

# DIGITALES ARCHIV

ZBW – Leibniz-Informationszentrum Wirtschaft  
ZBW – Leibniz Information Centre for Economics

Tobing, Murniati; Afifuddin, Sya'ad; Rahmanta et al.

## Article

An analysis on the factors which influence the earnings of micro and small business : case at blacksmith metal industry

## Provided in Cooperation with:

Dimitrie Cantemir Christian University, Bucharest

*Reference:* Tobing, Murniati/Afifuddin, Sya'ad et. al. (2019). An analysis on the factors which influence the earnings of micro and small business : case at blacksmith metal industry. In: Academic journal of economic studies 5 (1), S. 17 - 23.

This Version is available at:

<http://hdl.handle.net/11159/3205>

## Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

## Standard-Nutzungsbedingungen:

Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte.

<https://zbw.eu/econis-archiv/termsfuse>

## Terms of use:

*This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence.*

## An Analysis on the Factors Which Influence the Earnings of Micro and Small Business: Case at Blacksmith Metal Industry

Murniati Tobing<sup>1</sup>, Sya'ad Afifuddin<sup>2</sup>, Rahmanta<sup>3</sup>, Sandra Rouli Huber<sup>4</sup>, Saut Maruli Tua Pandiangan<sup>5</sup>,  
Iskandar Muda<sup>6</sup>

<sup>1,2,3,4,5,6</sup>Faculty Economics and Business, Universitas Sumatera Utara, Jl. Prof. TM Hanafiah No.12 USU Campus, Medan, North Sumatera, Indonesia, E-mail: [tobingmurniati@gmail.com](mailto:tobingmurniati@gmail.com) (Corresponding author)

### Abstract

This study aimed to know existing The Micro and Small Business in Blacksmith in Tapanuli Utara Regency; Indonesia is the livelihood or creative economy of craftsmen since hundreds of years ago by Lake Toba such as at Sitampurung Village, Siborong-Borong Subdistrict, Tapanuli Utara Regency, North Sumatera, Indonesia. The data used were primary data with 190 respondents. The hypothesis was that capital had positive influence on the earnings of Micro and Small Business ( $bl=0.519$ ); this influence was proved in predicting the income of Micro and Small Business ( $p\text{-value} < 0.05$ ) so that the hypothesis was accepted. The result of the research in the field showed that initial capital had positive and significant influence wages did not have significant influence, the length of business had positive and significant influence, the length of business process had positive and significant influence, business operating hours had positive and significant influence, and the number of product variations had positive and significant influence.

### Key words

Blacksmith, Culture, Local Wisdom, Technology

**JEL Codes:** L61, N65, O14, P42

© 2019 Published by Dimitrie Cantemir Christian University/Universitara Publishing House.

(This is an open access article under the CC BY-NC license <http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Received: 12 October 2018

Revised: 3 November 2018

Accepted: 8 December 2018

## 1. Introduction

Industry is an economic activity which processes raw materials, semi-finished products, and/or finished products to become high valued products. In metal industry, there are types of metal craftsman, gold craftsman, silver craftsman, brass craftsman, and iron craftsman. The center of gold craftsman is in Guanyar (Bali), the center of silver craftsman is in Yogyakarta, the center of brass craftsman is in Central Java, and the center of iron craftsman is in Tapanuli Utara (North Sumatera) which is very interesting to be discussed. *Panopa Bosi* in the local dialect (Batak) is blacksmith which has existed since hundreds of years ago. At that time the Batakese community considered blacksmith as a unique business. Some of them considered that blacksmith's skill was not more than manual labors. Metal, especially iron, was often considered the symbol of firmness and strength. In processing iron, one has to have more power than that of a merely blacksmith.

A *Pande Bosi* (blacksmith) should not only have rough skill but should also have subtlety of his inner-life in order that the iron can be made complete metal objects. Besides that, in the concept of industry, it is explained that the scope of industry includes all productive activities to increase the quality of goods and services. A company or micro and small industry is a business unit operating an economic activity in order to produce goods and services. It is located in a building or a certain location which has its own administration concerning production and cost structure with one or more persons who are responsible for the micro and small industry. One of his livelihoods is in a handicraft industry, or it is usually called in the local dialect, *Pande Bosi* (blacksmith). A blacksmith cluster in Tapanuli Utara Regency consists of 20 workers. Most of them are male workers who come from Sitampurung village. They use very plain equipment; the kiln, and a brick fireplace with a grill which functions as the place for heating the iron which is air-pumped manually. Blacksmith business in Tapanuli Utara Regency is one of the creative economic production centers at Sitampurung village. It is categorized as a small industrial sector which has its contribution to the local people as the source of livelihood and which has so far survived with its very simple equipment and with the knowledge which has been inherited from generation to generation and paid homage by every blacksmith.

