

The Effect of Technology Acceptance Model, Manager Competence, and Enterprise Risk Management on Competitive Advantage: Mediating Role by E-Commerce Adoption and Moderating Role by Financial Literacy

Siu Min¹, Mohammad Hamsal², Asnan Furinto³, Rano Kartono⁴

Doctor of Research in Management

BINUS Business School

Bina Nusantara University

DKI Jakarta, Indonesia,

Siumin.drm@gmail.com¹, mhamsal@binus.edu², afurinto@binus.edu³,
Rano.rahim@binus.edu⁴

Abstract

The increase in the competitive business environment forces business actors to maintain their position in the market. This study aims to examine the effect of the technology acceptance model, manager competence, and enterprise risk management on competitive advantage: mediating role by e-commerce adoption and moderating role by financial literacy. This study involved 100 business actors who were selected using the probability sampling technique. Data was obtained by distributing questionnaires to respondents through the G-Form. The collected data is then analyzed using Path analysis assisted by the Smart PLS application. Based on the research results, it is known that E-Commerce adoption, TAM, Manager Competence, and ERM have a significant positive effect on competitive advantage. The variables TAM, Manager Competence, and ERM were found to have a significant positive effect on e-commerce adoption. Meanwhile, Financial Literacy is only able to moderate the relationship between Manager Competence and E-Commerce adoption and has not been able to moderate the relationship between TAM and ERM to E-Commerce adoption. In addition, the researchers also found that Competitive Advantage was able to mediate the relationship of TAM, Manager Competence, and ERM to competitive advantage. Business owners are expected to be able to disclose enterprise risk management (ERM) and develop quality human resources on an ongoing basis so that the company can win the market competition.

Keywords

Technology Acceptance Model, Manager Competence, Enterprise Risk Management, Competitive Advantage, E-commerce Adoption, Financial Literacy

1. Introduction

The increasingly advanced era makes the business world an industry that is “driven” by the development of science and technology, no longer depend on the abundance of natural resources and cheap labor wages. Facing conditions like this, organizations that want to maintain their business are required to be able to adapt quickly (Ahmad et al.).

The conditions that must be met by companies to be successful in the competition are trying to achieve the goal of creating customers and so the goals can be achieved, every company must strive to produce and deliver goods and services that consumers want. Business competition is so tight that it requires companies to have a competitive advantage, otherwise, the company cannot last long. Competitive advantage in an organization can be obtained by paying attention to superior value for customers, culture, and climate to bring improvements to efficiency and effectiveness. According to Raguž et al., (2017) achieving competitive advantage can be done by empowering tangible and intangible assets, enabling companies to understand and implement strategies that increase efficiency and effectiveness (Raguž et al.). Competitive advantage is not permanent. And when a business can't adapt and change its strategy, competitors can seize it. Competitive advantage depends on the speed of competitors to outpace the company. For consumers, competitive advantage means the company's products can satisfy their needs. When companies

compete for a competitive advantage, it increases consumers' choices for cheaper or better quality products (Marczewska et al.).

MSME in Indonesia accounts contributed for 57.24% of the total GDP (Gross Domestic Product) in Indonesia. These data prove that the MSME sector in Indonesia has an important and strategic role in economic development. However, looking at the current situation, MSMEs are still constrained in capacity and quality, especially in terms of their competencies and limited productive resources such as information, knowledge, skills, and technology. Companies that use technology have a sustainable competitive advantage and can improve operations more efficiently.

In addition, 37% of MSME players have very basic online skills, 18% have intermediate online skills, and 9% have run a sustainable online business. To achieve a competitive advantage, an entrepreneur must be able to recognize various basic elements. Competitive advantage is a profit strategy of companies that cooperate to compete more effectively in the market. The designed strategy aims to achieve a continuous competitive advantage so that the company can continue to be a market leader (Thiel).

Literature founded by Hidayati et al., (2019) shows that The competitive advantage of MSMEs is influenced by the success of MSMEs in mastering IT. One approach used to see the ease of technology is the Technology Acceptance Model (TAM). The TAM model which adapts the TRA (Theory of Reasoned Action) model was developed by (Preeti et al.). TAM introduces two key variables, namely perceived usefulness, and perceived ease of use, which have relevance for predicting user acceptance of technology (Acceptance of IT). Tahar et al., (2020) define perceived usefulness as "a degree to which a person believes that using the system can improve his performance at work". Chen & Aklikokou, (2020) defines the convenience factor as the degree to which a person believes that the use of an information system is easy and does not require hard work from the user to be able to do it. Thus, it can be concluded that perceived usefulness is a belief about the decision-making process.

