potential integration points with complementary leadership frameworks. Addressing these research areas could strengthen SLT's role in modern leadership and its adaptability in varied organizational contexts.

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# A SOCIAL APPROACH TO GAME DEVELOPMENT: NEW LUDONARRATIVE MODEL PROPOSAL

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## ABSTRACT

*This research addresses the intersection of ludology and narrative in game development, proposing a structured method to enhance ludonarrative consistency during the ideation stage of game design. While ludonarrative—the integration of ludic (gameplay) and narrative elements—has been explored in various contexts, practical tools for implementing these principles early in the design process remain scarce. The method developed in this study employs a card-based iterative approach, incorporating structured tables, connective questions, and feedback mechanisms to guide developers through conceptualizing games. Tested with participants of varying experience levels, the method demonstrated its potential to foster creativity, improve clarity, and mitigate issues commonly encountered in later stages of game development. A science contribution of this research is its integration of theoretical constructs and practical application, offering a framework that bridges the gap between narrative and gameplay mechanics. By emphasizing collaborative creativity and iterative refinement, the method not only facilitates the alignment of narrative and ludic components but also supports interdisciplinary learning and professional development. Future directions include expanding testing with industry professionals, refining onboarding processes for improved accessibility, and exploring cultural and genre-specific applications. This work advances the discourse on ludonarrative in game studies, providing a foundation for innovative and consistent game design methodologies.*

**Keywords:** *ludonarrative, ideation stage, ludology, narrative design, iterative design, collaborative creativity*

## 1. INTRODUCTION

Ludonarrative is a distinct area within game studies, examining the interplay between gameplay and narrative. By integrating emerging technologies with established narrative frameworks, it provides valuable insights into game design and analysis. Extensive research has explored ludonarrative, yielding diverse methods and perspectives. Some studies propose novel approaches, while others refine existing concepts or critique their application. These works primarily focus on defining ludonarrative, analyzing its mechanics, and assessing its presence in completed games. However, much of this research remains theoretical or retrospective, emphasizing post-development evaluation. A critical gap exists in applying ludonarrative principles during the ideation stage of game development. This paper proposes a forward-looking method that synthesizes existing research into a practical framework for early-stage game design. Such a method could assist developers in structuring game concepts and evaluating how new elements integrate with the broader ludonarrative design during

development. This approach builds on previous scholarship, aiming to operationalize ludonarrative principles in a way that enhances the creative process. By addressing the intersection of narrative and gameplay at the conceptual level, this method seeks to bridge genre-specific limitations and offer a modular understanding of game mechanics. This paper will critically analyze existing methodologies and propose a structured ludonarrative method tailored for the ideation phase, contributing to a more cohesive and adaptive game development process.

## **2. RELATED WORK**

The concept of ludonarrative, representing the intersection of game mechanics and narrative elements, has been explored from various perspectives within game studies. Murray (1997) examined narratives in cyberspace, while Aarseth (1997) introduced the idea of "protostory," both contributing foundational insights without fully encapsulating the ludonarrative concept. The term "ludonarrative dissonance" gained prominence following Hocking's (2007) critique of *BioShock*, highlighting conflicts between gameplay mechanics and narrative themes. Subsequent scholarship has expanded on this, with Toh (2015) proposing a comprehensive framework categorizing ludonarrative into distinct branches relevant to game studies. Vesligaj and Bernik (2024) synthesized existing research, emphasizing the construct's fluidity and advocating for integrating ludonarrative principles during the ideation phase of game development. Further contributions to the discourse include Grabarczyk and Walther's (2022) analysis of ludonarrative dissonance, offering new perspectives on the interplay between game mechanics and narrative elements. Seraphine (2016) provided a literature review focusing on the term "ludonarrative dissonance," examining its implications in game design. Additionally, Heinz (2020) conducted a systematic literature review on ludonarrative dissonance and gamification, exploring their interrelations and impact on player experience. In the realm of game design, Schell (2019) offered foundational insights into game creation, while Despain and Ash (2016) examined the interplay of game elements. Traditional games, such as *Once Upon a Time: The Storytelling Card Game* (1993), demonstrate effective engagement through narrative mechanics, serving as models for integrating diverse game elements into cohesive frameworks. The proposed method for ideation leverages a wide range of resources, including board games, digital platforms, and community forums. Iterative testing and review ensure clarity and coherence in connecting game elements, facilitating the alignment of narrative and gameplay mechanics during the early stages of development. By categorizing and structuring game elements, this approach fosters seamless communication and collaboration among developers, providing a foundation for continuous refinement throughout the development process. Its accessibility democratizes knowledge in game development, enabling professionals and novices alike to engage with ludonarrative principles and enhance collaborative creativity. This systematic framework contributes to the evolving discourse on ludonarrative and game development, advancing both theoretical understanding and practical application in the field.

## **3. METHODOLOGY**

The creation of the proposed method followed a structured, multi-step process. The initial phase involved compiling comprehensive information on ludonarrative, alongside games and their constituent elements. This research was guided by predefined questions aimed at directing the method's development. As noted by Vešligaj and Bernik (2024), existing ludonarrative methodologies often adopt speculative approaches, with few providing actionable steps to mitigate common ludonarrative pitfalls. Their work, *Analyzing Ludonarrative Models and Methodologies\**, offers a critical review of how different scholars approach ludonarrative, identifying commonalities and divergences in their methods. This literature review provided essential insights and served as a foundation for the new method's development.

A key observation from existing methods is their modular structure. Many authors deconstruct their frameworks into smaller, manageable components before synthesizing them into a cohesive methodology. This modular approach informed the design of the proposed method. To streamline the process, mind mapping was employed to organize and visualize the gathered information. Relevant data were systematically filtered and adapted for application during the ideation stage of game development. This iterative process ensured that the final method is both practical and theoretically grounded, addressing the specific challenges of early-stage game design while incorporating the lessons drawn from prior ludonarrative research.

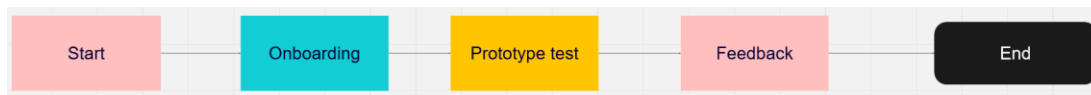
Creation followed 4 primary phases:

- Phase 1 – Theoretical framework; Phase 2 – Analysis.
- Phase 3 – Iterative prototyping; Phase 4 – Discussion of the findings.

The development process was guided by the central research question: “How can a model be designed to explore ludonarrative that is applicable during the ideation stage of game development?” Phase 3 focused on iterative cycles, each comprising three key stages: reviewing and analyzing collected information, prototyping potential solutions, and testing these prototypes. This iterative process allowed for continuous refinement, offering valuable insights into which concepts were viable and which were not. As the cycles progressed, repeated testing and evaluation of ideas led to a gradual formalization of the method. This approach ensured that the resulting framework was both robust and adaptable, tailored specifically to the practical needs of early-stage game development while remaining rooted in the theoretical foundations of ludonarrative studies.

#### 4. FRAMEWORK FOR THE IDEATION DEVELOPMENT STAGE

Framework consists of several parts or layers and it uses simple steps.



*Figure 4: Method steps*

If we exclude the Start and End elements, method consists of three main parts. The goal of each part is to:

- Onboarding - Gain a better understanding of the onboarding process by questioning the clarity of the information presented and the presentability.
- Prototype - Gain a better understanding of the workflow experience of the prototype.
- Feedback and questions - Summarise key points of questions and answers.

The first layer of the proposed method is the Onboarding phase, which introduces and explains the prototype's functionality, key objectives, and essential elements. This layer ensures that users have a clear understanding of the method before engaging with it.

The Onboarding phase consists of three components: Prototype Structure, Prototype Flowchart, and Prototype Information.

Prototype Structure: This component provides an overview of the prototype's design and the elements it comprises. The structure, illustrated in Figure 2, is divided into two main parts:

The Main Body: This serves as the central loop of the prototype, where iterative processes occur.

The Bridge: Acting as a guideline, the bridge allows users to pause their progress through the method, revisit earlier stages, and input additional information as needed. It ensures flexibility and adaptability during the method's application. This structured approach in the Onboarding



layer lays the foundation for engaging with the method effectively, enabling users to navigate the prototype with clarity and purpose. The Main Body forms the core loop of the method, where elements are continuously utilized and combined to develop a coherent gameplay experience. This iterative process is critical for aligning ludic and narrative components, ensuring the prototype remains adaptable and reflective of its intended purpose.

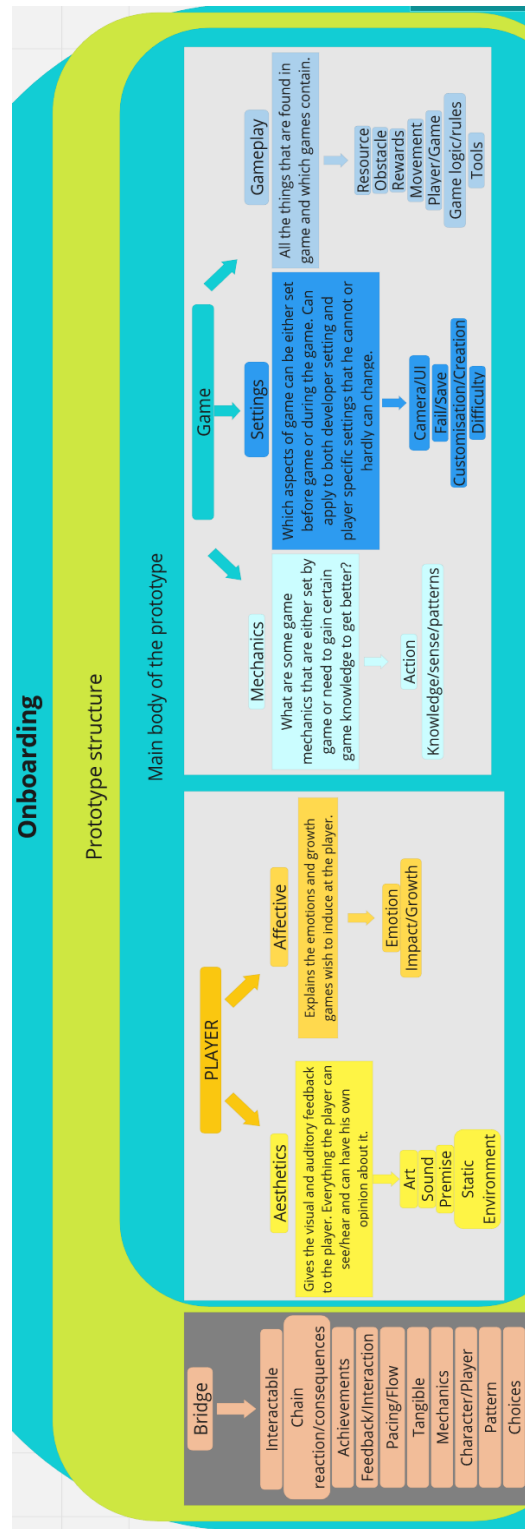


Figure 5: Min body of the prototype - Categories and subcategories

The Prototype Flowchart serves as a guiding framework for the method, providing a step-by-step roadmap of actions and decisions. By clearly outlining what tasks to perform and when to execute them, the flowchart ensures that the process remains structured and efficient. This tool is instrumental in maintaining focus and consistency as users navigate the complexities of the Main Body.

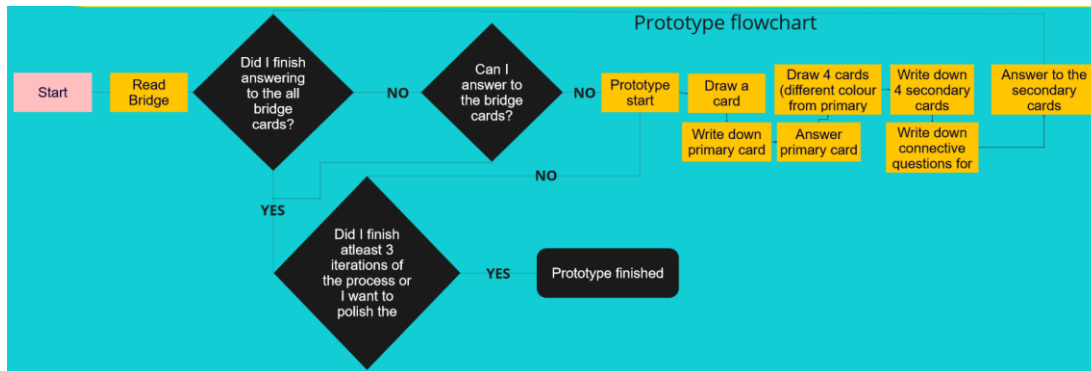


Figure 6: Prototype flowchart

The most critical component of the Onboarding layer is the Prototype Information. This section provides comprehensive explanations on how the prototype functions, detailing both its capabilities and limitations. It acts as a reference point for users, clarifying the method's mechanics and ensuring its proper application. Given the method's reliance on visual elements for structuring and combining information, dedicated input sheets are provided within this component. These sheets allow users to document and organize relevant data systematically, facilitating the iterative design process. The Prototype Information ensures that users fully understand the prototype's structure and functionality, enabling them to effectively navigate and utilize the method during the ideation stage of game development.

<b>Participant:</b>		<b>Date:</b>
<b>Selected primary card:</b>		<b>Answer:</b>
<b>How is this card connected to the:</b>		
<b>First secondary card:</b>	<b>Connective question:</b>	<b>Answer:</b>
<b>Second secondary card:</b>	<b>Connective question:</b>	<b>Answer:</b>
<b>Third secondary card:</b>	<b>Connective question:</b>	<b>Answer:</b>
<b>Fourth secondary card:</b>	<b>Connective question:</b>	<b>Answer:</b>

The table accompanying the sheet design illustrates its straightforward layout. The method employs one Primary Card that connects to four Secondary Cards. Each connection is facilitated by a Connective Question, an open-ended query designed to elicit specific information without leading or constraining the respondent's thought process. For example, a poorly constructed guiding question, such as "How does the Western premise affect the emotion?", limits the participant to considering only Western elements. In contrast, an open-ended question encourages broader, more creative responses, fostering diverse perspectives. The Prototype Information section provides detailed examples of how to select cards, establish connections, and formulate effective Connective Questions. It also offers guidance on how to craft meaningful answers, ensuring users can navigate the process effectively.

Accompanying each step of the method is the Observation Grid, a tool used to capture insights into how participants engage with the method. The grid tracks whether users understood its mechanics, highlights any difficulties encountered, and collects supplementary feedback. This observational data is integral to refining the method and assessing its usability and effectiveness.

<b>Observation grid</b>			
<b>Site location:</b>	<b>Date:</b>	<b>Start time:</b>	<b>Stop time:</b>
<b>Area of Observation:</b>	<b>Onboarding</b>	<b>Prototype</b>	<b>Review</b>
<b>Behaviour:</b>			
<b>Questions:</b>			
<b>Mood:</b>			
<b>Comments</b>			
<b>Other areas:</b>			

The main structure of the method lies in the Prototype Test phase, which operationalizes the information introduced during the Onboarding. This phase involves iterating through the method to refine and solidify game ideas. To ensure effectiveness, at least three iterations are recommended. Each iteration includes selecting Primary and Secondary Cards, formulating Connective Questions, and providing answers. These iterations are essential for enhancing and reinforcing the conceptual foundation of the game, with enhancement acting as the backbone of the method's coherence. The Bridge, as previously described, functions as a flexible outline and a reset mechanism for the iterative process. It allows participants to step back, reconsider the broader aspects of the game, and recalibrate their approach. The Bridge elements are deliberately ambiguous, encouraging creative interpretation. Importantly, it is not mandatory to input data for every Bridge element, offering participants discretion in its use.

**Card Structure and Categories:** In Figure 4, the framework introduces two primary card categories: Player Cards and Game Cards, which must be documented during iterations. These categories are further divided into subcategories, aligning with their respective roles in the method: Player Cards: These focus on the player's perspective, encompassing elements influenced by player perception, experience, and thought processes. Game Cards: These pertain to in-game elements, such as settings, mechanics, and the core gameplay structure. Each category is tailored to explore distinct facets of the game, ensuring a holistic approach during the development process.

**Card Design and Functionality:** Figure 5 illustrates that each element within the method is represented by a card. While cards are instrumental in facilitating the method—being drawn and filled out during iterations—they also act as repositories of information. Each card includes:

- Name: A clear identifier for the card.
- Explanation: A description of what the card represents, including guiding questions to focus thought and exploration.
- Examples: Practical applications of the card's concept, often referencing well-known games. These examples provide clarity on how the card's principles can be implemented. While popular games are cited, participants unfamiliar with these examples can easily find further information online for context.

This structured approach, incorporating detailed card designs and iterative processes, ensures that the method remains adaptable and effective while guiding users in developing coherent and engaging game concepts. The prototype employs a straightforward and consistent workflow. The **Prototype Flowchart** (Figure 3) provides a visual representation of the method's step-by-step process, which remains uniform across all iterations. Each iteration follows the same sequence to maintain clarity and structure:

1. **Draw the Primary Card:** Select a card to serve as the central theme or concept for the iteration.
2. **Document the Primary Card:** Record the selected card in the designated slot for the Primary Card in the table.
3. **Draw Four Secondary Cards:** Choose four Secondary Cards, ensuring they are of a different color category than the Primary Card.
4. **Document the Secondary Cards:** Write down each of the Secondary Cards in their corresponding slots on the table.
5. **Formulate Connective Questions:** Fill in the **Connective Question** slot with open-ended questions designed to explore relationships between the Primary and Secondary Cards.
6. **Answer the Connective Questions:** Provide detailed answers to each question, ensuring a thoughtful exploration of the connections and ideas.
7. **Repeat:** Proceed to the next iteration, following the same steps.

This iterative process ensures consistency while allowing for the gradual refinement of ideas. By adhering to the flowchart and method structure, participants can systematically develop and integrate concepts, enhancing the overall coherence and creativity of the game design.

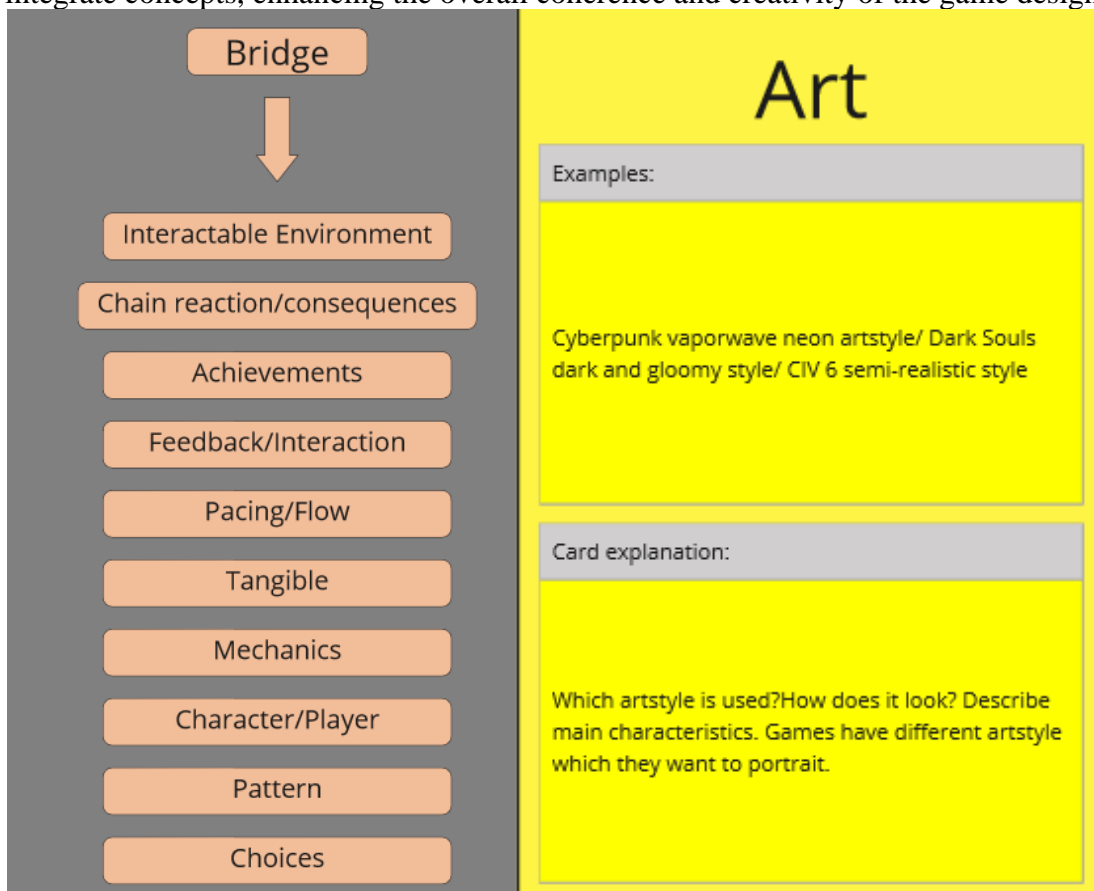


Figure 7: Bridge elements

Figure 8: Art element card

Table 2: All cards with explanations and examples, split into main categories, subcategories

Category: Subcategories:		Cards:	Card explanation:	Examples:	Main category descriptions:
Bridge	Intractable Environment		Is there any player/game interactive environment? What kind of environment is it and how does it affect the player or how does player affect the environment? (Name specific intractable parts if any and explain how they work - can be bound only to movement or can be destructive or other type) / Different from the artistic view of the non-intractable environment which is only visual presentation	In game destruction in Rainbow Six Siege - affects the player as well the environment; Tekken breakable stages	A bridge between the game and the player. These elements have parts of game relevance while also having impact or player agency which they depend upon. Some are more general while others are more specific.
	Chain reaction/consequences		How does the game react to the players bad or good decision making? What are the risks of having bad decisions? Player choice and agency can have an impact on the game.	CIV 6 bad decision can spiral to game over and vice versa/ Dark souls need precise timing and decision making while fighting enemies	
	Achievements		Which achievements in game can the player obtain? Games have different obtainable items or other. Entails cosmetics, rewards and anything that is obtainable by the player but does not have an impact on the game	DOOM cosmetics/ Pokémon series badges;	
	Feedback/Interaction		Is there anything recognising player effort and actions? How is the interaction between the player and game accomplished? How does the game give feedback to the player and how does it affect him emotionally or his later decision making? There are times when the games give some kind of feedback to the player. Sometimes it is satisfying visual or audio cues for player actions while other times it can be in game text or voice lines that complement player actions.	Doom eternal has satisfying visual and auditory cues for actions / CIV 6 narrator compliments the player on good actions/CIV 6 constant narrator feedback on players action to help him guide as well as to give historical information; In some games this feedback can be tailored for specific emotion for player to feel like fast music and satisfying audio/visual cues while fighting enemies, in other games can be guiding player actions like tutorials and later on in game giving feedback on player actions.	
	Pacing/Flow		What is the ideal pacing for the game and why? Each game has different pacing. Some games are very slow while others are fast and some have various paces depending on the difficulty.	Doom has fast pace with everything; CIV 6 has slow pacing which gradually builds up	

	Tangible	Are there any Collectible/Achievements that player can obtain that does not have relevance only inside of the game? Some games give the preorder or deluxe collections for physical copies which give extra content like mousepads or posters .... Some games try to create items that can be sold on platforms like steam for real money.	Steam achievements can be sold; CS:GO skins can be sold for money; Some games with preorder give special features to the player - Biomutant deluxe preorder gave the player 2 extra in game classes as well posters, diorama, mousepad	
	Mechanics	What are some key mechanics that the game wishes to create/enable and/or are predetermined by the game? Every game has specific mechanics that can describe it.	CIV 6 top down view; endless runner games etc.	
	Character/Player	Who is the player? Every game has different preset of who is the player. Depending on the game it can be a game character or game specific option (Tetris). Sometimes the lines are blurred and it can be said that the player is observer from above or other...	Tetris - player is the character (he controls the game); CIV 6 godlike aspect ( player controls everything); Doom - player is the character who moves and has to progress	
	Pattern	Which specific game patterns exist? (main focus/description of the game) Each game can be explained in short and meaningful manner describing what is it about.	CIV 6 - Build your empire and repeat; DOOM - kill and repeat	
	Choices	Which game choices exists and are there for the game and the player? How is the game enabling players choices and how do the player choices affect the game? Games place different importance on player agency. This is shown through their choices.	Life is strange different in game choices lead to different game progression/Tekken 6 combat sequence/ Rainbow Six Siege has different tactical setups and decisions	
Player Aesthetics	Art	Which art style is used? How does it look? Describe main characteristics. Games have different art style which they want to portrait.	Cyberpunk vapourware neon art style/ Dark Souls dark and gloomy style/ CIV 6 semi-realistic style	Gives the visual and auditory feedback to the player. Everything the player can see/hear and can have his own opinion about it.
	Sound	Which sounds and sound effect are used? Are there any specific songs/sound/sound effects that wish to emphasize some specific in game mechanic/moment? Some games have heavy emphasis on sounds and effects to further improve player feeling while playing while other have more passive background sounds.	Limbo dark and melancholic background audios with enhancing audio effects/ NFS Underground 2 and GTA San Andreas have iconic music playlist/ Doom Eternal has loud satisfying sound effects	
	Premise	What is the general theme behind the game? Which theme does the game use? Game needs a story. This story tells the player a rough idea of game expectations as well what type of game can it be.	CIV 6 historical/evolution of mankind premise/ Star Wars futuristic premise	
	Static Environment	Describe how does the environment look visually? What details does it contain? Games have either specific game areas that have more distinguished look while others follow the same theme through the game.	GTA series- cities (which ones) and all smaller details like cars, streets etc. ; DOOM apocalyptic world with alien environment (hell like)	

Affective	Emotion	Which emotions are intended for player to feel? What kind of an emotional impact we wish to accomplish on players feelings? All games are catered towards the player feeling certain emotions while playing the game.	Adrenalin rush in Tekken or DOOM; relaxed feeling in Steep; wondering/confusing feeling in chess like games/ Frustration and sense of accomplishment in Dark Souls	Explains the emotions and growth games wish to induce at the player.	
	Impact/Growth	What does the game improve in the player? How does it improve his skills? Games affect the players soft skills and their growth. Some games have more of an educational growth on the player (learning about history or some specific area/informations) while other have passive player growth in terms of hand/eye coordination, reflexes or other..	Decision making and knowledge in CIV6/ Coordination in CS:GO/ Simulator games simulate real life skills and knowledge		
Game	Mechanics	Action	Which are the main actions being done in the game? Are there any actions player does in game.	CIV 6 4x strategy; DOOM movement with fast action combat; Life is Strange movement with impactful decision making	What are some game mechanics that are either set by game or need to gain certain game knowledge to get better?
		Knowledge/sense/patterns	With this knowledges player can have different decisions or actions. Are there any game patterns/actions that are noticeable with game knowledge? Some games have specific knowledges that need to be acquired throughout the play time.	DOOM combat flow after learning all the different ways of using skills and movement; CIV 6 decision making which improves with game knowledge; League of Legends with better understanding of smaller game aspects you start creating micro movements to win over your opponents/ Sekiro has enemy flow which needs to be learned	
	Settings	Camera/UI	What is the game/player Point of View or game interface? Each game has different perspective of play.	Tetris uses certain game interface (UI); CIV 6 has top down camera; Doom has first person point of view ...	Which aspects of game can be either set before game or during the game. Can apply to both developer setting and player specific settings
		Fail/Save option	Does the fail/save state impact the game and if yes how? How does it function in the game? Some games have save functions while others don't. Some load/respawn functions have specific catered feelings that improve game vibe.	CIV 6 has save anytime option; Prince of Persia Sands of time had interactive save and load option which added to game experience; Doom has stage saves on easier difficulties and no save/load function at hardest difficulty	

		Customisation/Creation	Are there any options left for player to customise or change that either improve quality of life for the player or give an option for player in game interaction? Each game has different presets. This can be setting and some quality of life aspects (like different game colour options) or even in game customisation. This customisation can include only cosmetics but can also include skill trees, player creation and other options.	Biomutant character creation and skill tree progression; Esport game variety of settings for different hardware specifications; Settings like in CS:GO which can hide crosshair etc.; If there are only quality of life setting it is mostly changeable in settings screen and there are options like colour modes, sound settings, vsync etc. Game aspects are left for player to select at the start of his playthrough or during it. Most of the times those things cannot be changed like avatar creation, or can be changed during in game progress like skill trees.	
		Difficulty	What is the game set difficulty, how does it change (if it can be changed)? Plenty of games gave various difficulties that can be chosen while other have predetermined difficulties.	Tetris becomes harder with passage of time; DOOM has set difficulty which is very easy on easier options and very hard on more difficult ones	
	Gameplay	Resources	Are there any resources the player needs to manage during the game? Depending on the game there are obtainable or manageable resources.	CIV 6 has different in game resources such as gold, faith, science points etc/ Some games have gold system which the player uses to buy enhancements/ Life is Strange has time resource which they need to be able to use well.	All the things that are found in game and which games contain.
		Obstacles	What exists to slow down or unable players to continue progressing? What is in the way? There are obstacles for the player to beat/pass. For some games that is needed knowledge while in other something that blocks player's path.	CIV 6 has game knowledge obstacles; DOOM has enemies and in game challenges (movement); Temple run has terrain obstacles etc.	



Rewards	What in game rewards does player get? (primarily focused on rewards that have impact on the game but can also be non-impactful) Plenty of games have different rewards for the player. In some games they are less noticeable while in other more.	RPG games have experience system, items, weapons, other games have skill enhancements, cosmetics, CIV 6 gives territories and etc. Resources like gold or ammunition can be given to the player as a reward. While resources can be rewards, rewards cannot be resources because they need to be present in game (they are always there for the player, in some cases they are unlockable resources) but rewards can be tools (getting specific gun as a reward for doing specific task)
Movement	What is the primary game movement? Games have different movements. In some games it is noticeable because it impacts how the game character moves while in other it is more abstract (puzzle like games).	Tetris has left right movement with position switch; CIV 6 has point and click movement; DOOM uses primary and secondary input for movement and view
Player/Game Progression	How does the progression function? What are the advantages of player/game progression? Games have different intended progressions.	Life is strange - story progression ; Doom - Weapon and equipment upgrades follow the game progression
Game logic/rules	What are specific game rules that are followed throughout the whole game (cannot be changed)? Depending on the game there are some specific logic that it follows. Since every game has different in game rules it is important to explain them.	CIV 6 - interactions between in game decisions; DOOM - specifics weapon/enemy interactions
Tools	What tools are usable for player? Different game genres have different ways of using tools. This tools are relevant to the game progress and usually need to be used to continue the game(some games don't have this importance).	Doom - weapons; CIV 6 resources (resources can be game tools as well);

The **Feedback and Questions** section of the method is designed to provide detailed insights into its application and identify potential areas for improvement. It is composed of two key tools: the **Observation Grid** and the **Participant Questionnaire**.

#### Observation Grid

The **Observation Grid** is intended for the method guide, who oversees the process and documents participant interactions. The grid is divided into three sections aligned with the prototype's main phases:

1. **Onboarding:** Observations related to the introduction and explanation of the method.
2. **Prototype:** Insights into participant interaction with the iterative steps of the method.
3. **Review:** Feedback gathered during the reflection and discussion phase.

Each section includes specific observation categories:

- **Behavior:** Participant actions and engagement during each phase.
- **Questions:** The type and frequency of inquiries raised by participants.

- **Mood:** Emotional responses and overall attitude throughout the process.
- **Comments:** Noteworthy participant feedback or suggestions.
- **Other Areas:** Additional observations outside the predefined categories.

#### Observation Support Questions

To guide and standardize the observations, the grid includes targeted questions for the guide to consider:

- Was the information presented and explained in a clear and comprehensible manner?
- Were there any parts of the onboarding process that participants found unclear?
- Did the additional visual aids, such as pictures and tables, enhance understanding?
- How did participants feel emotionally during the onboarding process?

#### Participant Questionnaire

The **Participant Questionnaire** supplements the observation grid by directly collecting feedback from participants. It includes questions that assess the clarity, usability, and engagement of the method, providing a comprehensive view of its effectiveness. Responses from this questionnaire help refine the method by highlighting participant experiences and areas requiring adjustment. Together, the **Observation Grid** and **Participant Questionnaire** ensure a robust evaluation framework, enabling continuous improvement and optimization of the method based on practical feedback and user experiences.

*Table 3: Observation grid*

Observation grid			
Site location:	Date:	Start time:	Stop time:
Area of Observation:	Onboarding	Prototype	Review
Behaviour:			
Questions:			
Mood:			
Comments			
Other areas:			

The **Feedback and Questions** section of the prototype includes a structured **questionnaire** designed to gather critical insights into the prototype's functionality and presentation. The questionnaire (Table 3) comprises carefully selected questions deemed essential for evaluating the method's effectiveness and identifying potential areas for improvement. These questions focus on key aspects such as clarity, usability, and participant experience, ensuring comprehensive feedback. The responses provide actionable data to refine both the content and delivery of the prototype.

#### Example Questions from the Questionnaire (Table 3):

1. Was the prototype presented in a clear and understandable manner?
2. Were there any elements of the prototype that you found confusing or unclear?
3. Did the visuals, such as charts and tables, aid in your understanding of the method?
4. How engaging and intuitive did you find the iterative process of the prototype?
5. Were the instructions for completing the tasks clear and easy to follow?

The questionnaire complements the **Observation Grid** by directly capturing participants' perspectives, ensuring that both objective observations and subjective experiences inform the evaluation process. This dual approach allows for a holistic assessment of the prototype's strengths and weaknesses.

*. Table 4: Participant questionnaire*

Did the prototype go as you thought it would after the onboarding phase?
Are the prototype components well explained?
Did you find any problems with the prototype or missing information?
Is there anything in the prototype or test that you would change? If yes what is it?
Did you manage to create something you are satisfied with?
How did you feel during the whole test process? Which parts were the most and least impactful?
Do you have any comments you wish to add?

## 5. DISCUSSION

The proposed method addresses the issue of **ludonarrative consistency** in the early stages of game development. Preliminary tests helped refine and structure the method, providing valuable insights into its applicability. These tests were conducted with small groups of students, some with relevant gaming experience and others without. However, to validate the method comprehensively, future testing should be carried out in controlled environments with industry professionals who possess practical experience in game development. Such testing would offer a more robust evaluation of the method's utility in both professional game development and gaming education.

### *Limitations and Future Research*

A significant limitation of this dissertation is the **lack of research in specific areas**. While existing studies explore ludonarrative, narrative, and player agency, there is insufficient research examining the direct correlation between narrative and player agency and their combined impact on storytelling and player experience. Future research should delve into a wider variety of narrative structures and their integration into games. Such studies could yield critical insights that would enhance the development and applicability of this method. Another limitation is the method's **complexity**, largely due to the extensive information required. This complexity can hinder initial implementation, making it challenging for users to begin effectively. Simplifying the introduction or reducing the information load could improve both the clarity and relevance of the method. Moreover, better genre-specific understanding could lead to a more streamlined and user-friendly design.

### *Reflections on Ludonarrative Dissonance and Perception*

Exploring ludonarrative consistency also raises broader questions about **ludonarrative dissonance**—the conflict between gameplay mechanics and narrative elements. This concept is not only a critique of game design but also reflects **cultural and perceptual biases** in how games are interpreted. Everyday experiences and logic play a significant role in shaping how players perceive and judge such dissonance. For example, differing cultural contexts may influence whether certain elements in a game are perceived as logical or flawed. An illustrative example involves a game featuring a highly athletic elderly protagonist. Players may initially reject this portrayal due to societal perceptions that older individuals are less physically capable. However, if the game provides a narrative explanation—such as the character being empowered by mythology or technology—players are more likely to accept it. This demonstrates that ludonarrative dissonance is often an **emotional reaction** rooted in personal and cultural expectations.

The diversity of opinions on ludonarrative dissonance complicates its study. Games, as a medium, integrate aspects from multiple other media, and interpretations are often influenced by the viewer's background. For instance, the morality of killing in games is widely debated. While most players in modern societies would find this immoral without a justifiable context (e.g., defending law and order), individuals from cultures or communities with vastly different norms may perceive it differently.

### ***Ludonarrative Dissonance as a Tool***

Rather than viewing ludonarrative dissonance solely as a flaw, it could be reconceptualized as a **narrative tool**. By intentionally introducing dissonance, developers might attract attention or provoke players to reconsider their perceptions. For instance, dissonance could challenge players to confront biases or explore alternative interpretations of morality, logic, or character behavior. If used effectively, it could foster deeper engagement and discussion, making it a valuable asset in game design. This exploration highlights the complexity of ludonarrative and its relationship with player perception, culture, and logic. The proposed method attempts to address these challenges by offering a structured approach for maintaining ludonarrative consistency in the ideation stage of game development. However, its utility depends on further testing, simplification, and refinement. By expanding research into narrative structures, player agency, and cultural impacts on interpretation, the method can evolve to better meet the demands of both the gaming industry and its increasingly diverse audience.

## **6. CONCLUSION**

The proposed method offers a significant contribution to the intersection of ludonarrative and game development by addressing a largely unexplored area: the ideation stage. While traditional methodologies tend to focus on narrative or mechanical aspects independently or retrospectively analyze finished games, this research emphasizes the importance of ludonarrative consistency during the earliest phases of design. The method's structured approach, utilizing tools such as card-based iterations, flowcharts, and observation grids, brings theoretical concepts into a practical, repeatable framework. However, the method faces notable challenges. Its initial complexity may deter users unfamiliar with such systems, and the dependency on substantial background information poses a barrier to accessibility. Additionally, while the iterative testing process included diverse participants, the absence of testing with seasoned industry professionals limits the scope of its evaluation. The use of visual aids and structured tables enhances clarity, but the onboarding process could benefit from further refinement to reduce the cognitive load on new users. The research's greatest scientific contribution lies in its synthesis of ludonarrative theory with game development practice. By integrating player agency, narrative structures, and game mechanics, the method bridges theoretical gaps and offers a pathway for creating games with coherent ludonarrative designs. Furthermore, it underscores the importance of collaborative creativity, proposing a framework that could transform team-based ideation processes in both educational and professional contexts. This research presents a novel method for tackling ludonarrative consistency during the ideation stage of game development. The method's iterative design and structured components provide a clear roadmap for conceptualizing games while avoiding potential narrative and mechanical inconsistencies. By introducing tools like Primary and Secondary Cards, Connective Questions, and structured feedback mechanisms, the method offers a unique approach to game creation. Participants in testing found the process beneficial and inspiring, highlighting its potential for fostering creativity and improving conceptual clarity. While its primary utility lies in collaborative settings, it also provides individual developers with a systematic way to approach the complexities of ludonarrative design.

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# INTERNATIONAL STUDENT RESEARCH TEAMS NETWORKING MODEL

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## **ABSTRACT**

*Globalization as a process is connected to the higher level of education, requiring from students to develop their communication competences within an international environment. The use of digital tools increases options of information exchange among students, both in their daily and international communication. One form of such internationalization is the possibility of networking through presentations of students' research results at the international students' section. The paper demonstrates the organizational model of a students' section, which has been continuously organized as a part of an international scientific conference since 2011. The section gathers undergraduate and graduate students from different countries. In the last 14 years a total of 186 student projects were presented by 272 students from 10 countries who participated in 147 research teams or individual student research projects. The topics of student research are multidisciplinary. The results obtained from the analysis of research titles indicate that there is a connection between information and communication technology on one side, and the areas of medical, technical and social sciences and humanities, as well as its application in art, on the other. The model can be applied by creating potential student networking models in an international environment covering various multidisciplinary research areas.*

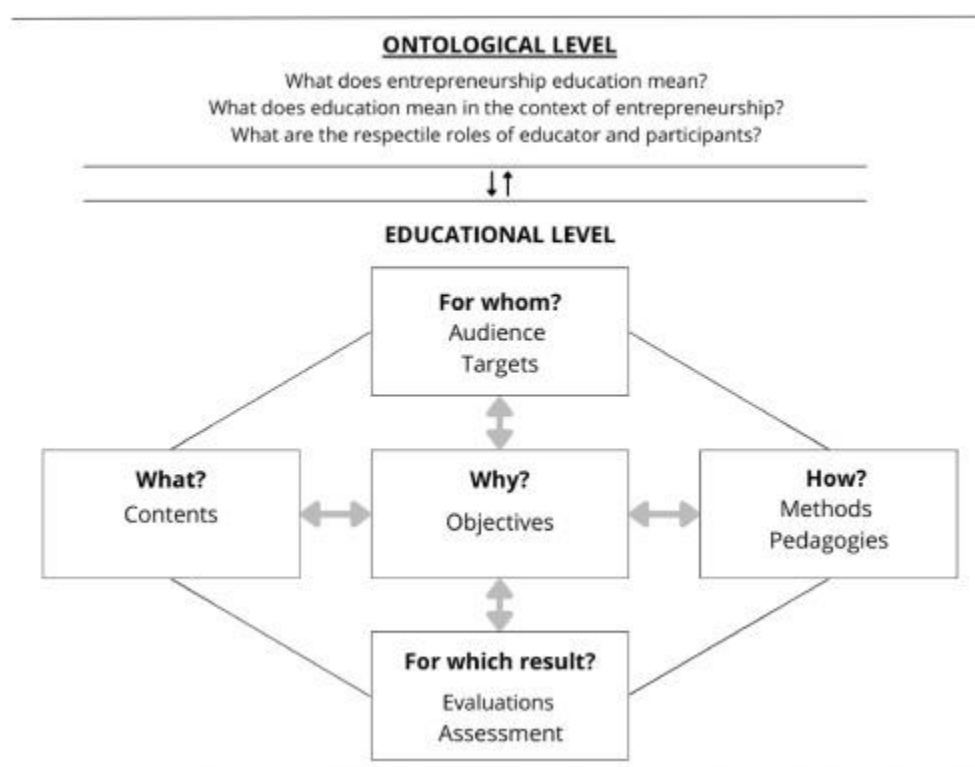
**Keywords:** *Information and Communication Technology, Communication, International Environment*

## **1. INTRODUCTION**

The challenges of modern education and business are related to the process of globalization, the necessity of adopting team work skills, communication competences within an international environment, development of creativity and investigation approach to learning. The Team-based Learning (TBL) Method positively affects learning outcomes when it comes to the development of communication skills within a team, encourages students' activity and knowledge acquisition (Haidet et al., 2014). The Research-based Learning (RBL) Method is applicable in different areas of acquiring knowledge and skills relating to undergraduate students and encourages genre learning and writing development (You and You, 2025). The meta-analysis of research based on the implementation of the TBL Method into the curriculum that included 2.400 students involved in 10 research studies showed that the TBL Method had considerable advantage compared to traditional learning methods. The TBL Method includes problem-based learning and encourages collaborative learning among team members (Korayem et al., 2024). The transferring process means transferring from courses based on traditional textbook learning as the only source of information to student-centered course design. Such a course shall prepare students to become independent, efficient and responsible team members. This approach encourages self-awareness, self-management and experience-based learning (Eriksen et al., 2024). Apart from classical learning methods applied in live teaching, online learning has become an increasingly applied method today. In addition to numerous positive effects of the online learning method, its effect can also be adverse because it reduces social interaction and affects implementation of new learning strategies connected to emotional and cognitive dimension of social interacting (Sjølie et al., 2022).