Besides that, Tapanuli Utara Regency has an international airport, Silangit International Airport, for regular flights with the increasing number of passengers. The existence of the international airport becomes a momentum for the creative economic growth in Tapanuli Utara Regency, especially in the area of Lake Toba. The increasing number of tourists from

other countries who visit Lake Toba through Silangit International Airport becomes a specific attraction to them to visit the center of blacksmith handicraft production at Sitampurung village, the center of *Ulos* weaving in Tarutung, Muara, and Adian Koting, and the center of *Sihobuk* peanuts, pineapple agro-tourism, and *Air Soda*. The data from the Central Bureau of Statistics of Tapanuli Utara Regency in 2016 revealed that there were 5 (five) small industrial sectors with 7,773 workers: (1) clothing and leather, (2) food, (3) metal, (4) general handicrafts, and (5) chemical substance and food-stuffs as it could be seen in the following Table 1.

Table 1. Distribution of Small Industrial Sectors in Tapanuli Utara Regency, in 2016

Sectors	Companies	Workers
Clothing and Leather	2,256	4,236
Food	659	1,843
Metal	347	700
General Handicrafts	246	406
Chemical Substance and Food-Stuffs	186	588
<b>Total</b>	<b>3,694</b>	<b>7,773</b>

Source: Industry and Commerce Agency of Tapanuli Utara Regency (2016).

Based on the data in Table 1 above, it can be seen that the Small and Medium Businesses in Tapanuli Utara Regency is distributed into 5 (five) sectors with the total number of 3,694 companies. Of the various amounts of small industry above, small industry in metal sector, according to the researchers, has big opportunity to develop. This small industry has 347 companies which are more than the other small industry such as general handicrafts sector and chemical substance and food-stuffs sector, while it has more than 700 workers that are more than those in general handicrafts sector and chemical substance and food-stuffs sector. The distribution of Metal Industrial sectors in Tapanuli Utara Regency in 2016 had significant effect on high employment. Therefore, it was very important to analyze some factors which influence the Micro and Small Business development in metal sector in Tapanuli Utara Regency. Accurate identification of the problems could have significant impact on the strategy which would be made in order to increase the production in metal sector. By the increase in the Micro and Small Business production in metal sector, it was expected to be the way of increasing people's welfare.

## 2. Literature Review

### 2.1. The Micro and Small Business

Small and Medium Enterprises or often abbreviated as SMEs are one of the important parts of the economy of a country and region, as well as the country of Indonesia. These SMEs has a very important role in the pace of the economy of the community (Ferine *et al.*, 2017). These SMEs is also very helpful for the state or the government in terms of creating new jobs and through SMEs there are also many new work units that use new workers who can support household income (Lubis *et al.*, 2018). Apart from that SMEs also have high flexibility when compared to larger capacity businesses. This SMEs needs special attention and is supported by accurate information, so that there is a directed business link between small and medium businesses with elements of business competitiveness, namely the market network (Muda *et al.*, 2016). SME activities cover a variety of economic activities, but most are in the form of small businesses that are engaged in the trade and micro business sectors. SMEs also have a strategic role in national economic development, because besides playing a role in economic growth and employment, they also play a role in the distribution of development results.