Research by Yang et al., (2016) shows that the construct of perceived usefulness has a positive and significant influence on the use of information systems. Research that mentions the same thing has also been done including research conducted by (Yang et al.); (Moghavvemi et al.) (Durodolu). If someone believes that the information system is easy to use, then that person will use it. Research that mentions the same thing has also been done including research conducted by (Al-Fraihat et al.). At this time the company's competitiveness no longer lies in excellence in product technology. The presence of competent leaders also determines the company's success in achieving competitive advantage. Company control is still determined by the role of a leader because the leader in the company is a role model, so change must start from the top-level (leader). Companies that only consider productivity and buying and selling activities or business processes, and do not consider external demand conditions, it is certain that the company will soon experience a setback. Therefore, in facing the challenges of such a company, it is necessary to have a leader who is able to achieve and is ready to welcome challenges progressively. Namely, leaders who are ready to innovate, make changes, and be creative to make their company different from the others. So that the company is able to achieve a competitive advantage from other companies.

Companies in carrying out their activities are faced with uncertain conditions, which can affect success or failure in achieving a goal. In dealing with risks in the existing condition of the company, companies need to investigate management tools that can manage risk. Risk management is an integral component of the company's strategy, and its implementation is carried out as an action to prevent and mitigate risk to the smallest level of risk so that the company can survive in the competition. Risk management aims to create a system or mechanism within the organization so that risk losses can be anticipated and managed for the purpose of increasing company value. The Technology Acceptance Model, Manager Competence, and Enterprise Risk Management will have a more significant impact when supported by the company's proficiency in understanding e-commerce. E-commerce is very beneficial for its users because it makes it easy for buyers who want an item without having to travel to buy it. Especially now that there are more and more online shops or companies that sell various kinds of goods through e-commerce media by simply creating a website. In the e-commerce process, there is efficiency in the use of fax, document printing, document re-entry, and courier services. This efficiency will show a reduction in costs and processing time/speed. The quality of data transfer is also getting better because the distribution of products to consumers is carried out with a good computerized system.

Previous research related to TAM was also conducted by Salimon et al., (2017) which discussed the effect of TAM on Mobile Commerce Adoption. The results of this study found that TAM had a significant positive effect on Mobile Commerce Adoption. Similar research was also conducted in Sri Lanka involving 319 heads of financial officer (CFO) in SMEs. The results of this study find that techno-financial literacy is a significant determinant of two endogenous constructs, namely, SME performance and ERM practices. This study aims to examine the effect of the technology acceptance model, manager competence, and enterprise risk MSME management on competitive advantage: mediating role by e-commerce adoption and moderating role by financial literacy.

2. Literature Review

2.1 TAM

TAM (Technology Acceptance Model) is a technology application model that adopts the Theory of Reasoned Action (TRA) from (Scherer et al.) which is used to see the level of use of respondents in receiving information technology. TAM simply explains the causal relationship between behavior and beliefs (the benefits of an information system and convenience), goals, and actual use of information system users. Research by (Kamal et al.) argued that the dimensions of Perceived Ease of Use and Perceived Usefulness had a positive and significant effect on Attitude Toward Using and E-Satisfaction. Attitude Toward Using has a positive and significant effect on Actual System Usage. Based on previous research conducted by (Kamal et al.), states that the decision to buy online is influenced by several factors, such as efficiency for search, value, and interaction. Efficiency for search, in this case, is meant by fast time, easy to use, and easy search effort. E-commerce provides facilities that enable consumers to save time and effort by making it easy to find sellers, search for goods, and make offers (Rafique et al.). Research by Kamal et al., (2020). Found that, perceived convenience, as well as perceived usefulness increase customer intention to shop online in Pakistan and Canada region Ibrahim et al., (2018), found that the perceived usefulness dimension had a significant effect on the use of mobile banking while the perceived ease of use dimension did not affect the use of mobile banking.