Team creativity is connected to the method of decision-making by team members and the mediation process through which team members accept or reject creative ideas, i.e. there is a mutual link between creativity and collective thriving, with the concept of collective thriving describing how well the team progresses, which values it cherishes and what the attitude of team members towards team values is (Wang et al., 2024). There are individual differences when it comes to learning approach; some students prefer team work whilst others prefer individual learning. Since many tasks require team work, ways of fostering team work through games encouraging collaboration and development of social skills were analyzed. Interesting games or activities that boost motivation and contribute to learning and achieving learning goals, proved to be a useful tool for encouraging social interaction and team work (Eliasa, 2014). Psychological safety is one of the components associated to team work which encourage team members to work together. It is based on mutual trust and affects team performance (Rødsgjøl et al., 2024). Students' collaboration in students' research teams is based on team dynamics demonstrated by researchers in their scientific practice, which requires multidisciplinary approach. The interdisciplinary approach shall be integrated in all levels of education and work on acquiring and developing team work skills shall be intensified (Turner et al., 2014). The atmosphere within a team as well as its group dynamics affect successful completion of team tasks, where the high communication skills among team members, time management, commitment, problem analysis, problem solving, initiative and involvement are particularly important variables of team work success (Alencar da Costa et al., 2024). Research conducted by De Matos Fernandes et al. (2024) show that students who are also friends and who know each other very well prefer to stay together in a team. Teams are created by members of the same gender and those with similar grades who choose to work together in a team. The research reveals the need that in creating the teams, teachers should take into consideration personal preferences and variables like gender, grades and mutual relations of team members. According to typology provided by Belbin (1981), the roles of team members can be different, e.g. people-oriented – social skills (coordinator, resource investigator and team worker), cerebral – thinking oriented (plant, monitor evaluator and specialist) and action oriented (sharpener, implementer and completer). These roles are shared by the team members throughout their work. Every role is associated to different personality types which contribute to team's diversity and work dynamics (Belbin, 1981). A potential form of sharing student research and team work results is a group presentation. The research conducted by Fekrya et al. (2019) show that during group presentations students focus on eye contact established with the presenter during which they closely follow the presentation. This study is based on video material analysis and determines links between personal characteristics of individuals and team work skills (Fekrya et al., 2019). The communication within international research teams is partly enabled via social networking. The results have confirmed that apart from its positive effects there are also negative effects of social networks on students during their university education. In particular, they proved the existing need of supervision and adjusting to the legal system. Students have declared that for them social networking caused confusion, that the time spent in networking may negatively affect the results of their studies and that they should be warned about risk safety. The authors warn about the need of increased safety measures and constant communication with students about risks of online communication (Wenxian, et al., 2012). The results of confirmatory factor analysis show that variables like cultural empathy, intercultural communication competence and psychosocial adjustment are positively associated with learning outcomes of courses taught in an international environment (Zhang and Noels, 2024). The experience of students' communication in an international environment increases the potential of skills development when it comes to empathy and adapting communication to members of different cultures. Genre knowledge of undergraduate students who participated in student symposia organized as a part of the English for Academic Purposes (EAP) course was

assessed by the following dimensions: subject matter knowledge, formal genre knowledge, rhetorical knowledge, process knowledge and genre awareness. In the process of defining research questions, data collection and data analysis and interpretation, the students acquire analytical reasoning and team communication skills. Producing a report on conducted research requires written communication skills, whilst the presentation itself involves verbal expression skills. Mutually connected team work skills, logical thinking and reasoning, analysis and synthesis provide a link which enables their implementation in undergraduate and graduate study curricula (You and You, 2025). The answer to how work in international research teams encourages development of cross-cultural communication skills is provided in an ontological level model adopted by (Feola et al., 2024) according to the original model: Teaching Model Framework for Entrepreneurship Education (Fayolle and Gailly, 2008). The model includes entrepreneurship component by connecting learning outcomes in an education process with entrepreneurship environment.



*Picture 1 - “Teaching Model Framework for Integrating Cross-Cultural Competence in Entrepreneurship Education” ( Feola et al. 2024 )*  
<https://www.sciencedirect.com/science/article/pii/S1472811724001265>

According to the Teaching Model Framework for Entrepreneurship Education Source: Adapted from Fayolle and Gailly (2008), in addition to the basic educational goals within the context of entrepreneurship, it is necessary to precisely determine the target group’s characteristics, define the context of collaboration, choose teaching practices and method of results evaluation, and expected results. The given model connects the students’ research to their future career’s real segment practice. The elements of this model are partially implemented in the Students' Poster and Online Section organization.



## 2. GOAL OF THE PAPER

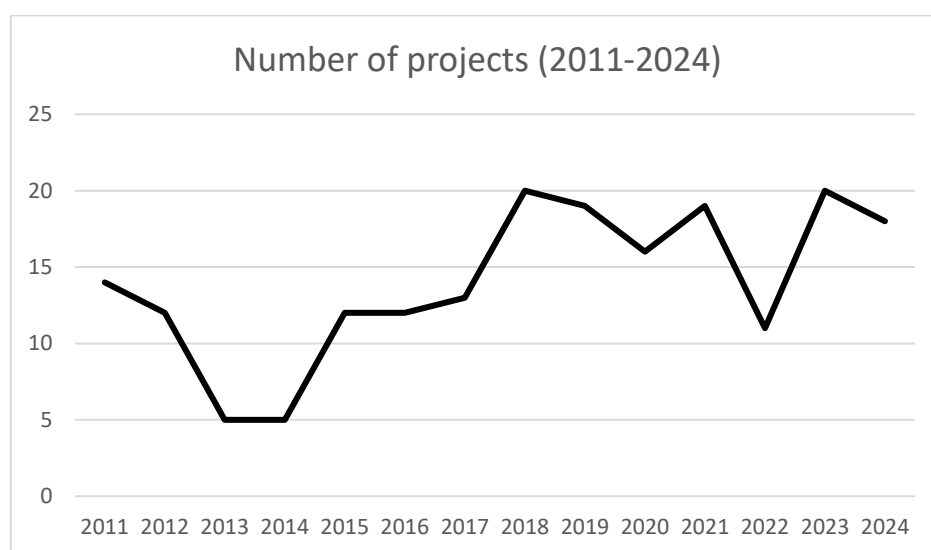
The goal of this paper is to show the organizational model of the Students' Poster and Online Section as a form of international students networking, in order to work on joint projects and present the results of their projects. Particular emphasis is given to interdisciplinary approach to using information and communication technologies, since undergraduate and graduate students attend different study programs.

## 3. THE INTERNATIONAL STUDENTS' POSTER AND ONLINE RESEARCH SECTION ORGANIZATIONAL METHODS

Students' Poster and Online Section of the Central European Conference on Information and Intellygendt Systems CECIIS started in 2011, and has since then been organized once a year, gathering undergraduate and graduate students who work on multidisciplinary projects and present research results at Students Poster and Online Section. Students' Section focuses on the use of information and communication technology in various areas of human activity and on developing communication skills in an international environment. The areas in which the application of information and communication technology is analyzed include medicine, psychology, economy, entrepreneurship, geology, literature etc. Students' section starts by publishing an open call for students to register their papers on <https://ceciis.foi.hr/call-for-papers/student-poster-and-presentation-section> . Once registered, all papers are submitted to a blind review. All accepted papers are presented on the Students' Section as a poster on the conference itself or online as a PowerPoint presentation. Students' Section is organized as a hybrid event. Abstracts containing basic results of students' research are permanently available on the Students poster and Online Section CECIIS websites (Student Presentation and Poster Section Archive 2011-2024, <https://archive.ceciis.foi.hr/index.php/ceciis/index/pages/view/studentPoster.html>).

## 4. RESULTS

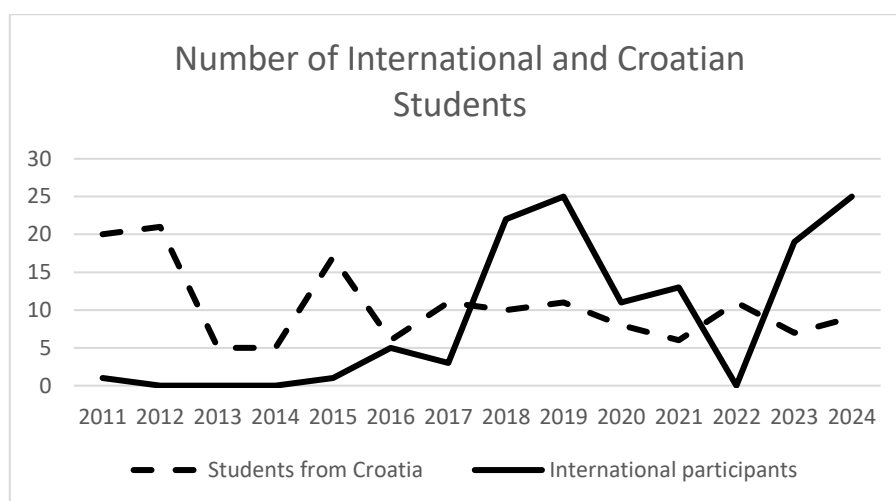
The 2024 Students' Section, organized once a year since 2011, was 14<sup>th</sup> in a row. During these 14 years, a total of 186 students' projects were presented on the section. The number of students' projects has varied from one year to the next, ranging from 5 to 20 students' research projects per year. Figure 1 shows the range of students' project's number during the 14 years of its existence.



*Figure 1: The Number of Students' Projects Presented at the Students' Poster and Online Section*

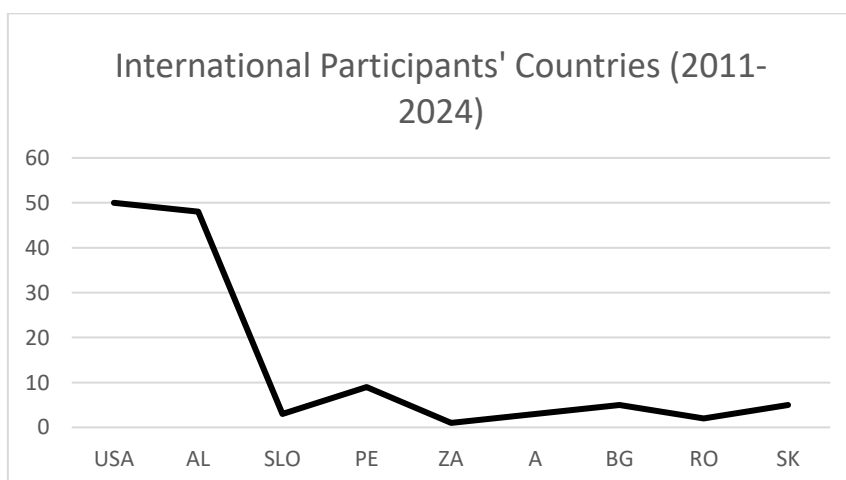
The results presented in Figure 1 show that the highest number of students' projects was registered and presented in 2018 and 2023, when it reached 20 students' projects. During the pandemic in 2020 the number of students' projects remained relatively high, i.e. a total of 16 projects was presented. The reason for that is the online option of presentation provided by the Students' Section since its very beginning.

Figure 2 presents numbers of domicile and foreign students who participated at the Students' Section. The 272 participating students were divided into 147 research teams.



*Figure 2: The Number of Students who Participated at the Students' Poster and Online Section*

Figure 2 shows a relatively consistent number of students from Croatia, whilst the number of international students-presenters has been slightly increasing from 2017 onwards. Figure 3 includes details of countries which foreign students-presenters come from. The highest number of foreigners were from the USA and Albania, with a few from Peru, South Africa, Austria, Bulgaria, Romania and Slovakia. Student-presenters from the USA and Albania are students of the partner universities of the University of Zagreb.



*Figure 3: International Environment of Research Team Members' Countries, 2011- 2014*

Several international teams were mixed, i.e. combined of Croatian and students from other countries, which enhanced the importance of networking and communication in an international environment. It was those diverse nationalities, and cultural and language differences that contributed to cultural diversity and development of communication competencies in an international environment. By applying the Collaborative Learning Method, the students learned from each other, developed their creative potentials and as a team analyzed the issues of using information and communication technology in different areas of human activity.

## 5. CONCLUSION

Through continuous work of students networked in international students' research teams it is possible to encourage them to conduct research projects. The multidisciplinary approach and the development of communication competencies in an international environment enables the implementation of the Team-based Learning and Research-based Learning methods. These methods are student-centered, they encourage their activity and collaborative learning. The paper presents quantitative indicators (numbers) of students and students' research projects presented in the last 14 years at the Students' Poster and Online Research Section of the CECIIS International Conference. This model of students' research results' dissemination proved to be a sustainable high-quality method of work with students. In the last 14 years, there were 186 students' research projects presented at the Students' Section. They were prepared by 272 students from 10 different countries gathered in 17 teams. This students' international networking model can be applied in similar international multidisciplinary teams. The model can also be adapted to high-school students, to prepare these future university students for research projects.

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# IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON COMPETITIVE ADVANTAGE: THE MEDIATING ROLE OF REPUTATION – A PILOT STUDY

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## ABSTRACT

*Corporate social responsibility (CSR) has become an essential and even expected element of business, especially in modern societies where companies are required to take responsibility for their impact on the environment, society, and economy when consumers increasingly consider sustainability factors and prefer companies that offer more sustainable products and services, as well as educate the wider public about aspects of social responsibility and sustainable development. In Latvia, similar to the European Union, small and medium-sized firms (SMEs) constitute around 99% of the national economy and serve as the primary foundation of the economy. The pilot study seeks to verify the research instrument by evaluating the internal validity and consistency of the questionnaire questions to ensure the dependability of the subsequent large-scale study. The survey utilises a mixed-methods approach, consisting of 52 items, 37 of which are included in the measured scales. The 7-point Likert scale and multiple-choice format are employed to gather quantitative data, whilst open-ended questions are designed to get qualitative data. The sample size consists of 66 representatives from SMEs, with 42 included in the analysis. Cronbach's alpha is used to test the reliability of the research instrument, calculating it for the key scales: Scale A: competitive advantage, Scale B: reputation, Scale C: financial performance, Scale D: indirect effects of CSR, Scale E: specific CSR domains, and Scale F: sustainability of CSR practices. The instrument has high reliability, supported by a very good to excellent internal consistency across the scales, with alpha values ranging from 0.823 to 0.947. Furthermore, the study adds to the academic discussion on CSR and strategic management while providing practical insights for SMEs.*

**Keywords:** *Corporate social responsibility, reputation, competitive advantage, small and medium enterprises, strategic management*

## 1. INTRODUCTION

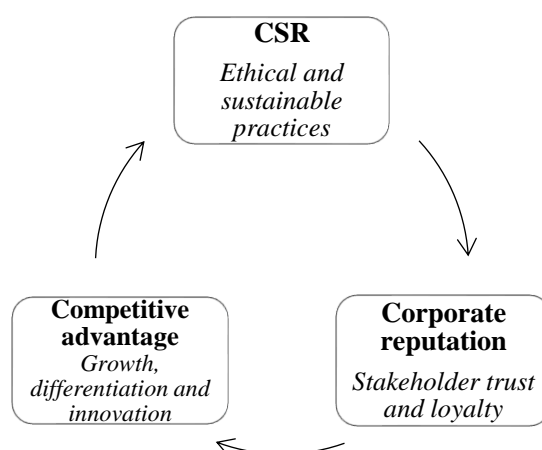
CSR has emerged as a fundamental and anticipated component of contemporary business practices. In today's society, companies are obligated to acknowledge their influence on the environment, society, and economy, as consumers increasingly prioritise sustainability and favour businesses that provide sustainable products and services while also promoting public awareness of social responsibility and sustainable development (Carroll and Shabana, 2010; Porter and Kramer, 2011; UN Global Compact and Accenture, 2021). In Latvia, 99.8% of economically active merchants and commercial entities are SMEs; micro-enterprises represent 91.1% of this number. In 2022, SMEs in Latvia saw a revival, with SME value added increasing by 7.9% and SME employment rising by 1.7%. Value-added growth does not account for inflation; therefore, the growth in 2022, characterised by high inflation, was diminished. The Organisation for Economic Cooperation and Development scoreboard indicates that SME

value-added increased by 6.7%, while SME employment rose by 0.7% (OECD, 2024). It might be argued that Latvian SMEs are not competitive enough in both regional and global market systems, with some reports underscoring that enhancing the productivity of the national economy is Latvia's foremost challenge, according to the OECD SME and Entrepreneurship Outlook (OECD, 2019). The effective implementation of CSR initiatives and sustainability strategies can enhance the reputation of SMEs, thereby augmenting customer acquisition, which in turn can elevate the company's revenue, reputation and global competitiveness according to the (Sustainable Development Strategy of Latvia 2030, 2010; United Nations, 2015; National Development Plan of Latvia 2021–2027, 2020). The problem is significant socially, economically, and scientifically, as CSR is significant to contemporary corporate practices, with an increasing number of consumers demanding sustainable and ethical management. Despite extensive research on the importance of CSR in fostering sustainable business practices, gaps remain in understanding its direct and indirect impact on the competitive advantage of SMEs across many industries. Firstly, the pilot study seeks to investigate the influence of CSR on competitive advantage and the extent to which corporate reputation mediates this relationship. This offers actual data to elucidate this relationship and evaluate the reliability of the research instrument, which is crucial for the subsequent large-scale study. This pilot study establishes a foundation for future research by providing a comprehensive methodology for examining the relationship between CSR, reputation, and competitive advantage across various organisational contexts.

## **2. CSR, COMPETITIVE ADVANTAGE AND REPUTATION**

CSR is now an important part of modern business strategy. In addition to the ethical, societal, and economic advantages, it is perceived as a means for organisations to get a competitive advantage by differentiating themselves in the marketplace, fostering consumer loyalty, and establishing trust among stakeholders (Du, Bhattacharya and Sen, 2011; Aguinis and Glavas, 2012; Islam *et al.*, 2020; Khan *et al.*, 2022). Management theories and practices appear to only partially acknowledge the importance of substantial shifts in the ethical potential of goods, services, and innovations (Brusoni & Vaccaro, 2017). Despite assessments of the connection between CSR and business value, a notable gap remains in the research regarding the relationship between CSR and innovation (Martinez-Conesa *et al.*, 2017). Future research may provide further evidence on how CSR acts as a vital catalyst for organisations to enhance their innovation, efficiency, and competitive advantage. While enhanced reputation is acknowledged as a crucial result of CSR initiatives, its function as a mediating variable between CSR and competitive advantage in SMEs has not been extensively researched. CSR has evolved from a general concept of ethical obligations (Bowen, 2013) to frameworks emphasising accountability, sustainability, and stakeholder engagement (The World Business Council for Sustainable Development, 1999; European Commission, 2011; ISO 26000, 2010). Carroll's definition and framework continue to be the most referenced in CSR literature (Carroll, 2016), with addition of the newer perspectives on the framework, such as the Triple Bottom Line (TBL) and similar stakeholder-oriented practices. The TBL, initially referenced in 1977, is defined as “directing corporations to consider not only the economic value they contribute but also the environmental and social value they create and diminish” (Elkington, 2017). CSR is an international business initiative that asserts that engaging in voluntary practices benefits all stakeholder groups, guards companies from adverse publicity, and positively influences customer perceptions of the companies (Einwiller *et al.*, 2019). Comparative advantage theory suggests that countries or businesses can excel in international trade by specialising in the production for which they possess the greatest efficiency and procuring items that are produced less effectively by others (Ricardo, 2012). CSR identifies the opportunities to benefit society and the companies themselves by strengthening the competitive context in which they operate,

determining which CSR initiatives to address, and determining the most effective ways to do so (Porter & Kramer, 2007). Porter and Kramer (2011) argue that companies gain a competitive edge by incorporating CSR into their core strategy in response to societal demands and challenges, and this competitive advantage is linked to long-term social and environmental sustainability. This framework presents the concept of shared value creation (SVC), highlighting that organisations may concurrently improve their competitive advantage while addressing social and environmental issues. Resource-Based View (RBV) theory suggests that enterprises are heterogeneous because they contain heterogeneous resources, which implies that companies can employ diverse strategies since they have varied resource mixes. Corporate reputation is identified as a VRIN resource—valuable, rare, inimitable, and non-substitutable - that is essential for achieving lasting competitive advantage (Barney, 1991).



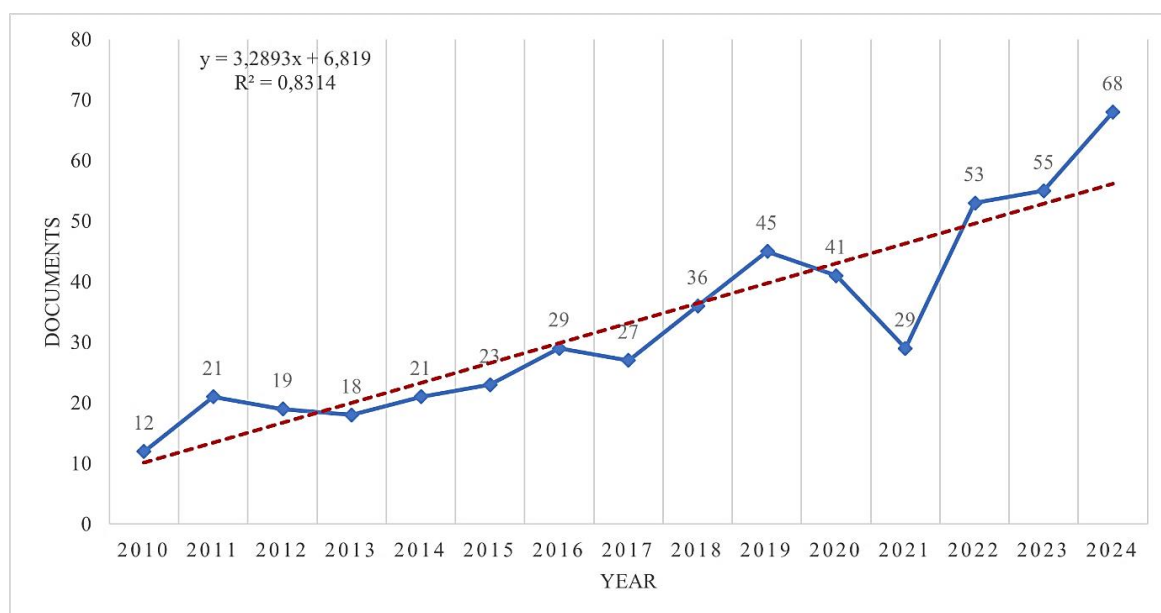
*Figure 1: The virtuous circle of CSR, competitive advantage, and reputation  
(source: Authors)*

CSR improves corporate reputation, which in turn fosters competitive advantage. This competitive advantage facilitates additional CSR initiatives, thereby establishing a "virtuous circle" (See Figure 1). CSR is crucial for improving a company's reputation by communicating its dedication to ethical practices, sustainability, and social well-being. This improved corporate reputation cultivates trust and loyalty among stakeholders, strategically placing the organisation in a competitive marketplace. A favourable reputation therefore fosters competitive advantage by drawing consumers, investors, and talent while facilitating differentiation from competition on the market. The company's success and the resources derived from its competitive advantage enable it to engage in more CSR initiatives, perpetuating a continuous cycle. This is also known as the "virtuous circle." This beneficial cycle promotes business growth and guarantees long-term advantages for the organization and wider society. Recent studies indicate that, in the majority of instances, sustainability serves as a predecessor to corporate reputation and a valuable tool to improve stakeholders' acceptability and perception of business activity (Esen, 2013; Velez-Ocampo *et al.*, 2020; Dzage and Szabados, 2024). High levels of innovation compound the favourable CSR-corporate reputation link, demonstrating innovation's ability to increase the ethical effect (Lin, 2024). Findings reveal that CSR has a direct, favourable impact on long-term competitive advantages. Furthermore, corporate reputation serves as a positive mediator between CSR and long-term competitive advantage (Xuetong *et al.*, 2024). CSR significantly impacts both CR and brand equity, whereas trust significantly influences the relationship between CSR, company reputation, and brand equity (Zhao *et al.*, 2021).

Internal and external CSR practices improve employee satisfaction, and the implementation of such activities contributes to the improvement of brand reputation and increases brand equity (Wang *et al.*, 2021). Therefore, we can conclude that CSR enhances corporate reputation by demonstrating a company's commitment to ethical and sustainable practices, fosters trust and loyalty among stakeholders, enhances brand equity, and aligns business actions with societal expectations.

### 3. STUDY RESULTS AND DISCUSSION

This pilot study utilises a mixed-method approach to assess the scope of literature concerning CSR, business reputation, and competitive advantage. Linear regression analysis was employed to examine trends in the volume of published literature on the topic. Bibliometric literature analysis is performed to systematically evaluate and analyse existing research on the topic using quantitative methods. The population of the study are SMEs representatives across various industries, including managerial-level respondents and owners. A purposive sampling technique is used to select SMEs respondents. A structured questionnaire is designed, Cronbach's alpha is used as a statistical metric to evaluate the internal consistency and reliability of the scales within the framework of this study: SCALE A: CSR Activities and Competitive Advantage, SCALE B: CSR and reputation, SCALE C: CSR and Financial Performance, SCALE D: Indirect Effects of CSR on Competitive Advantage, SCALE E: Specific CSR Domains and Impact; SCALE F: Sustainability of CSR and Competitive Advantage. The number of published documents increased from 12 in 2010 to 68 in 2024, which makes it a ~5.6-fold increase. This was found by searching the Scopus abstract and citation database with the following search syntax: TITLE-ABS-KEY ((corporate AND social AND responsibility\* OR csr\*) AND (competitive AND advantage\* OR advantage\* OR sustainable AND competitive AND advantage\*) AND (reputation\* OR performance\*)). The total count of the items in the search string for the date range 2010-2024 is 497.



*Figure 2: Search string in the Scopus database for the selected search syntax (source: Authors)*

Figure 2 shows the general direction of the data points that show the linear relationship between two variables: dependent (documents) and independent (year). This indicates that the number of published documents on the topic is steadily increasing. The linear trendline is determined by a linear regression algorithm that minimizes the sum of squared differences between the





strategy of utilising CSR for sustained competitive advantage. Cronbach's alpha ( $\alpha$ ) is a commonly utilised statistic in research involving multiple-item measures or scales (Schmitt, 1996). Cronbach's alpha is used to assess the internal consistency and reliability of questionnaires or measurement scales in the study, measuring the degree of correlation among the items on a scale or questionnaire. Cronbach's alpha ranges from 0 to 1, with larger values indicating higher internal consistency (Taber, 2018). The key interpretations of Cronbach's alpha values are as follows:  $> 0.9$ : exceptional internal consistency;  $0.8 < \text{Cronbach's alpha} < 0.9$ : a very good internal consistency;  $0.7 < \text{Cronbach's alpha} < 0.8$ : good internal consistency; Cronbach's alpha  $< 0.7$ : indicates the need for improvement in the scale's reliability.

Part	Scale	Main question	Types, responses, scales
1	n/a	Respondent/Company Profile	5 questions. Industry, company size and age, role, CSR practices.
2	A	CSR Activities and Competitive Advantage	7 questions. 7-point Likert scale: (1 - absolutely disagree; 7 - absolutely agree)
3	B	CSR and Reputation	8 questions. 7-point Likert scale: (1 - absolutely disagree; 5 - absolutely agree)
4	C	CSR and Financial Performance	7 questions. 7-point Likert scale: (1 - absolutely disagree; 7 - absolutely agree)
5	D	Indirect Effects of CSR on Competitive Advantage	6 questions. 7-point Likert scale: (1 - absolutely disagree; 7 - absolutely agree)
6	E	Specific CSR Domains and Its Impact	5 questions. 7-point Likert scale: (1 - absolutely disagree; 7 - absolutely agree)
7	F	Sustainability of CSR Practices and Competitive Advantage	4 questions. 7-point Likert scale: (1 - absolutely disagree; 7 - absolutely agree)
8	n/a	Additional Exploratory Questions	5 questions. 7-point Likert scale: (1 - absolutely disagree; 7 - absolutely agree)
9	n/a	Open-ended Questions	5 open-ended questions

*Table 1: Full structure of the instrument  
(Source: Authors)*

Table 1 provides a structured overview of the questionnaire designed to explore the relationship between CSR and various outcomes, such as competitive advantage, reputation, and financial performance. 7-point Likert scale, facilitating nuanced replies and enhanced data variability. The questionnaire predominantly comprises quantitative data (Likert scale), while the use of open-ended questions (Part 9) adds qualitative depth, enabling respondents to provide richer, more detailed feedback. The questionnaire is thorough and methodologically robust.

Items SCALE A	Label
1. CSR activities give us a competitive advantage in the market.	Competitive advantage
2. CSR practices help us differentiate ourselves from the competition.	Differentiation from competitors
3. CSR initiatives have led to a long-term sustainable advantage for our company.	Long-term advantage
4. Environmental sustainability initiatives have helped us stand out in the industry.	Environmental differentiation
5. Social responsibility initiatives (e.g., employee well-being) have contributed to our competitive advantage.	Social responsibility advantage
6. Competitive advantage from CSR initiatives is sustainable over a long time.	Sustainability of CSR advantage
7. CSR initiatives are focused mainly on creating social value rather than increasing profits.	Social value creation

Items SCALE B	Label
1. CSR practices have improved the company's overall reputation.	Impact on reputation
2. CSR practices have no impact on the company's reputation.	<i>Control question</i>
3. CSR initiatives give customers a more positive view of our company.	Positive customer view
4. Social responsibility practices, e.g., employee well-being, have helped to improve our reputation.	Social responsibility and reputation
5. Our environmental practices significantly improve our reputation	Environmental practices and reputation
6. The positive reputation of CSR activities has given us a competitive advantage.	Reputation and competitive advantage
7. The company's good reputation has helped to attract new customers.	Reputation and customers
8. Our company's reputation is a key driver of customer trust and loyalty.	Customer trust and loyalty
Items SCALE C	Label
1. The reputation we have built through CSR activities has positively impacted on our financial performance.	Reputation impact on finances
2. Our CSR initiatives have helped us increase sales or revenue.	Improved revenue
3. CSR initiatives did not affect my company's long-term financial performance.	<i>Control question</i>
4. CSR practices allow us to increase the prices for our products or services.	Price increase
5. Our financial performance has improved due to an improved reputation from CSR activities.	Reputation-driven financial improvement
6. A positive reputation resulted in better partnerships with other companies, improving financial results.	Improved partnerships
7. Increased customer trust due to our CSR practices has positively affected our revenue.	Customer trust and revenue
Items SCALE D	Label
1. Our company's reputation has an indirect impact (mediates) on the relationship between CSR practices and our competitive advantage.	Reputation mediates advantage
2. CSR initiatives indirectly strengthen our competitive advantage through the positive effect on our reputation.	CSR > Reputation > Advantage
3. The efficiency of our CSR initiatives on competitive advantage is higher when the company's reputation is strong.	Reputation improves CSR impact
4. Reputation is a key factor that links CSR initiatives to long-term competitive advantage.	Reputation links to advantage
5. A good reputation improves the benefits of CSR activities in achieving competitive success.	Reputation enhances CSR success
6. To ensure you're paying attention, please select 'Strongly Agree' for this question.	<i>Control question (exclude)</i>
Items SCALE E	Label
1. Environmental initiatives (e.g., waste management, energy efficiency) are key to building a competitive advantage.	Environmental builds advantage
2. Social initiatives (e.g., employee wellbeing, customer loyalty) were more important for our reputation than environmental initiatives.	Social > Environmental
3. Social responsibility activities have created more obvious benefits than other CSR activities.	Social shows more benefits
4. Environmental initiatives are more highly valued by our customers than other CSR activities.	Customers prefer environmental
5. Environmental sustainability efforts have improved operational efficiency, improving our competitive advantage.	Environmental improves efficiency

<b>Items SCALE F</b>	<b>Label</b>
1. The competitive advantage we get from CSR initiatives is likely to be long-lasting.	CSR advantage is lasting
2. Our long-term competitive advantage is heavily influenced by the regularity of our CSR initiatives.	Regularity of CSR
3. CSR practices are the reason our company will remain competitive in the future.	CSR ensures future competitiveness
4. Long-term CSR practices have positioned our company for sustained success in the market.	Long-term CSR ensures success

*Table 2: Scale items and their labels  
(Source: Authors)*

Table 2 provides a breakdown of CSR-related questionnaire items across six scales (A to F), covering facets like competitive advantage, reputation, financial performance, and sustainability. It highlights how CSR initiatives impact business outcomes through differentiation, customer trust, and operational efficiency. The inclusion of control and comparative items adds depth to the analysis. The structure ensures a comprehensive assessment of CSR's direct and indirect effects. Before distribution, the instrument was discussed among relevant stakeholders to ensure clarity, validity, and reliability. Subsequent to the modifications and revisions, the questionnaire was distributed through the QuestionPro platform to the respondents. The response rate is ~21% with 66 responses received. The data was cleaned and analysed, and the internal consistency and reliability of the instrument and measurement scales of this study were assessed.

<b>Scale</b>	<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>N of Items</b>	<b>N of responses</b>
<b>A - Competitive Advantage</b>	,892	,898	7	42
<b>B - Reputation</b>	,823	,860	8	42
<b>C - Financial Performance</b>	,836	,863	7	42
<b>D - Indirect Effects of CSR</b>	,904	,906	5	42
<b>E - Specific CSR Domains</b>	,918	,918	5	42
<b>F - Sustainability of CSR Practices</b>	,947	,947	4	42

*Table 3: Scale reliability testing results  
(Source: Authors)*

Table 3 shows the results of the scale reliability testing. Before testing the data cleaning was performed, excluding responses that were not completed, and control questions that were not designed to measure the same underlying construct, such as “To ensure you're paying attention, please select 'Strongly Agree' for this question”, but leaving the reverse-coded control questions. The responses included in testing N=42. The reliability of the measurement scales (A to F) was assessed using Cronbach’s alpha coefficient in IBM SPSS software. The results demonstrate very good to excellent internal consistency across the scales, with alpha values ranging from 0.823 to 0.947. These findings indicate that the items within each scale are highly consistent and reliable. This level of internal consistency supports the robustness of the scales and their suitability for the follow-up larger-scale study.

#### 4. CONCLUSION

This study offers insights into the relationship between CSR, corporate reputation, and competitive advantage, contributing to both theoretical and practical understandings of these constructs. The study employed a mixed-method approach, incorporating a literature review, linear regression analysis, reliability testing of measuring scales, and validation of a structured questionnaire, establishing a foundation for future larger-scale studies. The study links CSR practices to enhanced corporate reputation, financial performance, and long-term sustainability, thus reinforcing stakeholder theory, which highlights the necessity of balancing economic, social, and environmental objectives for business success. The scales designed in this study cover CSR activities, reputation, financial performance, specific CSR domains, and sustainability, highlighting multiple facets of CSR. Scale design aligns with existing literature that positions CSR as a holistic and integrative construct rather than a singular focus on philanthropic activities. The increase in published literature on CSR, competitive advantage, and reputation reflects the growing academic and practical interest in these topics. The fivefold growth in publications from 2010 to 2024 validates the relevance of this study's research focus. The strong correlation ( $R^2 = 0.8314$ ) between the year and the number of publications highlights a steady trend, suggesting that CSR is increasingly viewed as integral to business strategy. Bibliometric literature analysis underscores the significant role of CSR in fostering sustainable development, corporate reputation, and competitive advantage while highlighting evolving research trends in governance, strategy, and environmental innovation. The reliability testing of the six scales using Cronbach's alpha demonstrates excellent internal consistency, with alpha values ranging from 0.823 to 0.947. These findings confirm the robustness of the instrument and ensure that the measurement scales are theoretically sound and empirically reliable for assessing the study's constructs. The validated questionnaire offers a reliable framework for assessing CSR's impact on business outcomes, suitable for use by practitioners and researchers in further studies. In conclusion, this study not only validates the reliability of the measurement instruments but also adds to a foundation for examining the relationship between CSR, corporate reputation, and competitive advantage.

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# SOCIAL EFFECTS OF AUGMENTED REALITY AND POKÉMON GO ON PLAYER'S HEALTH AND WELL-BEING IN CROATIA

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## ABSTRACT

*Augmented Reality games like Pokémon GO have emerged as innovative solutions to counteract sedentary lifestyles by promoting physical activity, social interaction, and mental well-being. This study explores the impact of Pokémon GO on Croatian players, a demographic known for relatively low physical activity and rising obesity rates. Utilizing a 39-question online survey, data from 72 respondents were analyzed to assess the game's contributions to players' physical, social, and mental health. The findings reveal that the average player spends 342 minutes per week in motion while playing the game, more than double the World Health Organization's recommended minimum of 150 minutes. Additionally, 75% of players reported walking more frequently, 58.3% made new friends, and 55.6% experienced improved mental health, affirming the game's multifaceted positive effects. By integrating quantitative measures with player self-assessments, this research extends the existing body of knowledge by focusing on a localized population, demonstrating Pokémon GO's effectiveness in a cultural context marked by sedentary behavior. The study underscores the potential of augmented reality games to foster healthier lifestyles and provide engaging, scalable alternatives to traditional physical activity. These findings contribute to the broader understanding of how gamification and technology can enhance public health initiatives, paving the way for future interdisciplinary research on the design and implementation of health-focused games for diverse populations.*

**Keywords:** *Pokémon GO, augmented reality, AR games, physical health, social health, mental health, Croatia*

## 1. INTRODUCTION

A sedentary lifestyle, characterized by prolonged engagement in low-energy activities, has become increasingly prevalent in recent years. This shift toward inactivity poses significant health risks [1], affecting physical, mental, and social well-being. Despite the well-documented benefits of physical activity in preventing diseases and enhancing quality of life, many individuals face challenges in maintaining motivation for exercise and social engagement. With the growing ubiquity of smartphones and mobile applications, there is a rising trend to integrate physical activity and socialization into interactive health-oriented applications [2]. Pokémon GO, a widely popular augmented reality (AR) application for smartphones, blends real-world and digital environments to promote movement and social interaction [2]. Although not specifically designed as a fitness application, Pokémon GO has successfully motivated millions to incorporate positive behavioral changes into their daily routines. Its emphasis on physical movement categorizes it as an exergame, or exercise-promoting game [3].



The game's unique approach has garnered significant interest from researchers, leading to numerous studies on its effectiveness in reducing sedentary behavior, fostering social connections, and increasing outdoor activity. This paper examines the potential positive influence of AR games like Pokémon GO on various dimensions of players' lives. The focus extends to the Croatian context, where sedentary lifestyles are prevalent, with a substantial portion of the population exhibiting low levels of physical activity and high rates of obesity [4], [5].

