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ROLE OF COGNITIVE ABILITY TO COMPETITIVE ADVANTAGES WITH PRODUCT DEVELOPMENT AS INTERVENING VARIABLES (CASE STUDY ON MSME'S CIBADUYUT, BANDUNG CITY)

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ABSTRACT:

This study aims to determine the role of cognitive ability on competitive advantage with product development as an intervening variable in the Cibaduyut MSME's, Bandung City. This study used a descriptive verification approach, 121 MSME's owners were sampled and the technique used was SEM with Amos version 21 software. Primary data from this study were obtained from a questionnaire. Meanwhile, secondary data were obtained through notes and publications and literature. The results showed that the variable cognitive ability had a positive and significant effect on competitive advantage and product development, and product development had a positive effect on competitive advantage through mediation of satisfaction. This study is proposed to determine the aspects of cognition which are related to competitive advantage at MSME's Cibaduyut, Bandung City. This research emphasizes on the cognitive aspects that have an impact on competitive advantage, especially on MSME's and the results of the research are expected to expand the treasury of management literature, especially in the field of Marketing.

INTRODUCTION

The current development of technology and information has led to many business players in various sectors (Chen and Huang, 2010). This is due to the increasing number of people accompanied by the increasingly complex needs for products and services to become consumer needs (Dedahanov, 2019). The

number of businesses engaged in the same field requires an organization to have a different business strategy in maintaining its existence and sustainability (Fariq, 2017). Consumer needs, which are always different from time to time, require business people to reformulate their marketing strategies in order to remain competitive in seeking competitive advantage (Bakare and Quadri, 2014). According to Armstrong (2009) in order for companies to excellent, product quality and innovation are aspects that must be managed in a sustainable manner in order to encourage market improvement and win the competition (Zhang, J and Cao, 2018). Kotler (2017) states that an organization that excels in competition is an organization that is able to adapt to the developing environment in which the business operates. According to Levin (2017) there is a relationship between the success of an organization and the owner's own cognitive factors. This shows that the cognitive factors provide the ability for business owners to understand competitors by paying attention to the gaps that exist in the competitors themselves. Maybe some business people think that business success can be obtained by persistence and routines (Gao, J and Bernad, 2017). This perspective is not wrong, but will give rise to the idea that business strategy is deemed less important for MSME's. Organizations that grow rapidly, of course, cannot be separated from the strategies adopted (Fariq, 2017). Some researchers say there are HR factors (Chen and Huang, 2010), organizational performance (Bakare, 2014), and managerial abilities (Dedahanov, 2019). According to (Levin, 2017) organizational success comes in consciously choosing which industry to enter, then forming a position in it, or even setting up a barrier for competitors to enter the market. In the context of MSME's, this strategy will not work effectively if it does not have a superior product (Rauch, E and Patrick, D, 2016). Uniqueness, trends, product attributes, and quality can be an advantage for organizations in facing competition. The superiority of a product is a process of development carried out in order to seek competitive advantage (Horvart, A and Granato, 2019). For MSME's that are involved in developing new products it does not necessarily guarantee that the business will be successful. Product development is a process that consists of a series of business activities that include design, testing and marketing. Product development cannot run well if it is not accompanied by the knowledge possessed by the owner or manager (Levin, 2017). This study aims to determine the extent to which an entrepreneur's cognitive abilities affect competitive advantage through product development. In the current situation, with the development of technology and information, every MSME's actor has equal access to technology. They use social media as a tool that can assist in carrying out business activities.

Formulation of the Problem

To understand this, based on the background of the problems above, the problem formulations in this study are, (1) Can cognitive abilities affect product development? (2) Can product development affect competitive advantage? (3) Does cognitive ability affect competitive advantage? (4) Does product development mediate the effect of cognitive abilities on competitive advantage?

