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Article

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THE FACTORS THAT INFLUENCE THE INTENTION OF MARKETING AND TECHNOLOGICAL INNOVATION IN MSMES

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Abstract: *Innovation drives change, and conversely, innovation occurs because of change. Initially, innovation was only oriented toward technology in discovering new products. Only large companies could do it since it requires a challenging process. All levels, including MSMEs, could carry out further developments and innovation because innovation is not only about technological innovations. Based on this, the research objectives are to analyze the influence of the MSME owner's characteristics on the intention of marketing and technological innovation through attitude and motivation in Indonesia. SEM analysis with the Smart-PLS program was used to answer the research objectives. The population in this study is the Indonesian micro, small, and medium enterprises from various types of businesses. Samples are 128 respondents to meet Hair theory. The minimum threshold for processing by the Smart PLS program is 100. Judgment sampling is defined as the sampling technique. The results of this study are attitude and motivation affect innovation intentions, both directly and as intervening variables that encourage curiosity, optimism, and risk-taking. Opinion leadership, social status, attitudes, and motivation influence the intention of marketing innovation, whereas awareness, financial stability, optimism, risk-taking, attitudes, and motivation directly affect the intention of technological innovation. The findings of this study are useful for the government and social organizations as a companion for MSMEs to massively increase intention in innovation for MSMEs by creating activities that foster attitudes and motivation to innovate. With the massive formation of attitudes and motivation to innovate, several characteristics possessed by MSME owners are encouraged to strengthen, thus giving rise to the intention to innovate. The innovations carried out by MSMEs on a massive scale can improve their performance and become a solution to the downturn. These characteristics, attitudes, and motivations are the novelty of this research, which are the factors influencing the intention to innovate, both marketing and technological innovation.*
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JEL Classification: M20, M21, M29

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Introduction. Innovation drives change, and conversely, innovation occurs because of change. So innovation becomes the driving force, as well as a solution effort. Various theories were developed by several researchers, along with the development of an understanding of innovation. Ciborowski (2016) conveyed the analysis of Schumpeter's theory that innovation occurs because the market is constantly moving. Thus, it requires technological superiority. From this condition, technological innovation is driven by internal companies. Schumpeter presented the theory around 1935 and argued that large companies could only carry out innovation because it requires a long process. These innovations drive changes in the economic, socio-cultural, and market fields. Innovation theory continues to develop. Research results in recent years show that understanding innovation is not only about technology. It extends further into changes that lead to creativity in the value chain, among others. As stated by Ungerman (2018) and Lemanowicz (2015), there are marketing innovations, production processes, and organizational innovation. The study's results (Li and Lucien, 2019) show that marketing, product, and organizational innovation affect the performance of MSMEs.

Thus, the paradigm begins to develop, and all levels of business can carry out innovation. That is a new alternative for SMEs to innovate, with the understanding that innovation is the result of creative efforts. As stated by (Muller, 2019; Vrandea et al., 2009), innovation can and is open to SMEs, where SMEs exploit and exploit innovation. Understanding exploitation and exploitation leads to innovations that are not only technological innovations in the form of discoveries that take a long time but also marketing innovations. The theory of diffusion of innovation is an openness of innovation. It is a long process that companies can only carry out. This theory can challenge the theory of diffusion of innovation, where the theory of diffusion is based on actors. The length of the innovation process depends on the actors, which can be divided into innovators, early adopters, early majority, and late majority (Dearing and Cox, 2018). The theory explains that innovation depends on the actors who decide and produce the innovation, In the post-Covid-19 pandemic, the impact is felt by MSMEs, where MSME performance has decreased, and even 50% of microenterprises are no longer operating. To overcome these conditions, business actors, especially MSMEs, need to innovate quickly to improve or maintain their performance. At the MSME level. It is necessary to find answers to what factors need to be owned by business actors to encourage innovation to improve the performance of MSMEs immediately. According to Wiktorsson and Groth (2011), one of the conditions that must be met in carrying out innovation is the entrepreneurial concept of business actors. Furthermore, according to Mansfeld et al. (2010), innovative personal innovation is a specific creative actor in this case. People or business actors, called innovators, are essential factors in the success of innovation. As stated by Ahn et al. (2017), research results with respondents in Korea show positive CEO attitudes, entrepreneurial orientation (EO), patience, and education. According to Machmud (2017), motivation affects the innovation process. These motivations include achievement motivation, risk tendencies, and self-efficacy. The opinion of Koudelkova and Milichovcky (2014) and Gribanova et al. (2020) is similar. In addition, some researchers argue that a positive attitude toward innovation also affects the intention to innovate (Paulikas, 2018; Usai et al., 2018).

Based on this, this study aims to analyze the effect of the characteristics of MSME owners on Marketing Intentions and Technological Innovation through attitudes and motivations in Indonesia. The findings of this study could be used by the Government and social organizations that act as a companion for MSMEs to massively mobilize MSMEs to increase the intention of marketing innovation and technological innovation, in addition to being input for MSME owners to move towards increasing the intention of marketing innovation and technological innovation. Innovations made by MSMEs could be useful to overcome the slump in performance. These characteristics, attitudes, and motivations are the novelty of this study, which are the factors influencing the intention to innovate, both marketing and technological innovation.

Literature Review. Initially, innovation was only oriented toward technological innovation. Large companies only carried them out because the process took a long time. It is Schumpeter's Theory (Ciborowski, 2016). Furthermore, the Innovation Diffusion Theory determines the level of business actors towards innovation, starting with innovators, Early Adopters, Early Majority, and Late Majority (Dearing and Cox, 2018). From this character level, an understanding develops that innovation could be carried out quickly on certain characteristics, in this case, by business actors who are at the innovator level. The speed of innovation is needed, especially in unusual conditions. In addition, the new marketing concept is oriented toward meeting consumer needs, causing innovation to develop technology-oriented innovation and marketing orientation (Ungerman, 2018; Lemanowicz, 2015). The characteristics of MSME Owners based on several studies affect the innovation process and intentions, as follows

a) awareness that influences innovation (Ying and Sovacool, 2021; Huang et al., 2019; Mai et al., 2018; Goorha and Potts, 2016; Bernatchez et al., 2015; Johnson, 2013; Larsen, 2011; Diaconu, 2011; Choi et al., 2008; Halbesleben et al., 2003);

b) the curiosity which is the melting of knowledge and experience (Gross et al., 2020) affects innovation (Gross et al., 2020; Geum et al., 2020; Celik et al., 2016; Peljko, 2016);

c) knowledge is a collection of experiences, appropriate information, and skill insights that form the structure of integrating new experiences and information (Mohajan, 2016; Encabo, 2016), influencing innovation (Ibarra et al., 2020; Asim and Sorooshian, 2019; Raghupathi and Raghupathi, 2017; Gupta et al., 2016; Nieves and Meneses, 2016; Suharti et al., 2014; Moreira et al., 2012);

d) the innovator level differentiator contained in the Disruptive Innovation Theory includes opinion leadership, social status, financial stability, optimism, and risk-taker (Dearing and Cox, 2018; Cilicus, 2021). The levels of these various indicators determine the level of actors, including innovators, early adopters, early majority, or/and late majority.