## **2. THEORETICAL BACKGROUND**

Augmented Reality (AR) provides an interactive experience by seamlessly integrating virtual objects into the real-world environment in real-time [6]. Since its emergence in the 1990s, AR has been adopted across diverse industries such as tourism, healthcare, education, fitness, and the military. However, the most significant advancements have been in the gaming industry, driven by the proliferation of mobile AR applications [7]. Among these, Pokémon GO (POGO) stands out as a leading AR game, boasting over \$6 billion in revenue and more than 600 million unique installations [8], [9]. By blending virtual elements with real-world activities, Pokémon GO emphasizes physical movement as a core component of gameplay. Although many players disable the AR mode, the game's features still provide an engaging and immersive experience [10]. The physical activity encouraged by Pokémon GO includes outdoor exploration for capturing Pokémon, hatching eggs, and participating in events like Community Days. The game utilizes positive reinforcement by rewarding players for achieving weekly walking milestones. Beyond physical benefits, Pokémon GO fosters a robust social environment. Its design encourages collaboration and teamwork through team-based competitions, raid battles, and friend networks. Community events and online groups further strengthen social bonds, building a sense of community among players. Broadly considering health, the World Health Organization defines it as a holistic state of physical, mental, and social well-being [11]. Pokémon GO and similar AR games exemplify how mobile technology can be leveraged to promote physical activity, cognitive engagement, and social interaction, offering innovative pathways to improve overall health [12]. During the COVID-19 pandemic, Pokémon GO adapted its gameplay mechanics to align with physical distancing requirements. Despite an observed reduction in overall physical activity, the game served as a valuable tool for relaxation and maintaining social connections during lockdowns [13], [14].

## **3. PREVIOUS RESEARCH**

Since its release, Pokémon GO has been the subject of extensive research examining its effects on players' health. Bielik et al. identified ten key conditions for successful exergames, six of which Pokémon GO fulfills, supporting its role in promoting increased physical activity [15]. Numerous studies have consistently shown that the game leads to higher step counts, reduced sedentary behavior, and greater weekly walking distances across various demographic groups [16-18]. Regarding mental health, 42% of reviewed articles focused on Pokémon GO's psychological impact, with 19 out of 25 studies reporting positive outcomes. These included increased energy levels, weight loss, improved sleep quality, and reduced anxiety [19,20]. Some studies also highlighted therapeutic benefits, such as decreased social anxiety, enhanced concentration, and overall emotional well-being [19], [21]. While negative effects like Game Transfer Phenomena and potential addiction were mentioned, they were generally considered minor in comparison to the game's benefits [19], [22,23]. In terms of social health, research has emphasized Pokémon GO's positive influence. The game has been shown to enhance social interaction, family time, and social skills. Players reported improved life satisfaction, a stronger sense of belonging, and better parent-child relationships [2], [19], [21], [24-26].

In summary, Pokémon GO has demonstrated significant positive effects on physical, mental, and social health, establishing itself as a noteworthy and influential game. Among the numerous studies conducted on Pokémon GO, none have specifically focused on players in Croatia. The geographically closest research was carried out in Serbia in 2019 [27], examining the game's impact on physical activity. That study measured and compared the distances traveled over a five-week period by regular players, new players, and non-players, concluding that regular Pokémon GO players covered the greatest distances, followed by new players, with non-players trailing behind. Despite Croatia's notable achievements in European and global sports competitions, the general population struggles with maintaining a healthy lifestyle. A 2016 study [28] revealed that one in three Croatian children is overweight or obese, with 79.8% spending 1 to 2 hours daily watching television or using electronic devices on weekdays. Among adults, a 2017 survey [4] found that 47% did not engage in any moderate physical activity, and 39% spent more than 5.5 hours sitting daily. Croatia ranks thirteenth out of 53 countries in the WHO European region for adult overweight prevalence, with nearly 60% of adults classified as overweight [5]. Given the sedentary lifestyle and high rates of excess weight among Croatians, this study seeks to evaluate whether the documented positive effects of Pokémon GO extend to Croatian players. Specifically, it investigates the game's impact on the physical, mental, and social health of players, recognizing that health and well-being are integrally connected to these three dimensions.

#### **4. HYPOTHESIS AND METHODOLOGY**

Based on the reviewed literature, the study proposes the following hypotheses:

##### *Hypothesis 1:*

- a) Playing Pokémon GO increases players' physical activity.
- b) Pokémon GO players achieve the recommended level of physical activity (150 minutes per week).

##### *Hypothesis 2:*

Playing Pokémon GO positively influences players' sociability.

##### *Hypothesis 3:*

- a) Playing Pokémon GO enhances players' overall well-being and mental health.
- b) Playing Pokémon GO increases players' motivation to step outside their comfort zone.

To test these hypotheses, an online anonymous survey consisting of 39 questions was conducted. The survey was distributed via social media and Facebook groups dedicated to Pokémon GO players in Croatia. The first three questions focused on demographic data, including respondents' gender, age, and employment status. The subsequent 14 questions addressed players' gaming habits, such as how long they have been playing Pokémon GO, the frequency of play, their in-game level, and their physical activities related to the game. Additionally, respondents were asked to evaluate 22 statements using a five-point Likert scale to capture insights related to the game's impact on their physical activity, sociability, and overall well-being.

#### **5. RESULTS**

A total of 73 respondents completed the survey, with 72 valid responses accepted and one discarded due to irrelevant answers.

### a. Demographic analysis of respondents

Out of the 72 respondents, 43 (59.7%) identified as male, and 29 (40.3%) as female. The majority (43.1%) belonged to the 26–35 age group, followed by 40.3% in the 16–25 age group, 8.3% in the 36–45 age group, 6.9% in the 46–55 age group, and only one respondent was over 56 years old. Regarding employment status, 61.1% were employed, 36.1% were students, and 2.8% were unemployed.

### b. Players' habits analysis

The majority of respondents (58.3%) have been playing Pokémon GO since its release in 2016. Among the others, 29.2% have been playing for 3–5 years, 9.7% for 1–2 years, and 2.8% started recently. Most players reported reaching in-game levels between 40 and 49 (66.7%), followed by 18.1% in levels 30–39, and 12.5% achieving the maximum level of 50. This suggests that the majority of respondents are experienced Pokémon GO players. In terms of gaming style, 47.2% identified as casual players, 38.9% described themselves as midway between casual and hardcore, and 13.9% considered themselves hardcore gamers. Regarding play frequency, 73.6% of respondents reported playing daily, 9.7% played four days a week, 6.9% three days a week, 5.6% five days a week, and 4.2% six days a week. On average, respondents played 6.28 days per week, with the mode and median being 7 days per week. Responses to the question, "How many minutes do you play daily?" ranged from 5 to 500 minutes. The most common daily play duration was 60 minutes, reported by 31.9% of respondents. This was followed by 18.1% playing for 120 minutes and 15.3% playing for 30 minutes. The mean daily playtime was 86.6 minutes, while the median and mode were both 60 minutes. (See Figure 1).

72 responses

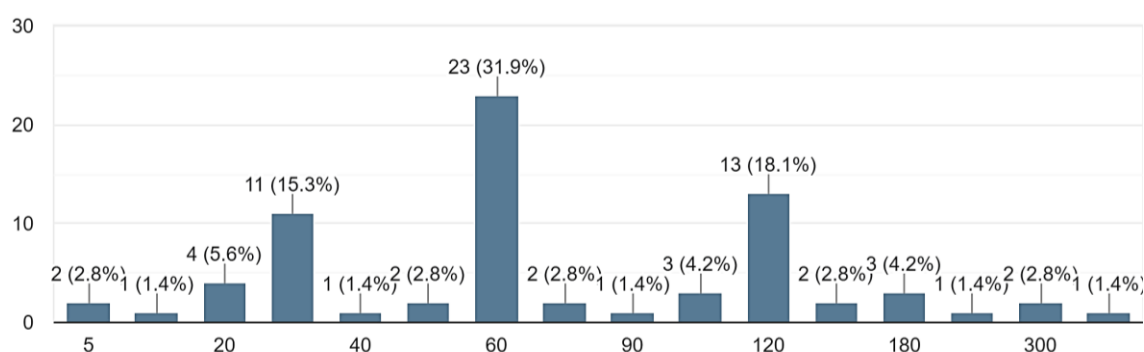


Figure 9: Daily playtime of POGO in minutes

Players reported a wide range of time spent moving while playing Pokémon GO, from as little as one minute (1.4%) to as much as 300 minutes (1.4%). The majority (25%) reported spending 60 minutes in motion during gameplay, followed by 18.1% spending 30 minutes and 12.5% spending 15 minutes. Other reported durations were less common, each accounting for less than 5.6% of responses. On average, players spent 54.46 minutes moving during gameplay, with a median of 50 minutes and a mode of 60 minutes. These findings indicate that players are in motion for the majority (62.9%) of their total playing time. See Figure 2 for a detailed visualization.

72 responses

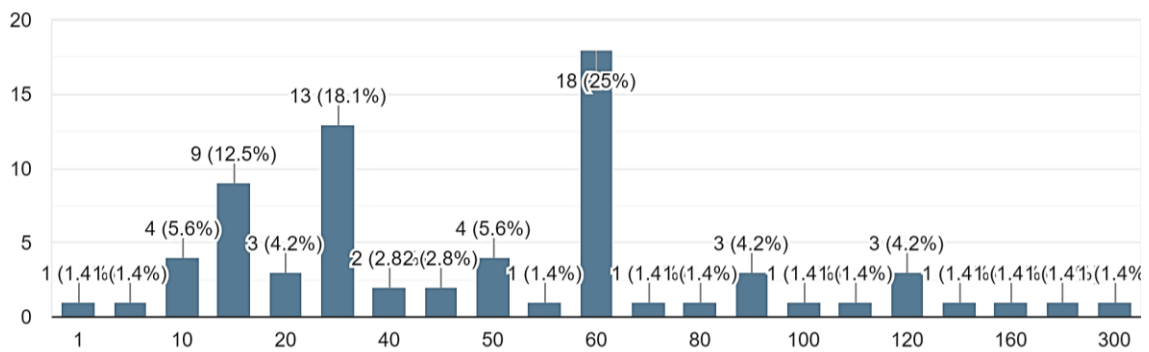


Figure 10: Time spent moving during POGO playing time

Based on the arithmetic mean of time spent moving during Pokémon GO gameplay (54.46 minutes) and the average number of days spent playing per week (6.28), the average Pokémon GO player in Croatia spends approximately 342 minutes per week in motion while gaming. Individual weekly calculations reveal that nearly three-quarters of respondents (74.3%) meet the recommended minimum of 150 minutes of physical activity per week solely by playing Pokémon GO. This percentage is even higher among specific player groups: 90% of respondents who identified as hardcore players met the minimum activity criteria, as did 78.6% of those identifying as a mix between casual and hardcore players.

Figure 3 illustrates the average number of kilometers covered weekly by players, ranging from 2 km to 100 km. The most commonly reported distance was 50 km, as stated by 22.2% of respondents. On average, players reported covering 32.6 km per week.

72 responses

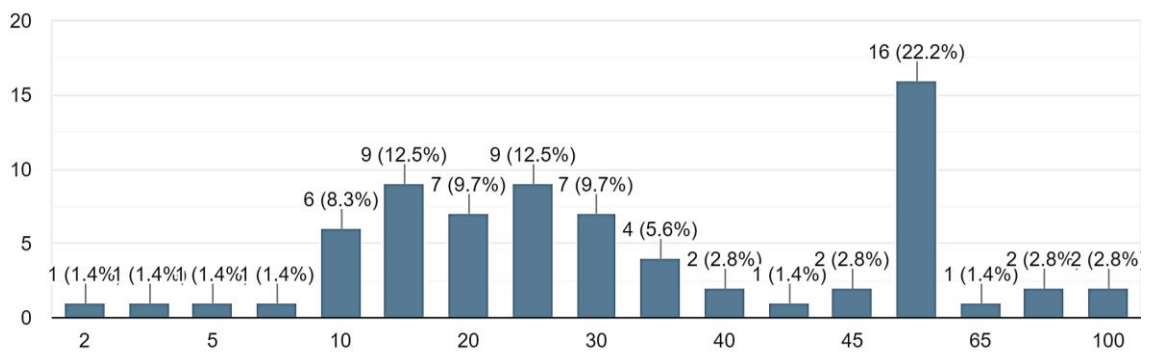


Figure 11: Average kilometers walked per week by respondents

### c. Likert scale analysis

The statements on the Likert scale were randomly distributed for respondents; however, for clarity, this paper organizes them according to the hypotheses they address. *Hypothesis 1a: Playing Pokémon GO increases the physical activity of players.*

The responses to statements related to this hypothesis are summarized in **Table 1**. A significant majority of players, 88.9%, indicated they would recommend Pokémon GO to individuals seeking to become more active, with 4 ("agree") and 5 ("completely agree") responses dominating. This highlights a strong belief among players that Pokémon GO effectively promotes increased physical activity. Additionally, players reported noticeable improvements in their physical activity levels. Specifically, 75% of respondents stated they walk more frequently, and 65.3% indicated being more physically active since playing the game.

Regarding motivation to engage in physical activities, 48.6% of respondents expressed agreement with this statement, with 33.3% agreeing and 15.3% completely agreeing. While slightly lower than other responses, this still represents a significant proportion of players who credit Pokémon GO with enhancing their motivation for physical activity.

Table 5: Likert scale analysis - Hypothesis 1a

Statement*	1	2	3	4	5	Avg	Med	Mod
<i>I would recommend POGO to people who want to physically move more</i>	0	0	8 (11.1%)	22 (30.5%)	42 (58.3%)	4.472	5	5
<i>I walk more often because of POGO</i>	3 (4.1%)	5 (6.9%)	10 (13.8%)	36 (50%)	18 (25%)	3,847	4	4
<i>I am more physically active since I started playing POGO</i>	2 (2.7%)	8 (11.1%)	15 (20.8%)	30 (41.6%)	17 (23.6%)	3.722	4	4
<i>POGO motivates me to engage in physical activities</i>	4 (5,5%)	12 (16,6%)	21 (29,1%)	24 (33,3%)	11 (15,2%)	3,361	3	4

\*1 Strongly disagree; 2 Disagree; 3 Neither agree or disagree; 4 Agree; 5 Strongly agree; Avg=Average; Med=Median; Mod=Mode

*Hypothesis 2: Playing Pokémon GO positively influences the sociability of players.*

This hypothesis was evaluated using the statements presented in **Table 2**. Many of these statements were adapted from Miler Romana's 2020 master's thesis, "*The Impact of Online Games on the Social Interaction of Players*," and subsequently modified to focus specifically on the context of Pokémon GO. The statements were designed to measure various aspects of social interaction influenced by the game, including forming new relationships, enhancing existing ones, and increasing social engagement through in-game mechanics and community events. Responses to these statements provide insights into the game's role in fostering sociability among players, aligning with previous findings on how online games can act as a platform for social interaction and community building. Detailed results and interpretations of these responses are presented in Table 2, offering a nuanced understanding of how Pokémon GO contributes to the social dimension of players' lives.

Table 6: Likert scale analysis - Hypothesis 2

Statement*	1	2	3	4	5	Avg	Med	Mod
<i>Because of POGO, I have made new friends</i>	10 (13.8%)	11 (15,2%)	9 (12,5%)	32 (44,4%)	10 (13.8%)	3,292	4	4
<i>I communicate with friends I've met because of POGO outside the game (e.g., Facebook, Instagram, in person).</i>	14 (19,4%)	14 (19,4%)	7 (9,7%)	29 (40,2%)	8 (11,1%)	3,042	4	4
<i>Playing POGO with real-life friends has positively impacted our friendship</i>	7 (9,7%)	7 (9,722%)	15 (20,8%)	26 (36,1%)	17 (23,6%)	3,542	4	4
<i>I play POGO to socialize with real-life friends</i>	12 (16,6%)	24 (33,333%)	17 (23,6%)	12 (16,6%)	7 (9,7%)	2,694	2,5	2
<i>Playing POGO has improved my social skills</i>	11 (15,2%)	17 (23,611%)	21 (29,1%)	16 (22,2%)	7 (9,7%)	2,875	3	3
<i>I spend more time with other people since I started playing POGO</i>	7 (9,7%)	17 (23,6%)	22 (30,5%)	18 (25%)	8 (11,1%)	3,042	3	3

\*1 Strongly disagree; 2 Disagree; 3 Neither agree or disagree; 4 Agree; 5 Strongly agree; Avg=Average; Med=Median; Mod=Mode

The survey results highlighted the social impact of Pokémon GO on its players:

**New Connections:** 58.3% of respondents reported making new friends through Pokémon GO, and 51.4% indicated that they maintain communication with these friends outside the game.

**Impact on Existing Friendships:** Over half of the players agreed that playing Pokémon GO with real-life friends positively affects their friendships. However, 50% of players stated they do not play Pokémon GO specifically to socialize with real-life friends, while 26.4% indicated that they do use the game as a means of socializing with friends.

**Social Skills:** When asked about the game's effect on improving social skills, 38.9% of respondents disagreed with the statement, while 32% acknowledged a positive impact.

**Gender Differences:** A significant gender disparity emerged in responses to this question. Among male respondents, 71.4% disagreed that Pokémon GO improved their social skills, whereas 41.4% of female respondents remained neutral on the matter.

These findings demonstrate that while Pokémon GO fosters new friendships and strengthens existing ones for many players, its impact on social skills varies significantly, with notable gender differences influencing perceptions.

Table 7: Likert scale analysis - Hypothesis 3

Statement*	1	2	3	4	5	Avg	Med	Mod
<i>POGO has improved my life</i>	3 (4,1%)	9 (12,5%)	31 (43,0%)	21 (29,1%)	8 (11,1%)	3,306	3	4
<i>Playing POGO improves my mood</i>	2 (2,7%)	3 (4,1%)	19 (26,3%)	31 (43,0%)	17 (23,6%)	3,806	4	4
<i>Because of POGO, I feel more motivated and ready to leave the house</i>	4 (5,5%)	4 (5,5%)	15 (20,8%)	37 (51,3%)	12 (16,6%)	3,681	4	4
<i>I am more relaxed in meeting new people because of POGO</i>	10 (13,8%)	12 (16,6%)	21 (29,1%)	20 (27,7%)	9 (12,5%)	3,083	3	3
<i>Due to POGO, I neglect important things (school, work, other responsibilities)</i>	35 (48,6%)	26 (36,1%)	5 (6,9%)	5 (6,9%)	1 (1,3%)	1,764	2	1
<i>Because of POGO, I feel more motivated and ready to visit new places</i>	3 (4,1%)	4 (5,5%)	17 (23,6%)	31 (43%)	17 (23,6%)	3,764	4	4
<i>I spend more time outdoors because of POGO</i>	4 (5,5%)	5 (6,9%)	14 (19,4%)	26 (36,1%)	23 (31,9%)	3,819	4	4
<i>I am satisfied with how I spend my free time</i>	3 (4,1%)	3 (4,1%)	10 (13,8%)	39 (54,1%)	17 (23,6%)	3,889	4	4
<i>I believe POGO positively affects my mental health</i>	4 (5,5%)	5 (6,9%)	23 (31,9%)	28 (38,8%)	12 (16,6%)	3,542	4	4

\*1 Strongly disagree; 2 Disagree; 3 Neither agree or disagree; 4 Agree; 5 Strongly agree; Avg=Average; Med=Median; Mod=Mode

*Hypotheses 3a and 3b:*

3a: Playing Pokémon GO enhances the overall well-being and mental health of players.

3b: Playing Pokémon GO increases the motivation of players to step out of their comfort zone.

Findings (as summarized in Table 3):

**Hypothesis 3a - Well-being and Mental Health:**

**Enjoyment and Relaxation:** The majority of respondents (67%) reported that Pokémon GO improved their mood, highlighting its role in providing enjoyment and relaxation.

**Life Responsibilities:** Concerns about addictive tendencies were largely dismissed, with 85% of respondents disagreeing with the statement that playing Pokémon GO caused them to neglect other life responsibilities.

**Leisure Satisfaction:** A high proportion (77.8%) expressed satisfaction with how they spend their leisure time, suggesting an overall increase in life satisfaction.

**Outdoor Activity:** Consistent with prior findings, 68% agreed that they spent more time outdoors because of Pokémon GO.

**Mental Health Impact:** When asked directly about mental health benefits, 55.6% of respondents gave positive ratings. However, 43% felt the game didn't significantly impact their lives, while 40% believed it had improved their lives.

### **Hypothesis 3b - Motivation to Step Out of Comfort Zone:**

**Leaving the House:** A majority of respondents (68%) agreed or strongly agreed that Pokémon GO motivates them to leave their homes.

**Visiting New Places:** Similarly, 67% reported feeling motivated to visit new places because of the game.

**Meeting New People:** Regarding social comfort, 40% felt more relaxed about meeting new people due to Pokémon GO, while 29% stated the game had no significant effect in this area. These results indicate that Pokémon GO positively influences players' mental well-being and encourages behaviors that promote stepping out of their comfort zones, such as engaging in outdoor activities and exploring new environments. However, the game's impact on personal life significance and social confidence varies among individuals.

## **6. DISCUSSION**

This study surveyed 72 Croatian Pokémon GO players using a 39-question online survey administered via Google Forms. Among the respondents, 59.7% were male, and 40.3% were female. The majority were aged between 16 and 35 years and were either employed or students. The findings revealed that a significant proportion of participants had been playing Pokémon GO since its release in 2016 (58.3%) or for more than three years (29.2%), offering valuable insights into the experiences of long-term players. Furthermore, most participants (47.2%) identified as casual gamers, reflecting a predominant playing style among the surveyed group.

### *Hypothesis 1a*

The majority of reviewed literature highlights statistically significant increases in daily steps, physical activity duration, and distances covered by Pokémon GO players [19]. This study supports these findings, as 87.5% of participants, predominantly long-time players, reported high agreement with statements related to increased movement (75%,  $\bar{x}=3.8$ ), enhanced physical activity (65.3%,  $\bar{x}=3.7$ ), and motivation for physical activity (48.6%,  $\bar{x}=3.4$ ). Notably, 88.9% of respondents agreed that Pokémon GO motivates others to be more active ( $\bar{x}=4.5$ ). These results confirm the game's positive impact on physical activity, even among experienced players, validating Hypothesis 1a.

### *Hypothesis 1b*

In alignment with findings by Liu and Ligmann-Zielinska [16], participants in this study reported their daily playtime, time spent moving, and days played per week. Analysis revealed that 62.9% of the average 86.6 minutes of daily playtime involves physical movement ( $\bar{x}=54.46$  minutes). Over a week, this translates to 342 minutes of movement, more than twice the 150-minute weekly activity recommendation by the World Health Organization. These results demonstrate that Pokémon GO alone can help players achieve recommended physical activity levels, thereby accepting Hypothesis 1b. Notably, this study focused solely on activity derived from Pokémon GO without accounting for other forms of exercise.



### *Hypothesis 2*

Previous research [19] and a 2019 study [2] indicate that Pokémon GO significantly improves social health by fostering new relationships, enhancing existing ones, and increasing social interactions. This study reinforces those findings: 58.3% of participants reported making new friends through Pokémon GO, and 51.4% maintained communication with those friends outside the game. Additionally, more than half of the participants agreed that playing with real-life friends positively affected their friendships. These results demonstrate Pokémon GO's potential to improve both new and existing relationships, supporting Hypothesis 2.

### *Hypothesis 3a*

While some studies warn of negative impacts, most research highlights significant mental health benefits of Pokémon GO, including its therapeutic potential for reducing social anxiety [19]. Marquet et al. [26] found improvements in players' mood ( $\bar{x}=3.04$ ), social interactions ( $\bar{x}=2.23$ ), and physical activity motivation ( $\bar{x}=2.89$ ) using a Likert scale from 1 to 4. This study, using a Likert scale from 1 to 5, found similar results. Statements such as "Playing POGO improves my mood" ( $\bar{x}=3.806$ ), "I play POGO to relax" ( $\bar{x}=3.875$ ), and "I spend more time outdoors because of POGO" ( $\bar{x}=3.819$ ) were highly rated. Moreover, participants reported satisfaction with leisure time ( $\bar{x}=3.889$ , 77.8% agreeing or strongly agreeing) and overwhelmingly disagreed with neglecting responsibilities due to Pokémon GO ( $\bar{x}=1.764$ , 84.7% rating 1 or 2). Self-assessments indicated that 55.6% believed Pokémon GO improved their mental health, while 40% felt the game generally improved their lives. These findings affirm Hypothesis 3a.

### *Hypothesis 3b*

Research by Kogan et al. [21] demonstrated that Pokémon GO reduces anxiety about leaving home, meeting strangers, and exploring new places. This study showed even stronger results: 68.1% of participants agreed that the game motivates them to leave home, 66.7% felt motivated to visit new places, and 40.3% felt more relaxed meeting new people. These findings validate Hypothesis 3b, highlighting Pokémon GO's role in encouraging players to step out of their comfort zones.

## **7. CONCLUSION**

Although video games are often perceived as isolating and sedentary activities, exergames like *Pokémon GO* present a more active and socially engaging alternative. A literature review on the effects of *Pokémon GO* on player health concluded that the game positively influences physical, social, and mental well-being. However, as no prior study specifically focused on Croatian players, and given Croatia's relatively sedentary population and obesity issues, this study sought to determine whether similar effects would be observed among *Pokémon GO* players in Croatia. In this study, 72 Croatian *Pokémon GO* players participated. By analyzing the minutes spent in motion daily while playing the game and the number of days played per week, it was calculated that the average player spends 342 minutes per week moving solely to play *Pokémon GO*. This is more than double the World Health Organization's recommended minimum of 150 minutes of weekly physical activity. Respondents generally agreed that playing *Pokémon GO* increased their physical activity (65.3%,  $\bar{x}=3.7$ ), motivated them to engage in physical activities (48.6%,  $\bar{x}=3.4$ ), and encouraged them to walk more often (75%,  $\bar{x}=3.8$ ). A majority (88.9%,  $\bar{x}=4.5$ ) would recommend the game to others seeking to become more active. The game also demonstrated positive effects on social interactions. More than half of the respondents reported making new friends through *Pokémon GO* (58.3%,  $\bar{x}=3.3$ ), improving relationships with existing friends (59.7%,  $\bar{x}=3.5$ ), and spending more time with other people (36.1%,  $\bar{x}=3.042$ ).



Additionally, 33.3% of participants believed that the game improved their social skills, indicating its potential for fostering social connections and interactions. Regarding mental health and overall well-being, respondents highlighted several benefits. Most agreed that *Pokémon GO* positively affected their mental health (55.6%,  $\bar{x}$ =3.542), improved their mood (66.7%,  $\bar{x}$ =3.806), and encouraged more time outdoors (68.1%,  $\bar{x}$ =3.819). Concerns about gaming addiction were largely unfounded, as 84.7% of players disagreed with the statement that they neglect other life obligations due to the game. Moreover, 77.8% expressed satisfaction with how they spend their leisure time ( $\bar{x}$ =3.889). The game also motivated players to step out of their comfort zones, with 68.1% feeling more willing to leave their homes, 66.7% motivated to visit new places, and 40.3% feeling more relaxed about meeting new people. This research confirms that *Pokémon GO* has positive effects on physical, social, and mental health, even among Croatian players. Games like *Pokémon GO* demonstrate that entertainment-focused activities can serve broader purposes, offering engaging alternatives to traditional physical activities while fostering social interaction and outdoor engagement. These findings underscore the potential of gamified applications to promote health and well-being in a comfortable and enjoyable manner. Future research should explore the development of diverse, entertaining alternatives to traditional methods of maintaining healthy habits, extending these benefits to a broader demographic.

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# THE GREEN TRANSITION AND TECHNOLOGY IN TOURISM AND HOTELS INDUSTRY - FROM INFORMATION COMMUNICATION TECHNOLOGIES TO eTOURISM AND SMART TOURISM FOSTERS THE EMERGENCE OF CIRCULAR ECONOMY (BEST CIRCULAR ECONOMY PRACTICES IN HOTELS USING TECHNOLOGY)

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## ABSTRACT

*Business growth happens if we have a business model. The tourist industry, together with the hotel industry, is triggered by technology. Technology determines the strategies and competitiveness of tourist organizations and destinations (Buhalis and Law, 2008). The entire IT systems spread quickly all over the world. And the tourist industries are not protect on these influences. Many tourist entities, many organizations, have had to transform their strategic management and marketing and have accessed redesign to achieve the best operational practices and to benefit from the changes in which the new technological paradigm. And as many authors point out, technological innovations are the catalyst of development and competitiveness in tourism (Buhalis, 2000). Purpose - Technology revolutionizes the tourist industry and determines the strategy and competitiveness of tourist organizations and the cities themselves, the state. This work aims to explore the transformation and disruptive nature of the technology in tourism, the hotel industry viewed through the benefits of the use of circular economy. Design/methodology/approach - this work is based on systematic research. Findings - Technology innovations gather a whole host of stakeholders in the tourist service of ecosystems. Technologically strengthened tourist experiences are increasingly supporting guests and tourists in joint creation value in all stages of travel. Ambient intelligence (Ami) triggers a range of disruptive technologies. The inevitably smart environments are transformed by industrial structures, processes and practices, with a devastating effect on services innovations, strategy, management, marketing and competitiveness of all involved. The transition to the circular economy is encouraged by the development of digital technologies. Originality/value - work synthesizes the development of technology for tourism and hotel and proposes future research.*

**Keywords:** *Tourism, Information communication technology, e-turism, Management, Smart tourism, Circular economy*

## 1. INTRODUCTION - Circular economy vs Technology in tourism and hospitality industry

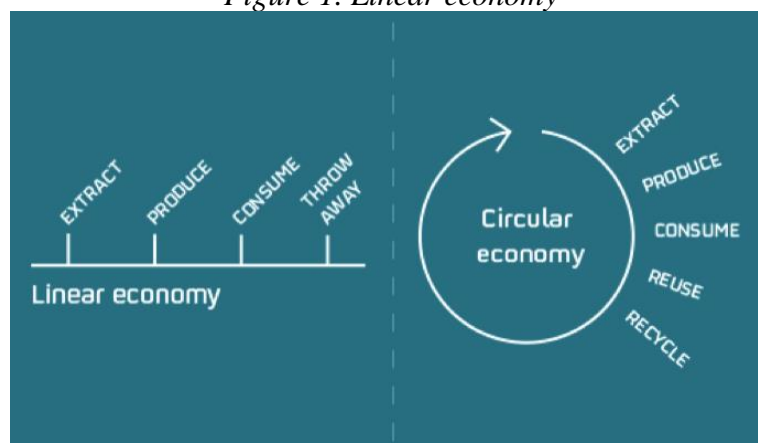
Circular economy is a new model and production and consumption that ensures sustainable growth over time. With a circular economy, we can stimulate the optimization of resources in the hotel industry, reduce the consumption of raw materials and recover a large amount of waste by recycling or give it another life as a new product.

The goal of the circular economy is therefore to maximize the material resources that are available to us by applying three basic principles: reduce, reuse and recycle. In this way, the product of the product is extended, exploits waste and over time is established by a more effective and sustainable model of production. The idea comes from the intoxication of nature, where everything has value and everything is used, where waste becomes a new resource. In this way, there is a balance between progress and sustainability. Circular economy embodies a transformative approach to production and consumption, emphasizing sustainability and efficiency in its key focus areas, thus finding a place in the hotel industry. Giving priority to regenerative resources, he seeks to create systems that renew the natural world. The principles of preserving what has already been made, using waste as a resource and re-reflection of business models are a challenge to conventional practices, stimulating innovation and resistance. By designing for the future, installing digital technologies for optimizing and encouraging cooperation in supply chains, a circular economy aims to redefine values creation, ensuring a sustainable and prosperous future for everyone. Large consumers and potential pollutants are subjects from tourism space. The growth of the tourist industry has a direct impact on the consumption of natural resources and the environment. And hotels are one of the most intensive types of buildings because of its multipurpose function and 24-hour work. According to the Pacific Gas and Electric's Food Service Technology Center (FSTC), hotels use almost 5 times more energy per square meter compared to any other commercial building. Consequently, the acceptance of green practices gets attention in the hotel industry are many hotels dedicated to various environmental initiatives such as reducing energy and water consumption and reducing the amount of waste, which led to the appearance of "green hotels". This market niche expands, and is accepted by not only the leading hotel brands, but also small and medium-sized hotel companies. Some of these companies acknowledged that green management can improve cost savings, employee loyalty and customer retention and help fulfilling short-term operational goals. It is directly about the transition stimulated by digital technologies. The transition to the circular economy (CE) requires innovative approaches that connect superior technology with sustainable practice. The combination of state-of-the-art (SOA) technology with the principles of circular economy is a pioneering approach to environmental sustainability and economic resistance. This synergy not only applies to technology integration into existing systems, but to re-design and redesign our industrial and economic models from the ground up. By exploiting top innovations (Vlačić et al, 2019, Dabić et al, 2019). Hotel flashes can move on to sustainable, more effective and more inclusive circular economy, where waste designs, resources are constantly re-used, and natural systems regenerated. Big, large hotel chains also use artificial intelligence and machine learning AI, so they can predict the life span of products, optimize the use of resources and significantly improve recycling processes. Therefore, artificial intelligence can sort materials that can be recycled more accurately and faster than human workers, increasing the efficiency of recycling centers (McKinsey & Company, 2023). Platforms triggered by artificial intelligence can make it easier to connect waste manufacturer with recycling operators, optimizing the recycling value chain. The Internet devices (IIOT) allow real-time resources monitoring and monitoring, providing valuable data to optimize the use of products and materials. For example, IoT sensors can monitor the state of products and components, identify when they can be repaired or recycled, which extends their life cycle (Gartner, 2019). Currently, the dominant industrial technological platform, industry 4.0 is to make production smarter through real-time data, machine learning and mutual connection, which can lead to more effective, flexible and more adaptable production processes. The upcoming, Industry 5.0, adds two key components for I4.0 that allow the economy to raise to the next level are a focus on man and sustainability. The conceptual matrix for alignment of the 5.0 technologies with the challenges that they face in various segments of the circular economy has also been formed.

## 2. THE TRANSITION FROM THE LINEAR ECONOMY TO CIRCULAR IS ENCOURAGED BY DIGITAL TECHNOLOGIES

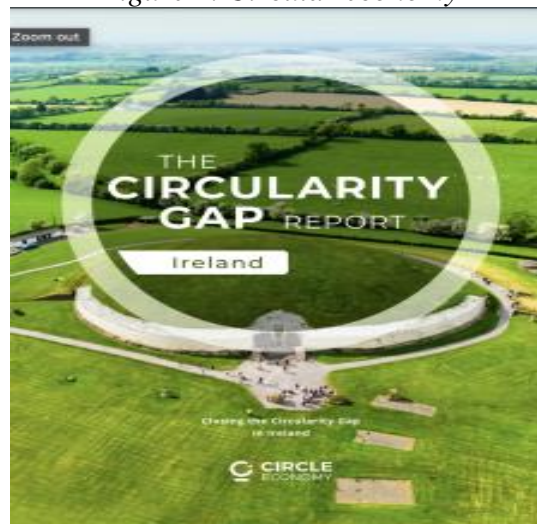
The transition to the circular economy (CE) requires innovative approaches that connect superior technology with sustainable practice. It is necessary to be aware that state-of-the-art digital technology contributes to the spread of circularity, thus becoming a greentech or Cleantech. Technology revolutionizes the tourist industry and determines the strategy and competitiveness of tourist organizations and destinations (Buhalis and Law, 2008). Technology innovations in circular business models are real today. While hotel houses seek to integrate the principles of a circular economy, technology appears as a powerful driver offering innovative solutions to increase efficiency. This is what technological innovations are a catalyst for development and competitiveness in tourism. The era of the internet networking of E-tourism (1990-2005) enabled organizations to develop their web 1.0 presence, through websites and e-commerce. Google as an engine and Yahoo as a web portal have revolutionized online examinations for information. Internet infrastructure also enabled Application Service. Then the development of blogs and other platforms of social media and the incidence of the Web 2.0 (2005-2015) time, making interaction to all of us, all users and empowering connections. Social networks have revolutionized communication from a simple manufacturer to a consumer and today this communication and a much more complex relationship with a consumer-packer. He now appears as a consumer-presenter, and not only that, appears as the interaction of one-according to one-more, one-on-one or more or more or more-all this has summarized in digital marketing activities. Technology has revolutionized all distribution channels, empowering direct communication and transactions between principles and consumers (dissintermediation), as well as through the occurrence of many new intermediaries (reintermedia) (Buhalis 2020). Technology significantly affects reputation, branding and business performance. Smart tourism has emerged to ensure an info -creating info -creating info (Buhalis and Amaranggan, 2015; Boes et al., 2016; Gretzel et al., 2015). "Smartness" takes advantage of the benefits of interconnection and interoperability of integrated technologies. It acts on reengineering process and data on the production of innovative services, products and procedures that provide value for stakeholders. These are all suppliers and mediators, the public sector as well as consumers become a unique dynamically networked, which produces value for all interconnected within the ecosystem. Smartness increases inclusivity and accessibility for passengers support for tourists with difficulty in movement, vision, hearing and cognitive abilities of physical and service barriers. Information systems in hotel companies are support in managing capacity, operational efficiency and productivity; for inventory control, reservation and sale; Contribution and income management; marketing research and planning. The eternal question is what is the difference between today's linear economy and circular economy?

*Figure 1. Linear economy*



A linear economy uses limited resources, such as fossil fuels, to produce products that are then simply thrown away and often have negative effects on the environment or human health (or both), while in a recycling economy the goal is to constantly increase the share of secondary raw materials for production (Fig. .1). Obtaining secondary raw materials from waste should therefore not be seen as a disposal problem, but as part of the supply of raw materials. The more secondary raw materials are obtained from waste and replace primary raw materials in industrial production, the less energy and water is consumed and the less encroachment on nature is required to obtain raw materials. At the same time, by using secondary raw materials, significant amounts of carbon dioxide, which is harmful to the climate, can be avoided. However, until now, we have lived with linear production models, in other words, we extract, produce, consume and discard. The society we live in means that the pace of consumption is accelerating, a model that is fast but unsustainable for the planet. The circular economy establishes a more sustainable model of production and consumption in which raw materials are preserved longer in production cycles and can be used more than once, thus creating much less waste. As its name suggests, the essence of this model is to keep resources in the economy as long as possible, so that the waste we create can be used as raw material for other industries. (Fig. 2)

*Figure 2. Circular economy*



In the pursuit of sustainable and responsible business practices, hotels adopting the principles of the circular economy appears as a transformative strategy with a wide range of benefits. The economic benefits of cost savings through resource efficiency and revenue diversification, together with the environmental benefits of reduced carbon emissions and resource conservation, underline a compelling case for hotel companies to adopt circular practices. Real-world examples show that companies of different sizes and industries can successfully transition to circular business models. The integration of technology, including blockchain, IoT and data analytics, further drives these initiatives into actionable data-driven strategies. Challenges such as initial investment costs and resistance to change can be overcome through strategic planning, collaboration and transparent communication. Engaging tourists and guests through education, incentives and participation platforms not only fosters an informed customer base, but also contributes to the success of circular economy initiatives. Measuring success using key performance indicators (KPIs), including resource efficiency, customer satisfaction and environmental impact, provides companies with the necessary tools to continuously evaluate and improve their circular practices.

Fig. 3. Artificial intelligence



Understanding how artificial intelligence (AI) affects organizational functions otherwise helps stakeholders prepare accordingly and profit from these developments. AI is transforming customer processes and services by enabling smart and predictive customer care and using predictive and augmented product and service design. Figure 4. illustrates the changes that artificial intelligence is likely to bring to hospitality and tourism marketing, developing a research agenda and raising topics for discussion for academic and industry practitioners.

Figure 4. AI trends for hospitality and tourism marketing.

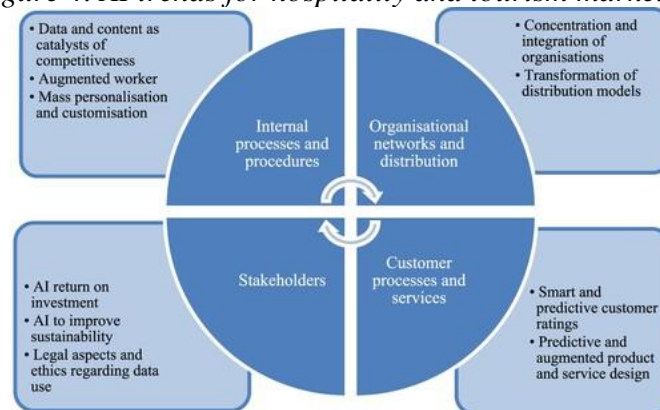


Figure 4 shows how the 10 identified trends are grouped into 4 main blocks. Although AI trends are grouped into four blocks, most have an impact on all blocks. We will try to explain the observed trends in more detail. Thus, "Internal processes and procedures" are both data and content as catalysts of competitiveness. Companies in the hotel sector have the capacity to generate big data. Large technology operators (such as Google, Amazon or Facebook), GDSs (such as Travelport or Amadeus) and online travel agencies (such as Expedia and Booking.com) have been identified as owners of big data. It is obvious that companies in the hotel sector have exclusive access to data since they know their clientele intimately (eg the behavior of tourists while in the hotel). Commercialization and marketing departments need to focus more on content creation and analytics development, as most distribution in the future will be done using technology-based channels.



### *Workers*

Provide AI workers with augmented capabilities (eg vision and hearing), enabling them to better understand and anticipate customer needs and wants proactively and reactively. As a result, they mentioned that employees will need the capacity to integrate technology into production processes to complement human capabilities. This concept was primarily discussed by participants with relatively strong technological experience.

### *Mass personalization and customization*

The image suggests that technology, especially AI, will facilitate mass personalization, which was previously very expensive and unaffordable.. When customization does not require additional infrastructure and costs (eg room music and temperature), it is possible to achieve rapid personalization and/ or adjustment.