### 2.2. Local Innovation System

Innovation is the learning process. This means that technological change is not widely considered as material development, but rather as a recombination of knowledge or the creation of new combinations (Sihombing *et al.*, 2018). This learning process depends on the involvement of many actors who exchange knowledge, these actors consist of various organizations, including companies, governments, and research institutions. Innovation systems are groups of organizations and individuals involved in production, diffusion and adaptation, and the use of knowledge of socio-economic significance, and the institutional context that governs the ways in which these interactions and processes occur (Sirojuzilam *et al.*, 2017 and Muda *et al.*, 2017). The development of a regional innovation system (SIDa) is one of the main strategies in a national innovation system that accommodates the process of interaction between components of strengthening the innovation system (Sihombng *et al.*, 2015). Innovation as elements and relationships that interact in the production, diffusion, and use of new and economically useful knowledge, and are often located or rooted in the boundaries of a country. Increasing competitiveness between regions is a very important agenda in realizing public welfare (Lubis *et*

*al.*, 2016; Sirojuzilam *et al.*, 2018). In this case, innovation in development that runs comprehensively and collaboration between development actors is a key factor in increasing competitiveness.

### 2.3. Local Economic Growth

Economic growth is the process of continually changing a country's economic condition towards a better condition for a certain period. Economic growth can also be interpreted as a process of increasing the production capacity of an economy that is realized in the form of an increase in national income (Tarmizi *et al.*, 2016, 2017). Local Economic Development is an effort to strengthen local economic competitiveness to strengthen the regional economic growth. The process by which local governments and community-based organizations are involved in encouraging, stimulating, or maintaining business activities and or employment (Tripriyono *et al.*, 2018; Muda *et al.*, 2018). As a solution to the recovery and development of the national economy, especially in the utilization of economic potential in each of the regions based on the available resources (Nurlina and Muda, 2017). The components of local economic development include:

- a. Target Groups, the target group has an important role as a lever of local economic development, the target group elements can be divided into local business actors, outside investors, and new business actors.
- b. Location factors, location factors represent the extent to which locus development can be accessed, and also locations can access the development resources themselves within the framework of local economic development (Sirojuzilam *et al.*, 2017).
- c. Departure and Focus of Policy, policies that can support local economic development include policies in the fields of economic expansion, regional development, and community empowerment and community development (Suriadi *et al.* 2015).
- d. Sustainable Development, sustainable development relies on economic, social and environmental aspects (Achmad *et al.*, 2017; Muda *et al.*, 2018; Sirojuzilam *et al.*, 2018).
- e. Governance, governance is supported by partnerships between government and business, organizational development and public sector reform.
- f. Management Process, the management process in this case can manage participatory diagnosis, participatory monitoring and evaluation, and participatory implementation planning.

Of the six components, it needs community empowerment in the development of the Local Economy, because empowerment encapsulates social values,

### 2.4. Industry Is an Economic Activity

Industry is an economic activity that processes raw materials, raw materials and semi-finished materials into goods of higher value. Industry as an activity to produce goods in bulk, with good quality and then sold and traded. In order to maintain their fitness, a number of workers are used with certain equipment, techniques and work methods and patterns. Industry is a set of similar companies, industry is an economic sector in which there are productive activities that process raw goods into semi-finished goods or finished goods (Muda *et al.*, 2018; Nasution *et al.*, 2018). The high rate of economic growth can be achieved by developing domestic industries that produce imported substitute goods. The strategy is based on the idea that a high rate of economic growth can only be realized if products made domestically are sold in the export market.

## 3. Methodology of Research

The objective of the research was to find out the influence of one independent variable: business capital ( $x_1$ ), wages ( $x_2$ ), length of business ( $x_3$ ), length of service ( $x_4$ ), working/operating hours ( $x_5$ ), and types/variation of product on dependent variable: business earnings ( $y$ ). The research used Multiple Linear Regression Methods with Ordinary Least Square (OLS) to find out how far the influence of independent variables on dependent variable. This method was believed to have ideal and superior characteristics which were technically very powerful and easily calculated and interpreted (Gujarati, 2003 and Handoko *et al.*, 2017). The objective of this multiple regression analysis was to measure the significant influence between two or more variables. Besides that, the result of the regression analysis indicated the direction of the influence between dependent variable and independent variables. The research used a Statistical Package for the Social Sciences version 22 software program in analyzing the research data. This research model explained the influence of business capital, wages, and the length of business, the length of service, working/operating hours, and product types/variation on the respondents of Micro and Small Business in Metal Industrial Sector of Blacksmith in Tapanuli Utara Regency which was formulated in functions:

$$\text{Earnings} = f(\text{MU,UP,LU,LM,LO,VP}) \quad (1)$$

Which indicated that earnings were the functions of business capital, wages, the length of business, the length of service, working/operating hours, and product types/variation.