Attitude expresses consumer feelings about an object and describes reactions to object attributes (Sumarwan 2015). In the Theory of Planned Behavior, Ajzen (1991) said that attitudes would lead to interest and behavior. In this case, the attitude towards innovation raises the intention to innovate. Attitude indicators include good-bad reactions, useful-not-beneficial, or pleasant-unpleasant reactions. Motivation is the drive within individuals that compels them to act. Motivation is triggered by various things, where the trigger source comes from within and outside. According to Urban (2008) in Koudelkova and Milichovsky (2015), motivation is described in detail as follows, motivation based on object interest, motivation based on financial rewards, motivation based on specific social level achievements, and motivation based on a social mission. In the Theory of Planned Behavior (TPB), motivation is part of perceived behavior control, namely behavioral control to form intentions. TPB components include attitude toward behavior, subjective norm, and perceived behavioral control (Ajzen, 1991). Innovation is change and novelty that could create added value, requiring specific and flexible management (Ozusaglam, 2012). So, innovation is the intention to make changes in a business that provides added value. Furthermore, according to Taylor (2017), innovation is the development or development of products and services. The doer can successfully build innovation (Dearing and Cox, 2018). Innovations include technological innovation and marketing innovation. Technological innovation has developed since the 1400th century, with the strengthening of Schumpeter's Theory (Chibowroski, 2016).

Furthermore, innovation develops not only technological innovation but also further, including marketing innovation. Marketing innovation in the form of unusual marketing initiatives or marketing development (Gupta et al., 2016). Besides, marketing innovation is identified as an effort to find new creative solutions to meet consumer needs, followed by developing innovative products (Ungerman, 2018). Thus, starting from fulfilling consumer needs to produce innovative products, it becomes one of the innovation marketing categories. Furthermore, according to (Medrano and Pascual, 2016; Naido, 2010), marketing innovation could improve company performance, even in times of crisis. Thus, marketing innovation and innovative technology need to be developed by increasing the drivers, namely awareness, curiosity, and knowledge of the actor.

Methodology and research methods. This research is explanatory because this research intends to explain the effect of the independent variable on the dependent variable through hypothesis testing. The population in this study is micro, small, and medium enterprises (MSMEs) in Indonesia from various types of businesses. The number of samples is determined based on the theory of Hair et al. (2006). The sample size is at least 5 times the number of questionnaires or multiples thereof. The number of respondents specified is 128.

The data collection method is a distribution of online questionnaires in the form of Google Forms, with a judgment sampling technique. The data analysis technique used in this research is Structural Equation Modeling (SEM). According to Ghozali (2012), SEM is the second generation of multivariate analysis techniques that allow researchers to examine the relationship between complex variables, both recursive and non-recursive, to obtain a comprehensive picture of the entire model. The tool used as a software in using SEM is Smart PLS. Before the data is tested, the validity and reliability are tested first. The standard validity of the indicators that make up the variables must meet the minimum loading factor requirements of 0.7. If it is less than 0.7, it is considered not strong enough to be part of the formation variable. Thus, it is excluded and not included in the further data processing. The reliability of the variables must meet the requirements of Cronbach's alpha and composite reliability above 0.7. Then the validity of the variables is indicated by the average extract variance (AVE) of more than 0.5. The hypothesis is accepted if it meets the requirements of $P < 0.05$ and T-count > 1.96 (T-table with an error rate of 0.05).

The research variables consist of twelve variables, namely the awareness of MSME actors (X1), curiosity of MSME actors (X2), knowledge of MSME actors (X3), (X4) opinion leadership, (X5) social status, (X6) financial stability, (X7) optimism, (X8) risk-taker, (Z1) attitude, (Z2) motivation, (Y1) intention of marketing innovation, and (Y2) intention of technological innovation. Data analysis using SEM SmarPLS was used to test the research hypothesis. The research hypothesis is presented as follows:

Business actors carry out innovation. Innovation consists of marketing innovation and technological innovation. Furthermore, the characteristic component of MSME owners affects the intention of marketing-oriented innovation (Bernatchez et al., 2015; Ying and Sovacool, 2021, Celik et al., 2016; Gross et al., 2020; Geum et al., 2020; Peljko, 2016; Dearing and Cox, 2018; Cilicus, 2021; Diaconu, 2011, Gupta et al., 2016; Moreira et al., 2012; Nieves and Meneses, 2016; Altunbasak, 2015). Based on this, the fifth hypothesis is formulated as follows:

H1.1 The awareness of MSME actors influences the intention of marketing innovation.
H1.2 The curiosity of MSME actors influences the intention of marketing innovation.
H1.3 The knowledge of MSME actors influences the intention of marketing innovation.
H1.4 The opinion leadership of MSME actors influences the intention of marketing innovation.
H1.5 The social status of MSME actors influences the intention of marketing innovation.
H1.6 The financial stability of MSME actors influences the intention of marketing innovation.
H1.7 The optimism of MSME actors influences the intention of marketing innovation.
H1.8 The risk-taker of MSME actors influences the intention of marketing innovation.

Business actors carry out innovation. Innovation consists of marketing innovation and technological innovation. Furthermore, the characteristic of MSME owners affects the intention of technology-oriented innovation (Ibarra et al., 2020; Huang et al., 2019; Asim and Sorooshian, 2019; Mai et al., 2018; Raghupathi and Raghupathi, 2017; Suharti et al., 2014; Johnson, 2013; Diaconu, 2011). Based on this, the sixth hypothesis are formulated as follows:

H2.1 The awareness of MSME actors influences the intention of technology innovation.
H2.2 The curiosity of MSME actors influences the intention of technology innovation.
H2.3 The knowledge of MSME actors influences the intention of technology innovation.
H2.4 The opinion leadership of MSME actors influences the intention of technology innovation.
H2.5 The social status of MSME actors influences the intention of technology innovation.
H2.6 The financial stability of MSME actors influences the intention of technology innovation.
H2.7 The optimism of MSME actors influences the intention of technology innovation.
H2.8 The risk-taker of MSME actors influences the intention of technology innovation.

Based on several studies, characteristic components affect attitude, including knowledge that affects attitude (Zhu and Xie, 2015). According to Malandrino et al. (2013), awareness affects the attitude of respondents to ICT (Information and Communication Technology). Harada (2020) argues that risk-takers regarding finding solutions affect attitudes. Attitude consists of a positive or negative attitude. Thus, there is a question of to what extent positive characteristics influence positive attitudes toward innovation. Based on this, the following hypotheses are formulated:

H3.1 The awareness of MSME actors influences the attitude.
H3.2 The curiosity of MSME actors influences the attitude.
H3.3 The knowledge of MSME actors influences the attitude.
H3.4 The opinion leadership of MSME actors influences the attitude.
H3.5 The social status of MSME actors influences the attitude.
H3.6 The financial stability of MSME actors influences attitude.
H3.7 The optimism of MSME actors influences the attitude.
H3.8 The risk-taker of MSME actors influences the attitude.

According to some researchers, characteristics affect the formation of motivation. Setiadi et al (2007) argued that motivation which is part of the characteristics becomes an important part of the formation of creativity. On the other hand, characteristics can be the driving force behind the emergence of motivation. The characteristics, in this case, include awareness, knowledge, curiosity, opinion leadership, social status, financial stability, optimism, and risk-taker. Curiosity affects the emergence of motivation (Ciasullo et al., 2019). Risk-takers are correlated with motivation (Saha et al., 2020).

On the other hand, optimism encourages the emergence of motivation. Thus, whether it also encourages the emergence of motivation leading to innovation intention arises. Based on this, hypothesis 4 is formulated as follows:

H4.1 The awareness of MSME actors influences motivation.
H4.2 The curiosity of MSME actors influences motivation.
H4.3 The knowledge of MSME actors influences motivation for innovation.
H4.4 The opinion leadership of MSME actors influences motivation for innovation.
H4.5 The social status of MSME actors influences motivation for innovation.
H4.6 The financial stability of MSME actors influences motivation for innovation.