2.2 Manager Competence

Manager is someone who carries out management activities or management actors. A manager knows that in order to achieve certain goals, humans need to acquire communication, need stimulation, and require leadership and the ability to carry out tasks satisfactorily and that give satisfaction. A manager must decide what goals he wants to work on to achieve these goals, he must decide what specific actions are necessary, new methods can be introduced, and what must be done to maintain satisfactory performance. Decision-making takes place in every part of the organization. Owner/manager innovativeness is another determinant of Ecommerce (EC) application adoption which can be attributed to owner/manager individual characteristics (Wen and Qiang). (Xue et al.) found that EC adoption in New Zealand's Small and Medium Enterprises (SME) segment is positively influenced by Chief Executive Officer (CEO) innovation. EC adoption in SMEs is influenced by perceived relative advantage, perceived compatibility, CEO innovation, information intensity, buyer/supplier pressure, support from technology vendors, and competition (Wen and Qiang). Reported that, the characteristics of Human Resource competencies in 17 manufacturing companies and hospitals had a significant impact on organizational success and made it easier for them to achieve competitive advantage.

2.3 ERM (Enterprise Risk Management)

Risk management or enterprise risk management is a strategy used to evaluate and manage all risks in the company. According to Kulathunga et al., (2020) There are three main benefits of ERM, namely increased business performance, increased organizational effectiveness, and better risk reporting. ERM promotes more strategic risk considerations and its effective implementation can create long-term competitive advantages (Altanashat et al., 2019). Similar results were also expressed by ERM promoting more strategic risk considerations and their effective implementation can create long-term competitive advantages (Florio and Leoni), as expressed by Malik et al., (2020) that 4 different ways which consist of (Keep serving when others cannot – dealing with disruptive unrewarded risks, Seeking riskier businesses – dealing with rewarded risks, disruptive and non-disruptive, Excelling in everyday performance – dealing with non-disruptive unrewarded risks, and Building a resilient image – all sorts of risks) can generate a competitive advantage. ERM is considered to reduce the overall failure risk of the company and thereby improve performance by adopting a systematic and consistent approach to managing risk holistically (McShane). In general, companies that adopt an ERM approach will experience a competitive advantage (Brustbauer). When a company implements an ERM process, the new knowledge it offers such as objectives, risks, oversight, information and communication, and the internal environment leads to improved management, better-informed decisions, and increased management

accountability. These improvements lead to improved performance (Hock-Doepgen et al.). The existence of ERM is able to support MSMEs to use e-commerce adoption (Mahmod et al.).

2.4 Financial Literacy

An understanding of financial literacy is a vital thing that every company must have in order to lead an economically prosperous life in the future. Because with the allocation of income and finances that are good and appropriate, it is one of the requirements for a person to support better welfare. Kadoya & Khan, (2020) defines financial literacy as the ability to read, analyze, manage money, and communicate about the allocation of financial resources that affect the level of welfare and the process of making appropriate economic decision. In research by (Kulathunga et al.) that financial literacy is a significant determinant of two endogenous constructs, namely ERM and SME performance of 319 chief financial officers (CFOs) in Sri Lankan SMEs. Technological literacy is highlighted as an important source of knowledge that helps them to expand their business worldwide (Osano). Osano, (2019) added that the knowledge and financial literacy skills of entrepreneurs can improve company performance if it is strengthened by the availability of resources.

2.5 E-Commerce

According to (Bhatti et al.) E-commerce is the process of buying-selling and marketing goods and services through electronic systems, such as radio, television, and computer networks or the internet. E-commerce allows customers to shop or make transactions 24 hours a day from almost any location where the consumer is located. Customers can also have a large selection of items they want to buy when visiting the site and doing price comparisons with other companies. When buying goods online, customers do not need to queue to get the goods. In research by (Koe and Afifah Sakir) Found that the key to increasing customer trust in e-commerce is to design and develop technologies to reduce the distance between the customer and each entity, thereby increasing the efficiency of product information. Svatosova, (2020) demonstrated that human resource skills (technical and managerial) and other intangible capabilities, such as relationship assets (talent), are critical to the success of e-commerce applications. E-Commerce is seen as a tool that can make it easier for companies to manage business processes (ie e-commerce capabilities) which can then provide a competitive advantage for the company. (Zhang and Wang; Guo et al.). e-commerce can help agricultural enterprises integrate the production, supply, and marketing of agricultural products, shorten circulation links and expand agricultural value chains and improve market competitiveness. Xuhua et al., (2019) SMEs can achieve cost reductions that help them save costs in their operations through higher B2B e-commerce adoption rates. (Elbeltagi et al.) found that small and medium-sized businesses in America and Egypt can achieve market share and sales growth that helps them to improve their position in the global market through higher adoption of business-to-business e-commerce. Based on the explanation above, the research hypothesis is formulated in the following framework Figure 1.