General form of earnings function was as follows, with Regression Equation indicated as follows:

$$Y = a + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + e \quad (2)$$

Where:

Y = Business Earnings; X<sub>1</sub>= Business Capital; X<sub>2</sub>= Wages; X<sub>3</sub> = Length of Business; X<sub>4</sub>= Length of Service;

X<sub>5</sub>= Working/Operating Hours; X<sub>6</sub>= Product Types/Variation; B<sub>1</sub>B<sub>2</sub>B<sub>3</sub> B<sub>4</sub>B<sub>5</sub>B<sub>6</sub>= Regression Coefficient; e= error.

## 4. Results and Discussions

### 4.1. Results

Based on the primary data, statistic coefficient of each variable could be analyzed in order to find out the influence of business capital, wages, the length of business, the length of service, working/operating hours, and product types/variation on earnings. Statistic coefficient of each independent variable could be calculated by the aid of computer through Statistical Package for the Social Sciences version 22 software program with the result as follows:

Table 2. Regression Result

Variables	Coefficient	p-value
Intercept	7.084	0.182
Business Capital	0.004	0.898
Wages	-2.106	0.105
Length of Business	0.027	0.022
Length of Service	0.194	0.000
Working/Operating Hours	0.342	0.357
Types/Variation of Product	-0.724	0.235
N	190	
R <sup>2</sup>	0.839	
Prob (F-test)	0.000	

Source: SPSS Result (2018).

Principally, working capital is all current assets and funds which are intended to finance business operation (Sawir, 2001). Another opinion states that working capital is the funds needed by a company to meet its daily operations such as buying raw materials, payroll, paying off debt, and other expenses (Sutrisno, 2007). The theoretical study identified that business capital is an important factor in financing all business operations. The business operation itself is related to buying raw materials, procuring equipment, and payroll. Working capital is the basis for business activities which will be done to get the earnings from those activities. In this research, working capital was used to ensure that Micro and Small Business in blacksmith was successful in producing and selling their handicrafts which will cause earnings. The theoretical study supported the research which stated that initial business capital had positive and significant influence on earnings or turnover of the Micro and Small Business in Blacksmith in Tapanuli Utara Regency. Wages are a part of compensation program provided by a company as rewards for workers who have contributed their energy and skill in running business operation. Giving wages is regulated in Law on Manpower. Cappelen *et.al.* (2016) and Larkin and Leider (2012) point out that compensation structure of a company is the form of incentives given to workers in facilitating and using their services and skills. The objective of compensation is to get services from workers in doing business activities. By doing business activities, it is expected that the business will be successful in producing good products and getting earnings for the company.

### 4.2. Discussions

The result of the research indicated that wages had insignificant influence on turnover of the Micro and Small Business in Blacksmith in Tapanuli Utara Regency. In a favorable condition, wages will yield work motivation as a motoric stimulation for workers in producing goods and services. The length of business is related to an organization's learning activities. Organizational management will be better from time to time, along with the length of business in doing its activities. Therefore, the length of business plays an important role in commercial activity (Utama, 2012). In many businesses with tender system, the length of business becomes important criteria which are combined with the experience in doing the

business in the company. It provides an opportunity to improve operational system and reengineering in order to achieve effectiveness and efficiency. The result of the research indicated that the longer a company was established, the higher the level of turnover in *ceteris paribus* condition. A company which does its business in a long time will achieve the knowledge of business management, suppliers, customers, and good business competitiveness, compared with the company which does its business in a short time. With this non-financial capital, the company will be able to operate better and to increase its earnings.

Asmie (2008) points out that experience in managing is straightly proportional to the duration of a person in managing a business. The longer the period of a person does his business management, the better he manages his business in which the experience can influence someone to act in the future. Firdausia (2013) points out that the level of business earnings will increase along with the learning done by the business person. The more he puts his mind to his business, the more he will learn the most effective and efficient method in that management. Learning curve concept explains how, as the time passes, one's skill and capacity which can continuously increase to a certain point will be stagnant after it reaches optimal learning of the experience in managing (Siahaan, 2018). This research descriptively provided description about the range of experience in managing strong business. Nevertheless, generally a business person has had the experience in management around 10 to 11 years. The level of experience of the length of this management statistically proves significant in increasing business earnings. The result of the analysis indicated that the learning curve could be applied in Micro and Small Business in Blacksmith in Tapanuli Utara Regency. Bbusiness people who had managed their business for a long time will be able to learn the process of production which can have the impact on the increase in production, sale, and business activities. Business working hours in this research had positive and significant influence on earnings or turnover of Micro and Small Business in Blacksmith in Tapanuli Utara Regency. The result of this research indicated that the longer the business operational time was, the higher the level of turnover obtained by the Micro and Small Business. Theoretically, working hours are related to the working hours of employees that will have negative impact on a company's financial condition. Golden (2012) points out that the bigger a business operation is, the more decreasing its level of the employees' level of productivity which can disturb a company's performance.