H4.7 The optimism of MSME actors influences motivation for innovation.

H4.8 The risk-taker of MSME actors influences the motivation for innovation.

Business actors carry out innovation. Innovation consists of marketing innovation and technological innovation. Furthermore, the characteristic component of MSME owners affects the intention of marketing-oriented innovation (Bernatchez et al., 2015; Cilicus, 2021; Celik et al., 2016; Dearing and Cox, 2018; Diaconu, 2011; Gross et al., 2020; Geum et al., 2020; Peljko, 2016; Ying and Sovacool, 2021). Based on the Theory of Planned Behavior (Ajzen, 1991), the characteristic of MSME owner triggers an attitude reaction, where the attitude forms behavior that leads to intention, in this case, the intention to innovate. Furthermore, attitudes affect innovation intentions (Fishman, 2021; Paulikas, 2018; Sumarwan, 2015; Usai et al., 2018;). Based on this, the first hypothesis is formulated as follows:

H5.1 Attitude intervening in the influence awareness of MSME owners on marketing innovation intention.

H5.2 Attitude intervening in the influence curiosity of MSME owners on marketing innovation intention.

H5.3 Attitude intervening in the influence knowledge of MSME owners on marketing innovation intention.

H5.4 Attitude intervening in the influence opinion leadership of MSME owners on marketing innovation intention.

H5.5 Attitude intervening in the influence of the social status of MSME owners on marketing innovation intention.

H5.6 Attitude intervening in the influence of the financial stability of MSME owners on marketing innovation intention.

H5.7 Attitude intervening in the influence optimism of MSME owners on marketing innovation intention.

H5.8 Attitude intervening in the influence risk-taker of MSME owners on marketing innovation intention.

H5.9 Attitude influences marketing innovation intention.

Business actors carry out innovation. Innovation consists of marketing innovation and technological innovation. Furthermore, the characteristic component of MSME owners affects the intention of technology-oriented innovation (Diaconu, 2011; Huang et al., 2019; Johnson, 2013; Mai et al., 2018;). Based on the Theory of Planned Behavior (Ajzen, 1991), the characteristic of MSME owner triggers an attitude reaction, where the attitude forms behavior that leads to intention, in this case, the intention to innovate. Furthermore, attitudes affect innovation (Fishman, 2021; Paulikas, 2018; Sumarwan, 2015; Usai et al., 2018). Based on this, the third hypothesis is formulated as follows:

H6.1 Attitude intervening in the influence awareness of MSME owners on technology innovation intention.

H6.2 Attitude intervening in the influence of curiosity of MSME owners on technology innovation intention.

H6.3 Attitude intervening in the influence of knowledge leadership of MSME owners on technology innovation intention.

H6.4 Attitude intervening in the influence of opinion leaders of MSME owners on technology innovation intention.

H6.5 Attitude intervening in the influence of social status of MSME owners on technology innovation intention.

H6.6 Attitude intervening the influence on the financial stability of MSME owners on technology innovation intention.

H6.7 Attitude intervening in the influence optimism of MSME owners on technology innovation intention.

H6.8 Attitude intervening in the influence of risk-taker of MSME owners on technology innovation intention.

H6.9 Attitude influences technology innovation intention.

Business actors carry out innovation. Innovation consists of marketing innovation and technological innovation. Furthermore, the characteristics of the components of MSME owners influence marketing-oriented innovation intentions (Bernatchez et al., 2015; Cilicus, 2021; Celik et al., 2016; Diaconu, 2011; Dearing and Cox, 2018; Gross et al., 2020; Geum et al., 2020; Peljko, 2016; Ying and Sovacool, 2021). Based on the Theory of Planned Behavior (Ajzen, 1991), the characteristics of MSME owners trigger a motivational reaction, where behavioral motivation leads to intention, in this case, the intention to innovate. Furthermore, motivation affects innovation (Ajzen, 1991; Gribanova, 2020; Haque et al., 2014; Koudelkova and Milichovski, 2015; Machmud, 2017). Based on this, the second hypothesis is formulated as follows:

H7.1 Motivation intervening in the influence awareness of MSME owners on the intention of marketing innovation.

H7.2 Motivation intervening the influence of curiosity of MSME owners on the intention of marketing innovation.

H7.3 Motivation intervening the influence of knowledge of MSME owners on the intention of marketing innovation.

H7.4 Motivation intervening the influence of opinion leaders of MSME owners on the intention of marketing innovation.

H7.5 Motivation intervening the influence of social status of MSME owners on the intention of marketing innovation.

H7.6 Motivation intervening in the influence of financial stability of MSME owners on the intention of marketing innovation.

H7.7 Motivation intervening in the influence optimism of MSME owners on the intention of marketing innovation.

H7.8 Motivation intervening the influence of risk-taker of MSME owners on the intention of marketing innovation.

H7.9 Motivation influences intention marketing innovation.

Business actors carry out innovation. Innovation consists of marketing innovation and technological innovation. Furthermore, the characteristics of the components of MSME owners influence the intention of technology-oriented innovation (Diaconu, 2011; Huang et al., 2019; Johnson, 2013; Mai et al., 2018). Based on the Theory of Planned Behavior (Ajzen, 1991), the characteristics of MSME owners trigger a motivational reaction, where behavioral motivation leads to intention, in this case, the intention to innovate. Furthermore, motivation affects innovation (Ajzen, 1991; Gribanova, 2020; Haque et al., 2014; Koudelkova and Milichovski, 2015; Machmud, 2017). Based on this, the fourth hypothesis is formulated as follows:

H8.1 Motivation intervening in the influence awareness of MSME owners on the intention of technology innovation.

H8.2 Motivation intervening the influence of curiosity of MSME owners on the intention of technology innovation.

H8.3 Motivation intervening the influence of knowledge of MSME owners on the intention of technology innovation.

H8.4 Motivation intervening the influence of opinion leaders of MSME owners on the intention of technology innovation.

H8.5 Motivation intervening the influence of social status of MSME owners on the intention of technology innovation.

H8.6 Motivation intervening in the influence of financial stability of MSME owners on the intention of technology innovation.

H8.7 Motivation intervening the influence of optimism of MSME owners on the intention of technology innovation.

H8.8 Motivation intervening the influence of risk-taker of MSME owners on the intention of technology innovation.

H8.9 Motivation influences intention technology innovation.

Results. The number of female and male respondents differed (65.6% and 34.4%, respectively). Respondents come from various regions in Indonesia, with various types of businesses. The longest time in entrepreneurship/owning a business is over 3 years. Most of the employees owned are less than 4 people, mostly micro-entrepreneurs (67.2%). Table 1 presents the details.