### *Organizational networks and distribution*

The concentration and integration of organizations shows that the global competitive environment requires organizations to generate more intelligence, data and predictive capabilities. tegration. It is enough to mention cases like Marriott Hotels International and Airbnb. It is recognized that this process of concentration will also become evident in other sectors such as transport, travel retail and within MICE companies.

### *Transformation of distribution models*

Participants in both groups agreed that there will also be radical changes in the way customers are acquired within the online environment. From the traditional keyword model, they expected to see a shift towards an intelligence-based model with strong conversion capabilities. Instead of customers searching for information, AI will retrieve context-based information and services and push them to potential consumers. Traditional travel distributors may disappear, leaving only a few AI-enabled platforms. The use of predictive programmatic advertising is likely to become more widespread. We also suggest that technology companies, such as Amazon, Google and Facebook, will have the potential to expand services within travel and tourism.

### *AI return on investment*

AI ROI was a concept that was discussed at length in both focus groups. The discussion was led by participants from large hotel chains. It was argued that the tourism sector is highly competitive and key organizational indicators are focused on revenue, as sustainable profitability is essential for shareholders. For investment in artificial intelligence to occur, an established link between implementation and increased revenue and profitability is essential. There is always an emphasis on partnership relations, so partnerships are also perceived as key to competitiveness.

### *AI as a tool to improve sustainability*

There are always questions related to sustainability. In the tourism sector, almost everyone agrees that artificial intelligence will enable companies to offer customers more detailed information about their organizations. It has been said many times that the main feature of today is the very rapid growth of technology. It is not unusual, therefore, that many confuse the concept of artificial intelligence with machine learning, which is one of the categories of AI. Definitions of artificial intelligence are beginning to change based on the goals that are being achieved by its system. Artificial intelligence is a science and engineering that deals with cyber-physical systems, smart hardware and intelligent software, conscious mechanisms and algorithms for data processing. Most artificial intelligence is limited in memory and machines



use large amounts of data for deep learning. The role of deep learning can provide virtual assistants, search engines for data storage and personalization of future experiences. We recognize, for now, Artificial Narrow Intelligence (ANI); AGI- Artificial General Intelligence; ASI-Artificial Superintelligence. We use AI to solve problems in the real world by implementing the following processes, i.e. techniques: Machine Learning, Deep Learning, Natural Language Processing, Robotics and Expert Systems.

### 3. NEGATIVE INFLUENCE OF ARTIFICIAL INTELLIGENCE IN TOURISM AND HOSPITALITY

Despite the glowing reviews of artificial intelligence in the tourism industry, some members of both the scientific community and entrepreneurs still have concerns about the negative impact of artificial intelligence in tourism and hospitality. The very real problem with artificial intelligence is data. Consumers, guests, tourists are concerned that companies are selling their data without their permission. Unfortunately, regulations such as the "General Data Protection Regulation" (GDPR) do little to prevent the activities of data brokers. We are aware that Booking.com was fined AND paid a fine of 560 thousand dollars (475 thousand euros) for violating the GDPR, many companies would rather pay a fine than revise their data security. And most importantly, humans are lagging behind advanced technologies as artificial intelligence in tourism becomes more effective. It looks like robots and AI assistants have yet to replace the unique human touch.

*Figure 5. Cyber attack*



### 4. CONCLUSION

Technological innovations require the presence of all stakeholders in complex ecosystems of vital tourism services. The work certainly tries to highlight all the positive sides of technology, we are also aware of the dangers. We are aware of the constant intrusion into privacy; inefficient and faulty systems; digital exclusion; loss of knowledge and information, threats to languages, especially the languages of minority nations and cultures; elimination of human touch; and even threats to human survival (Townsend, 2017). Innovations may be ahead of their time, as in the example of robot hotels in the advanced hotel industry in some parts of the world. Owners of hotel chains, for example in Japan, in some hotels, had to withdraw most of their robots due to their high cost and the lack of interaction between the robots and the guests. a number of ethical questions, ethical dilemmas and privacy issues, arise frequently and should also be explored.

Technology - creates and strengthened tourist experiences that increasingly facilitate the tourism sector's much-needed joint creation of value through all phases of the guests' stay in hotels and the trip itself. While digital technologies are key to this transformation, the role of cutting-edge technologies extends beyond the digital realm, encompassing biotechnologies, advanced materials and new manufacturing processes that together drive the expansion of the circular economy. Their synergy with digital technologies amplifies their potential in Central Europe. Nowhere and no one lives anymore without being surrounded by a smart environment. It transforms all processes, practices, structures, and directs circular economy strategies. Future research should focus on human-computer interaction, on the dynamics of resource management, preserve the ecosystem industrial ecosystem, inovation ecosystem, Networking and Inovation system development and thus ensure collective agility for the competitive advantage of states and nations.

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# THE CREATIVITY-BUREAUCRACY BALANCE MODEL FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN GLOBAL VALUE CHAINS

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## ABSTRACT

*Small and Medium-sized Enterprises (SMEs) face significant challenges in balancing their creative capabilities with bureaucratic demands when participating in Global Value Chains (GVCs). While extensive research exists on SMEs' creative aspects and compliance challenges independently, limited attention has been paid to the interaction between these forces. This paper proposes a model, named Creativity-Bureaucracy Balance Model, to address this research gap by examining the dynamic interplay between SMEs' creative capabilities and bureaucratic pressures within GVCs. Drawing on theoretical foundations from creativity theories and institutional frameworks, the model identifies three key creative capability factors (innovation and product development, adaptive creativity, and dynamic capabilities) and four bureaucratic pressure factors (regulatory compliance, institutional pressures, power asymmetry, and regulatory fit). The model also incorporates mediating factors (resources, partnerships and networks, and market and institutional contexts), which influence how SMEs navigate these dual pressures. The Creativity-Bureaucracy Balance Model reveals that successful SMEs participation in GVCs depends on effectively managing these contradictory forces, leading to outcomes such as enhanced GVC positioning, improved growth potential, and increased resilience. Through empirical examples across various sectors, the paper illustrates how SMEs can strategically leverage creative capabilities to address compliance challenges while maintaining market competitiveness. The report calls for further empirical validation of the model to refine its applicability across different sectors and regions. Ultimately, it underscores the importance of balancing creativity and bureaucracy for the sustainable growth and competitiveness of SMEs in GVCs.*

**Keywords:** *small and medium enterprises, global value chains, analytical model*

## 1. INTRODUCTION

Small and medium-sized enterprises (SMEs) play an indispensable role in driving global economic growth, fostering innovation, and generating employment (WTO, 2023). Representing a significant proportion of businesses worldwide, they are often regarded as the backbone of regional economies and vital contributors to industrial dynamism (Bella, et al., 2023). The increasing participation in global value chains (GVCs) of these enterprises enables them to access international markets, advanced technologies, and strategic partnerships, all of which enhance their competitiveness and growth potential. However, this integration also brings challenges. Within GVCs, SMEs must balance their inherent flexibility and innovative capabilities with the structured compliance and governance demands imposed by larger firms and international regulatory frameworks (Wang, 2016; OECD, 2008). These enterprises are

uniquely positioned to adapt rapidly and foster innovation, leveraging their agility to respond to market trends and customer demands. Yet, this adaptability often conflicts with the rigid governance structures of GVCs, which emphasize strict adherence to standards, protocols, and procedures, frequently placing significant strain on SMEs' limited resources (Khan, 2022). Consequently, navigating GVCs requires SMEs to develop strategies that balance the competing pressures of creativity and bureaucracy. Despite the centrality of this balance to SME success in GVCs, much of the existing research pays limited attention to the interaction between creativity and regulatory compliance. For instance, the GVC Governance Framework (Gereffi, Humphrey, & Sturgeon, 2005), sheds light on the power imbalances that SMEs face within GVCs, focusing on the influence of governance structures on value creation and capture. Yet, it largely neglects SMEs' internal capabilities for innovation and creative adaptation. Similarly, the SME Internationalization Framework (Ruzzier, Hisrich, & Antoncic, 2006; UNCTAD, 2013) highlights partnerships and collaborative strategies for overcoming resource constraints and accessing international markets. However, it inadequately addresses the complexities SMEs encounter during full GVC integration, particularly the tension between innovation and compliance. Likewise, the Value Chain Upgrading Framework (Humphrey & Schmitz, 2002; Gereffi, Humphrey, & Sturgeon, 2005) emphasizes the importance of enhancing competitiveness through process, product, and functional upgrades. While collaboration and knowledge transfer are critical components of this framework, it often overlooks how external regulatory pressures impede SMEs' capacity for creative problem-solving. The Innovation Systems Framework offers insights into how SMEs can utilize local innovation ecosystems to maintain competitiveness (Pietrobelli & Rabellotti, 2011). Yet, it fails to fully consider the impact of governance structures and compliance demands on SMEs' innovation potential. Finally, the Institutional Framework provides valuable perspectives on the external formal and informal institutions shaping SME participation in GVCs (Gereffi, 2014), but it offers limited guidance on managing the interplay between creativity and regulatory compliance. The examples above highlight a critical gap in prior research regarding how SMEs balance fostering creativity with adhering to bureaucratic requirements within global value chains. To address this gap this paper proposes a model, designed to deepen research on how SMEs manage the delicate balance within GVCs. Additionally, the model aims to offer actionable insights to assist SMEs, policymakers, and stakeholders in effectively navigating these competing demands.

## **2.THEORETICAL FOUNDATIONS OF THE MODEL**

Understanding how SMEs navigate the complexities of global value chains requires a sophisticated theoretical framework that captures both their creative potential and the bureaucratic constraints they encounter. Our analysis draws on three distinct groups of theories: creativity theories in entrepreneurship, institutional theories, and governance frameworks in GVCs. Creativity theories shed light on how SMEs innovate and adapt to maintain competitiveness, while institutional and governance frameworks explain the influence of external regulatory pressures, industry norms, and power dynamics within GVCs on SME behaviour and opportunities. Together, these theories allow us to capture both the internal creative capabilities of SMEs and the external constraints they must navigate to succeed in global value chains.

### **2.1. Key concepts from the creativity theories**

Creativity is a vital factor in the competitiveness of SMEs, particularly in GVCs, where it fosters innovation and adaptability (Tian, 2021). This notion is emphasized by many theoretical perspectives in entrepreneurship, as summarized in Table 1.

*Table 1. Key creativity theories in entrepreneurship relevant to SMEs behaviour in GVCs*

<b>Theory</b>	<b>Focus area</b>	<b>Application to SMEs</b>
Creative Destruction (Schumpeter, 1942)	Innovation disrupts markets by replacing outdated products/services with new, more efficient ones.	Encourages SMEs to innovate and adapt quickly to gain competitive advantage.
Effectuation Theory (Sarasvathy, 2008)	Entrepreneurs use available resources to co-create opportunities rather than predict the future.	Helps SMEs navigate uncertainties in GVCs by leveraging existing strengths creatively.
Resource-Based View (RBV) (Barney, 1991); (Wernerfelt, 1984)	Competitive advantage stems from unique, valuable, and non-imitable resources	Highlights how SMEs can leverage creative assets, such as knowledge and innovation, to compete in GVCs.
Design Thinking (Brown, 2009); (Martin, 2009)	Focuses on iterative problem-solving through empathy, ideation, prototyping, and testing.	Guides SMEs in customer-centric innovation and developing products tailored to GVC market demands.
Amabile's Componential Model (Amabile, 1983)	Creativity arises from intrinsic motivation, domain-relevant skills, and creative-thinking processes.	Encourages SMEs to foster organizational environments conducive to creativity and innovation.
Open Innovation (Chesbrough, 2003)	Firms enhance innovation by collaborating with external actors like suppliers, customers, or competitors.	Emphasizes partnerships within GVCs as a strategy for SMEs to access knowledge and co-create value.

Source: Compiled by the authors based on prior research.

Creative capabilities represent the innovation and adaptability that SMEs bring to the table, enabling them to compete effectively in global value chains (GVCs). Building on the above discussed theoretical perspectives, the following key concepts from creativity theory are particularly relevant to understanding SME behaviour in GVCs: *innovation and product development*, *adaptive creativity*, and *dynamic capabilities*. Innovation and product development are critical for differentiation, as SMEs leverage creativity to introduce new products, meet changing consumer demands, and respond to technological advances (Pietrobelli & Rabellotti, 2011). By continuously innovating, SMEs can meet global demands, respond to shifting consumer preferences, and differentiate themselves from larger, more rigid competitors (Anderson, Potočník, & Zhou, 2014). Adaptive creativity highlights the ability of SMEs and entrepreneurs to flexibly respond to constraints, focusing on incremental solutions rather than breakthrough innovations (Kirton, 1976; Tian, 2021). In GVCs, this involves adjusting business models, operations, and strategies to meet shifting market demands, often with limited resources, allowing SMEs to adapt quickly where larger firms may struggle due to rigid structures and regulatory demands (Sarasvathy, 2008). Finally, firms must develop dynamic capabilities to sense opportunities, seize them, and transform their capabilities to stay competitive (Teece, 1997). For SMEs, dynamic capabilities often encompass creativity and flexibility, allowing them to swiftly adapt to changing market demands or technological advancements while maintaining agility in GVCs.

## 2.2. Key concepts from institutional and governance frameworks within GVCs.

Theoretical insights from creativity theories explain why SMEs prioritize innovation. However, as these firms strive to remain competitive through creativity and adaptability, they face significant external constraints such as regulatory compliance, standards, and institutional norms. These challenges are addressed by various theoretical frameworks within institutional and governance theories in GVCs. Table 2 outlines the key theories most relevant for understanding how external factors shape firm behaviour and influence innovation and integration within global value chains.

*Table 2. Key institutional and regulatory theories on SME challenges in GVCs<sup>1</sup>*

<b>Theory</b>	<b>Key insights</b>	<b>Relevance to SMEs in GVCs</b>
Institutional Theory (DiMaggio & Powell, 1983)	Organizational conformity to institutional norms, rules, and regulations.	Explains how SMEs are influenced by external regulatory pressures, such as industry standards and compliance requirements, limiting their ability to innovate while ensuring market access.
Regulatory Fit Theory (Higgins, 2005)	The alignment between a firm's practices and the regulatory environment.	Highlights the misalignment between global regulatory standards and SMEs' size or capabilities, complicating compliance and innovation.
Institutional Entrepreneurship (Battilana, Leca, & Boxenbaum, 2009)	Firms or individuals influencing institutional frameworks to their advantage.	Explains how SMEs can proactively shape or adapt institutional frameworks to balance innovation with regulatory compliance, enabling them to remain competitive.
Regulatory Capture and Compliance (Stigler, 1971; Kagan, 1994)	Influence of larger firms over regulatory frameworks that affect smaller firms in the supply chain.	Focuses on how larger firms influence compliance standards, creating regulatory pressures on SMEs and limiting their flexibility to innovate within GVCs.

Source: Compiled by the authors.

Based on these theoretical perspectives, we can identify the following key concepts that are particularly relevant to the bureaucratic pressures SMEs face in GVCs: *regulatory compliance*, *institutional pressures*, *power asymmetry* and *regulatory fit*. SMEs participating in GVCs face significant bureaucratic pressures, with regulatory compliance being a primary challenge (OECD, 2018). These firms must adhere to stringent global standards, including certifications, environmental regulations, and labour practices to access global markets and maintain relationships (Kano, Tsang, & Yeung, 2020). Alongside compliance, institutional pressures - both formal and informal - demand that SMEs align their operations with the established norms and governance structures within GVCs, reinforcing the constraints SMEs face in adapting their operations (OECD, 2019).

The issue of power asymmetry further complicates their position, as larger firms and regulatory institutions often dictate rules, leaving SMEs with limited negotiating power (Magniani, Zucchella, & Strange, 2019). Furthermore, regulatory fit reflects how well SME operations align with global regulatory frameworks; a mismatch can significantly increase the burden of compliance (Higgins & Pinelli, 2020).

<sup>1</sup> **Note:** Other key institutional and regulatory frameworks, such as Transaction Cost Economics, Dynamic Capabilities Theory, Resource-Based View (RBV), and Innovation Systems Theory, are not included in the table as they are less relevant, but may offer useful insights in certain aspects.

### 3. THE CREATIVITY-BUREAUCRACY BALANCE MODEL FOR SMES IN GVCS

Drawing upon the theoretical foundations discussed above we propose a comprehensive model that captures the complex dynamics SMEs face in global value chains. The Creativity-Bureaucracy Balance Model, depicted in Figure 1, synthesizes the discussed theoretical views to explain how SMEs can effectively manage the tension between creative capabilities and bureaucratic demands. This synthesis is particularly important as existing frameworks have traditionally focused on either the creative aspects of SME operations or their compliance challenges, but rarely addressed how these forces interact and can be balanced.

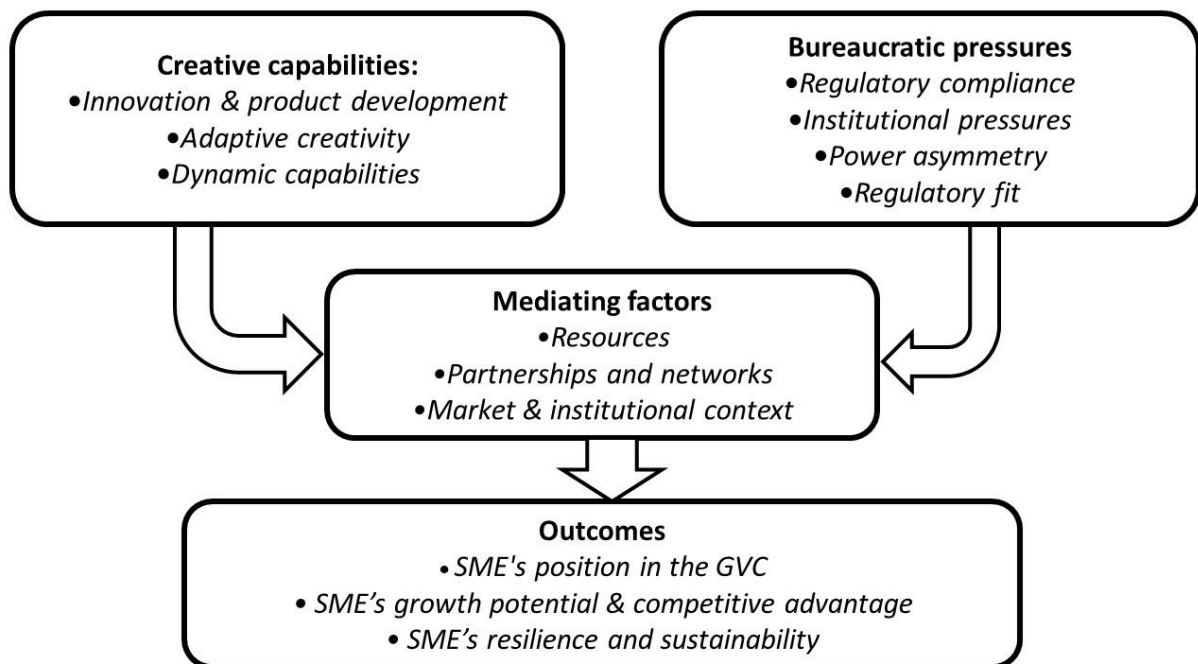


Figure 1. The Creative-Bureaucracy Equilibrium Model for SMEs

Source: Authors' own elaboration.

The Creativity-Bureaucracy Balance Model for SMEs consists of four components that interact to explain how SMEs operate and succeed in global value chains: *creative capabilities*, *bureaucratic pressures*, *mediating factors* and *outcomes*. The two key groups of core components, namely *creative capabilities* and *bureaucratic pressures* - encapsulate the dual challenges SMEs must navigate to thrive in the highly structured yet competitive landscape of GVCs. Building on the above discussion of SME dynamics within GVCs, the model includes three creative capability factors: *innovation and product development*, *adaptive creativity* and *dynamic capabilities* and four bureaucratic pressure factors: *regulatory compliance*, *institutional pressures*, *power asymmetry* and *regulatory fit*. The elements that influence how SMEs navigate the dual pressures of innovation and compliance within GVCs, or in other words, the key mediating factors in the proposed model are: *resources*, *partnerships and networks*, and *market and institutional contexts*. SMEs in GVCs face significant challenges in balancing innovation with regulatory compliance, primarily due to resource constraints. These constraints encompass financial, human, and technological resources, all of which are critical for meeting compliance requirements while sustaining innovative efforts. Financial resources are crucial for investing in infrastructure, certifications, and R&D (Lu, Shi, Luo, & Lui, 2018). Human resources, including skilled personnel, are necessary for both compliance and innovation, though SMEs often face difficulty attracting and retaining such talent (Zaharieva & Zaharieva, 2003). Technological resources like digital tools, ERP systems, and e-commerce platforms help SMEs streamline operations and improve both creative and compliance



activities. These tools allow SMEs to make informed decisions, innovate, and tailor products to market demands, enhancing their competitiveness in global markets (Romero & Mammadov, 2024). Partnerships and networks also play a vital role. Collaborations with larger firms in GVCs can provide resources, technology, and compliance knowledge (Kang & Kim, 2023) but may constrain creativity due to rigid demands. SMEs can be helped to overcome entry barriers through incentives, grants, and regulatory guidance provided by government agencies and industry associations, while participation in collaborative networks fosters innovation through shared resources and knowledge exchange (OECD, 2019). Additionally, SMEs must navigate complex market and institutional contexts. The difference between local and international regulatory landscapes affects how SMEs manage compliance, with international standards often being more complex. Institutional frameworks and governance structures influence SMEs' ability to compete, with strong institutions facilitating compliance and innovation. Finally, the market demand and competition within a GVC determine whether SMEs prioritize innovation or compliance, as competitive pressure may force innovation even in highly regulated environments. In the CBBM, outcomes are the results or consequences that SMEs experience as they balance the dual pressures of innovation and compliance within global value chains (GVCs). These outcomes reflect the overall success and sustainability of SMEs as they navigate GVC integration, manage their position in the value chain, and leverage both creative capabilities and bureaucratic compliance. The key outcomes of this model include *the SME's position in the GVC*, *its growth potential and competitive advantage*, and *its resilience and sustainability* in global markets. Structured in this way, the model recognizes that successful participation of SMEs in global value chains requires not just managing but also actively balancing these seemingly contradictory forces.

#### **4. PRACTICAL APPLICATIONS AND IMPLICATIONS OF THE MODEL**

The Creativity-Bureaucracy Balance Model can be effectively applied to SMEs across a wide range of sectors, such as technology, textiles, food exports, manufacturing, and more, offering valuable insights into how these businesses navigate the delicate balance between innovation and regulatory compliance. In these industries, the interplay between creative capabilities and bureaucratic pressures manifests in different ways, depending on the specific challenges each sector faces. For instance, SMEs in the technology sector often rely on digital platforms, automation, and cutting-edge business models to address regulatory challenges, particularly those related to intellectual property rights, data privacy, and cybersecurity. As regulations around data protection (e.g., GDPR in the European Union) become more stringent, technology SMEs must adopt innovative solutions to stay compliant while safeguarding their intellectual assets and leveraging data for business growth (Hojnik & Hudek, 2023). The adoption of blockchain for secure data management or AI tools for compliance monitoring could be examples of how these firms use creativity to overcome regulatory obstacles (Kumar, Phani, Chilamkurti, Saurabh, & Ratten, 2023). On the other hand, SMEs in the textile industry face increasingly stringent environmental and social standards, especially when exporting to markets such as Europe. To comply with regulations on sustainability and fair labour practices, textile SMEs often focus on process innovations that reduce waste, improve energy efficiency, and utilize sustainable materials. This allows these firms not only to meet regulatory requirements but also to differentiate themselves in the market as environmentally responsible businesses (Zahariev, et al., 2024). Similarly, in the food export sector, SMEs must navigate food safety regulations, health standards, and certification requirements that vary across markets. Innovation in packaging, food preservation, and traceability technologies can help SMEs ensure compliance with these standards while maintaining product quality and appeal (D'Almeida & Albuquerque, 2024). In each of these cases, the The Creativity-Bureaucracy Balance Model highlights how SMEs leverage their creative capabilities to develop innovative solutions that

address the pressures of compliance while maintaining competitiveness in their respective industries. These examples demonstrate that regulatory compliance need not be a hindrance to innovation, but rather an opportunity for businesses to differentiate themselves, expand market access, and build long-term sustainability. The model can also offer valuable comparative insights across different industries and regions. In areas with supportive institutional frameworks, such as government incentives for research and development, SMEs are better equipped to harness their creative capabilities. These regions provide the necessary resources and environment for innovation, helping SMEs to remain competitive in global value chains. However, in regions with more rigid regulatory environments, SMEs face heightened bureaucratic pressures that can stifle their ability to innovate without external support, such as government subsidies or partnerships with larger firms. The Creativity-Bureaucracy Balance Model provides valuable insights for policymakers, SMEs, and researchers. Implications for policymakers include the need to streamline trade regulations, simplify compliance requirements, and create more predictable institutional frameworks. This would reduce barriers to GVCs integration and support SMEs in managing regulatory demands. Additionally, policymakers should provide financial and infrastructural support, such as grants, tax incentives, and access to digital tools, to foster innovation and help SMEs develop creative solutions while meeting global regulatory standards. Recommendations for SMEs emphasize leveraging their innovative capabilities as a strategic advantage to tackle compliance challenges. By thinking creatively, SMEs can turn regulatory hurdles into opportunities for differentiation and growth. Furthermore, forming strategic partnerships with larger firms, industry networks, and government agencies will allow SMEs to share resources, reduce costs, and improve market access, particularly in regions with complex regulatory environments. Recommendations for researchers suggest that future empirical studies should test the Creativity-Bureaucracy Balance Model across various industries and regions. Researchers should focus on refining the model's applicability to emerging trends, such as digital transformation and sustainability challenges, which are becoming increasingly important for SMEs in global value chains.

## 5. CONCLUSION

This paper aims to fill the critical gap in prior research on how SMEs balance fostering creativity with adhering to bureaucratic requirements within GVCs. Drawing on theoretical foundations from creativity theories and institutional and regulatory frameworks, it proposes a model that incorporates theoretical concepts derived from these three theoretical groups and consists of four interacting components: *creative capabilities*, *bureaucratic pressures*, *mediating factors* and *outcomes*. The key contribution of the proposed model is that it introduces a comprehensive framework that integrates both the creative capacities of SMEs and the bureaucratic pressures they face, offering a holistic understanding of the dynamics SMEs encounter in global value chains. However, in this paper it is presented as an initial framework that can be further extended by incorporating additional factors and exploring new areas of research. For example, while the current model emphasizes key concepts like innovation, adaptive creativity, and dynamic capabilities, additional concepts could enrich its application. Integrating absorptive capacity could shed light on how SMEs absorb and apply external knowledge within GVCs. Open innovation and collaborative innovation could underscore the importance of partnerships and external collaborations in driving creativity and innovation. Entrepreneurial orientation (EO) could enhance our understanding of the mindset and behaviors that enable SMEs to thrive in competitive global environments. While not central to the current model, these concepts could provide deeper insights into the dynamics SMEs face in GVCs. Moreover, additional bureaucratic pressures on SMEs in GVCs could be considered. These include compliance and certification requirements, contractual and governance complexities

such as reporting obligations, auditing requirements, and supply chain transparency; market access and trade barriers like tariffs and customs procedures; and more. There are also other mediating factors, which, though not initially considered, can play a significant role in helping SMEs navigate GVC challenges. These factors include leadership and organizational capabilities (e.g., leadership style, entrepreneurial orientation, and organizational culture), technological and knowledge resources, and external support and strategic environment (e.g., government policies, institutional support, and the broader market and policy context in which SMEs operate). The inclusion of additional creativity and bureaucracy factors, along with key mediating factors, may lead to different or expanded outcomes in the Creativity-Bureaucracy Balance Model. By considering these factors, the model could uncover new insights and alternative outcomes regarding how SMEs balance innovation and regulatory pressures within GVCs. As the model's applicability and impact depend on various factors, including industry-specific challenges, regional regulatory environments, and the capacity for digital and sustainable innovation, future research can further enrich the model by exploring these key areas. Industry-specific case studies can provide insights into how different sectors adapt to compliance pressures while fostering creativity. Comparative studies across regions with varying institutional support and regulatory frameworks would tailor the model to diverse global contexts. As digital transformation reshapes industries, examining how SMEs leverage digital tools for both compliance and innovation could yield important findings. Additionally, exploring the sustainability challenges SMEs face, particularly in environmental compliance, would add a crucial dimension to the model. Research on the relationship between regulatory fit and SME performance could reveal how well-aligned regulatory frameworks impact growth and innovation. Longitudinal studies could examine how SMEs adapt over time to evolving regulatory landscapes, offering insights into resilience and strategic flexibility. The exploration of these opportunities for future research will refine the model and enhance its applicability, offering deeper insights into how SMEs navigate the complex interplay of creativity and bureaucracy within global value chains.

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# HUNGARY AS A POTENTIAL FACTOR OF POLITICAL AND ECONOMIC CHANGES IN EUROPE AND THE WORLD

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## ABSTRACT

*Modern Hungary is a medium-sized country located in Central Europe. Rich culture, unique language and exceptional character distinguish Hungarians from other nations of the Old Continent. Over a thousand years of this country's history has been marked by sublime moments and remarkable achievements, but also many dramatic events. Throughout its existence, led by outstanding leaders, the Hungarian Nation fought for sovereignty and the preservation of national identity, sparing no effort or blood. Many times, Hungary has chosen risky and complicated political and economic coalitions in order to maintain its independence or achieve the desired benefits. However, these actions have not always resulted in the desired outcomes or ended in spectacular success. It should be noted that typically such efforts were accompanied by high dedication, and determination of the entire society. Currently, Hungary is a modern state entity with a developed industry and agricultural sector. As a country, they belong to the most important alliances and international institutions, such as: the United Nations, the North Atlantic Alliance (NATO), the World Bank, the Visegrad Group, the World Health Organization, the World Trade Organization, and the European Union. In the international arena, they are a valued partner in every dimension. Historically and in the present, this country plays a significant role in shaping political relations of both local and strategic importance, impacting Europe and the world alike. Budapest's uncompromising attitude regarding the principles it has adopted has caused a sharp discord with representatives of the European Union's leadership over the last few years. The conflict of interests between Hungary and the integration group has been growing for a long time. Nevertheless, practice demonstrates that the country on the Danube is not merely doomed to the dictates of Brussels. Other interesting and tempting opportunities have been opening up for Hungary for a long time. Using them would mean breaking the existing arrangements. If this were to happen, Hungary would once again in its history be an important factor in far-reaching political and economic changes. This study is devoted to analyzing existing facts and presenting potential scenarios for the coming future.*

**Keywords:** *coalitions, conflict of interest, European Union, factor, Hungary.*

## 1. INTRODUCTION

As late as the 2nd to 4th centuries, the Hungarians were a nomadic people primarily engaged in hunting and pastoralism, who lived east of central Urals, in the zones of taiga, forest, and steppe. They are part of the Ugric branch of Finno-Ugric peoples. In modern Europe, they are linguistically related to the Finns and Estonians. However, the evolution of the Hungarian language over the centuries has made any understanding of Finno-Ugric languages from the north impossible. Between the 5th and 9th centuries, the majority of the Hungarians migrated southwest from their previous settlement. The most likely causes for this phenomenon were climatic changes as well as migrations and physical pressure from other peoples.

Acquisition of horse breeding skills transformed Hungarians into a society of pastoralists and warriors. Arriving in Central Europe, they established their first state. As a result, Hungarian statehood spans more than a thousand years, dating back to the end of the 9th century.

### **1.1. Location and area**

Modern Hungary is a country located at the heart of the Old Continent. It borders seven countries: Austria, Croatia, Serbia, Slovakia, Slovenia, Romania and Ukraine. Defeat during the First World War led to one of the greatest tragedies in Hungary's history. The Treaty of Trianon in 1920 deprived the country of over two-thirds of its territory, as well as its access to the sea (the Adriatic Sea – note by the author). Today, Hungary covers an area of 93,030 km<sup>2</sup> (down from 325,000 km<sup>2</sup> before 1920). It mostly lies within the Pannonian Basin, with lowlands comprising about 80% of the country. The main rivers are the Danube (417 km in Hungary), the Tisza (596 km in Hungary), the Drava (which partly forms the Hungarian-Croatian border), and the Raba (just over 211 km in Hungary). In the western part of the country lies Lake Balaton, the largest lake in Central Europe. With a surface area of 592 km<sup>2</sup>, a maximum length of 77 km, and a maximum width of 14 km, and numerous recreational and tourist centers, it is often referred to as the 'Hungarian Sea' (SRP, 2023).

### **1.2. Population**

The Hungarian nation is culturally and ethnically homogeneous. The population within the country's borders is 9.797 million. The population density is around 105.3 people per square kilometer. The vast majority of the population, about 68%, live in urban areas. In terms of ethnic composition, Hungarians make up approximately 90% of the total population. The largest minorities are the Roma (an ethnic minority) and national minorities: Germans, Slovaks, Croats, Romanians, Ukrainians, Serbs, Slovenes, Poles, Greeks, Bulgarians, Rusyns, and Armenians. Outside Hungary, the largest Hungarian communities reside in neighboring countries: Romania (Transylvania) – 1.4 million, Slovakia – 0.5 million, Serbia (Vojvodina) – 0.3 million, Ukraine (Subcarpathia) – 156 thousand, Austria – 40 thousand, Croatia – 14 thousand, and Slovenia – 6 thousand. There is also a large Hungarian diaspora, primarily in the United States, where around 1.5 million people claim Hungarian descent, as well as in Western Europe, with the largest communities in Germany – 120 thousand, and the United Kingdom – 80 thousand (SRP, 2023). It should be added that, as a result of the aforementioned Treaty of Trianon, Hungary also lost nearly two-thirds of its population (from 21 million to 8 million). In 1920, more than 3.5 million Hungarians (which represented one-third of the nation at that time) found themselves outside Hungary's borders.

### **1.3. Climate**

Most of Hungary has a continental climate characterized by cool, short, and humid winters and hot summers. To the west, the impact of oceanic air masses moderates extreme temperature fluctuations. In the southwest, the weather is influenced by Mediterranean air masses. The Danube River, which runs through the country, has a significant impact on the weather and the climate. The impact of atmospheric fronts is moderated by the river, which results in very favorable climatic conditions for agricultural production.

### **1.4. Natural resources**

Hungary has relatively small but fairly diverse deposits of natural resources. The country is only rich in bauxites, with most other resources needing to be imported. There are limited deposits of iron ore, manganese, lead, zinc, copper, uranium, and coal, mostly located in the northern part of the country. Energy resources are primarily extracted in the southern part of Hungary.

Gas production meets 19% of domestic demand, and oil production covers 20% (CIA, 2009). Abundant thermal medicinal springs, which have been known since Roman times, are also worth mentioning.

## **2. HUNGARY SHAPING POLITICS IN EUROPE BEFORE 1945**

Ever since the Hungarians first appeared on the Pannonian Plain, they have had a significant impact on the political relations and ethnic structure of Central Europe. Starting in the 9th century, they formed a political and military alliance with the East Franks, which led to the fall of the Great Moravian Empire at the beginning of the 10th century (Michałowski, 2012). The latter was a medieval Slavic state, dominant in the area of present-day Moravia, Lusatia, the Czech Republic, Slovakia, and northern Slovenia and northern Croatia. It is also thought to have included southern Poland (Žerelik, 2002). This way, over a thousand years ago, the 'natural land bridge' connecting the northern and eastern Slavs with those of southern Europe was permanently broken. As a result, this contributed to the significant cultural, linguistic, civilizational, and identity-based diversification of this ethnic group. Throughout their history, the Hungarians have demonstrated an extraordinary talent for forming alliances, strategic partnerships, international agreements, and state unions, which allowed them to survive the most challenging moments in an unfriendly or even hostile environment. They were often a decisive factor in shaping historical events. Starting in the 11th century, Hungary rapidly grew in power. This was due to both cooperation with neighboring states and agreements made, including those with Byzantium and the Holy Roman Empire. By establishing personal unions, one with Croatia and two with Poland (Lange, 2018), Hungary steadily gained in importance. By the mid-15th century, the country had reached the height of its power. It became the most important force in Central-Eastern Europe. The appearance of the Turks in the Balkans created a new situation. From the fall of Constantinople in 1453 until the defeat at the Battle of Mohács in 1526, Hungary was a key player in all political and military coalitions aimed at defending Christian Europe against the Islamic threat. Despite the sacrifices and resistance of the Hungarian people, in 1541, at the initiative of the Ottoman Empire's ruler, Suleiman the Magnificent, Hungary was divided into three parts. The central part of the country, including Buda and Pest, became an Ottoman province. The eastern part, encompassing Transylvania, was handed over to the rule of John Sigismund, the Sultan's vassal. The western part of the country fell under the influence of the Habsburgs. As a result of the defeat at the Battle of Vienna in 1683, the Ottoman Empire lost its power in Hungary and withdrew from Central Europe. Starting in 1687, the Habsburg Monarchy began to fill the resulting power vacuum to pursue its long-term plans. By 1718, the dynasty had fully taken control of Hungary, incorporating it as a federal state into the Austrian Empire. The events of the Hungarian Revolution of 1848-1849, along with subsequent social unrest and rising separatist tendencies, led to the Austro-Hungarian Compromise in 1867. As a result of the compromise, a new federal state was created, formed by transforming the Austrian Empire into the dualist Austro-Hungarian Monarchy. It consisted of two parts, joined by a real union under Habsburg rule. The agreement also provided for a military, monetary, and customs union for the new entity (Felczak, 1983). At the time, maintaining the union with Austria was more advantageous for Hungary than fighting for full independence. From a political perspective, it gained significant autonomy, enabling the establishment of its own government and parliament. Austrian influence was undeniable in Europe and the world. This worked to the benefit of the new state as a whole, particularly in terms of conducting an effective foreign policy. From an economic perspective, the German-speaking part was wealthier and more industrialized. The joint budget provided access to much larger financial resources. Austria also continued to be, in a sense, a significant military power. As such, it guaranteed Hungary's continued influence in Slovakia, Croatia, and Transylvania. The Hungarians used the situation to their advantage by imposing a strong policy



of Hungarianization on the majority of the foreign populations in the territories they administered. Meanwhile, the Austrian side, through the agreement, ensured the continued functioning of the Monarchy within its existing borders, maintaining the state's great power status in Europe and preserving its independence in the face of the rising power of Prussia. The Habsburg dynasty could continue to rule for over half a century more. In the areas administered by Austria, a campaign of denationalization was carried out against non-German-speaking populations. There is a theory today that one of the factors contributing to the dissolution of Czechoslovakia on December 31, 1992, was the legacy of issues that date back to the Austro-Hungarian era. The Czech lands, which had been subjected to Germanization for several centuries, became too different from Slovakia, which in turn had undergone Hungarianization for many years. The resulting developmental, civilizational, and cultural differences between the two components of Czechoslovakia led to their separation after more than 74 years of coexistence (Krawczyk, 2009). Faced with World War I, Hungary found itself with little choice. As history later showed, its attachment to established patterns of behavior led it, as well as Austria, down the wrong path. Unfortunate alliances during World War I and later during World War II led to a national tragedy. As a result of the Treaty of Trianon following World War I, Hungary not only lost a significant portion of its territory but was also deprived of a large part of its population. They lost the dominant political and economic significance on the continent. The victorious powers not only treated the defeated Hungary and Austria with cruelty, but also humiliated both countries in an extraordinary manner. They weakened their potential to such an extent that rebuilding the position they had held before the war was practically impossible. During the Paris Conference that ended World War I, an international organization was established with the primary task of maintaining peace worldwide. Known as the League of Nations, it was in operation since 1920, but regretfully did not live up to the hopes placed in it. The League failed to prevent another global conflict. Hungary, distrustful of the new institution created at Versailles, did not join until 1922 (Osmańczyk, 1982). Despite considerable activity within the League of Nations, it was not able to achieve any spectacular successes there. Hungary's accession to the Axis Powers on November 20, 1940 (also known as the "Tripartite Pact," which included Germany, Italy, and Japan – note by the author) was an attempt to rebuild its significant position on the Old Continent and regain the territories lost as a result of the Treaty of Trianon. This essentially meant aligning with the Axis in the war against the Allies, and in particular, against Soviet Russia. The defeat of Germany and Italy was also Hungary's defeat in this conflict. The new division of the world after World War II placed Hungary—already weakened by its involvement in the wars—within the sphere of influence and domination of the Soviet Union. After 1945, for several decades, the country found itself behind the Iron Curtain.

### **3. HUNGARY AS AN ELEMENT OF THE EASTERN BLOC**

As a result of the Moscow Conference from October 19–30, 1943, followed by the Tehran Conference from November 28 to December 1, 1943, and the Yalta Conference from February 4 to 11, 1945, representatives of the governments of the United States, the Soviet Union, and the United Kingdom (Walker, 2010) defined the nature and principles of mutual cooperation in the political and military spheres. Among other things, discussed were the conditions for ending the war with Germany, an agreement on the creation of new borders in Europe, and the establishment of a global organization that would serve as a forum for dialogue and the conclusion of international agreements. A decision was made to establish spheres of influence in post-war Europe. Responsibility for maintaining peace and constitutional order in each of these spheres was assumed by one of the victorious powers: the United States, France, the United Kingdom, and the Soviet Union. As a result, the Eastern Bloc was formed, completely dependent on Moscow's leadership—a group of vassal and satellite states with socialist regimes.