Theoretical Review

Cognitive Ability

According to Levin, S (2017), the term cognitive in business refers to a person's ability to understand the market by using analytical skills or the ability to reason through strategic intelligence. According to Sloan (2016) cognitive ability refers to the ability to think strategically. According to Adna, B and Badri (2020) individual cognitive abilities are very important for business performance and for anticipating the behavior of competitors that can precede it. A cognitive approach for entrepreneurs is very important, given that this factor makes an important contribution to sustainable business effectiveness. Cognitive abilities are divided into two aspects, namely intuition and processing of information. Cognitive abilities can provide a basis for business people or managers to seize opportunities and respond to emerging threats. Cognisical factors can be a source of competitive advantage and strength in entrepreneurship by examining two factors that underlie cognitive abilities in business, namely psychology and economics. One of the best known is analytical skills and the ability to solve problems in the market. Among the benefits of cognitive abilities themselves are strategic abilities that can anticipate the behavior of competitors that precede them. According to Levin, S (2017) cognition can help to explain why some entrepreneurs have more effective abilities than other entrepreneurs, so that this can affect the business by making changes that can adapt to the environment. According to Aydiner (2019) there are dimensions in explaining the cognitive abilities of an entrepreneur or manager, namely, analytical skills, ability to solve problems, intelligence, and flexibility (responsiveness to change).

Product Development

Product development is an organizational strategy in managing its products in order to meet consumer wants and needs. According to Hong, Y and Chang (2015) each product must be evaluated, improved, and developed in order to obtain new products that can have competitiveness. According to Kalluri, (2014) new products are products that are refined and modified so that they get good selling power. In the context of SMEs, the concept of product development must be adjusted to the desires of consumers and emerging trends. Among the objectives of product development being carried out is so that the product is better and can attract consumer interest and is unique and can compete with all existing competitors. According to Helfat (2007) organizations that can develop products will be able to maintain their position to meet consumer needs so that in the end consumers will feel satisfied and loyal to the organization. Kotler (2017) states that product development must have characteristics that include relative advantage, suitability, complexity, and communicable capabilities. However, in its implementation, there are several factors that become obstacles in carrying out product development, including cognitive abilities (lack of ideas), fragmented markets, costs, and available resources. Eugene (2020) mentions four dimensions in carrying out product development, namely, time, cost, capability, and quality.

Competitive Advantage

Every competing business organization has a desire to outperform its competitive market. Therefore, a competitive strategy that can be implemented is to provide more value to the product compared to its competitors (Eugine, T, 2020). The advantage of competing is a strategy that utilizes the resources owned by the organization to provide more value or benefits to customers compared to competitors. Competitive advantage basically occurs when an organization can do something other organizations cannot (Aziz, 2016). Or in other words, competitive advantage occurs when the ability of the organization exceeds its competitors. According to Chukwuma (2018) competitive advantage is very important for companies to have. According to Eugene's view, T (2020) competitive advantage is the ability to distinguish products produced in the context of competition and have characteristics that can lead to consumer purchase interest. According to Aziz (2016) there are three competitive advantages in organizations, namely tactical advantages, operational advantages, and products.

Conceptual Framework

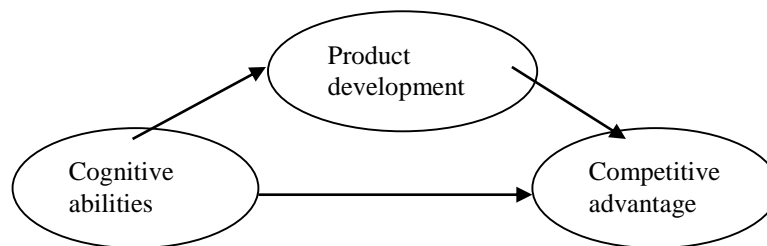


Figure 1. The relationship between Cognitive Abilities variable on Product Development and Competitive advantage

Hypothesis Development

Effect of Cognitive Ability On Product Development

Cognitive abilities are one of the factors that can contribute to business continuity. Cognitive abilities can provide benefits for organizational strategy development. One of them is the manager's ability to develop products and anticipate threats that come. Levin (2017) states that there is an influence between cognitive abilities and product development carried out.

H1. Cognitive abilities affect product development

The Influence of Product Development On Competitive Advantage

Product development is one of the abilities to attract consumers and the ability to compete. According to Hong and Chang (2015) product development can improve organizational performance in seeking competitive advantage. Kalluri (2014) states that products that are always being developed can have a competitive advantage in the market.