Table 1. Respondent profile

	Frequency	Percentage
Gender		
Male	44	34.4
Female	84	65.6
Total	**128**	**100%**
Domicili		
Aceh	1	0.8
Bali	2	1.6
D.I Yogyakarta	4	3.2
DKI Jakarta	56	43.8
Jawa Barat	21	16.5

Continued Table 1

	Frequency	Percentage
Jawa Tengah	10	7.8
Jawa Timur	13	10.2
Kalimantan	5	3.9
Other Region	2	1.6
Maluku Utara	1	0.8
NTT	1	0.8
Papua	1	1.6
Sulawesi	2	1.6
Sumatera	6	6.3
Total	**128**	**100**
Employees		
< 5 Employees	86	67.2
5 -19 Employees	27	21.1
20 – 99 Employees	15	11.7
Total	128	100
Long time in entrepreneurship/owning a business		
< 1 Year	16	12.5
1– 2 Years	36	28.1
>3 Years	76	59.4
Total	**128**	**100.0**
Type of business:		
Craft	6	4.7
Craft and Others	1	0.8
Fashion	16	12.5
Fashion & Craft	2	1.6
Fashion, Arts and Cultural, Trade	1	0.8
Fashion, General Services (Consultant, Health, Travel, Cleaning, Salon, etc.), Trade	1	0.8
Arts and Cultural Services, Others	1	0.8
General Services (Consultant, Health, Travel, Cleaning, Salon, etc.)	16	12.5
Culinary	46	35.9
Culinary & Craft	1	0.8
Culinary, Craft, Trade	1	0.8
Culinary, Fashion	1	0.8
Culinary, Fashion, and Craft	1	0.8
Culinary, Fashion, Craft, Art, and Culture	1	0.8
Culinary, Fashion, General Services (Consultant, Health, Travel, Cleaning, Salon, etc.), Trade	1	0.8
Culinary, Fashion, Trade	1	0.8
Culinary, General Services (Consultant, Health, Travel, Cleaning, Salon, etc.)	2	1.6
Culinary, General Services (Consultant, Health, Travel, Cleaning, Salon, etc.), Others	1	0.8
Culinary, Miscellaneous	2	1.6
Culinary, Trade	4	3.1
Culinary, Trade, Miscellaneous	1	0.8
Miscellaneous	13	10.2
Trade	8	6.3
Total	**128**	**100.0**

Sources: developed by the authors.

Indicators have an outer loading of less than 0.6. Some indicators are invalid to measure the construct and must be deleted. The deleted indicators are X5.3. Once removed, the following indicators meet the construct requirements and can be further processed. Table 2 presents the validity of indicators that have met the requirements for further processing. Table 2 allows concluding that all indicators are valid because the outer loading is more than 0.6.

Table 3 shows that all variables' composite reliability and Cronbach's Alpha are more than 0.7, and the Average Variance Extracted (AVE) is more than 0.5. Thus, the variable (construct) is reliable and valid.

Table 2. Indicator validity test results

Indicator	Outer Loading	Indicator	Outer Loading
X1 Awareness		X7. Optimism	
X1.1	0.856	X7.1	
X1.2	0.885	X7.2	
X1.3	0.910	X7.3	
X2 Curiosity		X7.4	
X2.1	0.781	X8. Risk taker	
X2.2	0.879	X8.1	
X2.3	0.800	X8.2	
X2.4	0.877	X8.3	
X3 Knowledge		Z1. Attitude	
X3.1	0.878	Z1.1	0.832
X3.2	0.892	Z1.2	0.899
X3.3	0.884	Z1.3	0.858
X3.4	0.871	Z2.Motivation	
X4 Opinion		Z2.1	0.831
X4.1	0.849	Z2.2	0.833
X4.2	0.869	Z2.3	0.909
X4.3	0.783	Z2.4	0.900
X5.Social Status		Y1. The intention of marketing innovation	
X5.1	0.901	Y1.1	0.826
X5.2	0.886	Y1.2	0.899
X6. Financial Stability		Y1.3	0.762
X6.1	0.830	Y2. The intention of technological innovation	
X6.2	0.690	Y2.1	0.839
X6.3	0.881	Y2.2	0.861
		Y2.3	0.911

Sources: developed by the authors.

Table 3 shows the results of the reliability and validity variable test.

Table 3. The results of the reliability and construct validity test

	Cronbach's Alpha	Rho A	Composite Reliability	Average Variance Extracted (AVE)
X1 Awareness	0.860	0.861	0.914	0.781
X2 Curiosity	0.855	0.862	0.902	0.698
X3 Knowledge	0.905	0.912	0.933	0.777
X4 Opinion	0.783	0.804	0.873	0.696
X5 Social Status	0.747	0.749	0.888	0.798
X6 Financial Stability	0.779	0.766	0.845	0.647
X7 Optimism	0.882	0.884	0.919	0.739
X8 Risk Taker	0.843	0.848	0.906	0.763
Z1 Attitude	0.829	0.829	0.898	0.746
Z2 Motivation	0.891	0.897	0.925	0.755
Y1 The intention of Marketing Innovation	0.773	0.776	0.869	0.690
Y2 The intention of Technological Innovation	0.840	0.842	0.904	0.759

Sources: calculated by the authors.

The coefficient of determination (R square Adjusted) shows how much influence the influencing variable has on the affected variable (Table 4).

Table 4. Coefficient of determination

	R Square	R Square Adjusted
The intention of Marketing Innovation (Y1)	0.632	0.626
The intention of Technology Innovation (Y2)	0.784	0.781
Attitude (Z1)	0.831	0.820
Motivation (Z2)	0.760	0.744

Sources: calculated by the authors.

The Adjusted R Square Y1 value of 0.626 (Table 4) shows that changes in Z1 and Z2 could explain 62.6% of the Y1 variable. At the same time, the remaining 37.4% is explained by other factors outside the model. The Adjusted R Square Y2 value of 0.781 from the table above shows that changes in Z1 and Z2 can explain 78.1% of the Y2 variable. At the same time, the remaining 21.9% is explained by other factors outside the model. The Adjusted R Square Z1 value of 0.820 (Table 4) shows that changes in X1 can explain 18% of the Y2 variable, X2, X3, X4, X5, X6, X7, and X8. Other factors outside the model explain the remaining 21.9%. The Adjusted R Square Z2 value of 0.744 (Table 4) shows that changes in X1 can explain 74.4% of the Y2 variable, X2, X3, X4, X5, X6, X7, and X8. In contrast, other factors outside the model explain the remaining 25.6%.

The results of Path Analysis show the results of hypothesis testing, based on the t-test, namely to test the effect of the independent variable on the dependent variable and the moderating variable. Table 5 presents the path analysis results of two effect lanes.