Previous researches identified that in a business sector with casual workers, based on the types of work, there was no significant correlation and influence between working hours and a company's productivity. Man and Ling (2014) provided their research result of the impact of business operational hours in Great Britain. The result indicated that the length of business was closely related to business finance. The negative effect of business operational hours which has been explained above gives the assumption that the company's employees work at the same hours as the business operational hours. The workers that became the part of Micro and Small Business in Blacksmith were not bound in a contract with working hours but with the amount of production in managing the Micro and Small Business. They were targeted to produce a certain amount of production in a certain time. In this case, the decrease in the level of productivity and the expense of additional cost could be eliminated, based on the provided work process. The result of the research showed that working hours would increase business earnings which could be achieved by increasing demand, image, and response to various business opportunities of the increasing business operational hours.

Principally, product variation is the number of the types of product offered by business people or marketers to consumers or markets. It can be various lines and the width of products (Kotler and Keller, 2012). Its objective is to achieve bigger market target by reaching market demand of certain products offered by producers. One of its sources comes from product differentiation. Specialization used by business people is to create unique products with certain function which can give benefit and meet certain needs. The result of the research showed that even though both strategies played positive roles in increasing a company's performance, developing new products would also increase a company's performance. The finding was in accordance with the research result which indicated that the more the product variation was, the higher the level of earnings obtained by a company. It was also found in this research that there were 8 (eight) product variants which were generally produced by all business people in blacksmith industry in Tapanuli Utara Regency. The result of descriptive statistical analysis showed that in general Micro and Small Business produced from four to seven product variants. The lack of raw materials became the reason for not developing product line more than seven product variants. This research identified that the more product variants were produced, the more the turnovers obtained by the Micro and Small Business. The number of product variants will encourage market expansion. Every product has its own demand; therefore, the more the product lines are offered, the more the demands for those products. The challenge in increasing product variation is the capacity of product based on the limitation of human resources. Even though this research identified that the more the product variation was offered by a company, the more increasing the business turnovers which was necessary to consider the capacity of a company in responding to market demand.

A condition which has to be avoided is increasing product lines without guaranteeing the sufficiency of supply for the existing products of the Micro and Small Business in Blacksmith. The  $r$ -value was 0.703 which indicated that all independent variables (business capital, wages, the length of business, the length of service, working/operating hours, and types/variation of products) could explain dependent variable (earnings) of 70.3%, while the remaining 29.7% were explained by other variables excluded from the research model. It was also found that the variables of business capital, wages, the length of business, the length of service, working/operating hours, and types/variation of products simultaneously had significant influence on earnings. Referring to the result and the discussion of this research, either descriptively or inferentially, it could be concluded as follows: initial capital had positive and significant influence on earnings, wages did not have any significant influence on earnings, the length of business had positive and significant influence on earnings, the length of managing business had positive and significant influence on earnings, business working hours had positive and significant influence on earnings, and the number of product variants had positive and significant influence on earnings.

It was also found that there were some inputs for encouraging the increase in earnings of Micro and Small Business in Blacksmith in Tapanuli Utara Regency. First, the Management of the Micro and Small Business in Metal Industry of Blacksmith in Tapanuli Utara Regency should have given earnings reward to the craftsmen that it would be expected to increase the quality of products. Secondly, in spite of harsh economic challenge, the advancement of information technology in metal business of blacksmith was expected to be more developed, especially in the design context of metal since today the development of local product design becomes better even though almost all physical products and not their values are sold. Thirdly, business activities could provide sufficient business capital for maximizing the capacity of business production. Business cash flow should have been able to be heeded and organized as smooth as possible for consumers. Fourthly, wages did not play its role in stimulating business earnings. It was recommended that operational burden not be emphasized too much. Incentive model which could stimulate work motivation, based on the study, was providing work contract for workers such as profit-sharing and maintaining and increasing wages which had been applied by prioritizing visionary and transparent leadership to the craftsmen. Fifthly, the length of business and the length of managing business had positive impact on the level of earnings obtained by the Micro and Small Business.