In addition to Hungary, the following countries joined the Eastern Bloc: Albania, Bulgaria, Czechoslovakia, Poland, Romania, and the German Democratic Republic, which was formed from the Soviet occupation zone. As part of this new political and economic structure, communist governments were established across Europe, which, with the help of censorship, oppression, indoctrination, and even terror, attempted to implement the idea of creating an entirely new society based on the concept of homo sovieticus (Heller, 1989).

### **3.1. The Council for Mutual Economic Assistance**

Countries' membership in the Eastern Bloc implied the necessity of joining alliances, pacts, and international organizations created at the Kremlin's command. The first of these was the Council for Mutual Economic Assistance (CMEA), established in January 1949. It was intended to serve as a counterbalance to the Organization for European Economic Cooperation (OEEC), created in 1948 to ensure the smooth functioning of the Marshall Plan and the stabilization of currency exchange rates. The CMEA was to focus on coordinating economic cooperation among the countries subordinated to the USSR. Based on a socialist planned economy, its goal was to increase the prosperity of its member states. It was established by Bulgaria, Czechoslovakia, Poland, Romania, Hungary, and the USSR. Later, Albania joined (although it ceased participation in 1961), followed by East Germany (1950), Mongolia (1962), Cuba (1972), and Vietnam (1978). Since 1954, attempts were made to coordinate the economic plans of the member states. In 1963, the International Bank for Economic Cooperation was established, and the transfer ruble was introduced as a unit of account. By the end of the 1960s, the efforts of the CMEA were dominated by the slogan of socialist integration, and in 1971, its principles were formulated. This was to be supported by the establishment of the International Investment Bank in 1970 and the initiation of joint raw material and energy ventures. However, political events and the growing economic crisis in the 1980s weakened the CMEA's integration efforts, leading to an increased focus on bilateral contacts. In reality, the organization served as a tool for Moscow to impose development directions on the satellite states, steering their economies in ways that aligned with its strategic goals. The domestic production of the countries in the Eastern Bloc was to be adjusted to the needs of the 'Big Brother.' The collapse of the communist system in the European satellite states after 1989 and the dissolution of the Soviet Union led to the disbanding of the Council for Mutual Economic Assistance (Chwieduk, Krawczewski, 1988). This took place at the final session of the organization on June 28, 1991. The agreement to dissolve the CMEA was signed in the capital of Hungary – Budapest.

### **3.2. The Warsaw Pact**

The Warsaw Pact was a political-military alliance that efficiently strengthened the dependence and subordination of the Eastern Bloc countries to the USSR. It allowed the authorities in Moscow to have full control over the armed forces and defense policies of the allied member states. The alliance was signed on May 14, 1955, and came into effect on June 4, 1955. It was formally established as a response to the NATO countries' resolution, which ended the Western Allies' occupation of the Federal Republic of Germany and integrated the country into the structures of the North Atlantic Alliance, including full remilitarization. The signatories of the Warsaw Pact were: Albania, Bulgaria, Czechoslovakia, the German Democratic Republic, Poland, Romania, the Soviet Union, and Hungary. Throughout the duration of the alliance, the Commanders of the United Armed Forces of the Warsaw Pact, as well as the successive Chiefs of Staff, were exclusively Russians (Pietrzak, 2011). As part of the defense strategy, Soviet nuclear weapons were deployed on the territories of Czechoslovakia, the German Democratic Republic, Poland, Romania, and Hungary. A shameful chapter in the history of the Warsaw Pact was the forceful, brutal, and bloody suppression of democratic reforms in Czechoslovakia, carried out under 'Operation Danube.' It was an unprecedented in scale military operation

carried out within the framework of the alliance from August 20 to September 20, 1968. The forces of the USSR, Bulgaria, East Germany, Poland, and Hungary participated. The government of Romania refused to send its armed forces to take part in the intervention. Fundamental political changes in Eastern European countries and the political crisis in the Soviet Union were the direct cause of the decision to dissolve the Warsaw Pact. On July 1, 1991, the presidents of Czechoslovakia, Poland, Bulgaria, and Romania, the vice president of the USSR, and the prime minister of Hungary signed the protocol for the dissolution of the Warsaw Pact in Prague (Polskie Radio, 2024). The decision was made by only the six countries still remaining in the alliance. Earlier, Albania had suspended its cooperation in 1961 and officially withdrew from the Pact in 1968. Meanwhile, the German Democratic Republic left the Warsaw Pact on September 25, 1990, just a week before the territories that had formed it were incorporated into the Federal Republic of Germany, creating a unified Germany.

### **3.3. The United Nations**

Hungary became a member of the United Nations on December 14, 1955. On the same day, three other Eastern Bloc countries also joined the UN: Albania, Bulgaria, and Romania. Four other countries—the Soviet Union, Poland, Czechoslovakia, and Yugoslavia—have already joined in 1945. East Germany was admitted to the organization only in 1973, as the last of the Central and Eastern European countries. Within the United Nations, Hungary participated in numerous humanitarian missions worldwide, as well as in peacekeeping military missions. It was also the author and co-author of many social and economic initiatives. As a socialist state, Hungary supported the positions of the Soviet Union and other Central and Eastern European countries in United Nations votes.

### **3.4. Hungary as a catalyst for change during socialism**

From 1949 to 1989, Hungary's official name was Hungarian People's Republic, to emphasize the socialist nature of the state. The direction of the country's development, shaped by the communist authorities, was in stark contrast to the expectations of the majority of the population. Post-war social dissatisfaction was driven by, among other factors: the pervasive censorship, one-party dictatorship, declining living standards, the terror of the secret police, the economic crisis, and the forced collectivization of agriculture. The loss of national sovereignty and being forced into unwanted international alliances also provoked opposition from the citizens. The change of power in Poland following the 'Polish October' of 1956 sparked hope among progressive circles and party factions in Hungary. The implementation of far-reaching systemic changes, similar to those in Poland—without the intervention of Russian military forces—seemed entirely possible. Under those circumstances, by October 1956, mass street demonstrations were taking place in major cities. With the support of the population, the country's prime minister, Imre Nagy, declared Hungary's neutrality and announced withdrawal from the Warsaw Pact. He also dissolved the despised secret police, announced the restoration of free elections, and began negotiations for the complete withdrawal of Soviet troops from the country (Lendvai, 2003). The tumultuous anti-communist expressions and the formation of a new government led to the intervention of the Soviet Army. Intense fighting broke out between Hungarian insurgents and the organized military forces of the Soviet Union. The Hungarian Revolution lasted from October 23 to November 10, 1956. As a result, over 2,500 Hungarians were killed, 20,000 were arrested, and around 200,000 fled the country to Austria and Yugoslavia (Kotłobowski, 2012). Although the Hungarian Revolution of 1956 was crushed, it, like the Hungarian Revolution of the 1848-1849 Spring of Nations, contributed to the radicalization and intensification of freedom movements in Europe. Following Hungary's example in an attempt to shake off the communist yoke, Czechoslovakia followed suit in 1968. The Prague Spring did not bring the desired outcome. However, the Solidarity movement in

Poland in 1980 achieved what had previously seemed impossible. In 1989, it paved the way to freedom. The same happened in the other Eastern Bloc countries. Similarly, in Bulgaria, Czechoslovakia, East Germany, Romania, and Hungary, a process of systemic change took place, leading to the collapse of communism in Central and Eastern Europe. The events occurring simultaneously in many countries culminated in the fall of 1989. Their revolutionary character evokes comparisons with the Spring of Nations of 1848-1849. This led some authors and commentators to refer to the processes that unfolded as the Autumn of Nations or the Autumn of Peoples (Roszkowski, 2003). To conclude the discussion of Hungary's role in Europe and the world from 1949 to 1989, it is important to mention that the activities of politicians and decision-makers during this period were not limited to initiatives within the United Nations or various institutions within the Eastern Bloc. Although the majority of Hungarian society opposed the communist regime and subjugation to Moscow, there was a group that supported this option. Within the Hungarian Socialist Workers' Party, its members were deeply influenced by the idea of promoting a global people's revolution and the victory of communism worldwide. To achieve these aims, they supported the efforts of left-wing and even anarchist groups around the world. This was expressed through financial support for foreign opposition organizations, training activists from distant countries, providing military training for revolutionaries, and sending weapons to various corners of Central and South America, Southeast Asia, the Middle East, and Africa. The legacy of this activity is the ongoing political instability in various so-called 'hot' regions of the world.

#### 4. HUNGARY ON THE INTERNATIONAL STAGE AFTER 1989

Due to the new Constitution, which was prepared by the government of Viktor Orbán and members of the Fidesz party and its coalition partner, the Christian Democratic People's Party (KDNP), the country's name was changed from the Republic of Hungary to Hungary as of January 1, 2012 (Tekst, 2012). The content of the new fundamental law reflects the direction of development chosen by the authorities and the challenges at the threshold of the new millennium. It emphasizes the need to preserve national heritage, also embodying the continuity of the state since its inception and the unity of the nation through its citizens, both those living in the country and abroad (Moravetz, 2018). The document also defines the role and place of Hungary in the contemporary world, as well as the tasks facing the state in its pursuit of internal prosperity and the creation of a reality free from wars and conflicts. The European Union was mentioned as the most important institution in this regard. Article Q, § 1 additionally states: 'Hungary strives for cooperation with all nations and countries of the world, with the aim of building and maintaining peace, security, and the stable development of humanity' (Tekst, 2012). Numerous alliances, organizations, and international institutions—of which Hungary remains an active member—became the tool for implementing this provision. Below, Table 1 shows the ten most important international organizations of which Hungary is a member.

No	Organization name	Field of activity	Date of Hungarian membership
1.	United Nations (UN)	<ul style="list-style-type: none"> <li>Political</li> <li>Economic</li> </ul>	1955
2.	North Atlantic Treaty Organization (NATO)	<ul style="list-style-type: none"> <li>Military</li> <li>Political</li> </ul>	1999
3.	European Union (UE)	<ul style="list-style-type: none"> <li>Political</li> <li>Economic</li> </ul>	2004
4.	The World Bank	<ul style="list-style-type: none"> <li>Financial</li> </ul>	1982
5.	International Committee of the Red Cross (ICRC)	<ul style="list-style-type: none"> <li>Humanitarian</li> </ul>	1882

6.	World Health Organization (WHO)	• Public health	1991
7.	World Trade Organization (WTO)	• International trade	1995
8.	The Visegrad Group (V4)	• Economic • Cultural • Energy • Military,	1991
9.	International Monetary Fund (IMF)	• Economic • Financial	1982
10.	Organisation for Economic Co-operation and Development (OECD)	• Economic • Political	1996

*Table 1: Hungary's membership in the most important organizations*

*Source: Author*

Among the institutions, funds, banks, interest groups, pacts, and alliances listed in Table 1, two international organizations are of fundamental importance for contemporary Hungary. The first of these is the North Atlantic Treaty Organization (NATO). It is a political and military alliance that ensures the country's sovereignty and security based on armed forces and the commitment of powerful allies. The second organization of key importance is the European Union, which in recent times has moved quite far from its original political and economic doctrine. Over the past few years, ideas and tendencies toward federalism and centralization have started to emerge within this institution, further enriched by dangerous authoritarian and military ambitions.

#### **4.1. The North Atlantic Treaty Organization and Hungary's security**

Because of its location at the very heart of the continent, Hungary was a key component of the Warsaw Pact for 35 years. It guaranteed Soviet political and military dominance in this part of the world. After joining NATO in 1999, the country's significance only increased. It became a factor in maintaining a rather fragile balance in Central Europe. Located at the crossroads of East and West, it now influences local relations with neighboring countries outside NATO (i.e., Austria and Serbia – note by the author) and allows for strategic control over the nearby Balkans. However, it seems that the authorities in Budapest do not seek closer ties with NATO structures. Over the past few years, Hungarian Prime Minister Viktor Orbán has repeatedly advocated for a security concept based on the creation of European armed forces. These forces would closely cooperate with those of NATO. In this regard, a similar stance has been taken by French President Emmanuel Macron (Hejj, 2023). The capital on the Danube opposes military missions outside NATO territory. However, recently, there has been a noticeable shift in Budapest's position. In 2024, Hungary joined the group of NATO members whose defense spending exceeded 2% of GDP. It also announced plans to increase the number of soldiers from 20,900 in 2024 to 37,650 by 2026. Through the purchase of modern weaponry from abroad, the process of rapidly modernizing the military has also begun (Defence, 2024). It seems that, at present, there is no real alternative to Hungary's membership in NATO.

#### **4.2. Hungary's situation within the European Union**

After meeting all the accession requirements, Hungary became a member of the European Union in 2004. Membership in this political and economic organization forms the second pillar on which the country's position and role in modern Europe rest. The undeniable benefits associated with this include the four fundamental principles guaranteed within the framework of the unified European internal market. They are the principles of free movement that apply across the 27 member states: the free movement of goods, capital, services, and people. Budapest has mainly chosen EU countries as its partners. The most important of those in Hungarian exports and imports in 2023 are presented in Table 2 below.

EXPORT			IMPORT		
No	Country	in %	No	Country	in %
1.	Germany	27	1.	Germany	24
2.	Italy	6	2.	China	7
3.	Romania	5	3.	Austria	6
4.	Slovakia	5	4.	Slovakia	6
5.	Austria	5	5.	Poland	6
6.	Poland	4	6.	Netherlands	5
7.	France	4	7.	Czechia	5
8.	Czechia	4	8.	Italy	4
9.	Netherlands	3	9.	France	3
10.	Great Britain	3	10.	Russia	3

*Table 2: The most important partners in Hungarian export and import in 2023*

*Source: Ministerstwo Rozwoju i Technologii, Departament HiWM*

Analyzing trade partners in the field of exports, it can be observed that all of the top 10 are countries located in Europe, and 90% of them are members of the European Union. As for imports, 8 out of the 10 most important counterparts are EU member states. The two countries outside the integration group are China and Russia. China, which holds second place in this ranking after Germany, accounts for 7% of Hungarian imports, while Russia, in tenth place, accounts for 3% of total imports.

According to data, in 2023, EU countries accounted for 78.8% of Hungarian exports and 69.4% of imports. Non-EU countries accounted for 21.2% of exports and 30.6% of imports (Eurostat, 2024). This shows a very high level of connection and Hungary's significant dependence on economic relations with countries in the Single Market.

Geographical directions of Hungarian exports: Europe 89%, Asia 5%, America 4%, Africa 1%, Australia and Oceania 0%. Geographical directions of Hungarian imports: Europe 81%, Asia 16%, Americas 3%, Africa 0%, Australia and Oceania 0% (MRiT, 2024). In this breakdown, Europe is in first place for both exports and imports. In second place, based on the same criteria, is the Asia region.

Thanks to successful foreign trade, growth in industrial and agricultural production, and successful investments, Hungary found itself on a path of growth. After a temporary slowdown in 2016, the Hungarian economy clearly accelerated. In 2017 and 2018, Hungary's GDP grew at a rate of 4-5 percent per year. Government actions, including a reduction in the corporate income tax rate, the introduction of measures to strengthen economic competitiveness, and favorable credit conditions – combined with the accelerating absorption of funds from the EU 2014-2020 programming period – resulted in the stable development of the Hungarian economy. An additional source of economic growth was the increasing consumption of private households and the rise in investments. Another factor driving the acceleration was wholesale and retail trade, as well as hospitality and catering services. The COVID-19 pandemic affected Hungary's GDP, causing a 5% decline in 2020 compared to 2019, but by 2021, there was a recovery with a 7.1% increase year-on-year. In 2022, GDP growth reached 4.6% year-on-year. Hungary's GDP per capita in 2023 was 28,700 euros, which was 8,900 euros lower than the EU average of 37,600 euros. The European Commission forecasts a 2.8% GDP growth in 2024 (MRiT, 2024). Data collected for the first three quarters seems to confirm these predictions.

Hungary's share in the total EU GDP was 1.2% in 2023 (Eurostat, 2024). Considering that the EU's GDP also includes the results of powerful economies such as Germany, France, Italy, which are part of the G-20, as well as Spain, which holds the status of a permanent guest in this organization, Hungary's contribution can be considered a success.

#### **4.3. Conflict between Budapest and Brussels**

In recent years, a deterioration in relations between Hungary and the European Union has been noticeable. Problems in this regard appeared fairly quickly after the return to power of the Fidesz Party and the Christian Democratic People's Party, which were working together. Viktor Orbán, elected prime minister in 2010, the charismatic leader of the Fidesz Party, is currently serving his fourth consecutive term in both positions. In 2012, at the initiative of the ruling coalition, a new constitution was enacted, emphasizing fundamental values such as: family, the preservation of national community, reference to the country's thousand-year tradition, safeguarding unique cultural values, and a sense of responsibility for future generations. The opposition in Hungary accused Orbán of pursuing an anti-democratic domestic policy, moving towards the construction of an authoritarian state, abolishing freedom of press and other media liberties, limiting the independence and impartiality of the judiciary, subordinating the central bank to the government, changing the president's powers, and altering the prerogatives of the Constitutional Court (Kingsley, 2018). Such information coming from Hungary has prompted the European Commission to take action. After initially sending warnings to the government in Budapest starting in 2011, the Commission began imposing increasingly harsher reprimands, fines, and financial sanctions on Hungary. All available procedures were also undertaken to hinder the activities of the government in Budapest within the framework of the European Union structures. One of these was the suspension of Fidesz in the European Parliament's rights as a member of the European People's Party. Deprived of access to basic democratic instruments, Fidesz left the European People's Party in 2021, two years after being suspended. However, the most painful consequence was the blocking of 22 billion euros from the Cohesion Fund allocated to Hungary for the years 2021-2027. This included 13 billion euros earmarked for the National Recovery Plan, which had already been approved by the European Union Council in December 2022 (money.pl, 2023). One of the most important points of disagreement between Hungary and the European Union is the desire of the government, led by Viktor Orbán, to stop and prevent all illegal immigration. In this regard, the country on the Danube has been ignoring all recommendations from the European Commission for years and does not adhere to European asylum law (Riegert, 2024). Another issue is Hungary's independent policy toward Russia and its stance on the war in Ukraine. These actions are completely contrary to the principles of the European Union. Budapest has maintained close trade and diplomatic ties with the Kremlin throughout. Despite the conflict on its eastern border, Hungary continues to purchase vital oil and natural gas from Russia. These resources are bought at low prices, which supports the country's dynamic economic growth. In 2024, Hungary blocked the adoption of the 13th sanctions package against Russia. Viktor Orbán also advocates for the quickest possible end to the war in Ukraine, even at the cost of significant territorial losses and political concessions from Kyiv. According to the Lithuanian foreign minister: 'Hungary is blocking about 41% of EU resolutions concerning support for Ukraine.' At the moment, Budapest not only prevents the sending of 5 billion euros in military support to Kyiv, but also opposes the transfer of profits from frozen Russian assets. European Union has been unable to find a way to circumvent this problem (Cedro, 2024). Viktor Orbán demonstrated complete political independence from the 'Brussels headquarters' almost immediately after Hungary assumed the presidency of the Council of the European Union on July 1, 2024. Without informing any key figures in the EU about his intentions, the Prime Minister made official visits consecutively to Kyiv, Moscow, and Beijing. Ostentatiously bypassing the formal structures of the European Union, he invited a wave of harsh criticism from various quarters. It should also be noted that

this was not the first meeting between Orbán and Vladimir Putin or Chinese leader Xi Jinping. In October 2023, during the Belt and Road Forum held in Beijing, the Hungarian Prime Minister met with the leaders of Russia and China. Budapest's consistent policy seems to be yielding results. In 2024, not wanting to remain on the sidelines of events, both French President Emmanuel Macron and German Chancellor Olaf Scholz held individual phone conversations with Vladimir Putin. In addition to economic and political issues, these conversations primarily focused on the matter of ending the conflict in Ukraine. Another example of political independence was the highly successful organization of an informal summit of heads of state and government in the capital of Hungary on November 7-8, 2024. This included a meeting of the European Political Community and an informal gathering of the European Council. Leaders of states and governments from 47 countries gathered, including all 27 EU member states. The European Union itself was represented by: the President of the European Commission, Ursula von der Leyen; the President of the European Council, Charles Michel; and the High Representative of the European Union for Foreign Affairs and Security Policy, Josep Borrell. Ukrainian President Volodymyr Zelensky also personally participated in the discussions. The proceedings covered a wide range of issues: from EU space policy and relations with the United States, to digital transformation, social policy, agriculture, and trade, as well as the crucial issue of increasing the EU's competitiveness through the introduction of the Green New Deal (European Council, 2024). The meeting demonstrated how important Hungary is not only in the context of European policy, but also globally.

## **5. HUNGARY AND CURRENT INTERNATIONAL RELATION**

Despite the clear increase in Hungary's significance within the structures and institutions of the European Union, further deterioration in relations between Brussels and Budapest cannot be ruled out. The right-wing beliefs and projects of the current Hungarian government are at the opposite end of the spectrum compared to the left-wing inclinations and ideas of the EU authorities. Furthermore, the European Commission's plans to introduce the European Green Deal, new taxes, the elimination of agriculture, and proposals to reform EU structures and introduce radical changes to the EU treaties are causing widespread concern and protests. Data from 2023 show the following for the EU as a whole: a low GDP growth rate of 0.3%, an unemployment rate of 5.9%, a government deficit of -3.5%, and government debt at 80.8% (Eurostat, 2024). Many people wonder how much longer an organization like the EU—structurally and culturally disjointed, moving away from the original principles on which it was founded, heavily financially involved in the military conflict in Ukraine, with a monstrously expanded administration, generating ever-increasing costs, intolerant of ideas other than extreme left-wing ones, and departing from democratic standards—can still be attractive to member states. Examples such as the United Kingdom and, earlier, Greenland, which left the Single Market as a result of referendums held in their territories, prompt reflection. The fact that there is a potential temptation for Hungary to exit the EU is illustrated by the very term coined to describe such a potential situation: 'Hunexit'. It must be acknowledged that a separation from Brussels would be easier for Hungary than for many other countries, as it did not join the eurozone. The official currency remains the Hungarian forint, which is guaranteed by the country's constitution. Considering Budapest's exit from the EU structures only as a theoretical possibility, one must reflect on the consequences of such a move for the integration group and the entire united Europe. It seems that the European Union would not survive in its current form following such a course of events. A glance at a map of the Old Continent shows that the communication link between Western Europe and Southeastern Europe would be disrupted. Currently, Hungary is the only route through which one can travel to Romania, Bulgaria, and Greece without leaving the European Union. The desire to reach the aforementioned countries by another route would involve crossing the border of the Single



Market. This would create significant logistical challenges and generate additional costs in the form of tariffs, transit fees, required insurance, road tolls, increased fuel consumption, as well as a loss of valuable time. Such a situation would inevitably lead, over the course of several or more years, to specific consequences in the form of seeking alternative solutions for the three Balkan countries and Hungary. One might get the impression that the authorities in Budapest, when analyzing their current position, are at the stage of cautiously testing other possibilities. In addition to its participation in the Visegrad Group, the country on the Danube actively takes part in the Three Seas Initiative, strongly supported by Donald Trump and the authorities in Washington. At the same time, it tightens and harmonizes its foreign policy with the Slovak government. Another important achievement was the signing of a strategic partnership agreement between Viktor Orbán and Turkish President Recep Tayyip Erdoğan. This took place on December 18, 2023, during the Turkish leader's second visit to Budapest within just five months. On this occasion, the Prime Minister of Hungary made a significant statement: 'Turks and Hungarians will win together in the 21st century.' (money.pl 2023). In the multidimensional policy pursued by Viktor Orbán's government, one direction seems to dominate over the others. This is the exceptionally dynamic development of contacts on various levels with the two largest non-EU trading partners: Russia and China. Hungary also serves as an important ally for these two countries in terms of international politics.

### **5.1. Cooperation with Russia**

It can be said that Budapest is currently both a spokesperson for and a beneficiary of Moscow's interests in Europe. Following this course of thought, the following facts should be noted. First, Hungary opposes the imposition of further sanctions and economic restrictions on Russia. Second, alongside Slovakia, Hungary is the second country to be granted an exemption by the European Union from the ban on importing Russian pipeline oil. The use of the argument of strong dependence on resources from the eastern neighbor allowed for the purchase of oil and gas at preferential prices. This, in turn, enabled Budapest to quickly recover from the economic downturn following the Covid-19 pandemic. Third, the trade volume between Russia and Hungary has been increasing year by year for the past several years. Fourth, without encountering political or legal obstacles, Russian capital invests in Hungary. This creates new jobs and stimulates the economy. The establishment of businesses by Russians in the country on the Danube aims to bypass Western European discriminatory policies. According to reports, by the end of March 2023, as many as 674 companies based on Russian capital were operating legally in Hungary (Business Insider, 2023). Fifth, in the spring of 2022, a Russian-Hungarian railway company was established, with the task of transporting goods from China to Western Europe. The goal set by this company is to ensure that the majority of rail freight from the Asian country to Western Europe passes through the territory of Hungary (Wyrzykowska, 2022). Sixth, Budapest is counting on Moscow's support regarding the Hungarian minority living in Ukraine, in the Transcarpathia region. Seventh, Hungary's statements in favor of Russia are causing polarization within the positions of EU member states. Eighth, Hungary's international trade is based on greater diversification of partners and contractors, which increases the security of transactions and opens up more opportunities. Ninth, cooperation with the Kremlin allows the authorities in Budapest to conduct a domestic and foreign policy that is relatively independent of Brussels. Finally, tenth, the deployment of a contingent of 200 Hungarian soldiers to Chad to support Russian influence in Africa creates a situation in which Hungary becomes a military ally, rather than an enemy, of the nuclear power (Celej, 2024). The agreement on the deployment of Hungarian troops in Chad was signed in September 2024 during the visit of the president of this Central African country to Budapest. The Hungarian parliament adopted a resolution on the matter two months later, in November.

## **5.2. Cooperation with China**

On May 9, 2024, during the visit of Chinese leader Xi Jinping to Budapest, an agreement on strategic cooperation was signed between Hungary and the People's Republic of China. The document contains 18 contracts and protocols, outlining the scope and areas of cooperation in the fields of economy and cultural exchange. It is the result of long-standing contacts between the two countries in various fields at all levels. The desire to strengthen and deepen cooperation with China stems from the personal beliefs of Prime Minister Viktor Orbán, according to which the Asian country is catching up with the United States in terms of economic and technological development and is assuming dominance in the realm of international politics. Hungarian policy in the area of relations with China stands in contradiction to the interests of NATO and the European Union. However, the current government does not feel obligated to consider the strategy of the North Atlantic Alliance and the EU's position, according to which China is not only a partner but, above all, an economic competitor and a dangerous 'systemic rival' (Jozwiak, 2023). On the other hand, China sees Budapest as a gateway leading to the European internal market. This approach has prompted Beijing in recent years to expand cooperation and undertake large-scale investments in Hungary. Among the most interesting of these investments is the co-financing of the high-speed railway development between Budapest and Belgrade, the capital of Serbia. The final station of this rail line will be the port of Piraeus, which has been acquired by the Chinese. Other important investments include the construction of an electric bus factory by BYD, the establishment of a campus of the prestigious Chinese Fudan University in the Hungarian capital, the takeover of the debt-ridden chemical company Borsod Chem by Wanhua Chemical Group, Huawei's entry into the Hungarian market, cooperation in the nuclear industry, the construction of a railway bypass around Budapest, and a high-speed rail connection from the city center to the airport. The most expensive Chinese investment in Hungary is the CATL electric car battery factory. Its value is estimated at 7.3 billion euros (Misiura, 2024). As part of the comprehensive service, the Chinese government has also committed to assisting Hungary in developing and implementing a network for electric vehicle charging. A negative aspect of this policy is Hungary's increasing indebtedness to its eastern partner. The rapidly growing debt to China surpassed 2.5 billion euros in 2024 (Misiura, 2024).

## **5.3. An alternative for Hungary**

The authorities in Budapest are trying to steer their economic policy more towards relations with Russia, representing Eastern Europe of the Old Continent, and with China, which today is the dominant force in Southeast Asia. The presence of Viktor Orbán at the Third Belt and Road Forum, held in October 2023 in Beijing, highlights this new orientation in international relations. 27 delegations representing Central Asia, Southeast Asia, the Middle East, Africa, South America, and Europe participated in the meeting. The opportunity for direct contacts with representatives of the countries participating in the Forum opens entirely new perspectives for the Hungarian economy. It is worth noting that Russia and China, which participated in this meeting, are also key partners in the BRICS organization. Thanks to the financial power mostly coming from Asia and resources from Siberia, this is the most dynamically developing political-economic organization in the world in recent years. The BRICS bloc has set as its main goal the creation of a new world order that takes into account the significant role of developing countries. To achieve this, it is proposed to establish a new monetary system, create alternatives to existing international financial institutions, eliminate Western economic dominance, reform the United Nations, and provide its members with conditions for dynamic and comprehensive development. The growing political importance of this group, along with its economic successes, is attracting new members and candidates to the BRICS organization.

No	COUNTRY	MEMBERSHIP DATE	STATUS
1.	Brazil	16 June 2009	founding member
2.	Russia	16 June 2009	founding member
3.	India	16 June 2009	founding member
4.	China	16 June 2009	founding member
5.	South Africa	13 April 2011	original member
6.	Egypt	01 January 2024	new member
7.	Ethiopia	01 January 2024	new member
8.	Iran	01 January 2024	new member
9.	United Arab Emirates	01 January 2024	new member

*Table 3: BRICS members 2024*

*Source: Ben Norton, (2024)m geopoliticeconomy.com*

*from: <https://geopoliticeconomy.com/2024/10/26/brics-13-partner-countries-summit-kazan-russia/>*

Together, the nine BRICS members comprise more than one-third of world GDP (measured at purchasing power parity). They have well over 40% of the planet's population and account for roughly 30% of global oil production (Norton, 2024). They occupy more than 30% of the world's land area and are located on four continents. By October 2024, 13 more countries had applied for membership in the organization. After their candidacies were accepted, they were granted the status of 'partner countries.' These countries are: Algeria, Belarus, Bolivia, Cuba, Indonesia, Kazakhstan, Malaysia, Nigeria, Thailand, Turkey, Uganda, Uzbekistan, and Vietnam (Norton, 2024). Their economic potential, natural resources, and geographical locations enhance the competitiveness and attractiveness of the entire group. Clearly, in the near future, the BRICS bloc will play a key role on our planet. This fact is also evident to the authorities in Budapest. It seems that it is only a matter of time before Hungary submits an application for membership in this coalition. One key issue in this regard is the ongoing conflict in Ukraine. From a logistical standpoint, it would be more advantageous for Hungary if Kyiv remained within Moscow's sphere of influence. This would ensure a direct land connection to the Russian Federation through the territory of a country cooperating with a BRICS member. Another obstacle at the moment is Budapest's economic dependence on Brussels. It will take at least a few more years for this situation to change. However, in this context, the growing political and economic decline of the European Union could eventually work in Hungary's favor. Hungary's membership in the North Atlantic Treaty Organization should not pose a problem. Turkey is already a partner country of BRICS, despite being the second-largest military power in NATO, surpassed only by the United States. Additionally, Hungary's location in Central-Eastern Europe is not an obstacle. This is confirmed by the example of Belarus, which has already become a partner country. Serbia is also heading in this direction. Belgrade has sent a high-profile delegation to the last BRICS summit in 2024 in Kazan, Russia, as part of its efforts to strengthen ties with the group. Leading the delegation is Serbia's Deputy Prime Minister Aleksandar Vulin (Kekic, 2024). This shows that the country on the Danube is not the only one in the region seriously considering becoming a member of the discussed organization.

## 6. CONCLUSION

Throughout their more than thousand-year history, Hungary has repeatedly proven to be an important driving force in Europe. As a participant and signatory of international treaties, pacts, and alliances, they have also demonstrated that through political and economic engagement and activity, they can be a catalyst for change in the world.

During his fifth term, the current prime minister of the country, Viktor Orbán, stated that: „Hungarians lost the last century. The plan is to not lose the 21st century, but to win it and seek allies for this purpose” (money.pl, 2023).

Looking at the actions of the authorities in Budapest, one gets the impression that the current priority is to restore the country's greatness and significance. It seems that pursuing an independent and multi-vector foreign policy will lead to success in the long run and also help achieve the set goals. The future will show whether the chosen direction in politics, as well as the selection of partners and allies, was the right one in light of the challenging times ahead.

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# USAGE FACTORS AND MARKET POTENTIAL OF ELECTRONIC MONEY IN THE EU

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## ABSTRACT

*Electronic money or e-money, also known as digital money, is a digital form of monetary value that enables electronic payment and transfer of funds via electronic devices. This form of money has significantly changed the form and structure of financial transactions, providing users with practicality, speed and simplicity in managing their finances. In order to gain a deeper understanding of electronic money, it is necessary to consider the key characteristics, types, advantages and challenges that accompany this technology. However, although electronic money has been present in certain markets for more than 20 years, its use is still at a generally low level globally. Many potential users are concerned about the security of electronic money. The thought of account hacking, identity theft and other forms of cyber threats can deter users from using e-money. Also, people who are not sufficiently familiar with technology or do not have access to the Internet may face difficulties in using e-money. Technical requirements, such as smartphones and a stable Internet connection, can be a barrier for some users. People often stick to their established habits, and changing payment methods can be challenging. Conducted research is focused on the current state of using e-money in the EU. Research results shows increase in it's usage and value, but also many challenges in its full implementation. Traditional forms of payment such as cash and cards are often deeply embedded in consumer culture. For this reason, this paper deals with the possibilities of using electronic money in the EU, but with the analysis of factors that make it difficult and slow down its mass acceptance, that is, its use as a payment instrument.*

**Keywords:** *digital currencies, EU, electronic money, financial markets,*

## 1. INTRODUCTION

As a relatively new payment instrument within the new electronic payment system, which will certainly become a replacement for traditional payments in the future, electronic money has increasing implications for the further development of banking functions globally and the networked economy (Boar and Wehrli, 2021). Statistical evidence confirms that the existence of electronic money is more pronounced in developed countries, which is understandable due to their high technological level, and knowledge and ability to absorb useful innovations of any kind. The basic characteristic is that electronic money is in digital form, that is, electronic money does not exist in physical form. It is stored and stored electronically, usually in secure digital wallets, and accessed through electronic devices (including smartphones, computers and other internet-connected devices). Fast transactions are certainly what characterizes this type of money. Electronic money allows for instant transactions, often faster than traditional bank transfers that require more processing time and more data to process the transaction (Humphrey,

Kim and Vale, 2011). What is particularly significant for electronic money is the security aspect. It is imperative that various security protocols are used to protect the user's transactions and data from unauthorized access. One of the most important features is universal acceptance. Most electronic wallets and payment systems support different currencies and allow users to transact globally. It also contributes to mobility as mobile applications and digital wallets allow users to access their own funds and make transactions anywhere and anytime.

## **2. DEFINING ELECTRONIC MONEY**

Electronic money can be defined as a digital form of monetary value that is stored electronically and enables electronic payment transactions. It is the digital equivalent of traditional cash money, but instead of physical banknotes and coins, electronic money exists in digital form. In the past, all money was physical. Whether in the form of banknotes, coins, or tokens, money has always been something that was held in the hand. Today, physical money still exists, but most of what is considered "money" only exists digitally or electronically. Of course, it should be emphasized that this does not only apply to cryptocurrencies. In fact, much of the "ordinary" money in today's world is purely electronic money. Some countries (Finland, Sweden, Denmark, ...) take electronic money very seriously and are actually moving towards becoming "cashless societies" in which all transactions are carried out electronically. Despite the great interest in electronic money, this kind of monetary innovation and its application in everyday life is still in the initial/primary phase. The dominant means of payment is still cash. The dominance of cash over other means of payment is particularly evident in retail accounts. At a basic level, electronic money is simply money stored on some kind of computerized device. Examples of electronic money include cryptocurrencies, virtual currencies, central bank digital currencies, and e-cash. Also examples of electronic money are prepaid cards (gift cards) issued by banks and credit card companies, which can be used in a wide variety of stores. Consumers often use these cards to make payments in online stores. Electronic money can be used to make transactions with or without bank accounts. The fact that electronic money does not have a physical form is what makes it so useful. Being digital allows for almost instantaneous transactions anywhere in the world, including cross-borders. However, the definition of electronic money is complex and the problem is to "describe a dynamic phenomenon in a relatively static framework" (Stavins, 2001:26). According to the Payment Services and Electronic Money Services Directive (PSD3), electronic money represents a monetary value, which is represented by a receivable from the issuer, and which is stored on an electronic device (European Commission, n.d.). In this situation, payment transactions are executed after receiving the funds. A payment transaction is accepted by a natural and/or legal person who is not the issuer of that electronic money. It should be emphasized that in this process, electronic money does not include a digital record of currency. Central banks, as well as other public sector bodies, are not issuers of digital currency records and thus do not guarantee the value. The application of electronic money in any market enables new payment services in the form of electronic money payments. In addition to commercial banks, electronic money payment services can also be performed by other financial institutions such as microcredit organizations, then it can be done by hybrid companies for issuing electronic money, but also by local government bodies. Its application leads to increased competition in the field of payment services, which encourages more efficient and cheaper provision of these services, as well as greater security of payments to citizens via the Internet, because the introduction of electronic money enables payment without the use of payment cards, which prevents the possibility of their misuse that can occur by publishing the data contained on them (Rahn, 2000). This means that the use of electronic money leads to more efficient and effective operations of economic entities, as well as cheaper execution of payment transactions by citizens, and greater financial inclusion.



The increasing use of electronic money will certainly reduce the level (with a tendency to prevent) the abuse of electronic money payments that various individuals and organizations commit for the purpose of money laundering, i.e. financing organized crime and terrorism. E-money is not printed money or a deposit. Deposits are limited to the amount stored on the electronic device only. Electronic money also has the following specifics (Razali, (2012), Stamenkovska, Dimitrova, Popovska-Mitrovikj (2020)): 1) **Lower transaction costs compared to other payment instruments**. One of the reasons is that the institution does not have to keep cash in its ATMs, and the costs are lower because there is less data to exchange compared to other payment instruments, 2) **Higher fixed costs compared to other payment instruments**, as a result of the use of unavoidable advanced information technologies. Modern technology must be constantly renewed and upgraded with the latest technological innovations, 3) **Electronic money has no value if it is not used for a transaction**, while other payment instruments can be used as a bank deposit, 4) **Electronic money is less transparent**, while credit cards have a name and a number. Electronic wallets do not necessarily have to be linked to a bank account, 5) **Electronic money has the potential to replace currency in circulation**, but so far this impact has been very low.

The process of electronic money transactions differs from the process of payment with other instruments, given all the specific characteristics mentioned above. Electronic money as a concept is not a new phenomenon. Since the IT revolution of the mid-1990s, the prices of computers and electronic equipment have been falling, and the level and intensity of internationally connected computer networks have been increasing. Online shopping has increased its use globally, and therefore the demand for new electronic payment systems has increased. Regardless of the fact that cash is still the dominant means of payment in retail, electronic payments in retail are certainly a novelty, as well as the use of the Internet as a new monetary market. It is precisely because of these facts that the geography of money has changed in the modern economy (Miller and VanHoose, 2007). The goal of developing such a financial instrument is to undeniably improve the efficiency of the traditional payment system.

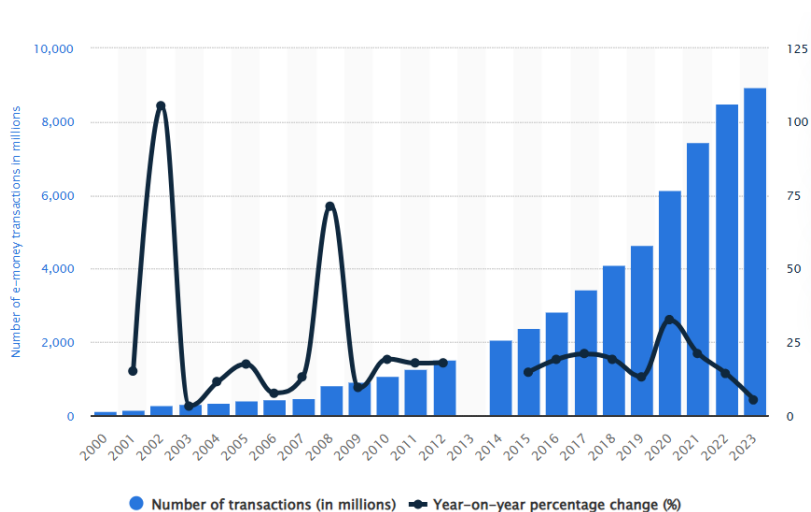
### 3. MARKET POTENTIAL OF ELECTRONIC MONEY

The potential of the use of electronic money is related to digital technologies, and the variety and intensity of use has logically grown with the development of the Internet and various digital platforms. Common examples include Bitcoin, Ethereum, Litecoin, and Ripple. Every time something is paid for with a regular credit or debit card, or a cryptocurrency like Bitcoin, electronic money is used. In fact, an increasing number of new digital currencies (including cryptocurrencies) can be used to purchase real-world physical goods and services (eClear, 2023). However, there are also some digital currencies that are limited to certain communities, an example of which are online games. Some of the most common ways to use electronic money are: 1) **On-line payments and trade**: Electronic money allows users to make simple and secure payments online. Online stores and platforms allow users to quickly make purchases and pay through a variety of electronic methods, including cards, e-wallets, and bank transfers. 2) **Mobile payments**: Mobile wallets have become an increasingly popular payment method. Users use their mobile devices for quick and easy payments via NFC technology or QR codes. This is often associated with digital cards or stored values in mobile apps. 3) **Internet Banking**: Electronic money allows users to access their bank accounts through online banking. They can perform a variety of financial transactions, including transfers, bill payments, and account balance monitoring without the need to visit the bank in person. 4) **e-wallets**: E-wallets are digital platforms that allow users to store electronic money. These can be used to pay for various services, and users often link them to bank accounts or top them up through credit cards. 5) **Cryptocurrencies**: Cryptocurrencies, such as Bitcoin, Ethereum, and many others, are a form

of electronic money based on blockchain technology. Cryptocurrencies enable decentralized transactions, making them popular among users looking for an alternative to traditional currencies. 6) **Peer-to-Peer Payments**: Electronic money allows users to easily make payments to each other. This is often used in everyday situations, such as sharing restaurant costs or splitting expenses among friends. 7) **FinTech Innovations**: The development of the FinTech sector brings innovations in the field of electronic money. Different FinTech companies offer different services, including microlending, digital investments, digital currencies, and more. 8) **International payments**: Electronic money facilitates international payments. Users can quickly and securely transfer funds between countries without the need for traditional banking processes, which often involve high fees and slowness. 9) **Automated subscriptions and payments**: Users often use electronic money for automatic monthly subscriptions or regular payments. This includes payments for services like streaming platforms, gym memberships, and the like. 10) **Digital rewards and loyalty programs**: Electronic money is often used in digital loyalty programs and rewards. Customers can accumulate points or digital currencies through their purchases and then use them for discounts or free products and services.