Table 5. Path analysis results (Path Analysis): two effect lanes

	Original Sample	Sample Mean (M)	T Statistics	P Values
X2 Curiosity -> Y1 Marketing	0.147	0.154	1.245	0.214
X2 Curiosity -> Y2 Technology	0.107	0.100	1.129	0.260
X2 Curiosity -> Z1 Attitude	0.289	0.289	2.854	0.004
X2 Curiosity -> Z2 Motivation	0.145	0.141	1.414	0.158
X1 Awareness -> Y1 Marketing	-0.013	-0.033	0.098	0.922
X1 Awareness -> Y2 Technology	-0.243	-0.242	2.798	0.005
X1 Awareness -> Z1 Attitude	0.030	0.038	0.326	0.744
X1 Awareness -> Z2 Motivation	0.173	0.174	1.722	0.086
X3 Knowledge -> Y1 Marketing	-0.061	-0.066	0.822	0.411
X3 Knowledge -> Y2 Technology	-0.016	-0.014	0.261	0.794
X3 Knowledge -> Z1 Attitude	-0.027	-0.036	0.419	0.676
X3 Knowledge -> Z2 Motivation	-0.039	-0.044	0.544	0.587
X4 Opinion -> Y1 Marketing	0.244	0.240	2.175	0.030
X4 Opinion -> Y2 Technology	0.062	0.057	0.801	0.424
X4 Opinion -> Z1 Attitude	-0.121	-0.112	1.493	0.136
X4 Opinion -> Z2 Motivation	-0.097	-0.078	1.195	0.232
X5 Social Status -> Y1 Marketing	-0.198	-0.191	2.145	0.032
X5 Social Status -> Y2 Technology	-0.046	-0.043	0.596	0.551
X5 Social Status -> Z1 Attitude	0.110	0.111	1.700	0.090
X5 Social Status -> Z2 Motivation	0.072	0.062	0.824	0.410
X6 Financial Stability -> Y1 Marketing	0.083	0.080	1.117	0.265
X6 Financial Stability -> Y2 Technology	-0.100	-0.096	1.972	0.049
X6. Financial Stability -> Z1 Attitude	0.001	0.006	0.024	0.981
X6 Financial Stability -> Z2 Motivation	0.053	0.065	0.827	0.409
X7 Optimism -> Y1 Marketing	0.159	0.166	0.920	0.358
X7 Optimism -> Y2 Technology	0.331	0.334	3.250	0.001
X7 Optimism -> Z1 Attitude	0.559	0.548	6.128	0.000
X7 Optimism -> Z2 Motivation	0.484	0.482	4.227	0.000
X8. Risk taker -> Y1 Marketing	0.182	0.196	1.817	0.070
X8 Risk-taker -> Y2 Technology	0.263	0.263	3.492	0.001
X8 Risk-taker -> Z1 Attitude	0.169	0.168	2.392	0.017
X8 Risk-taker -> Z2 Motivation	0.205	0.200	2.597	0.010
Z1 Attitude -> Y1 Marketing	0.054	0.061	0.391	0.696
Z1 Attitude -> Y2 Technology	0.395	0.386	2.356	0.019

Continued Table 5

	Original Sample	Sample Mean (M)	T Statistics	P Values
Z2 Motivation -> Y1 Marketing	0.364	0.358	2.351	0.019
Z2. Motivation -> Y2 Technology	0.195	0.209	1.759	0.079

Sources: calculated by the authors.

Table 5 shows the results of the test path for each hypothesis of the influence of the two paths, where from the table it can be determined whether the hypothesis is accepted or not and heals the magnitude and direction of the influence. The independent variable (X) reduces its influence on the dependent variable (Y) if it satisfies the P-value <0.05 and Tstatistic>1.96. the influence of the magnitude and direction shown from the original sample values. Based on the results of Path Analysis Results (Table 5), H1.4, H1.5, H2.1, H2.6, H2.7, H2.8, H3.2, H3.7, H3.8, H4.7, H4.8, H5.9, H6.9, H7.9, and H8.9 are supported. In detail, the magnitude and direction of influence, as well as the fulfillment of the conditions for the accepted hypothesis are presented in the following Hypothesis Analysis Table (Table 6).

Table 6. Hypothesis analysis_two effect lanes

	Path Result		Original Sample/The Effect
X1. Awareness -> Y2 Technology	(t statistic= 2.798 > t table=1.96, Level Sig =0.05, P=0.05<0.05	H2.1 Supported	-0.243 -(24.3%)
X2 Curiosity -> Z1 Attitude	(t statistic= 2.977 > t table=1.96, Level Sig =0.05, P=0.03<0.05	H3.2 Supported	0.290 (29%)
X4 Opinion -> Y1 Marketing	(t statistic= 2.175> t table=1.96, Level Sig =0.05, P=0.03<0.05	H1.4 Supported	0.244 (24.4%)
X5 Social Status -> Y1 Marketing	(t statistic= 2.145> t table=1.96, Level Sig =0.05, P=0.032<0.05	H1.5 Supported	-0.198 -(19.8%)
X6 Financial Stability -> Y2 Technology	(t statistic= 1.972> t table=1.96, Level Sig =0.05, P=0.049<0.05	H2.6 Supported	-0.100 -(10%)
X7 Optimism-> Y2 Technology	(t statistic= 3.250> t table=1.96, Level Sig =0.05, P=0.001<0.05	H2.7 Supported	0.331 (33.1%)
X7 Optimism -> Z1 Attitude	(t statistic= 5.039> t table=1.96,). Level Sig =0.05, P=0.00< 0.05	H3.7 Supported	0.559 (55.9%)
X7 Optimism -> Z2 Motivation	(t statistic= 4.794> t table=1.96, Level Sig =0.05, P=0.00< 0.05	H4.7 Supported	0.480 (48%)
X8 Risk-taker -> Y2 Technology	t statistic= 3.492> t table=1.96, Level Sig =0.05, P=0.001< 0.05	H2.8 Supported	0.263 (26.3%)
X8 Risk-taker -> Z1 Attitude	(t statistic= 2.344> t table=1.96, Level Sig =0.05, P=0.019< 0.05	H3.8 Supported	0.172 (17.2%)
X8 Risk-taker -> Z2 Motivation	(t statistic= 2.432> t table=1.96, Level Sig =0.05, P=0.015< 0.05	H4.8 Supported	0.203 (20.3%)
Z1 Attitude -> Y1 Marketing	(t statistic= 2.188> t table=1.96, Level Sig =0.05, P=0.029< 0.05	H5.9 Supported	0.290 (29%)
Z1 Attitude -> Y2 Technology	(t statistic= 3.818> t table=1.96, Level Sig =0.05, P=0.00< 0.05	H6.9 Supported	0.628 (62.8%)
Z2 Motivation -> Y1 Marketing	(t statistic= 3.818> t table=1.96, Level Sig =0.05, P=0.00< 0.05	H7.9 Supported	0.530 (53%)
Z2 Motivation -> Y2 Technology	(t statistic= 3.818> t table=1.96, Level Sig =0.05, P=< 0.05	H8.9 Supported	0.283 (28.3%)

Sources: calculated by the authors.

The results of Path Analysis show the results of hypothesis testing, based on the t-test, namely to test the effect of the independent variable on the dependent variable and the mediating variable. Table 7 demonstrates the indirect effect (three effect lanes).

Table 7. Indirect effect_three effect lanes

	Effect
Awareness -> Z1 Attitude -> Y1 Marketing	0.008
Curiosity -> Z1 Attitude -> Y1 Marketing	0.084
Knowledge -> Z1 Attitude -> Y1 Marketing	-0.008
Opinion -> Z1 Attitude -> Y1 Marketing	-0.036

Continued Table 7

Social Status -> Z1 Attitude -> Y1 Marketing	0.031
Financial Stability -> Z1 Attitude -> Y1 Marketing	0.002
Optimism -> Z1 Attitude -> Y1 Marketing	0.162
Risk-taker -> Z1 Attitude -> Y1 Marketing	0.050
Awareness -> Z2 Motivation -> Y1 Marketing	0.093
Curiosity -> Z2 Motivation -> Y1 Marketing	0.078
Knowledge -> Z2 Motivation -> Y1 Marketing	-0.022
Opinion -> Z2 Motivation -> Y1 Marketing	-0.051
Social Status -> Z2 Motivation -> Y1 Marketing	0.036
Financial Stability -> Z2 Motivation -> Y1 Marketing	0.033
Optimism -> Z2 Motivation -> Y1 Marketing	0.254
Risk-taker -> Z2 Motivation -> Y1 Marketing	0.108
Awareness -> Z2 Motivation -> Y2 Technology	0.050
Awareness -> Z1 Attitude -> Y2 Technology	0.018
Curiosity -> Z1 Attitude -> Y2 Technology	0.182
Knowledge -> Z1 Attitude -> Y2 Technology	-0.018
Opinion -> Z1 Attitude -> Y2 Technology	-0.077
Social Status -> Z1 Attitude -> Y2 Technology	0.068
Financial Stability -> Z1 Attitude -> Y2 Technology	0.004
Optimism -> Z1 Attitude -> Y2 Technology	0.351
Risk-taker -> Z1 Attitude -> Y2 Technology	0.108
Curiosity -> Z2 Motivation -> Y2 Technology	0.042
Knowledge -> Z2 Motivation -> Y2 Technology	-0.012
Opinion -> Z2 Motivation -> Y2 Technology	-0.027
Social Status -> Z2 Motivation -> Y2 Technology	0.019
Financial Stability -> Z2 Motivation -> Y2 Technology	0.018
Optimism -> Z2 Motivation -> Y2 Technology	0.136
Risk-taker -> Z2 Motivation -> Y2 Technology	0.057

Sources: calculated by the authors.