H2. Product development has an effect on competitive advantage

The Effect of Cognitive Abilities On Competitive Advantage

According to Sloan (2016) cognitive abilities possessed by managers or business owners focus on competition. Cognitive abilities can create changes that have an impact on products so that they have a competitive advantage. According to Levin, S (2017) cognitive abilities have an influence on organizations to create competitive advantage.

H3. Cognitive abilities affect competitive advantage.

RESEARCH METHODS

This research uses a quantitative approach with descriptive research type verification method used path analysis with a series of hypothesis testing instruments. The unit in this research is MSME's players in Bandung Cibaduyut. The population of the study was 171, then continued using the Slovin formula so as to get a sample of 121 The sampling technique used probability sampling, namely stratified random sampling because each division had a different population then continued using the simple random sampling technique. The statistical analysis technique used SEM with the Amos software version 21.

DISCUSSION

The characteristics in this study can be seen in Table 1:

Table 1. Respondent Profile

Respondent Profile		Total	Percentage
Gender	Male	97	80,7%
	Female	24	19,3%
Age	< 30 year	25	17,7%
	31 - 40 year	83	73,7%
	> 40 year	13	8,51%
Education	SD	7	9,21%
	SMP/MTs	13	24,8%
	SMA/SMK/MA	44	32,6%
	Diploma (D1/D2/D3)	16	4,25%
	MAster (S1)	41	29,1%

Based on the profile data of MSME's respondents in the city of Bandung, the majority of Cibaduyut are male as many as 97 people or 80.7 %% while the most age is 31-40 years old as many as 83 people or 73.7% while the last education is SMA / SMK / MA as many as 44 people or 32.6%. It is seen that most of the employees can be said to have had the latest education with more high school education so that the competence of employees must be improved to be able to provide good performance.

Statistic Analysis

Before testing statistical data analysis, a classic assumption test is needed which consists of normality test, linear test, outlier test, and multicollinearity test. To find out whether the dependent variable and the independent variable

have a normal distribution relationship so that the data is valid for research. If the probability value is > 0.05 , the conclusion is that the data is normally distributed, the test is carried out to get the result of 0.15. This value is > 0.05 so that the assumption of normality has been fulfilled. Linearity test can be seen from the sig value. Cognitive abilities, product development, and competitive advantage are $0.000 < 0.05$. The linear test is proven because the sig value < 0.05 . The outlier test is obtained from the results of the examination with the mahalobis distance showing the p2 value > 0.05 . So that the data meets the outlier test assumptions. Meanwhile, the multicollinearity test results show that the value of the determinant of sample covariance matrix > 0 means that the data does not occur multicollinearity or singularity. By using the AMOS program, the results of hypothesis testing are obtained:

Table 2. Hypothesis Test Results

		Estimate	S.E.	C.R.	P	Label
Product development	← Cognitive Ability	.723	.103	7.203	***	Par_1
Competitive Advantage	← Product development	.338	.076	4.704	***	Par_2
Competitive Advantage	← Cognitive Ability	.457	.096	5.055	***	Par_3

Source: Processed with AMOS 21

Based on the test results in Table 2, it shows that the cognitive ability variable affects Competitive Advantage through Product Development as an intervening variable seen from the value of C.R. > 2.00 and the value of P < 0.05 . Regarding the results of the direct effect test, the indirect effect and the total effect of each variable, it can be seen in table 4 as follows:

Table 3. SEM Coefficient Value of Influence Between Variables

	Standardized Direct Effects		Standardized Indirect Effects		Standardized Total Effects	
	X	Y	X	Y	X	Y
Y	.526	.000	0	0	.526	0
Z	.354	.362	.193	0	.547	.368

Source: Processed with AMOS 21

Coefficient of Determination

The next test is the coefficient of determination Estimate can be seen in table 4 below:

Table 4. Coefficient of Determination

	Estimate
Product Development	.273
Competitive Advantage	.467

Source: Processed with AMOS 21

$$\begin{aligned}
 R^2 \text{ model} &= 1 - (1 - R^2_1) (1 - R^2_2) \\
 &= 1 - (1 - 0.273) (1 - 0.467) \\
 &= 1 - 0.387 \\
 &= 0.61 \text{ or } 61\%
 \end{aligned}$$

Based on the coefficient of determination of 61%

The results of the calculation of the accuracy of the model, namely 61%, explained that the contribution of the model to the contribution of the three variables studied was 0.61 (61%) and the remaining 39% was explained by other variables.