#### 4. THE PREVALENCE OF ELECTRONIC MONEY IN THE EU

The data from Figure 1 indicate a continuous growth in electronic money transactions in the EU in the period from 2000 to 2023. As can be seen, a more pronounced growth begins in 2014 and continues until 2023, when more than 8.4 billion transactions were made using electronic money at the EU level. Transactions in 2023 increased by 5.3% compared to 2022.



*Figure 1: Number of e-money (electronic money) transactions in the European Union (EU-27) from 2000 to 2023*  
(Source: taken from Statista (1), 2024)

Also, the data indicate that, although the number of transactions is increasing, the dynamics of their growth has been slowing down since 2020, which also affects the total value of transactions. If we look at the number of transactions made with electronic money by EU Member States, it is evident that by far the largest number of transactions is made in Luxembourg, where more than 4.4 billion electronic money transactions were made in 2020. Luxembourg is followed by Italy with 1.1 billion transactions, while other EU member states are far below (Figure 2).

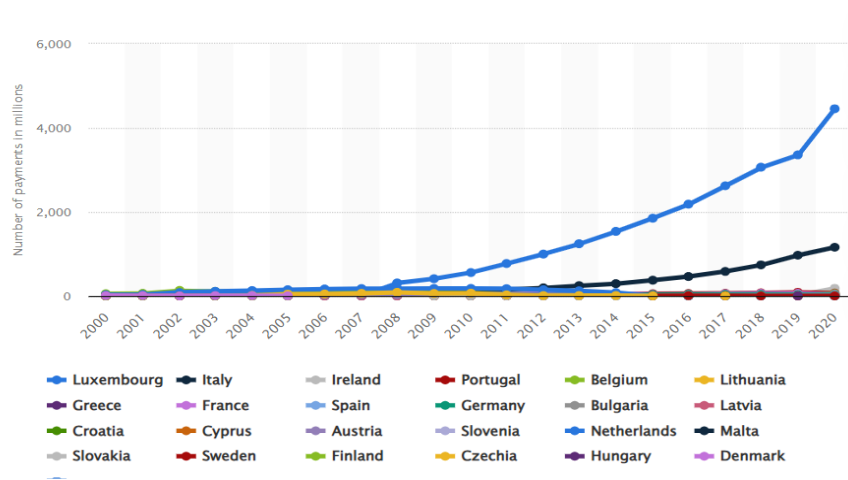


Figure 2: Number of transactions made with electronic money in EU Member States in the period 2000-2020  
(Source: taken from Statista (2), 2024)

The increase in the volume of transactions is even more evident when viewed per capita. Namely, in 2000, approximately 0.33 transactions per capita of the EU were made using electronic money, while in 2019 this value increased to 9.03, with significant prospects for further affirmation in the future (Figure 3).

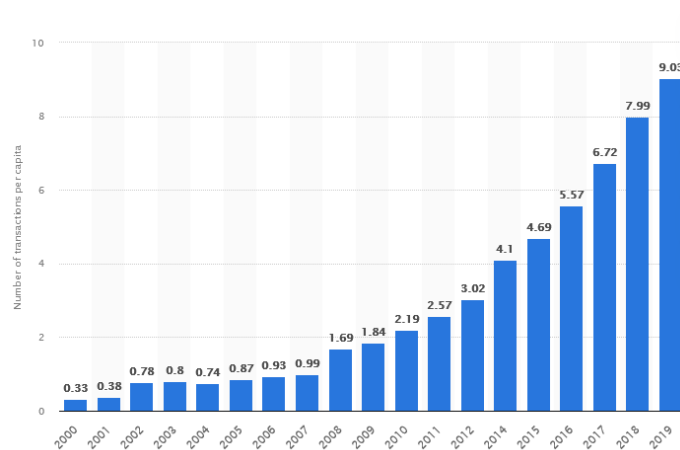
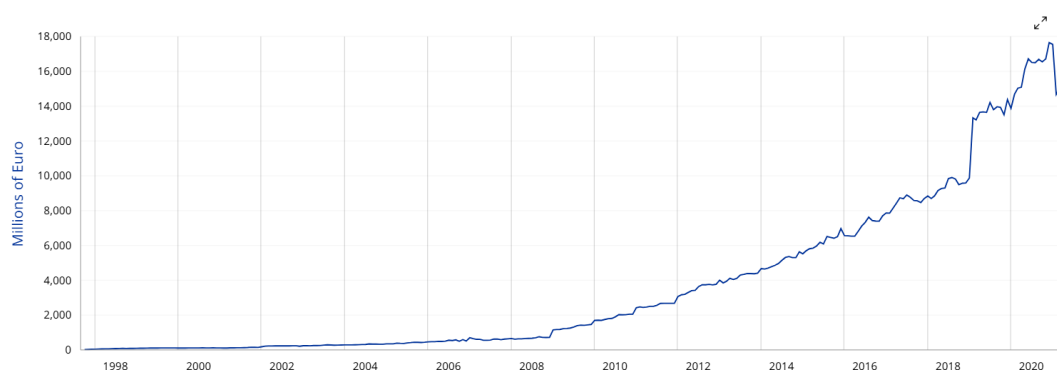


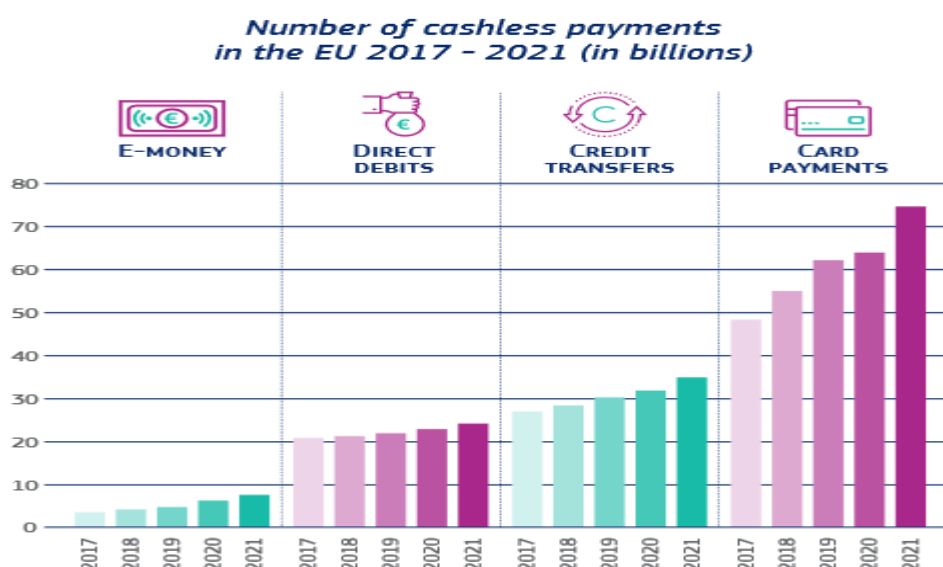
Figure 3: Transactions made using electronic money in the EU in the period 2000-2019  
(Source: taken from Statista (3), 2024)

Looking at the period from 1998 to 2021, the value of transactions made with electronic money increased many times over. As the number of transactions increased, so did their total value. The data from Figure 4 indicate that in the Eurozone in 2021, the total value of transactions made with electronic money amounted to EUR 15.3 billion. However, a slowdown is visible here as well, i.e. decrease in total value after 2020.



*Figure 4: Value of e-money transactions in the euro area in the period 1998-2020  
(Source: taken from European Central Bank (1), 2024)*

Although all the previously presented indicators point to the growing values and shares of the use of electronic money in the EU, this form of payment is still lagging behind other, traditional forms. Data from the European Commission (2023) indicate that the use of electronic money still accounts for the smallest part of the structure of non-cash payments, with card payments accounting for the largest part (Figure 5).



*Figure 5: Non-cash payments in the EU in the period 2017-2021  
Source: taken from European Commission, 2023)*

The use of electronic money and other modern forms of payment is a direction to which Member States and integration must adapt. Furthermore, it is necessary to bear in mind the different preferences of countries towards the introduction of cashless payment methods. As expected, developed countries are leading the way in the introduction of new payment methods.

## 5. ELECTRONIC MONEY PAYMENT PROCESS

In order for the payment process to be carried out on the classic (traditional) money market, the presence of the buyer and seller is necessary. There must be at least one legal and/or natural person in the position of buyer and seller. Both participants in the payment process should have valid bank accounts that are linked through a clearing house. Also, in the process of paying by cheques or bank orders, which are defined as traditional instruments, the engagement of a bank or financial intermediaries is required. In the modern world, the process of electronic money

payments is similar to the payment process on the classic market because there are two parties present in the process, commercial banks or other financial institutions, electronic money issuing companies and the like. Contrary to the process in the classic market, the process of paying with electronic money is more efficient and easier. No code is required for the transaction and the transaction cannot exceed a predefined amount. The amount that is stored on an electronic wallet is the maximum amount that can be spent, which is why the use of electronic money provides additional security for purchases made via the Internet (Miller, and VanHoose, 2007). A used card or an emptied electronic wallet can be automatically topped up at the merchant, free of charge, thanks to a special POS device or by transferring money from a bank account. Once the chip is loaded, the user does not have to look for an ATM or the exact amount of cash. In addition, by using electronic money, problems such as theft or loss are minimized. Another advantage is the fact that an electronic money transaction does not require an intermediary. Money is transferred from the buyer to the seller electronically through units or bits. The paid amount of money is on the seller's terminal, and at defined time intervals it is transferred via the Internet to the seller's account opened in one of the financial institutions. Transaction costs are reduced in situations where payment is made with electronic money. Also, in these situations, the transaction time is shortened compared to other forms of payment. The Humphrey, Kim and Vale (2003:172) estimate that "the cost of using electronic money is between a third and a half of the cost of making a paper payment with that money." The trend of paying with electronic money is increasingly present and it is to be expected that savings are more than 1% of a country's GDP per year.

## 6. FACTORS SLOWING DOWN THE USE OF ELECTRONIC MONEY

Electronic money as a means of payment is not dominant in the EU, but also in other developed countries. Cash is still used in most retail household transactions. Figure 8 shows the countries that have come closest to the concept of a cashless society. Norway is in the lead, followed by Finland, New Zealand, Hong Kong, Sweden and Denmark. From the presented data, it is possible to conclude that in these countries at least 95% of the population has open bank accounts, but only 1-4% of the population pays in cash. Also, 91-97% of the population in the observed countries have access to the Internet (Figure 6).











Rank	Country	People with internet access	Credit card owners	No. of ATMs (per 100,000 adults)	Cash-based payments	Unbanked population
1	 Norway	97%	71%	32	2%	0%
2	 Finland	92%	63%	37	2%	0%
3	 New Zealand	92%	61%	54	2%	1%
4	 Hong Kong	92%	65%	52	4%	5%
5	 Sweden	95%	45%	28	1%	0%
6	 Denmark	97%	45%	43	1%	0%
7	 Switzerland	94%	66%	94	2%	2%
8	 UK	95%	65%	99	1%	3%
9	 Singapore	92%	49%	54	1%	2%
10	 Netherlands	91%	39%	36	4%	0%

Figure 6: Countries towards acceptance of the concept of the Cashless Society in 2022  
(Source: taken from Payments Cards & Mobile, 2022)

On the other hand, countries in transition are still lagging behind in embracing the concept of a cashless society. At the same time, the population still relies on cash payments in a relatively high percentage, there is a certain share of the population that does not have a bank account, and there is also a significant share of the population without access to the Internet.

Examples of Bulgaria and Romania can be highlighted, where 28% and 42% of the population do not have bank accounts, 74% of payments in Bulgaria are made in cash, while 12-14% of the population owns a credit card. Also, in these countries, 22-30% of the population does not have access to the Internet. One of the leading factors slowing down the mass adoption of electronic money is the strong competition from credit and debit card companies. Of course, the factors are the possible impact of electronic money on monetary policy, and the professional interest of large companies as a whole. Electronic money has the potential to replace currency in circulation, which is part of monetary aggregates from central banks' balance sheets. The intention to remove banks as intermediaries of financial transactions from everyday activities is also more ubiquitous. This phenomenon indicates the fact that an increasing number of competitors are present in business that until yesterday was exclusively performed by banks. Competitors are software companies that use various software solutions to enable their clients (especially younger people) to have safe and complete control over their finances, while paying attention to the overall ratio of benefits and risks that these modern solutions bring. Regardless of their ability to react quickly and adapt to market circumstances, software companies still cannot offer their clients products that are sophisticated and long-term oriented. Also, software companies are mostly not able to offer insurance, credit, account overdrafts, and other services that commercial banks offer. However, bearing in mind that any innovation takes time to be accepted in the market, in the future commercial banks will have to pay significantly more attention to the application of electronic money (Darbha and Arora, 2020). Electronic money is changing the ways in which people have been buying and selling in all segments of economic activity so far. As more people move away from cash and new electronic payment options such as Bitcoin become more widely used, electronic money will certainly be more present in all its various forms in the future. In addition to the basic reasons that have been stated, which are based on the strong positions of banks in the markets, and the time it takes for users to accept electronic money as an innovation, the slow use of electronic money is explained by two other reasons. The first reason is network externalities and the two-sidedness of the market, and the second reason is the psychological impact called the problem of habit persistence. Therefore, the extent to which electronic money will be used depends mostly on the motivation of its suppliers, consumers and merchants. Consumer demand depends on the pros and cons of electronic money in the form of payment of fees to issuers, the security that consumers feel when using it, ease of use and the willingness of sellers to accept payment for their services and/or products via electronic money. The issuer of electronic money has motives that include revenues from fees charged to traders and consumers as users and revenues arising from other investments of the remaining amount of money, as well as from savings of smaller cash to the extent that electronic money replaces cash. It is also a potential disadvantage, i.e. a factor that slows down the greater use of electronic money and the cost of regulation. The seller's acceptance of the use of electronic money is closely linked to the fees charged by operators and/or issuers. New technologies are a key factor influencing the readiness of consumers and retailers in the process of accelerating the adoption of electronic money. The belief of those involved in this process, as well as those who follow the process, is that the use of electronic money will be moderate in the short and medium term, and that in the long term electronic money will become more widespread.

## **7. CONCLUSION**

The potential and possibilities of mass use of electronic money are difficult to accurately predict at the moment. It is certain that its application will also have social implications. Reducing the use of cash can lead to greater transparency and a reduction in the shadow economy, but at the same time cause more concerns about the privacy of personal data. One of the basic prerequisites is that access to technology is provided to all layers of society. The future of

electronic money applications promises significant changes in the way finances are managed. Technological innovation, regulation, security and social change will be key factors in shaping this digital system. Electronic money is likely to become an inevitable part of everyday life, but success will depend on the knowledge and ability to manage it carefully. Taking into account the presented use factors and market potential, it is certain that the future of electronic money applications promises a revolution in the way financial transactions are carried out and money is managed. The future of electronic money is driven by accelerated technological innovation. The development of blockchain technology, which is behind cryptocurrencies such as Bitcoin, opens the door to decentralized forms of electronic money. These systems offer greater transparency, reduced transaction costs and increased security. Advances in mobile device technology and wireless communications will also support faster and easier use of electronic money. NFC technology, biometrics and advanced security functions integrated into smart devices contribute to creating an intuitive and secure payment experience. The spread of electronic money will transform the traditional financial system. FinTech companies, which offer innovative solutions for financial management, can challenge traditional banks in their further creation of new services. Central bank digital currencies (CBDCs) may become a common form of electronic money, which could change the dynamics of monetary policy and reduce dependence on cash. International transactions will also be simplified and accelerated, reducing costs and the risk of currency fluctuations. The global interoperability of electronic money will contribute to the integration of financial markets and the facilitation of international trade.

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# BENEISH M-SCORE AS INDICATOR OF FRAUD TRENDS – CASE OF CROATIA

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## **ABSTRACT**

*Forensic scientists use various methods and techniques in their fraud investigations. In the preliminary phase of forensic analysis, when it is necessary to detect possible manipulations and direct the further course of forensic analysis, various analytical techniques and models are used. One of the models that can be used to detect potential manipulations in financial statements is the Beneish M-score model. This model is based on data from financial statements and the final output of the model, M-score, gives information on potential frauds. In this paper, the author used the M-score model as a proxy variable for fraud in financial statements at a sample of large Croatian companies. The sample included a total of 1,258 observations in the period from 2017 to 2022. The research results indicated large oscillations in the M-score in the observed period. The risk of fraud was highest in 2020, when the M-score amounted 10.08. Such result raises doubt on potential frauds in financial statements and motivates all interested stakeholders to take a deeper look at financial statements before making their business decisions.*

**Keywords:** *financial statement fraud, fraud detection, Beneish M-score*

## **1. INTRODUCTION**

Business frauds represent a global issue and cause significant losses for companies, countries, and for the global economy. According to the Association of Certified Fraud Examiners (ACFE), business frauds are defined as frauds that are committed by individuals against the organizations that employ them” (ACFE, 2022) and are “the costliest and most common form of financial crime in the world” (ACFE, 2022). Zenzerović & Šarjih (2023) state how “financial statement fraud is traditionally the most expensive type of fraud whose costs are very difficult to calculate precisely”. Different users of financial statements, such as investors, bankers, auditors as well as state authorities, are becoming more aware of fraud risk and, therefore, are more interested in financial statements’ reliability and quality. Various forensic accounting models and tools can be used in assessing and detecting potential frauds in financial statements such as Beneish M-score or Dechow F-score model. The main purpose of these models is to detect potential accounting manipulations and financial statement frauds. Moreover, they have been widely used by academics and practitioners in assessing fraud risk. Valaskova & Fedorko (2021) emphasize that “the detection of earnings management by M-score helps protect business partners of an enterprise against fraudulent behavior, especially in the global environment”. On the other side, some authors like Arum et al. (2023) point out certain limitations of these models, like failure to capture all aspects of financial fraud, reliance on financial statements, and inability to account for changes in different aspects of corporate governance, especially during times of crisis. Despite their limitations, both of these models can be and are used as tools for fraud detection. Omeir et al. (2023) emphasize how even though fraud detection tools and techniques are improving, there is still an increase in fraud cases, which motivates scientists and academics for further investigations and improvement of models. Beneish M-score is one of the most common models used in detecting financial statement frauds, and it has two versions: one version consists of eight financial ratios and another version consists of five financial ratios. When the M-score is calculated, the analyzed company is detected as a potential fraudster when the calculated M-score exceeds a critical

value of -1.78. On the other side, if the value of the M-score is below -2.22, we conclude that the reports of analyzed company have not been manipulated. Values between -2.22 and -1.78 also require a deeper look into financial statements in order to eliminate potential fraud issues. Beneish M-score is a mathematical-statistical model which uses data from financial statements to calculate specific parameters that form the model and, in the end, to determine the final M-score, i.e. possible frauds in financial statements. The main purpose of this research is to detect potential financial statement manipulations at a sample of large Croatian companies by using Beneish M-score. Five variable M-score was calculated for the period from 2017 to 2022 in order to get insight in movements of M-score and level of potential manipulations in financial statements of large Croatian companies. According to results, there were large oscillations in M-score in the observed period. Lowest level and minimum risk of frauds was detected in 2021 when M-score amounted -3.80 while, on the other side, fraud risk was highest year before when it amounted 10.08. Such a sudden turn in the movement of indicator may be explained by the fact that significant part of companies counted on receiving government subsidies which reduced incentives for manipulating financial statements and increased incentives for presenting real financial result. One of the main contributions of this research is to give guidelines for detecting potential financial statements frauds by Beneish M-score to all interested users of financial statements. Also, paper contributes to a better understanding and application of forensic tools in fraud detection. For example, this model can be used by banks and credit firms as well as by investors and auditors in assessment of fraud risk. Moreover, state inspectors and government decision makers could use this model as a preventive mechanism for checking and detecting possible financial statement frauds before the allocation of public money. The paper is structured as follows. After the first, introductory part of the paper, previous research in this area is given. Research design and research results are presented in the third section while the last chapter of the paper brings concluding remarks.

## **2. PREVIOUS RESERACH**

In this part of the paper, some relevant previous research that included the application of M-score in fraud detection is presented. It is interesting to point out research performed by Omeir et al. (2023), who compared the detection power of the Beneish M-score model and the Dechow F-score model. The research was performed on a sample of 197 companies in the period from 2009 to 2019. According to the results, the Beneish M-score model has higher detection power in predicting financial statements fraud than the Dechow F-score model. Several authors examined the impact of COVID-19 on financial statement fraud. For example, Siregar et al. (2023) performed research on a sample of 53 manufacturing companies whose shares were listed on the Indonesia Stock Exchange in the period 2019 to 2021. The proxy variable for financial statement fraud was Beneish's M-score, and the main goal of this research was to determine which companies were classified as potential manipulators, non-manipulators or were in the grey zone. Research results showed that the number of companies classified as manipulators increased in the observed period (2019-2021), while the number of those classified as non-manipulators decreased. Dimitrijević et al. (2024) performed research on a sample of travel agencies from the Republic of Serbia and reported there is an increased risk of fraud during the pandemic period. Investigation of accounting manipulations by using the Beneish M-score was also performed on a sample of Hungarian companies. M-score model was calculated for the period between 2017 and 2021. Research also covered the impact of sector, company size, age, and region on accounting manipulations. Results revealed high levels of accounting manipulations (Fenyves et al., 2023). The impact of CEO characteristics on fraudulent behavior was analyzed by Masruroh & Carolina (2022). The research was performed on a sample of companies listed on the Indonesia Stock Exchange from 2015 to 2019. According to the results, characteristics such as the CEO's gender, tenure, and nationality have

an impact on financial statement fraud. Valaskova & Fedorko (2021) used the Beneish M-score as a measure of fraudulent financial transactions on a sample of selected countries of the Visegrad grouping. They focused on a specific sector of the economy – the sector of transporting and storage. According to the results, there is a difference in the number of potential fraudulent companies in Slovakia and Czech Republic. Beneish M-score, along with the modified Jones model, was used to detect creative accounting practices at a sample of Slovak companies that operated in the sectors of agriculture, forestry, and finishing. Both applied models showed that a large proportion of companies included tends to manipulate financial statements (Blazek et al., 2020). Hasan et al. (2017) applied the Beneish model to a sample of 84,000 companies from Asia in the period from 2010 to 2013. According to the results, 34% of analyzed companies were marked as potential manipulators. Research for Italian companies was performed by Paolone et al. (2015). The authors used the Beneish model to examine the impact of the financial crisis on earnings management and compared results for two periods: the pre-crisis period (2005-2008) and the crisis period (2009-2012). According to the results, earnings management decreased during the crisis period compared to the pre-crisis period. Finally, the authors conclude that “firms have a greater propensity to manipulate and hide wealth creation during the non-crisis period to obtain tax savings and restrain the distribution of wealth (Paolone et al., 2023). Tarjo (2015) showed in his research that the M-score is efficient in detecting financial manipulations as well as Kamal et al. (2016) who stated that M-score is useful in measuring earnings manipulations in financial statements.

### **3. RESEARCH DESIGN**

#### **3.1. Research sample and variable definition**

The research sample included data from large Croatian firms, which were available in the Orbis database in June 2024. Based on the described selection criteria, the initial research sample included data for 1,721 large firms for each year in the period 2017-2022. Research performed in this paper focused on the analysis of financial statements fraud, which was measured by the M-SCORE proxy variable (Beneish, 1999). Due to the fact that some of the companies included in the research sample did not have all the variables required for M-SCORE calculation, it was necessary to eliminate all observations with missing data. After the elimination of observations with missing data, research sample included a total of 1,258 observations. Forensic experts use different methods and techniques in their investigations to detect areas of possible irregularities and narrow down the area of further research. One of the models often used to identify financial statement manipulations is the Beneish model. This model is based on data published in the financial statements of companies and was developed by Prof. M. D. Beneish from the Kelley School of Business at Indiana University. In the paper "The Detection of Earnings Manipulation" from 1999, he presented the first version of the model intended to expose companies that manipulated earnings (Beneish, 1999). The goal of his research was to develop a model that would distinguish between manipulated and non-manipulated financial statements based on selected financial variables. Beneish used a probit analysis on a sample comprised of falsified and correct financial statements which were collected from publicly available sources. His model correctly classified 54.2% of fraudulent financial statements and 45.5% of correct financial statements (Beneish, 1999). In subsequent works, he developed additional versions of the original model. However, in forensic research, the original version of the model with eight variables or the version of the model with five variables is mostly used. Siregar et al. (2023) point out that “Beneish ratio is a technique used to analyze financial statements detecting whether there is or there is no fraud in financial statements”. The Beneish model is used as a fraud detection tool, and it is interesting to point out how the Beneish M- score correctly detected frauds in Enron's financial statements, which is known as one of the biggest corporate failures. More precisely, Beneish M-score detected potential fraud in Enron's financial

statements since 1997, years before Enron declared bankruptcy in 2001 (Mahama, 2015). Also, the calculated M-score for ZZZZ Best company, one of the anthological corporate scandals, overreached reference value several times and indicated financial statement fraud (Belak, 2011). The validity of the model was also demonstrated in a Spanish family company Pascanova. In this example, it was shown that the Beneish M-score detected frauds in the financial statements of Pascanova prior to the year of its collapse. As already mentioned, the model known as the M-score consists of eight variables or five variables that are calculated based on data from financial statements. In this paper, a version of the model with five variables, which has the following form, was used:

$$M = -6,065 + 0.823 * DSRI + 0.906 * GMI + 0.593 * AQI + 0.717 * SGI + 0.107 * DEPI$$

The first step in establishing the Beneish model is to determine each of the five input parameters, and the formulas required for their calculation are presented in Table 1.

M-score element	Measurement
Days' sales in a receivable index (DSRI)	$(\text{Receivables}_t / \text{Sales}_t) / (\text{Receivables}_{t-1} / \text{Sales}_{t-1})$
Gross margin index (GMI)	$(\text{Gross profit}_{t-1} / \text{Sales}_{t-1}) / (\text{Gross profit}_t / \text{Sales}_t)$
Asset quality index (AQI)	$1 - ((\text{CA}_t + \text{PPE}_{t-1}) / \text{TA}_{t-1}) / 1 - ((\text{CA}_{t-1} + \text{PPE}_{t-1}) / \text{TA}_{t-1})$
Sales growth index (SGI)	$\text{Sales}_t / \text{Sales}_{t-1}$
Depreciation index (DEPI)	$(\text{Depr}_{t-1} / (\text{Depr}_{t-1} + \text{PPE}_{t-1})) / (\text{Depr}_t / (\text{Depr}_t + \text{PPE}_t))$

CA\* - Current assets

PPE\*\* - Property, plant, and equipment

TA\*\*\* - Total assets

*Table 1: Description of M-SCORE parameters  
(Source: Beneish, 1999)*

As previously mentioned, the variables that enter the Beneish M-score model are calculated based on data from financial statements, and successful application of the model requires data for two succeeding years. It should be pointed out that the calculation of individual parameters of the M-score model gives insight into deviation and can raise red flags of frauds on specific positions of financial statements. Table 2 presents the arithmetic means for manipulated and non-manipulated statements and instructions for estimating possible manipulations.

Variable	Manipulated	Not manipulated	Assessment of possible manipulations
DSRI	1.465	1.031	Index greater than 1.031 – possible manipulations
GMI	1.193	1.014	Index greater than 1.014 – possible manipulations
AQI	1.254	1.039	Index greater than 1.039 – possible manipulations
SGI	1.607	1.134	Index greater than 1.134 – possible manipulations
DEPI	-	1.000	Index greater than 1.000 – possible manipulations

*Table 2: Arithmetic means of the variables included in the Beneish model  
(Source: Belak, 2011)*

When interpreting results, it should be noted that if the values of individual variables are above the critical values for non-manipulated reports, then the conclusion is that there is a possibility of manipulation of that variable. For example, if the gross margin index exceeds the value of 1.014, it is concluded that there is a possibility of manipulation in financial statements. To simplify the interpretation of individual parameters included in the model, a unique control measure of 1.08 was set for the variables DSRI, GMI, AQI, and SGI. This means that if the determined values for these parameters exceed the control value of 1.08, it is concluded that there is a possibility of financial statement fraud. The critical value for the variable DEPI is 1.00. After the individual variables included in the model are calculated, the final result is determined based on the M-score calculation formula, and an assessment of possible manipulation and fraud in the financial statements is given. If the M-score result is higher than the critical value -1.78, it is concluded that there is a possibility of financial statement fraud, and further and more detailed investigation is required. In situations where the obtained result is lower than -2.22, it is concluded that there are no fraud indications. Results between -2.22 and -1.78 indicate a “grey zone” and potential frauds in financial statements. For example, a determined M-score, which amounts -3.1, indicates a low probability of manipulation of financial statements, while a determined M-score, which reaches the value of -1.2, signals potential manipulations of financial statements. It is important to point out that the model is used as a tool for detecting possible fraud and manipulation of earnings and that making more specific conclusions requires a more detailed forensic analysis. Also, when applying this model, one should have in mind the limitations of the model. As one of the main limitations, Belak (2011) states how the model was developed based on American accounting standards, and certain issues may arise when applying the model to financial statements prepared in accordance with International Financial Reporting Standards. Also, determining specific variables included in the model requires data for two consecutive years. It should be noted that the model will not be successful in situations when financial statements are manipulated several years in a row.

### 3.2. Research results

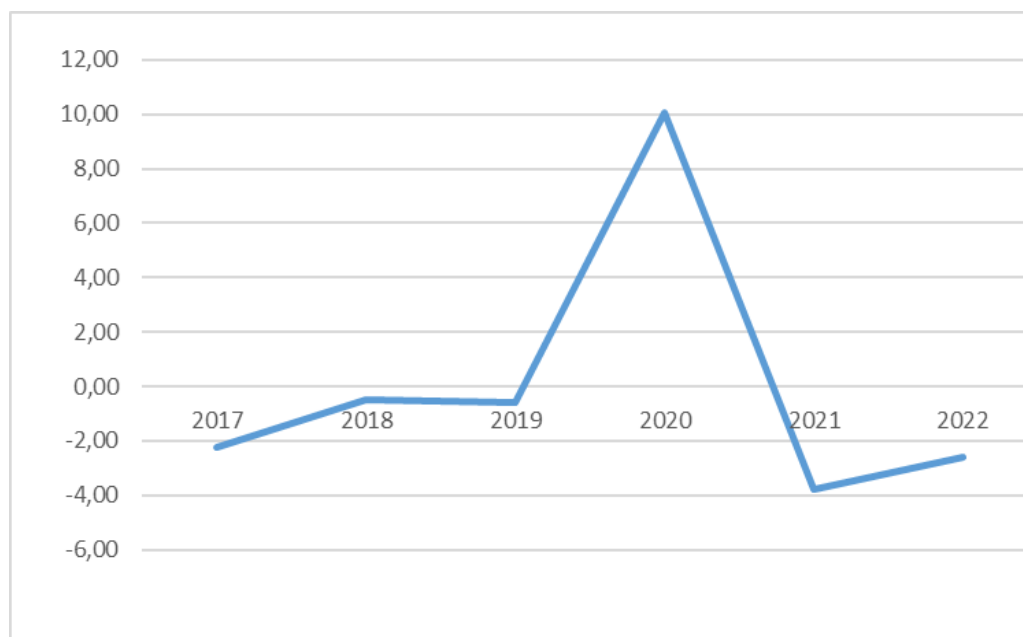
The main goal of research performed in this paper was to determine the level of manipulation of the financial statements by large Croatian companies. Beneish M-score was used for measuring manipulations in financial statements. Descriptive statistics for the M-score variable, proxy for financial statement frauds is presented in Table 3.

Year	2017	2018	2019	2020	2021	2022
Average	-2.26	-0.49	-0.57	10.08	-3.80	-2.59
Min	-435.87	-193.77	-122.01	-584.92	-59.72	-133.89
Max	756.11	788.40	869.68	615.23	67.13	257.00
St. Dev.	35.12	37.61	35.65	73.96	3.58	11.87

*Table 3: Descriptive statistic for the M-score variable  
(Source: author's calculations)*

When interpreting the results of the Beneish M-score, reference values should be taken into consideration. The reference value for M-score is -1.78, which suggests that all obtained values that are above this indicate a problem, i.e. strong strong likelihood of financial statement fraud. Results between -2.22 and -1.78 indicate a potential problem, while those values lower than -2.22 do not indicate a potential financial statements fraud. In the case of observed large Croatian companies, we can see that, at the beginning of the observed period, in the year 2017, Beneish M-score was at marginal levels for fraud indications and amounted -2.26. In the following years, a slight increase in the indicator was observed, meaning the possibility of fraud in

financial statements was also increasing. The highest value of the M-score was reached in 2020, when the M-score amounted 10.08. It should be pointed out that this year was COVID-19 crisis year, and research results show that in this year the risk of financial statement manipulation was the highest. This peak in 2020 was followed by a sharp decline in the year 2021, which could be explained by the fact that companies were motivated to receive government subsidies and were aware of increased monitoring, which reduced incentives for financial statement manipulations. Figure 1 shows the movement of the average M-SCORE level in the period 2017-2022.



*Figure 1: F-SCORE average value in period 2017-2022  
(Source: author's calculations)*

#### 4. CONCLUSION

Frauds in financial statements present a significant problem, and this issue is even more emphasized in the post-COVID era, which is characterized by high inflation and global uncertainty. The Beneish model is often used in forensic analysis to detect red flags and direct further forensic analysis. When applying the Beneish M-score, one should have in mind how this is a detection tool and how it results with certain values or numbers, which could raise red flags or doubts about potential financial statement fraud. If analysis conducted by using Beneish M-score signals potential fraudulent behavior, further and deeper forensic analysis is required in the next step to prove or disprove these suspicions. In this paper, Beneish M-score was determined for a sample of large Croatian companies to get insight into potential manipulations in financial statements. The M-score was calculated for a sample of 1,258 observations in the period from 2017 to 2022, and the obtained results indicated large oscillations in the M-score in the observed period. The risk of fraud was highest in 2020, when the M-score amounted 10.08. Such result signals potential frauds in financial statements and requires more detailed forensic analysis. However, such results give input to all users of financial statements to be more careful and to conduct additional analysis before making business decisions. The results of this research have certain implications for different stakeholders such as investors, bankers, tax authorities, auditors, and others. More precisely, before making business decisions, potential fraud risks should be assessed, and the Beneish M-score can be used for those purposes. In the end, research limitations should also be pointed out.

Research was performed on a sample of large Croatian companies, and conclusions may be inadequate for the SME sector. Also, in this research, the author used 5 variable M-score as a fraud indicator, and in the future, a research model with 8 variables could be tested.

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# BENEFIT IMPACT ASSESSMENTS IN SLOVENIA AND CROATIA

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## ABSTRACT

*The contemporary business environment is strongly influenced by sustainability demands that come from customers, employees, regulators, and communities. To prove themselves and to the environment the benefit impact of their operations and to improve their impact many companies around the globe use the Benefit Impact Assessment tool. The purpose of the paper is to analyze the Benefit Impact Assessment scores of the Certified B Corporations in the Republic of Slovenia and the Republic of Croatia, and the activities which enabled their achievements. The research is based on the qualitative analysis of theme-relevant publicly available secondary data. The results have shown that B Corp movement is at an early stage in Slovenia and Croatia, with 4 companies leading the way. The current BIA scores of the analyzed Slovenian and a Croatian company show that they put much weight to the investments in workers and community, while the Croatian Certified B Corp stands out in the environment area with its business model oriented towards resource conservation and toxin reduction. Although limited by the secondary data on which the research was based, the research results offer valuable insights for Chief Sustainability Officers and team members across organizations who think about the most appropriate way to measure, communicate and improve their impact on the society.*

**Keywords:** *Benefit Impact Assessment, Certified B Corporations, Croatia, Slovenia, social responsibility*

## 1. INTRODUCTION

The contemporary business environment is strongly influenced by sustainability demands that come from customers, employees, regulators, and communities. Hence, more companies are trying to differentiate themselves from the growing greenwashing practice and considering different paths to assess and improve their impact. Among them there is a growing community of Certified B Corporations (currently 9.402 companies in 105 countries) using Benefit Impact Assessment, a free publicly available online tool for measuring and improving impact developed by a non-profit organization, B Lab (B Lab, 2024a). The purpose of the paper is to analyze the B Impact Assessment scores of the companies currently certified as B Corporations in the Republic of Slovenia and the Republic of Croatia, and the activities which enabled their achievements. Our research questions are formulated as follows: in which industries and countries are operating Certified B Corporations in Slovenia and Croatia, what is their size (number of employees), what is their impact in the governance, workers, community, environment and customers area, and overall, and which activities supported the achievement of their impact. To do so, we conducted qualitative research based on the theme-relevant publicly available secondary data. After the introductory part in the first chapter, the chapter two elaborates the theoretical background of benefit impact assessments. The research methodology and results are presented in detail in the chapter 3, after which the discussion of the results follows in the chapter 4, and the concluding remarks in the chapter 5. At the end of the paper all literature sources used in the research are listed.



## **2. BENEFIT IMPACT ASSESSMENTS – THEORETICAL FRAMEWORK**

The contemporary business conditions characterized by growing expectations regarding social responsibility of companies' operations and conduct have encouraged many organizations to adopt stakeholder governance models, i.e. to consider the impact of their business decision-making on various stakeholders. Due to regulatory and social demands related to public communication of a company's overall social impact (both direct and indirect) more organizations are dedicating their resources to impact assessments with the aim to improve their positive impacts and to mitigate their negative impacts. By the term social impact, we mean any change to social, economic and/or environmental welfare of individuals, organizations, communities, and the society, that is the direct or indirect outcome of a company's activities (IMPACT, 2011, as in Bachnik et al., 2024). When conducting impact assessments companies can choose out of a wide range of approaches to impact measurement (see in Olsen and Galimidi, 2008, Corvo et al., 2021, Sandri et al., 2021, Alomoto et al., 2022, Zimek and Baumgartner, 2024), from SROI (Social Return on Investment) Toolkit through SIA (Social Impact Assessment) to B Lab's B Impact Rating System that integrates aspects of many approaches including GRI, HIP, LEED, SROI, SVN and Wiser Earth (Olsen and Galimidi, 2008) and that utilizes third-party industry, products, and practice specific standards' systems for verification purposes (e.g. FSC, Fair Trade International, USDA Organic, GRS-Global Recycle Standard) (B Lab, 2020). Among them, some approaches serve as rating systems, and other serve as assessment systems or management systems. Few approaches serve as both rating and assessment systems (as the B Impact Assessment analyzed in this paper) or assessment and management systems (Olsen and Galimidi, 2008). By defining, measuring and managing their overall impact, companies embrace total impact thinking in their decision-making (PwC, 2013). Comprehensive impact assessments usually include several stages: clarification of the context for measurement, planning for measurement, designing the outcomes measurement program, understanding what to measure, development of an outcomes framework, data collection and monitoring, analysis of impact, communicating impact and implementing change (Ramia et al., 2021). Social impact assessments' inherent measurement challenges that companies should be aware of include failing to distinguish between input, output, outcome and impact, inconsistency, causal validity errors, blindness (hidden factor correlation), over-simplification (ignoring multi-determination), partiality (failing to capture both downside and upside risks), and over-assuming (lack of generalizability) (Durand et al., 2019). These challenges as the ones related to communicating impact in a way tailored to each stakeholder's information needs should be addressed to successfully manage the company's impact. The numerous impact assessment approaches used in practice that differ in both measuring and reporting methodology have shown the need for unification of practices (e.g. developing the same typology of reports – independent impact reports, Management Solutions, 2022) that would enable the comparability of impact results between different organizations. The B Lab's impact assessment, analyzed in this paper, represents a standardized approach to measuring and communicating impact that allows inter-organizational comparisons and sets industry benchmarking frameworks. The B Impact Assessment (BIA) is a comprehensive tool that enables measurement of a business' positive impact on society and the environment through a set of a company's size-, market- and industry-customized questions that reflect impact indicators, best practices, and outcomes. A company receives a composite score on a 200-point scale representative of its overall impact achieved in 5 key impact areas: governance, employees, community, environment and customers. The BIA is evaluative and improvement-oriented tool, used for B Corp Certification and GIIRS Impact Ratings (B Lab, 2021), but also used as a self-evaluation tool. To be eligible for B Corp Certification a company must achieve a minimum verified score of 80 points on the BIA, incorporate stakeholder consideration in company decision-making by changing its articles of association and/or adopting Benefit

Corporation or similar legal form/status, and publish the BIA summary results on the B Lab's official website. The negative impacts of a company are separately assessed through B Lab's evaluation of a company's answers given in the BIA Disclosure Questionnaire, background checks and the public complaints procedure, aimed at identifying and taking action on intentional misrepresentation or misconduct of Certified B Corporations (breaches of the B Corp Community's core values) (B Lab, 2024e). B Lab's risk standards and processes are additional minimum standards that companies in controversial industries, or those with potentially negative practices, must meet in order to be eligible for B Corp Certification (B Lab, 2024e). From November 2024 companies not directly involved in a controversial industry or practice, but who have clients in such industries, must meet additional requirements depending on the client industry classification (controversial/ineligible) and the nature of certifying's company involvement with their client's potentially harmful activities (based on the UN's Guiding Principles on Business and Human Rights, UN, 2011). These additional requirements are related to transparency, grievance and whistleblowing mechanisms, and remediation including reduction in revenues from harmful industries (B Lab, 2024c). B Lab's Standards Advisory Council, an independent, global, multi-stakeholder group with specific expertise in responsible and sustainable business, governing the continuous evolvement of B Lab's impact tools, and the required recertification every three years as well as random in-depth site reviews for 10 % of B-certified companies per year contribute to the credibility of the certification. Although not perfect (some authors argue that companies may prioritise what is easier to implement versus what is better for the environment and with that add to a growing climate of greenwashing, Bennett, 2024), more companies around the globe are using the BIA tool to better understand, measure, improve and communicate their impact, and are embarking on the B Corp Certification process as part of their broader sustainability strategies. The following chapter presents the achieved BIA scores of the Slovenian and Croatian Certified B corporations and the activities and policies which enabled their achievements.