Based on the results of indirect effect_three effect lanes (Table 7), H5.7, H7.7, H7.8, H5.2, H6.7, H6.8, H8.7 were supported. In detail, the magnitude and direction of influence are presented in Table 8,

Table 8. Hypothesis analysis_three effect lanes

		Results
Optimism -> Z1 Attitude -> Y1 Marketing	H5.7 Supported	0.162 (16.2%)
Optimism-> Z2 Motivation -> Y1 Marketing	H7.7 Supported	0.254 (25.4%0
Risk-taker -> Z2 Motivation -> Y1 Marketing	H7.8 Supported	0.108 (10.8%)
Curiosity -> Z1 Attitude -> Y2 Technology	H5.2 Supported	0.182 (18.2%)
Optimism -> Z1 Attitude -> Y2 Technology	H6.7 Supported	0.351 (35.1%)
Risk-taker -> Z1 Attitude -> Y2 Technology	H6.8 Supported	0.108 (10,8%)
Optimism -> Z2 Motivation -> Y2 Technology	H8.7 Supported	0.136 (13.6%)

Sources: calculated by the authors.

At the same time, the other hypotheses were rejected. To clarify the explanation above, the study presents a model of the influence between variables and the indicators that make up the variables (constructs). To clarify the explanation above, the study presents a model of the influence between variables and the indicators that make up the variables (constructs), Figure 1.

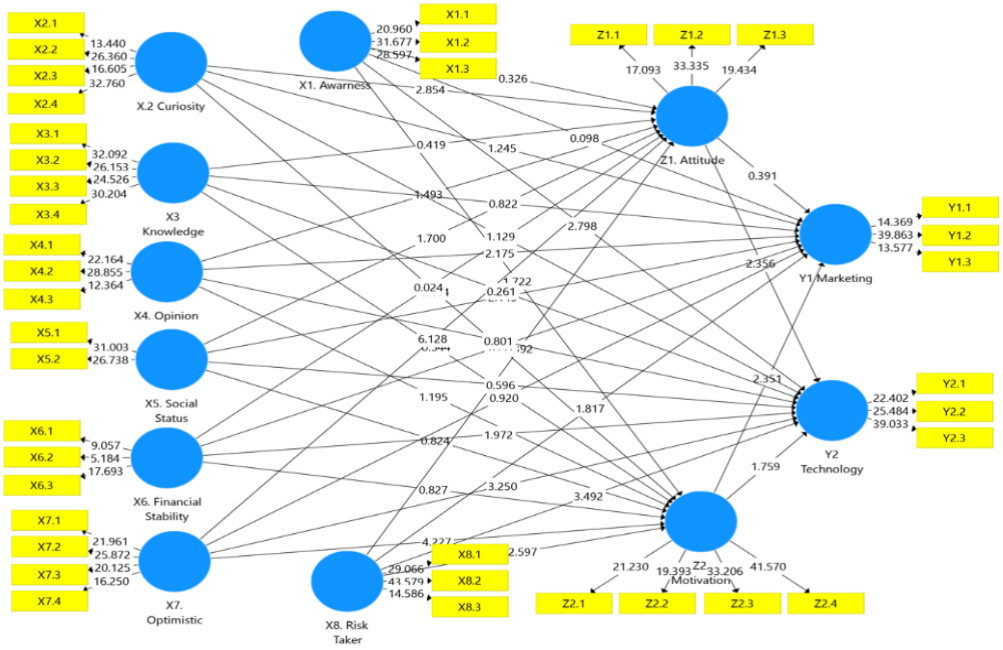

Figure 1. Model of result

Discussion. The results of the hypothesis analysis show that the characteristics of MSME owners that influence technological innovation intentions are awareness (H2.1), financial stability (H2.6), optimism (H2.7), risk-takers (H2.8), attitude (H6.9), motivation (H8.9). Curiosity (H2.2) does not directly influence the intention of technological innovation. It is necessary to have a positive attitude towards innovation as an intervening variable (H6.2 is accepted). Optimism with motivation as an intervening variable influences the intention of technological innovation (H7.7 is accepted). Optimists and risk-takers either with attitude as an intervening variable (H6.7) or can directly influence technological innovation intentions (H2.7). Furthermore, a positive attitude towards innovation directly influences technological innovation intentions. In contrast to awareness and financial stability, both do not require intervening variables because they can directly influence technological innovation intentions (H2.1 and H2.6). Referring to previous research that characteristics influence the intention of technological innovation (Asim and Sorooshian, 2019; Diaconu, 2011; Huang et al., 2019; Ibarra et al., 2020; Johnson, 2013; Mai et al., 2018; Raghupathi and Raghupathi, 2017; Suharti et al., 2014). Opinion leadership (H4.4) and social status (H4.5) influence marketing innovation intentions. It is the understanding that creating creativity requires expanding the network (Wulandari and Uno, 2021). Opinion leadership strength and social status indicate the power of network development. In addition, attitudes and motivation significantly and positively affect marketing innovation intentions. Referring to previous research that characteristics influence marketing innovation intentions (Altunbasak, 2015; Bernatchez et al., 2015; Celik et al., 2016; Silikus, 2021; Diaconu, 2011; Dearing and Cox, 2018; Geum et al., 2020; Kotor et al., 2020; Gupta et al., 2016; Moreira et al., 2012; Nieves and Meneses, 2016; Peljko, 2016; Ying and Sovacool, 2021). Furthermore, the factors that shape the attitude toward innovation are curiosity (H3.2), optimism (H3.7), and risk-taker (H3.8). The factors that shape the motivation related to innovation are optimism (H4.7) and taking (H4.8).

Conclusions. Optimism variable alone cannot grow the intention of marketing innovation. It is necessary to build an attitude and motivation first to grow the intention of marketing innovation. In addition, optimism can foster technological innovation intention directly or through forming attitudes and motivation first. The risk-taker cannot directly develop the intention of marketing innovation. It is necessary to build motivation first.

Meanwhile, risk-takers can increase the intention of technological innovation directly or through the formation of attitudes and motivation. In addition, curiosity cannot directly influence the intention of technological innovation except by forming attitudes first. Thus, the factors influencing the intention of marketing innovation include opinion leadership, social status, optimism, and risk-taker. Factors influencing technological innovation's intention are awareness, financial stability, optimism, risk-taker, and curiosity. These characteristics, attitudes, and motivations are the novelty of this study, which are the factors influencing the intention to innovate, both marketing and technological innovation.