## 5. Conclusions and Recommendations

The result of the research showed that there were other variables outside the research which played an important role in increasing business earnings. They were work motivation of the Micro and Small Business workers, the level of promotion, market expansion, etc. It was expected that the next researchers evaluate the variables and develop the result of this research in order that the research can contribute to increasing earnings of Micro and Small Business.

This recommendation about that it was advisable for business people to always stand firm in the unfavorable economic condition. Decision to close down business should be reconsidered properly because the longer a person does his business activities was, the more positive things which could be obtained by his company. Sixthly, Business working hours each day could also have the significant impact on the increase in business earnings. Therefore, companies which provide their employees with half-day work could optimize their operating hours by considering them and the activities which would occur in the extension of their operational hours. In the era industrial revolution today, a company can operate in Digital Micro and Small Business and organize its business operation in marketing in 24 hours within seven days a week. Seventhly, Micro and Small Business should evaluate its production capacity to develop product lines, do a breakthrough such as services by online, and encourage blacksmiths to work well. The result of the research indicated that the more product lines produced by Micro and Small Business was, the bigger the earnings obtained by it. When resources were sufficient, a company should increase the product lines. This research was focused on the six aspects which were assumed to be able to influence business earnings.

## References

- Achmad, N; Muda, I. (2017). Economic Activities of Karo Older Adults in Lingga Village, Tanah Karo Regency, North Sumatera, Indonesia. *International Journal of Economic Research*. 14(16). 365-379.
- Ardana, K.I., Mujjati N., Utama, M.W. (2012). *Human Resources Management*, First Print. Publisher PT. Graha Ilmu, Yogyakarta.
- Asmie P. (2008). Analysis of Factors Affecting the Income Level of Traditional Market Traders in Yogyakarta City. *Neo Bus Journal*. 2(2), 19-21.
- Cappelen, Alexander W, Bjørn-Atle Reme, Erik Ø Sørensen, Bertil T. (2016). Leadership and incentives. *Management Science*. 62 (7), 1944-1953.