### 3. RESEARCH METHODOLOGY AND RESULTS

The research is based on the qualitative analysis of theme-relevant publicly available secondary research data (research studies referenced in relevant scientific databases, including the Web of Science, the Scopus, the Science Direct, and the Google Scholar database, media reports, B Impact Assessment summaries of analyzed companies and the companies' official websites' content). The research included all currently Certified B Corporations in Slovenia and Croatia. Although the impulse for more significant growth of Certified B Corporations in Europe was the establishment of a European partner of B Lab Global, B Lab Europe, in 2013, it took almost 10 years for the first certifications to happen in the analyzed Republic of Slovenia and Republic of Croatia. To date (beginning of December 2024) there are 3 Certified B Corporations in Slovenia, and 1 Certified B Corporation in Croatia (only the B Corps with headquarters in these countries are included in the research). The basic information on them is given in the table below (table 1).

Organization (country of headquarters)	Size (number of employees)	Year and month of certification	Industry	Sector	Ownership
Visit GoodPlace d.o.o. (Slovenia)	1-9	October 2022	Travel agency & related	Service with minor environmental footprint	Private (employee ownership, women ownership)

Sito d.o.o. (Slovenia)	10-49	September 2023	Other professional, scientific & tech	Service with minor environmental footprint	Private (employee ownership)
Tosla d.o.o.	10-49	November 2023	Food products	Manufacturing	private
Miret d.o.o.	1-9	December 2023	Apparel	Wholesale/retail	private

*Table 1: Basic information on Certified B Corporations in Slovenia and Croatia  
(Source: Author's elaboration based on the data extracted from B Lab (2024b))*

As the data shows, the here analyzed Certified B Corporations belong to the SME sector, the predominant sector in both the Slovenian and the Croatian economy. SMEs represent most of all business entities in Slovenia (99.8% of all of them), of which 90.8% are micro enterprises. In 2022, SMEs contributed 66.9% to the added value of the economy and employed 73.3% of all employees in Slovenia (OECD, 2024). The Croatian Bureau of Statistics has found that out of all active enterprises, the overwhelming majority (99.8%) were SMEs employing more than two thirds of persons (69.5%) and generating more than half of the value added (60.2%) of the non-financial business economy. Within the SMEs group itself, micro-sized enterprises were the most numerous, with their share of 92.1% in the total population of the non-financial business economy (DZS, 2022). Two of the here analyzed companies are micro-enterprises, and other two are small companies. Tosla and Miret are operating only in the country of their headquarters, while other two companies operate internationally. Visit GoodPlace operates in Austria, Croatia, Italy, and Slovenia, and Sito operates in Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Liechtenstein, Lithuania, Malta, Norway, Slovakia, Slovenia, United Kingdom, and United States. The companies are relatively new, founded in the period from 2000 (Sito) to 2018 (Miret). Tosla was founded in 2014 and Visit GoodPlace in 2015. From the Slovenian companies two have their headquarters in the capital city of Slovenia (Ljubljana City Municipality), and Tosla's headquarters are in Ajdovščina Municipality. The Croatian Miret d.o.o.' headquarters are in the Karlovac County. Visit GoodPlace is a boutique cycling and outdoor tour operator, Sito is an innovation and industrial design studio offering services including green transformation (sustainability) strategy and circular product design, Tosla Nutricosmetics specializes in researching, developing, and manufacturing high-performing liquid supplement products for the beauty and wellness industry, and Miret is developing and selling environmentally advanced footwear that are designed to have the lowest possible impact on the environment. They are all registered as limited liability companies (d.o.o.). We first present (in the table 2) the overall B Impact score of analyzed companies and the scores they achieved in each impact area.

Organization	Overall BIA score	Governance	Workers	Community	Environment	Customers
Visit GoodPlace d.o.o.	80.4	9.9	26.9	22.9	12.6	7.9
Sito d.o.o.	85.6.	12.1	37.3	22.7	9.5	3.8
Tosla d.o.o.	80.2	8.5	26.7	22.5	19.2	3.2
Miret d.o.o.	89.3	6.2	17.3	12.7	49.8	3.1

*Table 2: Overall B Impact Score of Certified B Corporations in Slovenia and Croatia  
(Source: Author's elaboration based on the data extracted from B Lab (2024b))*

Although the achieved overall BIA score of analyzed companies is not high, it must be noted that achieving the minimal 80 points which qualifies for B Corp certification is not easy (the median score for ordinary businesses who complete the assessment is currently 50.9). If we look at the five impact areas scores, two of them stand out: workers and community, the areas in which the analyzed companies achieved the greatest scores, especially the Slovenian ones, while the Croatian Miret d.o.o. stands out in the environment area with 49.8 points achieved. Sito has achieved the most points in the workers area, and Visit GoodPlace in the community area, although the other Slovenian companies' score is very close to that. In the governance area the most points has achieved Sito, and in the customers area Visit GoodPlace. Points achieved in each area' key dimensions are presented and elaborated in the following paragraphs. First, we present the governance area scores in the table 3.

Organization	Mission & engagement	Ethics & transparency	+ Mission locked
Visit GoodPlace d.o.o.	2.8	4.6	2.5
Sito d.o.o.	5.0	4.6	2.5
Tosla d.o.o.	1.0	4.9	2.5
Miret d.o.o.	1.9	1.8	2.5

*Table 3: The points achieved in the governance impact area by the Slovenian and Croatian Certified B Corporations*

*(Source: Author's elaboration based on the data extracted from B Lab (2024b))*

In the governance area a company's overall mission, engagement around its social/environmental impact, ethics, and transparency is evaluated. This section also evaluates the ability of a company to protect their mission and formally consider stakeholders in decision making through their corporate structure (e.g. Benefit Corporation) or corporate governing documents which is reflected in the additional points companies have achieved for mission locked (B Lab, 2024b). Each Certified B Corporation must change its articles of association to incorporate its socio-economic mission. The points achieved in the workers area are given in the table 4.

Organization	Financial security	Health, wellness & safety	Career development	Engagement & satisfaction	+ worker owned
Visit GoodPlace d.o.o.	7.7	4.0	3.3	3.0	0
Sito d.o.o.	11.5	7.5	7.4	8.0	-
Tosla d.o.o.	4.7	8.2	3.5	6.7	-
Miret d.o.o.	1.9	2.7	2.4	5.1	-

*Table 4: The points achieved in the workers impact area by the Slovenian and Croatian Certified B Corporations*

*(Source: Author's elaboration based on the data extracted from B Lab (2024b))*

In the workers area a company's contributions to its employees' financial security, health and safety, wellness, career development, and engagement and satisfaction is evaluated. Additional points are awarded for companies with business models designed to benefit workers, such as

companies that are at least 40% owned by non-executive employees and those that have workforce development programs to support individuals with barriers to employment (B Lab, 2024b). The analyzed companies, as the data shows, have taken different approaches to their employees, from Sito and Visit GoodPlace focusing on financial security, through Tosla focusing on health, wellness and safety to Miret focusing on engagement and satisfaction. The data presented at the companies' official websites gives more insights in several aspects of their approaches to employees. E. g., Visit GoodPlace's employees have in 2022 attended more than 15 trainings and workshops (online and onsite) in the field of development of professional competencies, and gained new knowledge in the area of sustainability. In the same year the company introduced a new handbook for employees and several benefits are offered to them, including a free bike rental, blood tests, bonus for sports activities and participation in trainings/workshops of choice (Visit GoodPlace, 2023). Sito invests each year around 5% of its time towards educating its employees and gaining skills in the field of sustainability (Sito, 2024). Tosla achieved in 2023 a gender pay gap of 24% – in favour of women, and a representation of women in leadership positions at 37.5%, surpassing the 2023 targeted minimum of 30%. Its basic monthly salary exceeded the minimum wage in Slovenia by 17.6% in 2023 (Tosla, 2024a). In 2023 the company announced its partnership with Triije Architects, architectural firm known for innovative and sustainable designs, to construct TOSLA 3, its new headquarters and manufacturing facility (Super Factory). The building's design will prioritize employee well-being, featuring spaces that promote a healthy work-life balance (Tosla, 2023b). The scores achieved in the community area are given in the table 5.

Organization	Diversity, equity & inclusion	Economic impact	Civic engagement & giving	Supply chain management
Visit GoodPlace d.o.o.	3.8	7.5	6.0	2.5
Sito d.o.o.	4.8	9.0	5.6	0.5
Tosla d.o.o.	5.5	7.0	3.6	3.1
Miret d.o.o.	3.3	4.0	1.0	2.1

*Table 5: The points achieved in the community impact area by the Slovenian and Croatian Certified B Corporations  
(Source: Author's elaboration based on the data extracted from B Lab (2024b))*

In the community area a company's engagement with and impact on the communities in which it operates, hires from, and sources from are evaluated. In addition, this section recognizes business models that are designed to address specific community-oriented problems, such as poverty alleviation through fair trade sourcing or distribution via microenterprises, producer cooperative models, locally focused economic development, and formal charitable giving commitments (B Lab, 2024b). The Slovenian companies have realized larger economic impact and are more committed to civic engagement and charitable giving than the Croatian company. All analyzed companies consider local community benefits while making decisions related to supply chain management and diversity, equity and inclusion. Suppliers who implement sustainable standards and policies are prioritized. Visit GoodPlace prioritizes local boutique family-run accommodations and encourages its customers to purchase local products and to experience local cuisine and donates used printer cartridges to a company that collects them for charitable purposes. It also donated money to the Tolmin fire brigade (to support the local community where company's outdoor festival takes place) and mountain rescue service. As part of its Soča Outdoor Festival and in collaboration with external partners Visit GoodPlace

organized a special sport event for people with disabilities – Parafestival (Visit GoodPlace, 2023). Sito donates 1% of its annual profit to different organisations focused on environmental preservation and wellbeing of socially vulnerable children and youth (Sito, 2024). Tosla invests in the community (Vipava Valley) through charitable donations, volunteer initiatives, or partnerships with local organizations such as the National Theater Opera and Ballet, paradancers, women’s football club, art symposiums, workshops and exhibitions (e.g. Slovenia Open to Art), local music and sport festivals, local library (Tosla, 2024a). When choosing suppliers, Tosla prioritizes those who follow the ESG policy. Tosla's production is based on the use of responsibly sourced collagen peptides (derived from upcycled by-products of the meat and fish industry) (Tosla, 2024a). Miret sells ecological sneakers (now sold under the new brand Earthbound) which are made of wool processed and weaved in the EU (with the raw material from Great Britain, Norway and New Zealand), and of latex that comes from the Amazonian rubber trees of FSC certified forests (Earthbound, 2024a). The environment area scores are presented in the table 6.

Organization	Environmental management	Air & climate	Water	Land & life
Visit GoodPlace d.o.o.	2.3	3.0	0.7	2.5
Sito d.o.o.	3.7	1.2	0.5	3.2
Tosla d.o.o.	3.4	6.4	3.4	4.4
Miret d.o.o.	8.4	2.0	0.0	9.7

*Table 6: The points achieved in the environment impact area by the Slovenian and Croatian Certified B Corporations  
(Source: Author’s elaboration based on the data extracted from B Lab (2024b))*

In the environment area a company’s overall environmental management practices as well as its impact on the air, climate, water, land, and biodiversity is evaluated. This includes the direct impact of a company’s operations and, when applicable, its supply chain and distribution channels. Additional points are given to companies with environmentally innovative production processes and those that sell products or services that have a positive environmental impact (e.g. products and services that create renewable energy, reduce consumption or waste, conserve land or wildlife, provide less toxic alternatives to the market, or educate people about environmental problems) (B Lab, 2024b). The Croatian Miret d.o.o. stands out in this area due to its environmental management practices, its impact on the land and life, and due to its resource conservation (additional 15.5 points) and toxin reduction/remediation impact business model (additional 13.3 points). The Slovenian Visit GoodPlace has gained additional 3.2 points for environmental education and information. This company is offering tours that are designed in a way to minimize carbon footprint. The company also implements programs for CO2 compensation by supporting reforestation in a Slovenian region that most of its customers visit during the tour. It created special codes of conduct for responsible behaviour for its guides, accommodation providers, luggage carriers, and customers to show them how they can contribute to the tours being more sustainable. It also informs its customer how to offset the carbon footprint of their transport before and after the tour (the carbon footprint calculator is available at the company's website and the company invites its customers to offset their carbon footprints through one of company's climate-friendly projects) (Visit GoodPlace, 2024). In its offices Visit GoodPlace uses energy saving lighting and energy efficient equipment and during summer natural ventilation is used instead of air conditioning. The company purchases goods

without or with little packaging (in bulk where possible), buys second-hand electronic equipment (PCs and monitors) and pays special attention to reducing paper consumption, waste management, and transport reduction (Visit GoodPlace, 2023, Visit GoodPlace, 2024). Sito is working towards digitizing its processes and going paperless, reducing the amount of business travel and employee commute, and lowering its energy consumption. Sito's website has been built following low-carbon principles and uses 0.31 g of CO<sub>2</sub> for each visit (Sito, 2024). Tosla achieved in 2023 a 10% reduction of the carbon footprint per liter of its products and strives to achieve a net-zero carbon footprint by 2050 (Tosla, 2024a). To follow this commitment, it has bought electric cars for employees who travel more than 80 km to work and can share a ride (Tosla, 2023a). In 2023 it also decreased the average output waste volume per unit of its products by 30%. It is committed to leveraging its current solar power plan to cover a minimum of 60% of the company's total electricity consumption in 2024 (a solar power plant with battery storage was built at company's facilities), and to executing a minimum of one green project every three years (Tosla, 2024a). Miret d.o.o. sells ecological footwear with no chemicals toxic to human health. By focusing on renewable bio-based materials and sustainable practices Miret/Earthbound™ sneakers emit up to 65% less CO<sub>2</sub> than the industry average (based on Earthbound's internal calculation, Earthbound, 2024a). Earthbound™ sneakers are 97 % natural (made of wool, hemp, cotton, and other plants, including the rubber tree latex, cork oak tree, poplar tree and eucalyptus tree) and 97 % plastic-free (the 3% of non-bio-based materials are synthetic glue and polyester thread). The sneakers are designed and manufactured in Europe, in Croatia and Bosnia and Herzegovina (Earthbound, 2024b). The points reached in the customers area are given in the table 7.

Organization	Customer stewardship	+ Health & wellness improvement
Visit GoodPlace d.o.o.	4.5	3.4
Sito d.o.o.	3.8	-
Tosla d.o.o.	3.2	-
Miret d.o.o.	3.1	-

*Table 7: The points achieved in the customers impact area by the Slovenian and Croatian Certified B Corporations*

*(Source: Author's elaboration based on the data extracted from B Lab (2024b))*

In the customers area a company's stewardship of its customers through the quality of its products and services, ethical marketing, data privacy and security, and feedback channels is evaluated. In addition, this section recognizes products or services that are designed to address a particular social problem for or through its customers, such as health or educational products, arts & media products, serving underserved customers/clients, and services that improve the social impact of other businesses or organizations (B Lab, 2024b). Visit GoodPlace has reached most points in this area while also receiving additional points for customers' health and wellness improvement. This company is a result of the project initiated by the Institute Factory of Sustainable Tourism GoodPlace, the leading NGO in sustainable tourism development in Slovenia and the author of the Green Scheme of Slovenian tourism (a national certification program Slovenia Green). The founding members of the GoodPlace Institute have founded the Visit GoodPlace travel agency as a continuation of their mission to bring sustainable tourism products to life (GoodPlace, 2024). Visit GoodPlace's mission is to create authentic and unique experiences for its guests while taking care of the environment and making local stakeholders

an important part of its tours. Together with GoodPlace Institute it developed a system of Green Routes (Visit GoodPlace, 2024), and in 2022 it introduced Bike Slovenia Green Wellness Route (South route and North route), which gives attention to its customers' well-being (Visit GoodPlace, 2023). Tosla's manufacturing facility is an FDA-registered facility that holds both cGMP (good manufacturing practice) and FSSC22000 certificate (food safety management systems certification) (Tosla, 2024a). Miret sells Oeko-tex Standard 100 certified handcrafted footwear (Earthbound, 2024a), and Sito offers services related to sustainability strategy development and circular product design (Sito, 2024). From the above analyzed companies only Sito was required to publicly disclose information from disclosure questionnaire related to clients in controversial industries (while products and services to clients in controversial industries could help mitigate potential negative impacts or serve only as commonplace goods and services for the companies, they also could have the potential to enable the growth of the industry and indirectly contribute to its negative impacts; therefore Certified B Corps are required to make transparent their involvement in such industries, B Lab, 2024c). Sito d.o.o. is currently involved or has had involvement within the last five years in providing services and/or products to companies in the fossil fuels industry (other, excluding coal, oil sands) which is considered controversial industry by B Lab Global. Any party aware of specific company practices that have had a negative impact related to its involvement in these or other controversial industries, and which may constitute a violation of the B Corp standards, may contact B Lab via its public complaints procedure (B Lab, 2024d). The B Corp certification of all the analyzed companies was a natural step forward on their sustainability journey and is not seen as an end in itself, but as a valuable benchmarking and improvement tool in their socio-economic endeavours. One of the Miret founders said: "We wanted to have irrefutable proof that we really live and do what we advocate and that our sustainability statements, our vision, mission and the science behind our products do not need to be questioned. ... After obtaining the Oeko-tex certificate we lacked a certification that would prove that we work for the benefit of society, employees, investors and customers. ... We will probably present this certificate less to customers and more to investors, business partners and other stakeholders." (Oršulić, 2024). The certification process is especially demanding for micro- and small enterprises which do not have large teams that can dedicate themselves to the certification steps, and that makes the journey to certification especially challenging. E.g., the certification process in Miret d.o.o. lasted over two years, and occasionally it was so frustrating that they considered giving up (Oršulić, 2024). Its Chief Sustainability Officer, which managed the certification process, explained the improvement character of the BIA tool: "Assessments help us see what we need to focus on. There is room for improvement until the next recertification in three years, and our challenge will be also the growth. We must carefully plan the increase of revenue, team and production in order to keep sustainability at a high level." (Oršulić, 2024).

#### 4. DISCUSSION

The research results analysis shows that B Corp movement is at an early stage in Slovenia and Croatia, with 4 companies leading the way. All 4 analyzed companies are dedicated to proving their socio-economic orientation and impact to themselves and their stakeholders. Obtaining the B Corp certificate is therefore only a continuation of their sustainability efforts. The lessons learned from the certification process help them to improve their impact in the forthcoming years, and the achieved BIA score serves them as a benchmarking tool. The current BIA scores of the analyzed Slovenian and a Croatian company showed that they put much weight to the investments in workers and community, while the Croatian Miret d.o.o. stands out in the environment area with its business model oriented towards resource conservation and toxin reduction. The Slovenian and Croatian Certified B Corporations are micro- and small enterprises registered as limited liability companies. Their size (small number of employees)



proved to be a challenging factor in the certification process. An ad hoc search has shown that the first B Corp certifications in Slovenia and Croatia did not gain much of attention in the regional mainstream media, neither the moment of obtaining the certificate nor the 1<sup>st</sup> Slovenian B Corp Summit, co-hosted by Visit GoodPlace, Sito and Tosla (a summit gathered representatives of B Lab Europe, of the international B Corps, and CEOs of Visit GoodPlace, Sito, Tosla, and of the Croatian Certified B Corporation, Miret d.o.o., Tosla, 2024b). Little media coverage may indicate the unrecognizability of the B Corp Certificate in the region or the ignorance of the local media. As the B Corp label is still not recognizable in the region, the first Certified B Corporations in Slovenia and Croatia play a significant role in educating the environment about Benefit Impact Assessments. To better show their impact on workers, community, customers and environment more transparency is needed. Until now, only Visit GoodPlace has published the Sustainability Report, and Sito, for example, has very limited information related to its impact on its official website. However, the small number of employees will probably dictate the dynamics of these endeavours too.

#### 4. CONCLUSION

The research results show that currently 3 Slovenian and 1 Croatian company have publicly published the achieved Benefit Impact Assessment results summary while obtaining the B Corp Certificate. The currently small number of Certified B Corporations in both analyzed countries could indicate that for now most companies in these countries have not recognized the value of the certificate or are not acquainted with them (there is no currently available research that could reveal the number of companies currently considering the certification and/or number of companies that considered the certification but have given up due to the hard long-term work the certification demands). However, the here presented companies are paving the way for others. By sharing their story and experience they can motivate others to follow their path, and by educating the environment about their approach to impact assessment they can promote sustainability practices with a common goal to improve positive impacts and reduce negative impacts on the customers, workers, communities and the environment. As shown in the paper, the BIA tool enables companies to inform customers, employees, suppliers, partners and communities about their sustainability efforts, but it also gives them a valuable benchmarking and improvement tool. Although based on self-reporting the B Corp certification process involves several control and transparency mechanisms that ensure the credibility of the certificate. Among others, B Lab requires from Certified B Corporations to publicly disclose their involvement in providing services/products to clients in controversial industries (a requirement that one of the Slovenian Certified B Corps presented in the paper had to comply with). The paper contributes to the ESG reporting and compliance research and gives valuable insights from the practice of the first Certified B Corporations in Slovenia and Croatia. Although limited by the use of publicly available secondary data the research results represent a valuable start point for future primary research on challenges and effects of obtaining B Corp Certificate, research that should explore perceptions of founders, employees, partners, local community representatives, and customers of the regional Certified B Corporations. The research results can be of interest for Chief Sustainability Officers and team members across organizations who think about the most appropriate way to measure, communicate and improve their impact on the society.

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# INVESTIGATING THE WAGE–PRODUCTIVITY NEXUS: A PANEL DATA APPROACH

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## ABSTRACT

*This study examines the determinants of labour productivity in ten selected European Union countries over a decade (2014–2023). Using a fixed effects panel data approach, the analysis aims to examine the relationship between labour productivity and four key macroeconomic indicators: GDP per capita, average wages, unemployment rate and investment in research and development (R&D). The main objective of the study is to assess whether these indicators can provide significant insights into variations in labour productivity both over time and between countries. Labour productivity, an important measure of economic efficiency, is used as the dependent variable. It is assumed that GDP per capita and average wages, which reflect economic performance and income distribution, have a positive influence on productivity. The unemployment rate, on the other hand, is likely to have a negative effect and serve as an indicator of inefficiencies in the labour market. Investment in R&D is seen as an important driver of technological progress and innovation, with an expected positive effect on productivity. The analysis uses a fixed-effects regression model to control for unobserved heterogeneity between countries and to ensure that country-specific factors, such as institutional framework conditions or cultural influences, do not distort the results. The data set was compiled from publicly available sources (Eurostat) and covers ten EU member states. All variables are log-transformed to standardise the units and to facilitate the interpretation of the coefficients as elasticities. The study contributes to the growing literature on productivity determinants by providing empirical evidence specific to the European Union context. It offers practical implications for policy makers and emphasises the need for targeted strategies to promote investment in R&D, ensure equitable wage growth and reduce unemployment in order to foster sustainable economic growth. In addition, the study emphasises the importance of country-specific factors and suggests that policies need to be tailored to the unique economic and institutional environment of each Member State.*

**Keywords:** GDP, GDP per capita, linear regression model, productivity, wages

## 1. INTRODUCTION

Labour productivity is a cornerstone of economic performance and a key determinant of long-term growth and competitiveness. Defined as the amount of output produced per unit of labour, productivity reflects the efficiency of resource use and serves as a key indicator of a nation's economic health. In the context of the European Union (EU), it is particularly important to understand the drivers of labour productivity given the different economic structures, income levels and labour market dynamics in the Member States. This study attempts to contribute to this understanding by examining the relationship between labour productivity and several macroeconomic indicators: GDP per capita, average wages, unemployment rate and investment in research and development (R&D). Economic theory assumes that a higher GDP per capita and higher average wages are positively correlated with labour productivity. GDP per capita reflects total economic output in relation to the population and is often seen as an indicator of economic prosperity and living standards. Similarly, average wages reflect labour market conditions and income distribution, both of which influence employee motivation and investment in human capital. Conversely, high unemployment rates are generally associated with underutilised labour resources, inefficiencies and lower economic performance, and thus

have a negative impact on productivity. Investment in R&D, on the other hand, is expected to promote technological innovation, improve production processes and increase competitiveness, all of which contribute to higher levels of productivity. The European Union provides a compelling context for analysing these relationships. With its mix of developed and developing economies, the EU provides a unique opportunity to analyse how these macroeconomic factors influence productivity in different institutional, cultural and economic settings. Moreover, understanding these dynamics is crucial for policy makers seeking to address the persistent differences in productivity and economic performance between member states. In this study, a fixed-effects panel data approach is used to analyse the evolution of labour productivity in ten selected EU countries over a decade (2014–2023). By controlling for country-specific characteristics, this method ensures that the analysis isolates the effects of the main variables of interest while accounting for unobservable heterogeneity. The dataset comes from reliable sources (Eurostat) and all variables are log-transformed to facilitate interpretation based on elasticities. It is expected that the results of this study will provide valuable insights into the determinants of labour productivity in the EU and highlight the role of economic and political factors in shaping productivity outcomes. By considering both theoretical and practical dimensions, this paper aims to contribute to the broader discourse on productivity growth and economic policy in the European Union.

## **2. LITERATURE REVIEW**

### **2.1. Productivity and Wage Correlation**

The relationship between wages and labour productivity is often the subject of research in the economic literature, as it is a key aspect for understanding labour market dynamics and economic efficiency. According to previous research, the relationship between these two variables is generally positive and is characterised by various economic and institutional conditions. The theoretical basis for the expectation of a positive relationship between wages (pay for work) and labour productivity is found in "human capital theory" (Becker, 1964), as wages reflect the productivity of workers and employers have an incentive to pay more for workers with higher levels of knowledge, skills and experience. In this book, Becker defines "human capital theory" as activities that increase an organisation's opportunities by developing its most valuable resource, its employees. Germany and the Scandinavian countries, for example, often show a clear parallel growth in productivity and wages related to their investments in innovation, technology and education. Studies in developed countries, such as the EU and the US, show that there is a strong positive correlation between productivity growth and wage growth. When productivity increases, companies also have the opportunity to increase employee wages. Historical data shows that total compensation per hour has increased at a similar rate to productivity growth, suggesting a stable relationship between wages and productivity over time (Bauducco and Janiak, 2018). The relationship between wage increases and GDP per capita is positive. Empirical studies show that higher wages can lead to higher economic output, especially in different regional contexts (Anghelache and Anghel, 2018). The stability of labour compensation as a share of national income indicates that while productivity can increase, income distribution remains relatively constant, which has an impact on overall economic prosperity (Bauducco and Janiak, 2018). At this point it should be noted that there is also evidence of the inverse relationship between labour productivity and wages. In some cases, productivity growth does not follow proportional wage growth. This can be observed in many countries where income inequality is a major problem. The reasons for this relationship may be: the weakening of workers' bargaining power (there are no trade unions) and a greater focus on capital and returns to shareholders rather than wage increases. In less developed countries, productivity may grow faster than wages due to the greater labour supply and lower cost of living, but also due to the slow development of institutions regulating the labour market.

In our study, we use data on the average wage in a country in a given year as a variable to define wages. The influence of the state-set minimum wage has a large impact on the level of the average wage, which leads to the conclusion that the level of the minimum wage also influences labour productivity. There is evidence that moderate increases in the minimum wage can stimulate capital accumulation and production, suggesting a nuanced relationship between wage policy and economic performance (Bauducco and Janiak, 2018). The introduction of higher minimum wages can lead to a compression of the wage distribution, benefiting low-wage workers, although this can also lead to a reduction in hours worked and employment for these workers (Neumark et al., 2004). Based on the literature, we can see that the relationship between wages and labour productivity is influenced by several factors, including "wage inequality", "organisational context" and "age structure of employees". These topics illustrate how wage inequality can affect overall productivity, the role of workplace practises in shaping earnings, and the impact of worker demographics on productivity levels. Wage inequality can lead to lower effort among workers with lower wages, which in turn reduces overall labour productivity due to lower overall effort levels. Wage inequality can lead to lower effort among workers with lower wages, which in turn reduces overall labour productivity due to lower overall effort levels (Policardo et al., 2019). The variance in earnings for high-wage occupations across industries is largely explained by the prevalence of pay-for-performance practises. The influence of organisational context on wage determination underlines the importance of workplace dynamics in understanding wage-productivity relationships (Hanley, 2011). Research suggests a negative correlation between the proportion of older workers and labour productivity, although this effect may vary depending on the analytical model used (Garnero et al., 2016). Some studies have found a positive correlation between the proportion of older workers and productivity, suggesting that older workers can contribute positively to organisational performance (Mahlberg et al., 2013).

## **2.2 Productivity and unemployment rate**

The relationship between labour productivity and the unemployment rate is complex and depends on the economic context, labour market conditions and the time frame under consideration. There is a relationship between productivity and the unemployment rate, but it is nuanced. Unemployment can negatively affect productivity through labour underutilisation, but it can also lead to short-term productivity gains through labour market adjustments and automation. Economic theory and empirical studies point to different dynamics between these two variables. In the short term, productivity growth can lead to an increase in unemployment, as shown by empirical analyses that demonstrate a temporary increase in unemployment following productivity increases (Chen and Semmler, 2018). The relationship is scale-dependent, suggesting that the impact of productivity on unemployment may vary over different time horizons (Gallegati et al., 2016). In the long run, productivity growth and unemployment tend to have a negative co-variance, suggesting that unemployment decreases as productivity increases (Chen and Semmler, 2018). The long-term analysis suggests that productivity growth ultimately creates employment opportunities and offsets the short-term negative effects (Gallegati et al., 2016). Economic policy has a huge impact on the labour market. Economic policies, such as the introduction of minimum wages, can have complex effects on employment that can lead to negative overall employment outcomes despite the benefits for some low-wage workers (Holtemöller and Pohle, 2020). The global economic crisis of 2007-2009 has shown significant changes in labour markets, with different effects on employment and unemployment in different countries, influenced by factors such as production volumes and productivity (Kwiatkowski, 2011). To summarise, the relationship between productivity and unemployment rates is complex. Short-term increases in productivity can lead to higher unemployment, while long-term trends suggest a negative correlation between the two.

In addition, economic policy plays a crucial role in shaping labour market outcomes, which further complicates this relationship.

## 2.3 Productivity and R&D

The relationship between productivity and investment in research and development (R&D) is generally positive and well documented in the economic literature. R&D plays a crucial role in promoting innovation, technological progress and efficiency gains, all of which contribute to labour productivity growth. The relationship between productivity and R&D is explored through various channels, including "technological change", "efficiency of R&D investment" and "complementarities between innovations". These topics highlight how R&D contributes to productivity growth and the importance of efficient R&D practises in different industrial contexts. R&D and ICT have been shown to account for almost 95% of productivity growth in OECD countries, indicating a strong link between technological investment and productivity performance (Pieri et al., 2018). In high-tech industries, technological progress is identified as the primary driver of growth, especially in the national and eastern regions of China (Chen et al., 2022). In summary, the relationship between productivity and R&D is characterised by the significant role of technological change, the efficiency of R&D investment and the complementarity between different forms of innovation. Together, these factors contribute to increasing productivity in different industries and emphasise the importance of strategic R&D management and investment.

## 3. METHODOLOGY

In the empirical part of the paper, we investigate the relationship between labour productivity and the wages that workers receive as compensation for their work. Proving the existence of a relationship between these two variables is the main objective of this paper. By reviewing the literature and previous research in this area, a research problem was defined, which is reflected in the hypotheses put forward:

- H1: GDP per capita has a positive and significant impact on labour productivity ( $\beta_1 > 0$ ).
- H2: The average salary has a positive and significant influence on labour productivity ( $\beta_2 > 0$ ).
- H3: The unemployment rate has a negative influence on labour productivity ( $\beta_3 < 0$ ).
- H4: Investments in research and development have a positive effect on labour productivity ( $\beta_4 > 0$ ).

To successfully confirm the defined hypotheses, we used the multiple linear regression method applied to panel data to prove the relationship between the variables. The data were collected from Eurostat (all data are publicly available). The study was conducted in 10 countries of the European Union, mainly in the countries of Central and South-Eastern Europe (Austria, Bulgaria, Czech Republic, Greece, Croatia, Hungary, Poland, Romania, Slovenia, Slovakia) over a ten-year period (from 2014 to 2023). The multiple linear regression model was created as follows:

$$\ln\left(\frac{GDP}{em}\right)_{it} = \ln(PRL)_{it} = \beta_0 + \beta_1 \ln(GDPpc)_{it} + \beta_2 \ln(AW)_{it} + \beta_3 \ln(UER)_{it} + \beta_4 \ln(GERD)_{it-1} + \varepsilon_{it}$$

where is:

$GDP_{it}$  – gross domestic product for country  $i$  in year  $t$

$em_{it}$  – employment for country  $i$  in year  $t$

$PRL_{it}$  – labor productivity for country  $i$  in year  $t$

$GDP_{pc_{it}}$  - gross domestic product per capita for country  $i$  in year  $t$

$AW_{it}$  - average wage for country  $i$  in year  $t$

$UER_{it}$  - unemployment rate for country  $i$  in year  $t$

$GERD_{it}$  - investments in research and development for country  $i$  in year  $t$

Logarithmising the dependent variable and the most important independent variables reduces heteroscedasticity and allows the coefficients to be interpreted as percentage changes. Control variables were used in the model to eliminate confounding, improve the accuracy of the assessment and increase the reliability of the conclusion. For the control variables, we opted for the unemployment rate (UER) and investment in research and development (GERD). The unemployment rate was chosen as a control variable because it affects the labour force and productivity. A high unemployment rate may indicate an inefficient use of labour, which has a negative impact on the overall productivity of the economy. On the other hand, in some situations, unemployment can influence labour selection, with employers retaining or hiring only the most productive workers, which increases productivity per worker. Including the unemployment rate provides a better understanding of how the labour market shapes the relationships between productivity and independent variables such as wages. Investment in research and development as a control variable is a key factor in economic modelling as it influences innovation, technological progress and productivity. In the context of our research, this variable serves to eliminate possible biases and provide a more accurate insight into the relationship between the main variables (e.g. GDP per capita, average wages) and labour productivity. It should be emphasised at this point that we have taken the values of the variable with a one-year lag, as investment in research and development cannot have an immediate impact and influence productivity. Only in the period in which the investments are used can they have an impact on labour productivity. After we had set up the model and the variables, it was necessary to resolve the doubt with which method to calculate the regression coefficients (linear regression of fixed effects or linear regression of variable effects). To remove the doubt, we performed the Hausman test. This test is one of the most important instruments for determining which panel model is the best for us, i.e. which panel model will give us a more efficient result. The null hypothesis of the Hausman test assumes that there is no significant difference in the estimated coefficients, i.e. in this case the random effects model should be used. The Hausman test was calculated using the STATA 18 software package and the results are shown below (Figure 1.).

The result of the Hausman test for the panel data used in this study confirmed our expectations and showed that the fixed effects model was more appropriate. The previously defined regression model was calculated using the weighted least squares method with fixed effects. The weighted least squares (WLS) method is used with panel data when heteroscedasticity or an irregular distribution of variance within or between different panel units is present. The aim of WLS is to adjust the model so that it provides reliable coefficient estimates by reducing the influence of units with higher variance. As in our data, some residual variances differ substantially between panels (e.g. countries with different economic size such as Austria). In this case, WLS is an appropriate method as it gives more weight to the units with lower variance and thus reduces the bias of the model. The results and the analysis of the regression coefficients are presented in the following title.



```
. hausman fixed random
```

	— Coefficients —		(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
	(b) fixed	(B) random		
GDPpc	.8966964	.8653255	.0313709	.0051571
AW	.140935	.1464399	-.0055049	.
UER	.0715594	.0747448	-.0031855	.0037048
GERD	-.0417772	-.0187557	-.0230214	.0113151

b = Consistent under H0 and Ha; obtained from **xtreg**.  
B = Inconsistent under Ha, efficient under H0; obtained from **xtreg**.

Test of H0: Difference in coefficients not systematic

```
chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = 1.50
Prob > chi2 = 0.8273
```

*Figure 1.: Results of Hausman test  
(Source: Author's calculation using STATA 18 software)*

#### 4. EMPIRICAL RESULTS

Applying multiple linear regression to panel data covering ten different countries over a ten-year period, we obtained the following results. We used the STATA 18 software package to calculate the model (Figure 2.). We can accept the first hypothesis that defines the relationship between labor productivity and GDP per capita for the reason that there is a positive relationship between the mentioned variables,  $\beta_1 = 0.9054$ , while the p-value is equal to 0.000, which confirms the statistical significance of the calculated coefficient. So, when GDP per capita increases by one percent, profitability will increase by 0.90 percent. With the second hypothesis, we defined the relationship between labor productivity and average salary. The value of the coefficient is positive,  $\beta_2 = 0.1072$ , and the p-value is 0.000 indicates that the calculated value is statistically significant. As we expected, we can confirm the second hypothesis. With the third hypothesis, we defined the relationship between labor productivity and the unemployment rate, where we expected a negative relationship. The value of the calculated coefficient is positive,  $\beta_3 = 0.0679$ , and it is statistically significant because the p-value is equal to 0.000, so we must reject third hypothesis. Although a positive relationship between labour productivity and the unemployment rate is counterintuitive, it can occur under certain economic conditions. During periods of high unemployment, firms often retain only their most productive workers, resulting in higher average productivity, a phenomenon known as labour hoarding or selective retention. In addition, unemployment can prompt companies to introduce technological solutions and automate processes, which increases productivity per worker. In times of economic uncertainty, workers may also work harder to secure their jobs, further increasing productivity. Structural changes in the economy, such as the transition from low-productivity industries to high-tech sectors, may also explain this relationship. Finally, the observed relationship may also result from model limitations, such as the lack of a time lag between unemployment and its effect on productivity. Future research should investigate this relationship in more detail and include a time lag. The fourth hypothesis defines the relationship between labour productivity and investment in research and development. In this hypothesis, a positive relationship between the variables mentioned was expected. The value of the calculated coefficient is  $\beta_4 = -0.0416$ , while the p-value is equal to 0.000. The value of the calculated

coefficient is statistically significant, which forces us to conclude that the relationship between these variables is opposite and we must reject fourth hypothesis. The author had already come to this conclusion in his earlier studies. The negative relationship between labour productivity and investment in research and development (R&D) may seem unexpected given the widely accepted view that investment in R&D promotes innovation and increases productivity. However, there are possible reasons and explanations as to why this result might occur. Firstly, we mention the insufficient time lag, as investments often take a long time to deliver results. Innovations need time to be researched, developed, tested and implemented before they contribute to an increase in productivity. The next reason we cite is that a lack of skilled labour can limit the effectiveness of investment in research and development. In countries or regions with an inadequately educated or low-skilled labour force, investment in research and development is not used effectively, which can reduce productivity.