MSME owners need to strengthen their character to create innovations, including opinion leadership, optimism, risk-takers, awareness, and curiosity. In addition, MSMEs need to prepare for financial stability and social status. Furthermore, the government and institutions related to the empowerment of MSMEs need to organize activities that motivate and build an attitude of innovation for MSMEs. All Adjusted R Square above 0.5 means that the independent and intervening variables that affect the dependent variables are quite strong. However, further research is needed to determine other factors that influence the increase in innovation intention. The factors necessary for continuing this research to encourage innovation intentions are business environment factors and government policies.

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References

Ahn, J. M., Minshall, T., & Mortara, L. (2017). Understanding the human side of openness: the fit between open innovation modes and CEO characteristics. *R&D Management*, *47*(5), 727-740. [Google Scholar] [CrossRef]

Ajzen, I. (2005). *EBOOK: Attitudes, Personality and Behaviour*. McGraw-hill education (UK). [Google Scholar]

Altunbasak, Y. (2016). Excellence in innovation and knowledge economy. In *Becoming a World-Class University* (pp. 117-143). Springer, Cham. [Google Scholar]

Amoroso, S. (2017). Multilevel heterogeneity of R&D cooperation and innovation determinants. *Eurasian Business Review*, *7*(1), 93-120. [Google Scholar] [CrossRef]

Asim, Z., & Sorooshian, S. (2019). Exploring the role of knowledge, innovation and technology management (KNIT) capabilities that influence research and development. *Journal of Open Innovation: Technology, Market, and Complexity*, *5*(2), 21. [Google Scholar] [CrossRef]

Bernatchez, A. C., Gauvin, L., Fuller, D., Dubé, A. S., & Drouin, L. (2015). Knowing about a public bicycle share program in Montreal, Canada: are diffusion of innovation and proximity enough for equitable awareness?. *Journal of Transport & Health*, *2*(3), 360-368. [Google Scholar] [CrossRef]

Celik, P., Storme, M., Davila, A., & Myszkowski, N. (2016). Work-related curiosity positively predicts worker innovation. *Journal of Management Development*. 35(9), 1184-1194. [Google Scholar] [CrossRef]

Choi, N., Kim, D., Goo, J., & Whitmore, A. (2008). Knowing is doing: An empirical validation of the relationship between managerial information security awareness and action. *Information Management & Computer Security*. 16(5), 484-501. [Google Scholar] [CrossRef]

Ciasullo, M. V., Tommasetti, R., Trosi, O., & Vesci, M. (2019). Curiosity as Brazilian tourist motivation in visiting Europe. *Revista Brasileira de Pesquisa em Turismo*, 13 (3), 140-160. [Google Scholar]

Ciborowski, R. (2016). Innovation systems in the terms of schumpeterian crea-tive destruction. *EUREKA: Social and Humanities*, (4), 29-37. [Google Scholar]

Dearing, J. W., & Cox, J. G. (2018). Diffusion of innovations theory, principles, and practice. *Health affairs*, *37*(2), 183-190. [Google Scholar]

Diaconu, M. (2011). Technological Innovation: Concept, Process, Typology and Implications in the Economy. *Theoretical & Applied Economics*, *18*(10). [Google Scholar]

Encabo, J. V. (2016). The Concept of Knowledge: What is It For? *Disputatio*, 8(43), 187-202. [Google Scholar]

Fishman, J., Yang, C., & Mandell, D. (2021). Attitude theory and measurement in implementation science: a secondary review of empirical studies and opportunities for advancement. *Implementation Science*, *16*(1), 1-10. [Google Scholar] [CrossRef]

Geum, Y. P., Kim, P., & Jang, Y. H. (2020). The Effect of Entrepreneur's Curiosity on Challenge, Innovation and Competition. *Asia-Pacific Journal of Business Venturing and Entrepreneurship*, *15*(2), 253-265. [Google Scholar]

Goorha, P., & Potts, J. (2016). Awareness in innovators: from 'outside the box'to 'inside the bubble'. *Journal of Global Entrepreneurship Research*, *6*(1), 1-9. [Google Scholar] [CrossRef]

Gribanova, S., Rizhamadze, K., & Ābeltiņa, A. (2020). The Role of Motivation Among IT professionals To Foster Innovation: SMEs Focus. *European Journal of Business and Management Research*, *5*(5). [Google Scholar] [CrossRef]

Gross, M. E., Zedelius, C. M., & Schooler, J. W. (2020). Cultivating an understanding of curiosity as a seed for creativity. *Current Opinion in Behavioral Sciences*, *35*, 77-82. [Google Scholar] [CrossRef]

Gupta, S., Malhotra, N. K., Czinkota, M., & Foroudi, P. (2016). Marketing innovation: A consequence of competitiveness. *Journal of business research*, *69*(12), 5671-5681. [Google Scholar] [CrossRef]

Halbesleben, J. R., Novicevic, M. M., Harvey, M. G., & Buckley, M. R. (2003). Awareness of temporal complexity in leadership of creativity and innovation: A competency-based model. *The Leadership Quarterly*, *14*(4-5), 433-454. [Google Scholar] [CrossRef]

Haque, M. F., Haque, M. A., & Islam, M. S. (2014). Motivational Theories-A Critical Analysis. ASA University Review, 8 (1), 61–68. [Google Scholar]

Harada, T. (2020). The effects of risk-taking, exploitation, and exploration on creativity. *PloS one*, *15*(7), e0235698. [Google Scholar] [CrossRef]

Hongbo, L., & Koffi, A. L. (2019). Effect of Innovation on Small Medium Enterprises (SMEs) Performance and Competitiveness: Evidence from Cote d'Ivoire. *Available at SSRN 3493412*. [Google Scholar] [CrossRef]

Huang, Q., Chen, X., Zhou, M., Zhang, X., & Duan, L. (2019). How does CEO's environmental awareness affect technological innovation?. *International Journal of Environmental Research and Public Health*, *16*(2), 261. [Google Scholar] [CrossRef]

Ibarra, D., Bigdeli, A. Z., Igartua, J. I., & Ganzarain, J. (2020). Business model innovation in established SMEs: A configurational approach. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(3), 76. [Google Scholar] [CrossRef]

Johnson, M. P. (2015). Sustainability management and small and medium-sized enterprises: Managers' awareness and implementation of innovative tools. *Corporate Social Responsibility and Environmental Management*, *22*(5), 271-285. [Google Scholar] [CrossRef]

Koudelková, P., & Milichovský, F. (2015). Successful innovation by motivation. *Business: Theory and Practice*, *16*(3), 223-230. [Google Scholar]

LaMorte, W. W. (2019). Diffusion of Innovation Theory. *Behavioral Change Management.* Retrieved from [Link]

Larsen, G. D. (2011). Understanding the early stages of the innovation diffusion process: awareness, influence and communication networks. *Construction Management and Economics*, *29*(10), 987-1002. [Google Scholar] [CrossRef]

Lemanowicz, M. (2015). Innovation in economic theory and the development of economic thought. *Acta Scientiarum Polonorum. Oeconomia*, *14*(4). [Google Scholar]

Machmud, S. (2017). The Effect of Motivational Entrepreneurship on Business Performance of SMEs Moderated by Process Innovation. *Archives of Business Research*, *5*(8). [Google Scholar]

Mai, Y., Zhang, W., & Wang, L. (2019). The effects of entrepreneurs' moral awareness and ethical behavior on product innovation of new ventures: Evidence from China. *Chinese Management Studies*, *13*(2), 421-446. [Google Scholar] [CrossRef]