- Ferine, K.F; Ermiaty, C., Muda, I. (2017). The Impact of Entrepreneurship and Competence On Small Medium Enterprises Tangan Di Atas (TDA) Medan Entrepreneurs' Work Performance. *International Journal of Economic Research*. 14(16). 380-393.
- Firdausa and Arianti. (2013). *Influence of Initial Capital, Length of Business, and Working Hours*.
- Golden, L. (2012). *The research synthesis paper. International Labor Organization Conditions of Work and Employment*. Series No. 33, Conditions of Work and Employment Branch, Available at SSRN: <https://ssrn.com/abstract=2149325>.
- Gujarati, D. (1998). *Basic Econometrics*. Jakarta: Erlangga.
- Handoko, B. Sunaryo, Muda, I. (2017). Difference Analysis of Consumer Perception of Motorcycle Product Quality. *International Journal of Economic Research*. 14(12). 363-379.
- Kotler, P., Keller. K.L. (2012). *Marketing Management*, 14th Edition. New Jersey: Prentice Hall.
- Larkin, I., Leider, S. (2012). Incentive schemes, sorting, and behavioral biases of employees: Experimental evidence. *American Economic Journal: Microeconomics*, 184–214.
- Lubis, A., Rustam, Muda, I. (2018). Analysis of Ownership and Stock Composition of Vocational Business Enterprises (BUMDES) and Its Impact on "Omset" of Business Owned Enterprises. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 274-277.
- Lubis, A., Rustam, Muda, I. (2016). Factors Affecting The Cost of Agency of Village Owned Enterprise (BUMDES) in Indonesia. *International Journal of Economic Research*. 14(16). 334-348.
- Muda, I, M.Sihombing, E.Jumilawati & A. Dharsuky. 2016. Critical Success Factors Downstream Palm Oil Based Small And Medium Enterprises (SME) In Indonesia. *International Journal of Economic Research*. 13(8). 3531-3538.
- Muda, I, Sihombing, M., Jumilawati, E., Dharsuky, A. (2017). Factors Affecting The Success of Local Innovation Systems With Government Programs As Moderators. *International Journal of Economic Research*. 14(16). 272-289.
- Muda, I, Rahmanta, Marhayanie, Putra. A.S. (2018). Institutional Fishermen Economic Development Models and Banking Support in the Development of the Innovation System of Fisheries and Marine Area in North Sumatera. *IOP Conference Series: Materials Science and Engineering*. 2017.288. doi:10.1088/1757-899X/288/1/012082.
- Muda, I., Nurlina. (2018). Influence of Manufacture of Textiles, Clothing and Leather and Manufacture of Paper, Printing and Publishing to the Economic Growth. *Emerald Reach Proceedings Series*. Vol. 1 pp. 105–111. DOI 10.1108/978-1-78756-793-1-00048.
- Muda, I., R. B., Nasution., Erlina., H. S. Siregar., S. Katircioglu. (2018). The Effect of The Existence of Large and Medium Industries on The Absorption of Labor in Sumatera Utara. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 253-257.
- Muda., I., Rahmanta., Marhayanie., A.S. Putra. (2018). Institutional Fishermen Economic Development Models and Banking and Financing Institution Support in The Development of The Innovation System. *Advances in Economics, Business and Management Research (AEBMR)*, 46. 263-268.
- Munawir, S. (2004). *Analysis of Financial Statements*. Liberty Publisher. Yogyakarta.
- Nasution,R.B., Muda.,I., Erlina., Siregar, H.S, Katircioglu., S. (2018). Variation of Industrial Type Contributions on Working Performance. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 258-262.
- Nurlina and Muda, I. (2017). The Analysis of the Effects of Capital Expenditure and Human Development Index on Economic Growth and Poverty in East Aceh Regency. *International Journal of Economic Research*. 14(16). 395-409.
- Siahaan, E. (2018). *Concept and Application of Managerial Economics in Business*. Medan: USU Press.
- Sihombing, M, Muda, I, Jumilawati, E, Dharsuky, A. (2015). The Implementation of Oil Palm Based Regional Innovation System (SIDA) In Supporting The Masterplan For The Acceleration And Expansion Of Indonesia's Economic Development (MP3EI) of The Economic Corridor Of Sumatera-Indonesia. *European Journal of Business and Innovation Research*. 3(5), 13-24.
- Sihombing, M., Muda,I., E.Jumilawati, A. Dharsuky (2018). Effectiveness of Market Results Diversified Palm Products and Constraints of Capital, Financing and Marketing. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 269-273.
- Sirojuzilam, Hakim, S., Muda, I. (2017). Effect of Private Collaborative as a Moderation of Success of Agropolitan Program. *International Journal of Economic Research*. 14(16). 304-315.
- Sirojuzilam., S.Hakim., Muda, I. (2018). Role of Planning And Budget to The Development of Agropolitan Area. *Advances in Economics, Business and Management Research (AEBMR)*, 46, 138-142.
- Suriadi, A, Rudjiman, Mahalli, K, Achmad, N; Muda, I. (2015). The Applicative Model of the Village\_Owned Enterprises (BUMDES) Development in North Sumatera. *Global Journal of Arts, Humanities and Social Sciences* 3(12), 48-62.
- Sutrisno. 2007. *Financial Management Theory, Concepts, and Applications*. Yogyakarta: Ekonisia.
- Tarmizi, H.B.,Daulay, M., Muda, I. (2016). The influence of population growth, economic growth and construction cost index on the local revenue of tax on acquisition of land and building after the implementation of law no. 28 of 2009. *International Journal of Economic Research*. 13(5), 2285-2295.
- Tarmizi, HB., Daulay, M., Muda, I. (2017). Impact of The Economic Growth and Acquisition of Land to The Construction Cost Index in North Sumatera. *IOP Conference Series: Materials Science and Engineering*. 180. doi: 10.1088/1757-899X/180/1/012004.
- Tripriyono., A. Purwoko., Erlina, Muda, I, (2018). The Effect of the Political Environment and the Economic Environment on The Welfare of Community. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 49-53.