Fixed-effects (within) regression		Number of obs	=	550
Group variable: countryID		Number of groups	=	10
R-squared:		Obs per group:		
Within	= 0.9870	min	=	10
Between	= 0.9622	avg	=	10.0
Overall	= 0.9658	max	=	10
corr(u_i, Xb) = -0.1273		F(4, 536)	=	10151.21
		Prob > F	=	0.0000

PL	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
GDPpc	.9054233	.0214688	42.17	0.000	.86325	.9475966
AW	.1072736	.0173781	6.17	0.000	.0731361	.1414111
UER	.0679142	.0045962	14.78	0.000	.0588854	.0769431
GERD	-.0416658	.0069831	-5.97	0.000	-.0553833	-.0279482
_cons	-5.99554	.0775164	-77.35	0.000	-6.147813	-5.843267
sigma_u	.08082273					
sigma_e	.01885038					
rho	.94840958	(fraction of variance due to u_i)				

F test that all u_i=0:	F(9, 536) = 429.74	Prob > F = 0.0000
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*Figure 2: Results of linear regression model  
(Source: Author's calculation using STATA 18 software)*

## 5. DISCUSSION

The results of this study shed light on the determinants of labour productivity in ten European Union countries in the period 2014–2023, using a fixed-effects panel regression model to identify complex relationships between labour productivity and key macroeconomic indicators: GDP per capita, average wages, the unemployment rate and investment in research and development. The positive relationship between GDP per capita and labour productivity is in line with theoretical expectations and underlines the role of economic prosperity and efficiency in increasing productivity. Similarly, the statistically significant positive effect of average wages on productivity emphasises the importance of fair pay in motivating employees and promoting the development of human capital. These results suggest that policies that promote fair wage growth and improve economic performance are crucial for increasing productivity in the EU. Unexpectedly, a positive relationship was found between the unemployment rate and labour productivity. While counterintuitive, this result is consistent with scenarios in which companies retain only their most productive employees in times of high unemployment or

invest in automation and technological solutions to address labour shortages. In addition, economic uncertainty could lead employees to work harder. These dynamics should be further analysed, especially with regard to the long-term effects and possible differences between sectors. The most surprising result was the negative relationship between investments in research and development and labor productivity, which contradicts established theories suggesting that R&D drives innovation and efficiency. Possible explanations include insufficient time lags, inefficiencies in R&D allocation, or workforce skill mismatches limiting the practical application of innovations. This finding highlights the need for better alignment between R&D strategies and labor market dynamics to ensure productive outcomes. This study contributes to the understanding of the determinants of labour productivity in the EU, but also raises questions for future research. In particular, the inclusion of time lags for variables such as R&D and the analysis of sector-specific effects could provide deeper insights. Furthermore, analysing the role of institutional factors and regional differences could refine the understanding of these complex relationships.

## 6. CONCLUSION

This study examined the relationship between labour productivity and four key macroeconomic indicators in ten EU countries from 2014 to 2023. Using a fixed-effects panel data approach, the analysis yielded significant, albeit nuanced, results. GDP per capita and average wages were found to have a positive and significant impact on labour productivity, confirming their role as key drivers of economic efficiency. These findings emphasise the importance of policies to promote economic growth and ensure fair wage practises to support sustainable productivity gains. Policy makers should focus on promoting equitable wage growth by supporting wage-setting mechanisms that reflect the contribution of workers while maintaining competitiveness. Moderate increases in minimum wages, accompanied by measures to support small and medium-sized enterprises (SMEs), can increase worker motivation and productivity without unduly burdening businesses. While the positive relationship between the unemployment rate and productivity is unexpected, it reflects underlying dynamics such as selective retention, technological adaptation and increased effort by workers in times of economic uncertainty. This finding suggests that labour market policies should strike a careful balance between reducing unemployment and productivity-enhancing measures. Policy makers should aim to reduce unemployment while promoting productivity-enhancing measures. This includes incentives for companies to invest in automation and digital transformation in times of economic downturn, combined with active labour market policies to retrain and reintegrate laid-off workers. Contrary to expectations, R&D investments showed a negative relationship to productivity. This result points to possible inefficiencies in the implementation of R&D, insufficient time horizons for the realisation of returns or structural problems in the labour markets. Policy makers should prioritise targeted R&D strategies that are aligned with the skills of the workforce and sectoral needs in order to unlock the full potential of innovation. Policymakers should ensure that R&D investments are strategically targeted to sectors with high innovation potential and that resources are allocated effectively. Improving co-operation between universities, private companies and governments can also improve the efficiency of R&D initiatives. In conclusion, this study highlights the complex interplay between macroeconomic factors and labour productivity. It provides a framework for understanding these dynamics, but also highlights areas that require further investigation, including time lags, sectoral heterogeneity and institutional influences. The results provide actionable insights for policy makers seeking to improve productivity and competitiveness in the European Union.

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# THE IMPACT OF EUROPEAN UNION FUNDS ON BUSINESS ACTIVITY AND COMPANY DEVELOPMENT IN MEĐIMURJE COUNTY

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## ABSTRACT

*The funds provided by the European Union serve as financial aid to all member states, thereby stimulating economic growth and development, particularly in less developed regions. This research aimed to determine the degree of utilization of EU funds in Međimurje County and to assess the impact of these funds on employment, business improvement, and production capacity. Additionally, the study examined the effects of the received funds on the environment and the development of operational plans. The research method employed in this paper is a semi-structured questionnaire. Although the results indicate a relatively effective use of EU funds, the research identified a need for further empowerment of business entities in the application and implementation of projects. This includes the preparation of various plans that are integral to project documentation, as well as education in the field of business sustainability.*  
**Keywords:** EU funds, small and medium enterprises, operational plan

## 1. INTRODUCTION

Upon becoming a full member of the European Union, the Republic of Croatia gained access to the European Structural and Investment Funds (ESI funds). During the programming period 2014-2020, a total of EUR 10.676 billion was available to Croatia from ESI funds. Of this amount, EUR 8.397 billion was allocated for cohesion policy goals, EUR 2.026 billion for agriculture and rural development, and EUR 253 million for fisheries development. EU funds are designed as financial instruments that support the implementation of specific European Union policies in member states (Pilipović, 2021). One of the most significant policies is the cohesion policy, financed by three main funds: the Cohesion Fund (CF), which is intended for member states whose gross national income per capita is less than 90% of the EU average and finances projects in transport and environment sectors (HAMAG BICRO, 2017; Pilipović, 2021); the European Regional Development Fund (ERDF), which aims to strengthen economic and social cohesion in the EU and reduce regional development disparities; and the European Social Fund (ESF), which promotes employment and job opportunities in the EU (HAMAG BICRO, 2017; Kesner Škreb, 2007). Additionally, during the financial perspective 2014-2020, the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF) were also available. These five funds are collectively referred to as the European Structural and Investment Funds (ESI funds). In May 2018, the European Commission published a proposal for the new Multiannual Financial Framework for the budgetary period 2021-2027. To initiate the process of drafting programming documents for the new financial period 2021-2027, the Government of the Republic of Croatia, at its session

on November 5, 2020, adopted a Decision on Operational Programs related to the Cohesion Policy for the EU financial period 2021-2027 in Croatia and the bodies responsible for their preparation (HAMAG BICRO, 2017). The application process for EU funds is often complex, involving substantial paperwork and intricate financial analyses. Consequently, businesses and other applicants require additional resources to apply for these projects and report upon the successful acceptance of their proposals. Structured planning, compliance with EU regulations, and the necessity of audit and control procedures are critical in managing complex EU-funded projects (Pargau et al., 2024). The challenges in obtaining EU grants and managing EU-funded projects are multifaceted, involving bureaucratic, cultural, financial, and institutional factors. Addressing these challenges requires a comprehensive approach that includes simplifying application procedures, building institutional capacity, ensuring financial resources, and fostering transparent and accountable governance practices. By tackling these issues, Southeastern European countries can better leverage EU funds to drive sustainable development and integration into the broader European framework (Sielker & Vonhoff, 2013). As Međimurje County demonstrates strong performance in obtaining EU funds, this paper aims to determine how these funds impact the operational planning of companies within Međimurje County and assess the capacities of companies that received funds and participated in EU-funded projects. In cross-border programs (period 2005-2012), a total of 76 projects were completed with a total value of EUR 26,665,226.54 (Regional Development Agency REDEA, 2020). REDEA (2020) also reports the completion of 32 projects (including IPA projects and EU funds) with a total value of EUR 63,793,146.88. The objective of this paper is to demonstrate that securing grants from EU funds positively influences business improvement for entrepreneurs. This is achieved through the creation of project operational plans that enhance competitiveness, introduce business processes and quality management systems, reduce unemployment, strengthen sectors with labor shortages, and facilitate the introduction of new equipment. The introductory section defines the subject and goals of the work. The second section of the paper presents a theoretical overview of relevant research in the fields of planning and EU funds focusing on project management. The third section details the research methodology, including research objectives, survey design and implementation, sample selection methods, data processing techniques, research results, and research limitations. The fourth section offers concluding considerations.

## **2. UTILISATION OF EU FUNDS AT THE NATIONAL AND REGIONAL LEVELS IN THE REPUBLIC OF CROATIA**

At the 189th session of the Government of the Republic of Croatia, held on February 2, 2023, the Report on the Utilization of ESI Funds in the Republic of Croatia was presented (Ministry of Regional Development and Funds of the European Union, 2022). According to the report, a total of EUR 10.73 billion was made available to Croatia from the European Structural and Investment Funds for the period 2014-2020. This amount was increased by an additional EUR 597.56 million allocated for the Rural Development Program for 2021 and 2022, bringing the total to EUR 11.33 billion. By January 19, 2023, projects worth EUR 13.81 billion, or 121.94% of the allocated funds, had been contracted. In total, EUR 8.97 billion, or 79.19% of the allocated funds, had been disbursed, and EUR 7.60 billion, or 67.12% of the allocated funds, had been certified. Including EUR 864.23 million from REACT-EU, the total allocation until 2023 reaches EUR 12.19 billion. Between 2013 and January 19, 2023, the difference between the funds received from the EU budget by the Croatian budget and the funds paid from the Croatian budget to the EU budget amounts to EUR 10.46 billion with the National Recovery and Resilience Plan (NRRP), or EUR 8.24 billion without the NRRP, in favor of the Croatian

budget. The amount related to the NRRP is EUR 2.22 billion. From 2013 to January 19, 2023, Croatia paid EUR 4.71 billion into the EU budget, while EUR 15.17 billion was received from the EU budget into the Croatian budget, including the NRRP (Report on the Use of European and Investment Funds and Pre-Accession Aid Programs of the European Union for the period from July 1 to December 31, 2021, 2023). The data indicate good utilization of EU funds in Croatia. However, successful application and implementation of projects require additional efforts and investments. Firstly, it is necessary to thoroughly study the entire application process as well as the accompanying legal and operational acts in order to submit a proposal for the announced call for proposals.

### **2.1. Importance of project management and planning in EU-funded projects**

Therefore, project management tools are of the utmost importance. Project management can be described as the application of knowledge, skills, tools, and various techniques in the implementation of project activities, all aimed at meeting the project's requirements (Guide to PMBOK, 2011). Effective project management involves the proper use of logically grouped project management processes, which include initiating the project, planning, execution, supervision and control, and closing the project. In the planning process, which is very important for the success of the project, a project management plan is created, along with project documentation that is used during the execution of the project. Project management involves working in multiple dimensions simultaneously, so newly collected information during this process can lead to the need for additional planning, indicating that planning is a continuous process. Apart from project management planning, Mateljak (2012) states that operational planning within a company's organization is the most important element for its survival, leading to the achievement of optimal financial results. The operational level of planning is responsible for specific procedures and processes, which are typically associated with the lowest level of management. In project management, the project manager and their assistants bear this responsibility. This type of planning focuses on routine tasks, such as production flows, delivery planning, determination of human resource needs, and more (Buble, 2003). When discussing operational planning in terms of project management, it can be seen that plans and project documentation encompass all segments of scope, time, cost, quality, communication, risk, and procurement, similar to business processes in a company. During the project's duration, and after approved changes, there may be updates in the schedule, costs, or resources, which can affect parts of the management plan or project documentation (EU PRAG, 2022). According to data from the Programming Period 2014-2020 from Czech Republic, project management methods were not applied to a sufficient extent (Kostalova et al., 2017) therefore to improve the effectiveness of the implementation of EU projects, project management methods should be included as mandatory in tender processes.

### **2.2. The impact of EU-funded projects on company development: experiences from Croatia and other countries**

Many authors in the Republic of Croatia and beyond analyze the impact of EU funds on the development of companies utilizing these funds. These analyses include various types of funds, ranging from IPA funds that were available to the Republic of Croatia prior to EU accession, to various EU Programmes and other EU funds (Huška 2022). It is widely researched how EU-funded projects impact employment, competitiveness, and the introduction of new technologies for EU grant holders. Božanić (2018), in a study on the impact of IPARD on seven beneficiaries in the fish processing industry in Adriatic Croatia, finds that there are no positive effects of the funds on business performance, as measured by financial indicators of profitability. The author

reports improved financial stability as the only positive impact of the IPARD funds. The results suggest that short-term investments cannot be productive for business growth, implying that longer investment periods are required. However, the findings highlight potential technical and technological improvements in the long run. Vizek (2022) analyzed the financing of infrastructure projects from EU funds through the Operational Program Competitiveness and Cohesion for the project period 2014-2020. The results showed that significant grants were allocated to infrastructure projects, enabling local development of various regions in the Republic of Croatia. Most grants were awarded in the areas of environmental protection and resource sustainability, transport and mobility, and business competitiveness. EU funds can also impact a company's income, productivity, and other business-related indicators. Šelebaj & Bule (2021) showed that the use of EU funds has a strong and positive effect on employment, operating income, labor productivity, total factor productivity, and capital intensity in a sample of non-financial corporations, EU grant beneficiaries, in the Republic of Croatia for the period 2012-2018. They also claim that the level of impact significantly depends on the relative size of the grant received from EU funds. EU grants can go beyond employment and improved financial performance, even impacting the business models of companies. Marian et al. (2016) investigated the impact of obtained grants on the modification of business model elements located on the left side of the Business Model Canvas template. Their study covered micro, small, and medium-sized enterprises based in rural areas that received support in the form of investment grants within the Regional Operational Programmes 2007-2013 for northern Poland. Medium-sized companies were the most affected by the obtained EU grants in terms of business model changes. Muraközy & Telegdy (2023) and Banai et al. (2017) find that subsidized Hungarian firms financed from the Structural and Cohesion Funds between 2004-2014 increased their sales, employment, labor productivity, and capital-to-labor ratio. The skill composition of workers was not affected by the grant, but wages increased, although only for skilled workers and especially managers. The EU grants generated additional investment, but that investment led to limited technology upgrading at best. Many EU programs and funds are focused on innovation, which is a very versatile and multifaced area (Kahn, 2018). Innovation can be seen from the angle of technology, society,) product development, the application is limitless, actually innovation is everywhere. Regarding innovation, some authors (Piątkowski, 2020) find that subsidized EU grants significantly contribute to the innovativeness of grant recipients in Poland. Their research indicates that nearly half of the respondents would not have been able to implement innovations had they not received EU funding. Contrary results regarding innovativeness were obtained by Norek (2018) in a study of 400 SMEs in Poland operating for at least four years, where no positive impact on innovativeness was recorded for EU grant recipients. From the abovementioned research of various authors, it can be seen that there are quite versatile research topics on the impact of EU funds financing on business performance. Therefore, a specific survey was formed in this paper to analyze the utilization level of EU funds in Međimurje County and how granted funds impact business performance in general.

### **3. RESEARCH DESIGN AND RESEARCH RESULTS**

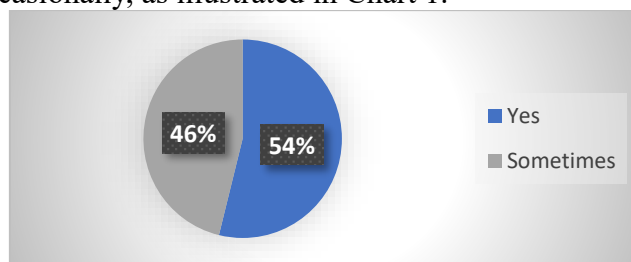
This chapter delves into the exploratory research conducted for this study, outlining the methodology, data collection, and initial findings. The objective was to gather foundational information that would inform the subsequent phases of the research on EU funds and guide the development of more specific hypotheses and research questions. The primary data collection tool included a semi-structured questionnaire to capture a broad range of perspectives and identify key themes and patterns relevant to financing opportunities from European Union



funds for companies in Međimurje County. Questionnaires as measuring instruments are also used by other authors in this field of research (Kostalova et al., 2015; Alexandrova & Ivanova, 2012). The questionnaire was based on the author's extensive experience with financing opportunities from European Union funds (Oletić, 2023). To test the measuring instrument, questionnaires were initially distributed to three experts with several years of experience in implementing EU projects in Međimurje County. Based on their feedback, the questionnaires were then distributed to a purposive sample of 30 business entities. The questionnaire included both closed and open-ended questions. Open-ended questions were designed to capture respondents' attitudes toward projects and their corresponding knowledge in project management. Data collection occurred from May 15 to October 1, 2023. The research involved sending an online questionnaire to the email addresses of 50 economic entities (enterprises) in Međimurje County. The sample was selected using the portal [www.firmoteka.hr](http://www.firmoteka.hr), which lists the 50 most successful companies in Međimurje County, thus constituting a purposive sample based on the researcher's decision. A total of 26 out of 50 respondents participated in the research, resulting in a response rate of 52%. The results of the research will be presented descriptively through charts.

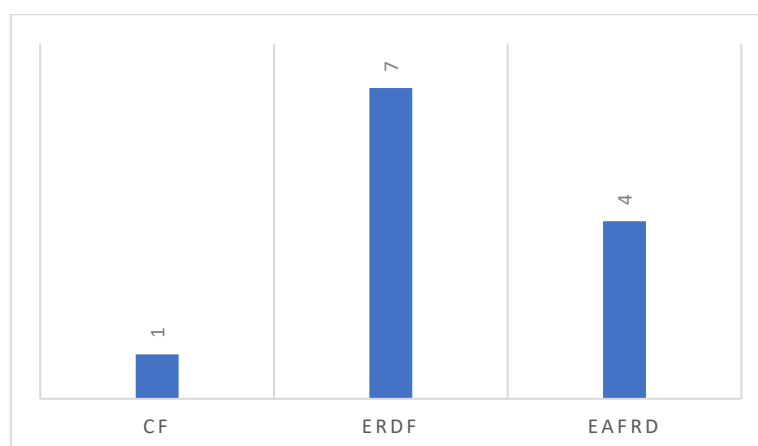
### 3.1. Research results

Firstly, a descriptive analysis of the sample will be presented. 96% of the sample (25 entities) consists of companies that make independent financial decisions, while 4% of the sample consists of economic entities that are part of a larger company. The largest number of entities in the sample have between 150 and 249 employees. One entity has between 1 and 4 employees, two entities have between 5 and 49 employees, three entities have between 50 and 149 employees, and five entities have more than 250 employees. All entities are familiar with the possibility of obtaining grants from EU funds. The official website of EU funds, [www.strukturnifondovi.hr](http://www.strukturnifondovi.hr), is regularly followed by 14 entities (54%), while 12 entities (46%) follow the website occasionally, as illustrated in Chart 1.



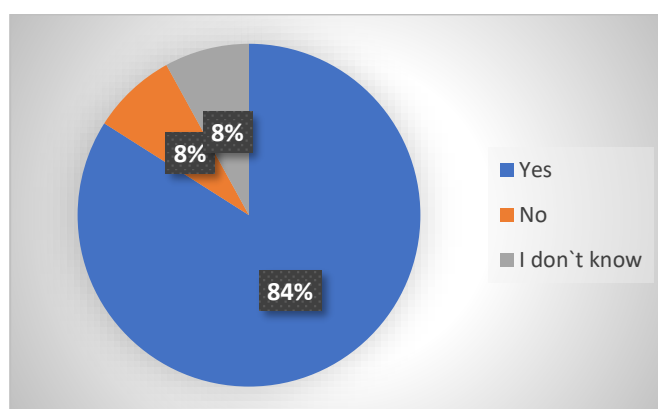
*Chart 1. Monitoring of the official EU funds website  
(Source: author)*

All entities (26 in total) are familiar with the European Social Fund (ESF). Additionally, 11 entities are familiar with the European Regional Development Fund (ERDF), 11 entities are familiar with the Cohesion Fund (CF), and 7 entities are familiar with the European Agricultural Fund for Rural Development (EPFRD). Only 1 entity is familiar with the European Maritime and Fisheries Fund (EMFF), while no entity is familiar with the Just Transition Fund (JTF). Chart 2 illustrates the sources of financing from EU funds. All entities in the sample have utilized funds from the European Social Fund (ESF). In addition to the ESF, entities have also used funds from the Cohesion Fund (1), the European Regional Development Fund (7), and the European Agricultural Fund for Rural Development (4). No entities have utilized funds from the European Maritime and Fisheries Fund or the Just Transition Fund.



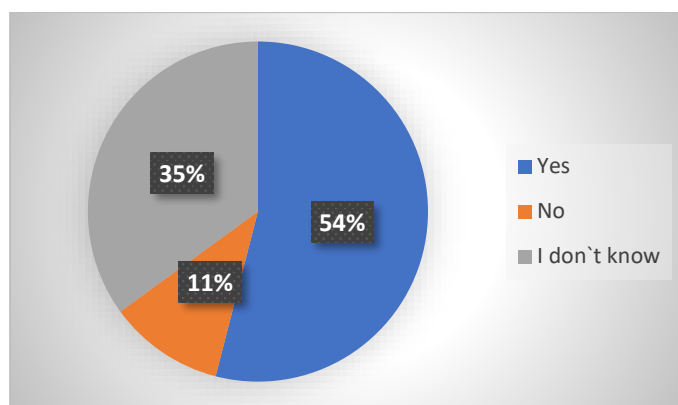
*Chart 2. EU-funded projects per entities (Source: author)*

Since the accession of the Republic of Croatia to the European Union, 38% of entities have financed one project with EU funds, 27% have financed two projects, 15% have financed five projects, 12% have financed three projects, and one entity has financed more than five projects. Furthermore, financial corrections upon completing EU projects averaged 5%, with a maximum of 20% for two entities. The following information pertains to the submission of projects for EU fund tenders. Six entities (23%) used their own human resources for project applications, nine entities (35%) exclusively used the services of an external consultant, and eleven entities (42%) used both their own human resources and the services of an external consultant. Below are the results of research on the interdependence of operational planning and applications for tenders within the framework of EU funds. 96% of entities regularly create a business plan for current business operations on a yearly basis. Twenty-one entities (81%) reported that financial resources from EU funds had a positive effect on the creation of their operational plan, while five entities (19%) reported that the influence was both positive and negative. Regarding the application of new technologies using financial resources from EU funds, 25 entities (96%) introduced new technology. This included the implementation of various software to improve production processes. Regarding the impact of EU funds on employment, 22 entities (84%) employed two new persons, while two entities (8%) did not employ any new staff. The data are illustrated in Chart 3.



*Chart 3. Unemployment reduction (opportunities for new employment) (Source: author)*

Applying for tenders also had a positive effect on the competitiveness of companies, with 92% of entities indicating a positive impact. Some authors report contrasting findings regarding competitiveness (Sergej, 2016), asserting that there is no positive impact of EU Structural Funds on company competitiveness. Additionally, 54% of the entities reported a reduction in negative environmental impacts following project implementation, while 11% believed that the negative environmental impacts of their production processes were not reduced. The research also focused on energy efficiency and the use of renewable energy sources, areas to which EU funds contributed significantly. Fourteen entities (54%) increased energy efficiency and the use of renewable energy sources through EU funding, nine entities (35%) responded with "I don't know/not applicable," and 11% did not use EU funds for these purposes (Chart 4).



*Chart 4. Increasing energy efficiency and utilization of renewable energy sources  
(Source: author)*

In response to an open-ended question about opinions on EU funds, some entities noted issues with extensive administration, complicated tender conditions, a long implementation process, and slow disbursement of funds. The findings correlate to findings of Rodic & Šavrič (2020) who claim that applicants' issues with skills, IT support and complex tender paperwork affect the development of project proposals and the management of EU funded project.

### **3.2. Discussion and research limitations**

Based on the primary data collected from economic entities in Međimurje County, it can be concluded that EU funds positively impact the business development of these entities with substantial financial resources by increasing employment, operational plan development, upgrading business performance, and increasing the use of renewable energy sources. The findings correlate with those of other relevant authors in the field of EU granting schemes (Marian et al., 2016; Banai et al., 2017; Šelebaj & Bule, 2021; Muraközy & Telegdy, 2023). Furthermore, the majority of grant beneficiaries utilized external consultants for project implementation. This underscores the practical implication of the research, highlighting the need for empowerment and additional education for grant beneficiaries of EU funds. Despite the availability of EU funds to economic entities in the Republic of Croatia for an extended period, there remains a need for additional support in the form of education due to the complexities involved in creating project documentation and implementing the projects themselves.

Most of the funds were utilized from the European Fund for Regional Development and the European Social Fund. The research indicates that additional support in the form of training and workshops for project applications is necessary for business entities within these projects. An interesting finding is the significant proportion of entities that are unsure whether EU funds and their associated impacts on business have contributed to environmental protection and increased energy efficiency. This highlights the potential for further empowerment of grant beneficiaries, focusing on additional education in the field of sustainable development and especially renewable energy sources. The results of the research clearly show that the application and implementation of projects are not feasible without an operational plan and thorough project planning. The advantages of creating such plans and securing subsequent financing from EU funds include improved business operations, thereby enhancing the added value of the projects. The limitations of the research arise from the lack of formally consolidated data on companies in Međimurje County that are beneficiaries of EU funds during the 2014-2020 and the current 2021-2027 program periods. Given the relatively small research sample, there are biases in drawing conclusions. Therefore, the authors suggest expanding the number of economic entities included in the research, extending beyond Međimurje County to other regions. Additionally, it is recommended to expand the research to other counties in the Republic of Croatia and compare the results at the national level.

### 3. CONCLUSION

The use of EU funds has permeated all spheres of business today. By accessing these funds, companies can introduce new technologies (production and quality software, production machines etc.) through operational and other types of planning, strengthen market competitiveness, reduce negative production effects on the environment, utilize renewable energy sources, and invest in effective human resources. Furthermore, the closure of the 2014-2020 program period has opened up opportunities for project financing from EU funds in the new financial period of 2021-2027. This further encourages the development and competitiveness of small and medium-sized enterprises in Međimurje County by reducing unemployment, promoting digitization, fostering innovative technologies, and supporting green transitions.

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# AGENCY THEORY AND THE EVIDENCE ON SUSTAINABILITY REPORTING IN WASTE MANAGEMENT INDUSTRY

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## ABSTRACT

*Sustainability reporting serves as a significant indicator of an organization's progress in achieving sustainable development goals. It functions as both a management tool and a means of ensuring accountability. Providing comprehensive and accurate information on sustainability as a gesture of goodwill to stakeholders can be analysed through agency theory. This theory explains the principal-agent relationship, where the society, including the organization's stakeholders, acts as the principal, assigning the agent - the reporting organization, to act on their behalf. Agency theory explains that the agent only provides sustainability information that benefits the reporting organization, in order to maximize the agent's self-interest. Therefore, to influence the environmental and social impacts of the organization's operations, the reduction of information asymmetry between the reporting organization and its stakeholders is crucial. Only comprehensive and accurate information on both sides (principal and agent) are the key to the long-term sustainable development. The aim of the paper is to recognize what form and scope of sustainability reporting is produced by the agents, i.e. the providers of services of general economic interest, where we specifically scrutinize the waste management industry in Slovenia. And, also to verify how this information is accessible to stakeholders (the principal). The methodology involves reviewing the individual organization's information and publications available, as majority of annual reports are easily accessible to stakeholders via organizations' websites or via public posting portal AJPES. The research population includes all 65 waste management providers in Slovenia. Results show that most of the analyzed organizations involves sustainability reporting in their annual reports, as a separate chapter or as part of other content in the annual report.*

**Keywords:** *agency theory, principal-agent relationship, sustainability reporting, waste management*

## 1. INTRODUCTION

Sustainability reporting serves as a significant indicator of an organization's progress in achieving sustainable development goals. It functions as both a management tool and a means of ensuring accountability. Providing comprehensive and accurate information on sustainability as a gesture of goodwill to stakeholders can be analysed through agency theory. This theory explains the principal-agent relationship, where the society, including the organization's stakeholders, acts as the principal, assigning the agent - the reporting organization - to act on their behalf. Agency theory explains that the agent only provides sustainability information that benefits the reporting organization, in order to maximize the agent's self-interest. Therefore, to influence the environmental and social impacts of the organization's operations, the reduction of information asymmetry between the reporting organization and its stakeholders is crucial. Only comprehensive and accurate information on both sides (principal and agent) are the key

to the long-term sustainable development. The aim of the paper is to recognize what form and scope of sustainability reporting is produced by the agents – the providers of services of general economic interest in waste management in Slovenia. And, also to verify how this information is accessible to stakeholders (the principal). Two research questions are posed: 1) What form and access of sustainability reporting is available to stakeholders?, 2) What is the scope of sustainability reporting and the extent of information asymmetry between principal and agent? The methodology involves reviewing the individual organization's information and publications available, as majority of annual reports are easily accessible to stakeholders via organizations' websites or via public posting portal AJPES. The research population includes all 65 waste management providers in Slovenia. We specifically focus on one industry, as the existing research has pointed out that sector-affiliation tends to be one of only few variables that is associated with consistent results enabling delivering meaningful research conclusions (Hahn and Kuehnen, 2013). Results show that most of the analyzed organizations involves sustainability reporting in their annual reports, as a separate chapter or as part of other content in the annual report. The paper is structured as follows. In the introduction, some general information is given on the focus of the paper, the methodology used, research questions and results. In the second section theoretical background is presented, focusing on the sustainability reporting and agency theory as a way to analyze sustainability reporting. The third section is intended for research on sustainability reporting in waste management in Slovenia, giving the methodology, research results and answers to research questions. The last section is conclusion, giving concluding remarks on the content and research findings of the paper.

## **2. THEORETICAL BACKGROUND**

If an organization acts sustainably it contributes to the social, environmental and economic dimensions of sustainable development, meaning that it fosters long-term sustainable development of both the economy and society. Therefore, sustainability reporting serves as a vital measure of an organization's progress in achieving sustainable development goals. It functions as management tool and also as means of ensuring accountability (Zrnić, 2020). Sustainability reporting increases its popularity, as it positively impacts on organization's competitiveness by addressing environmental, social and economic concerns (Agama and Zubairu, 2022). It is significant particularly in waste management, where effective waste management is crucial in achieving environmental sustainability. Sustainable waste management practices should, on one hand, protect the environment and human health, and on the other hand, remain economic viability and rationality. Therefore, public enterprises, as the most commonly used form of providing waste management services, should be a good example to others and prioritize sustainability reporting as a way to identify and address existing environmental and social challenges (Lejárraga García, 2024; Yalçintas et al., 2023). Sustainability reporting also enables organizations to provide and share their sustainable activities and initiatives to both internal and external stakeholders, who are nowadays more inclined to choose organizations with sustainability-oriented practices to minimize environmental impacts (Agama and Zubairu, 2022). Environmental dimension of sustainability has been proven to be the broadest and have the biggest impact on stakeholders (Dincer and Dincer, 2024). Sustainability reporting can be provided via different reporting formats, however standardized reporting enables even more integral and structured overview of organization's sustainability initiatives and results. As sustainability reporting, in general, offer important information and at the same time accelerate the transparency and accountability for stakeholders, it would be even easier for their decision making when such reporting is comparable and harmonized (Jeriji et al., 2022; Job and Khanna, 2024; Korca et al., 2023;



Luque-Vílchez et al., 2023). As already mentioned in the Introduction, sustainability reporting can be analysed through agency theory. Agency theory is based on principal-agent relationship, which is defined as a contractual arrangement where one entity (principal) engage another entity (agent) to perform actions on its behalf (Bo and Driver, 2012; Kivistö and Zalyevska, 2015; Tyge Payne and Petrenko, 2019). The principal is individual who invests in business and entrusts its operation to the agent, expecting a particular outcome or refund of funds. The agent is someone who agrees to manage the business and receives a payment according to a contract (Tajnikar, Aleksić, and Došenović Bonča, 2019). The relationship can be established between external and internal stakeholders of an organization (Lakhani and Herbert, 2022). Internal stakeholders have a direct impact on contractor's operations and managerial decisions. External stakeholders impact the formation, existence and liquidation of the contractor and management selection of the contractor (Tajnikar, Aleksić, and Došenović Bonča, 2019). Principals often encounter problems related to implementing motivational mechanisms to ensue that agent pursues the goals of the organization (Jia, Huang & Zhang, 2018). Agency theory describes agents as self-interested, rational in their behaviour, they pursue different goals and have different risk-preferences in comparison to principals. This leads to principal-agent problem and consequently to agency costs. Agency costs are the result of different interests and information asymmetry between principal and agent. That increases costs of monitoring, bonding efforts etc. (Lakhani and Herbert, 2022; Tyge Payne and Petrenko, 2019). In the context of sustainability reporting, information asymmetry in principal-agent relationship can be reduced and consequently also agency costs, if organizations disclose also non-financial information regarding their activities, meaning sustainability information. Through sustainability reporting, stakeholders (e.g. investors etc.) are able to access the information that will make the decision process on investment opportunities easier. However, it is important that these information are provided through quality integrated reports (Fuhrmann et al., 2016; Lakhani and Herbert, 2022). Thus, agency theory addresses the problem of contrasting interests between principals and agents, and this discrepancy between the actors increases agency costs, where sustainability reporting plays a significant role in reducing this asymmetry (Benvenuto, Aufiero and Viola, 2023). It is worth noting that agency theory represents one of the sound and most influential theoretical anchors of the extant research on sustainability reporting (Buallay, 2022; Made et al., 2024), as this research would like to avoid missing the anchor for framing the research results.

### **3. SUSTAINABILITY REPORTING IN SLOVENIAN WASTE MANAGEMENT INDUSTRY**

#### **3.1. Research method and research population**

As already written in the Introduction, the aim of the paper is to recognize what form and scope of sustainability reporting is produced by the providers of services of general economic interest in waste management in Slovenia (the agent). The aim is also to verify how this information is accessible to stakeholders (the principal). To reach the aim, two research questions are posed: 1) What form and access of sustainability reporting is available to stakeholders?, 2) What is the scope of sustainability reporting and the extent of information asymmetry between principal and agent? The methodology involves reviewing the individual organization's information and publications available, as majority of annual reports are easily accessible to stakeholders via organizations' websites or via slovenian public posting portal AJPES. Only reports for last available year (2023) were taken into consideration. With the review of annual reports and review of organizations' websites, it is recognized, whether the organizations publish any kind

of sustainability information and in what extent and form (e.g. as an individual part of the annual report; as a part of other content in the annual report; as a content on website etc.). First, annual reports are reviewed, and second organizations websites are reviewed when annual report does not provide any sustainability information. At the end, the recognized scope and form of sustainability information helps to form the conclusion and assessment about the extent of information asymmetry between the principal and agent, in our case between the stakeholders (e.g. municipality, society, possible investors etc.) as principals and providers of local public utility service of waste management (e.g. public enterprises) as agents. The research population includes all 65 waste management providers in Slovenia. In Slovenia, public utilities in the field of waste management are managed locally, at the municipal level. Most common form of waste management utility provision in Slovenia is public enterprise. A public enterprise in Slovenia necessitates full municipal ownership of one or more municipalities. Table 1 shows the division of the waste management providers. More than 81% of providers are public enterprises, around 9% of providers are concessionaires and the remaining 9% represent the in-house provision in single municipalities.

<b>Form of public utility provision</b>	<b>Number</b>	<b>Share</b>
Public enterprise	53	81.54%
Concessionaire	6	9.23%
In-house provision	6	9.23%
Total population	65	100%

*Table 1: Research population in a form of public utility provision  
(Source: Authors' calculations, 2024)*

### **3.2. Research results**

Research results reveal that most of the analysed organizations report on sustainability in their annual reports. Table 2 reveals that around 12% of analysed organizations provide sustainability information as an individual part (chapter) of the annual report, which is titled with a term “sustainability” or its derivative. Around 41% of total population report on sustainability as part of other content in the annual report, e.g. in managing director’s report (almost 8%) in chapters focused on social responsibility or environmental responsibility (almost 8%) and also in chapters focused on organization’s development, organization’s policy and directions (almost 5%). In 21.5% analysed cases the sustainability information are provided/mentioned in one or more other parts of the annual report. Together, reporting through annual report of an organization, presents a practice for more than a half (almost 54%) of total analysed population. Around 32% analysed organizations provide sustainability information on their websites, e.g. in different posted documents or only as a general post on the website (activities, events etc.). In this specific cases the sustainability information was not found in their annual reports. Last but not least, there are also organizations where sustainability information was not found at all. In this case around 14% of total analysed population was detected as not reporting on sustainability. Sustainability information in annual reports are accessible to stakeholders via slovenian public posting portal AJPES or via organizations’ websites. Organization’s website is the access point also in cases where annual reports are not available or did not provide any sustainability information, however these information are accessible in other forms only via their websites.

<b>Form of sustainability reporting</b>	<b>Number</b>	<b>Share</b>	<b>Access</b>
Individual sustainability part of the annual report	8	12.31%	Annual report (AJPES, organization's website)
Part of other content in the annual report:	27	41.53%	Annual report (AJPES, organization's website)
- <i>Managing director's report</i>	5	7.69%	
- <i>Social responsibility, environmental responsibility</i>	5	7.69%	
- <i>Organization's development, policy, directions</i>	3	4.62%	
- <i>Other contents</i>	14	21.53%	
Content on website	21	32.31%	Organization's website
No sustainability information found	9	13.85%	-
Total population	65	100%	

*Table 2: Form of sustainability reporting and its access  
(Source: Authors' calculations, 2024)*

The results from Table 2 give us the answer to the first research question about the form of and access to sustainability information. We can conclude that the awareness of sustainability in Slovenian waste management industry is present, as the majority of analysed organizations provide some form of sustainability information. This is usually an individual part or part of other content in the organization's annual report. Annual reports are accessible via public posting portal or organization's website. Sustainability information, which are not provided in annual reports, are usually provided in some form via organizations' websites. Therefore, stakeholders have easy access to all forms of sustainability information, when it is provided by the organization. The scope of this information differs among the organizations. Some organizations mention sustainability only briefly in one part of annual report and some mention it several times in different parts of annual report or even dedicate the whole part/chapter on sustainability. Table 3 presents the overview of the scope of sustainability reporting. The results are divided in three categories: 1) smaller scope; when sustainability information is given only in one part of other content (e.g. the managing director's report, or other part of annual report, not addressed directly to sustainability) or given only once on the website; 2) medium scope; when sustainability information is given several times in different parts of annual report or several times on the website, and 3) large scope; when the whole part/chapter of annual report provide sustainability information. The results show that the largest share with 38.46% goes to smaller scope of information, closely followed by 35.38%, which present medium scope of sustainability reporting. Only 12.31% of analysed organizations provide larger scope in the form of individual part/chapter on sustainability.

However, as already seen in Table 2, there are also almost 14% of analysed organizations, which do not provide any information on sustainability or no information was not found during the research.

<b>Scope of sustainability information</b>	<b>Number</b>	<b>Share</b>
Zero	9	13.85%
Small	25	38.46%
Medium	23	35.38%
Large	8	12.31%
Total population	65	100%

*Table 3: The scope of sustainability information  
(Source: Authors' calculations, 2024)*

Regarding the results from Table 3, we can conclude and give answer to second research question that there is still space to increase the scope of sustainability information and consequently reduce the information asymmetry between the principals and agents. As there are only 12% of analysed organizations (agents), providing a larger scope of information, we can assume that information asymmetry is rather high. Moreover, this issue should be addressed further, as the existing research reveals that in the environmentally sensitive industries, which waste management industry corresponds to, sustainability reporting plays both symbolic as well as substantive role, thus having effects also on performance (Garcia-Meca and Martinez-Ferrero, 2021). As the existence of information asymmetry affects the stakeholders' ability to take the right decisions and actions, comprehensive and accurate information is crucial for both, the principal and the agent, in order to achieve sustainability goals. Even though, sustainability awareness in Slovenian waste management is present, we could do more with possible motivating mechanisms to increase the scope of sustainability reporting.

#### **4. CONCLUSION**

Sustainability reporting offers many business opportunities, both for organization and for the other stakeholders and is a key to long-term sustainable development. Often, the presence of information asymmetry between principals and agents (when the scope of sustainability reporting is smaller) influences the stakeholder's decisions and makes them more difficult to take them. Research on sustainability reporting in Slovenian waste management industry was done by reviewing waste management utility providers' annual reports and their websites. Research results provide us the answers to research questions and open the additional questions and opportunities for future research. The answer to first research question "What form and access of sustainability reporting is available to stakeholders?" shows that most of Slovenian waste management service providers provide sustainability information in different forms in their annual reports, which are easily accessible to stakeholders. The answer to the second research question "What is the scope of sustainability reporting and the extent of information asymmetry between principal and agent?" acquaint us with the fact that there are differences in scope of provided sustainability information, which creates information asymmetry between principal and agent, in larger extent when scope of sustainability reporting is smaller. The future actions should therefore go in direction to decrease the information asymmetry with motivation of public utility providers to report on sustainability in even greater extent.

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