Malandrino, D., Scarano, V., & Spinelli, R. (2013, September). How increased awareness can impact attitudes and behaviors toward online privacy protection. In *2013 International Conference on Social Computing* (pp. 57-62). IEEE. [Google Scholar] [CrossRef]

Mansfeld, M. N., Hölzle, K., & Gemunden, H. G. (2010). Personal characteristics of innovators—an empirical study of roles in innovation management. *International Journal of Innovation Management*, *14*(06), 1129-1147. [Google Scholar] [CrossRef]

Medrano, N., & Olarte-Pascual, C. (2016). The effects of the crisis on marketing innovation: an application for Spain. *Journal of Business and Industrial Marketing*, *31*(3), 404-417. [Google Scholar] [CrossRef]

Mohajan, H. K. (2016). Knowledge is an essential element at present world. *International Journal of Publication and Social Studies*, *1*(1), 31-53. [Google Scholar] [CrossRef]

Moreira, J., Silva, M. J., Simões, J., & Sousa, G. (2012). Drivers of marketing innovation in Portuguese firms. *Amfiteatru Economic Journal*, *14*(31), 195-206. [Google Scholar]

Muller, J. M. (2019). Business model innovation in small-and medium-sized enterprises. *Technology Management*, *30*(8), 1127-1142. [Google Scholar]

Naidoo, V. (2010). Firm survival through a crisis: The influence of market orientation, marketing innovation and business strategy. *Industrial marketing management*, *39*(8), 1311-1320. [Google Scholar] [CrossRef]

Nieves, J., & Diaz-Meneses, G. (2016). Antecedents and outcomes of marketing innovation: an empirical analysis in the hotel industry. *International Journal of Contemporary Hospitality Management*, *28*(8), 1554-1576. [Google Scholar] [CrossRef]

Ozusaglam, S. (2012). Environmental innovation: a concise review of the literature. *l'entreprise*, 2-3, 15-38.

Paulikas, J. (2018). The factors determining employees' positive attitude to innovations: a case of Klaipėda public transport companies. *Organizacijų vadyba: sisteminiai tyrimai*, (79), 85-102. [Google Scholar]

Peljko, Ž., Jeraj, M., Săvoiu, G., & Marič, M. (2016). An empirical study of the relationship between entrepreneurial curiosity and innovativeness. *Organizacija*, *49*(3). [Google Scholar]

Phillips, R. (2014). Space for curiosity. *Progress in Human Geography*, *38*(4), 493-512. [Google Scholar] [CrossRef]

Raghupathi, V., & Raghupathi, W. (2017). Innovation at country-level: association between economic development and patents. *Journal of Innovation and Entrepreneurship*, *6*(1), 1-20. [Google Scholar] [CrossRef]

Sağ, S., Sezen, B., & Guzel, M. (2016). Factors that motivate or prevent adoption of open innovation by SMEs in developing countries and policy suggestions. *Procedia-Social and Behavioral Sciences*, *235*, 756-763. [Google Scholar] [CrossRef]

Saha, A. K., Muhammad, N., & Jafrin, T. (2017). Risk Taking Behavior in Relation to Motivation and Job Satisfaction of Professionals. *Business Review*, *8*, 53-76. [Google Scholar]

Setiadi, N. J., Ali, A. J., & Aafaqi, R. (2007). The impact of personal characteristics and intrinsic motivation on creative behavior among Indonesian radio station managers. *The South East Asian Journal of Management*, *1*(1), 6. [Google Scholar] [CrossRef]

Suharti, L., Soegiono, L., & Purwati, Y. (2013). Technology Innovation Adoption Model among SME Tempe Producer (A Study on Tempe Produces in Jawa Tengah, Indonesia). *International Journal of Business and Management Invention*, *3*(2), 5-14. [Google Scholar]

Taylor, S. P. (2017). What is innovation? A study of the definitions, academic models and applicability of innovation to an example of social housing in England. *Open Journal of Social Sciences*, *5*(11), 128-146. [Google Scholar] [CrossRef]

Ungerman, O., Dedkova, J., & Gurinova, K. (2018). The impact of marketing innovation on the competitiveness of enterprises in the context of industry 4.0. *Journal of competitiveness*, *10*(2), 132. [Google Scholar]

Usai, A., Scuotto, V., Murray, A., Fiano, F., & Dezi, L. (2018). Do entrepreneurial knowledge and innovative attitude overcome "imperfections" in the innovation process? Insights from SMEs in the UK and Italy. *Journal of Knowledge Management*, *22*(8), 1637-1654. [Google Scholar] [CrossRef]

Van de Vrande, V., De Jong, J. P., Vanhaverbeke, W., & De Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation*, *29*(6-7), 423-437. [Google Scholar] [CrossRef]

Wiktorsson, M., & Groth, M. (2011). Conditions for Innovation: Insights from a multi-case study. *Journal of technology management & innovation*, *6*(2), 203-217. [Google Scholar] [CrossRef]

Ying, J. J., & Sovacool, B. K. (2021). A fair trade? Expert perceptions of equity, innovation, and public awareness in China's future Emissions Trading Scheme. *Climatic Change*, *164*(3), 1-23. [Google Scholar] [CrossRef]

Zhu, X., & Xie, X. (2015). Effects of knowledge on attitude formation and change toward genetically modified foods. *Risk Analysis*, *35*(5), 790-810. [Google Scholar] [CrossRef]

Zilicus. (2021). Success of Innovation & Role of Early Adopters. Retrieved from [Link].

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Впровадження маркетингових та технологічних інновацій на ММСП: обгрунтування факорів впливу

Інновації є основними джерлом змін у функціонуванні економічних систем. На початковому етапі, інновації були орієнтовані на технології розроблення нових продуктів. При цьому лише великі компанії могли дозволити собі їх розробку через складність та коштовність інноваційного процесу. Наразі, інновації та розробки доступні підприємствам усіх рівнів, включаючи мікро-, малі та середні підприємства (ММСП). Метою даного дослідження є аналіз впливу характеристик власника ММСП на наміри впроваджувати маркетингові та технологічні інновації через його ставлення та мотивацію. Для досягнення поставленої мети авторами проведено SEM-аналіз за допомогою програми SmartPLS. Об'єктом дослідження є ММСП Індонезії, різних видів секторів економіки. Емпіричне дослідження проведено на основі даних, сформованих для вибірки зі 128 респондентів, що відповідає теорії Хейра. Мінімальний поріг для опрацювання даних програмою SmartPLS становить 100. Результати дослідження показали, що ставлення та мотивація впливають на інноваційні наміри як безпосередньо, так і в якості проміжних змінних, які підвищують допитливість, оптимізм та готовність до ризику. Лідерство, соціальний статус, ставлення та мотивація впливають на маркетингові інноваційні наміри. Своєю чергою, обізнаність, фінансова стабільність, оптимізм, схильність до ризику, ставлення та мотивація безпосередньо впливають на технологічні інноваційні наміри. Результати дослідження мають практичне значення для уряду та громадських організацій та можуть бути дорожньою картою ММСП для підвищення ефективності їх інноваційної діяльності. Автори зазначили, що ставлення та мотивація власників ММСП до інноваційної діяльності сприяє їх заохоченню та підвищує наміри впроваджувати інновації. Інновації, що здійснюються ММСП у широкому масштабі, можуть покращити їх діяльність та сприяти подоланню економічного спаду. Новизною даного дослідження є аналіз ставлення та мотивації на наміри впроваджувати як маркетингові, так і технологічні інновації.

Ключові слова: теорія інновацій, підприємництво, політична стратегія, поведінка, мотивація, характеристики.