Mediation Test

The next test is the mediation test in this study as follows: The Cognitive Ability variable (X) affects the Product Development variable (Z), the Product Development variable (Z) affects the Competitive Advantage variable (Y), the Cognitive Ability variable (X) also affects the Excellence. Competitive (Y), Cognitive Ability (X) also affects Competitive Advantage (Y) through the Product Development (Z) variable, it can be concluded that the mediation in this study is partially mediating

Sobel Test

Table 5. Sobel Test results

		Test Statistic	Std.Error	p-value
Sobel Test	X1-Z-Y	3.52817472	0.057964273	0.000091

Source: Processed with AMOS 21

The significance competency probability value is 0.000 ($p \leq 0.05$). This shows that the Cognitive Ability variable has a significant effect on the performance variable and the satisfaction variable. This means that the mediation test through the sobel test is accepted.

DISCUSSION

The Influence of Cognitive Ability on Competitive Advantage at MSME's Cibaduyut Bandung

The competitive advantage possessed by MSMEs in the city of Bandung is quite good. This can be seen from one of the owners or managers, with reference to the fact that the MSME's itself has brought it during the last two years, there have not been any complaints or complaints from customers regarding the performance of employees at the MSME's. Cognition ability is very important for organizations. Whether an organization is progressing or not is determined by the cognitive ability of the owner or manager who works in it. Organizations that have good cognitive abilities and qualified skills will certainly have a positive impact on the progress of the organization. The role of cognitive abilities in increasing competitive advantage is very important. In this case, every organization must have good competence in order to provide excellent service. No matter how small an organization or company is, the level of effectiveness of the manager's ability to manage is seen as influencing

the performance of the organization. This will have an impact on the success and performance improvement of an organization or company. This result is in line with the research of Levin, S (2017) which states that cognitive ability has a positive effect on competitive advantage.

The Influence of Cognisical Ability on Product Development at MSME's Cibaduyut Bandung

Apart from having an effect on competitive advantage, cognitive ability can also affect product development. This is evidenced by the findings that organizations that have the potential can develop more creative products so that they can attract consumer interest. The results of this study are supported by research by Yudistira and Aydiner (2019) which states that a manager's cognitive abilities affect product development.

The Influence of Product Development on Competitive Advantage at MSME's Cibaduyut Bandung

Product development carried out by the owner or manager is very supportive for the organization in gaining a competitive advantage in competitive situations. This is evidenced by the product variants and product attributes owned by the organization, as well as the availability of sufficiently complete tools to carry out employee work in the production sector, especially in making products and the like and the like. Time efficiency is also created by good teamwork. This research is also supported by research from Eugene (2020) showing product development has an effect on organizational competitive advantage.

The Effect of Cognisical Ability on Competitive Advantage with Product Development as an Intervening Variable

In this study, the significance value of the sobel test is $0.000 < 0.05$. This means that product development can mediate the relationship between cognitive ability and competitive advantage. The indirect effect of the cognitive ability variable on competitive advantage with product development as an intervening variable can be seen in the standardized indirect effect, which is 0.193. The results of this study indicate that cognitive abilities, product development and competitive advantage can affect organizations. It is important to pay attention to MSME's Bandung Cibaduyut, to improve the role of employee competencies so that employee performance can increase. Based on the results of the mediation test or the intervening variable, the influence of employee competence on performance is small of 0.354 so that the results indicate the fourth hypothesis, namely "Cognisical ability has a positive effect on competitive advantage through product development of Bringharjo Market, Yogyakarta MSME's " proved to be accepted where the cognitive ability variable cannot stand alone to influence competitive advantage.

SUGGESTIONS

In gaining competitive advantage in the context of MSMEs, especially the City of Bandung Cibaduyut, of course, requires a good marketing strategy. By

increasing the cognitive abilities of the owners of MSMEs or managers can increase organizational performance in order to remain competitive in complex competition. However, cognitive ability cannot stand alone if it is not accompanied by product development. This study tries to determine the role of the cognitive abilities of MSME owners in Bandung with a sample of 121. For further research, it is possible that there are other variables that influence competitive advantage for MSMEs such as variables not discussed in this study, for example the ability to build a business network

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