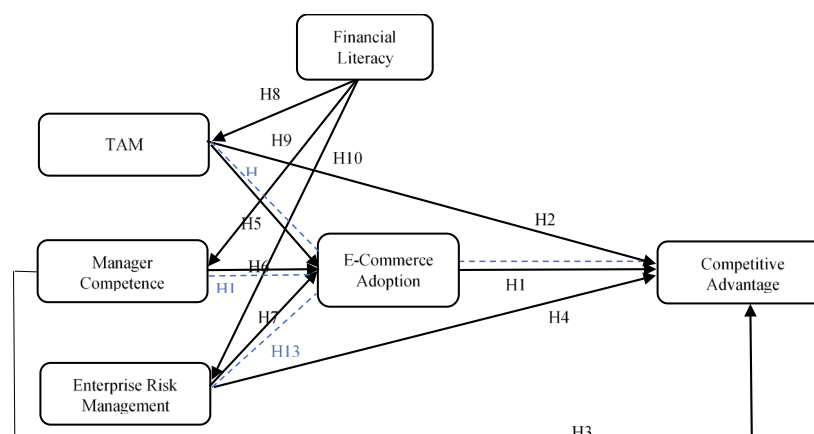


Figure 1: Research Framework

3. Methods

This study uses a quantitative approach with a causality model to test the proposed hypothesis. The population in this study was, the sample in this study amounted to 100 samples selected by Technique The data in this study was obtained

through a survey with the sample selected through the accidental sampling technique, Accidental sampling is a sample selection procedure involving the most easily found person or unit. The distribution of the questionnaires in this research is for the use of this survey research to obtain an overview of the Technology Acceptance Model, Manager Competence, and Enterprise Risk Management on Competitive Advantage: mediating role by E-Commerce Adoption and moderating role by Financial Literacy. The indicators for each variable in this study are: TAM (X1) by (Ishak and Newton; Napitupulu et al.), Managerial Competence (X2) by (Zulkarnaen et al.), ERM (X3) by (Teoh et al.), E-Commerce Adoption (M) by (Villa et al.), Financial Literacy (Z) by (Mabula and Ping), and Competitive Advantage (Y) by (Mwasiaji). In the research, the analytical technique used is SEM (Structural Equation Modeling) which is operated through the Smart PLS program. SEM is a multivariate statistical technique that is a combination of factor analysis and regression analysis (correlation), which aims to test the relationships between variables that exist in a model. Analysis of PLS is carried out in three stages: 1) Analisa outer model; Tests performed on the outer model: Convergent Validity, Average Variance Extracted (AVE), Composite Reliability, and Cronbach Alpha. 2) Inner model; The Inner Model is evaluated by looking at the percentage of variance described that's by looking at R2. 3) Hypothesis Test

4. Results

4.1 Evaluating the Measurement Model or Outer Model

4.1.1 Convergent validity dan AVE

In this study, convergent validity is also determined by the Average Variance Extracted (AVE) score. The following presents the Convergent validity score. (Figure 2)

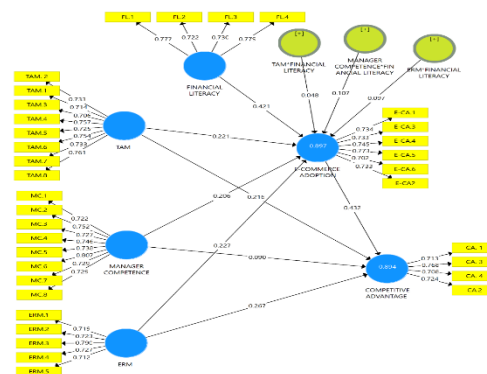


Figure 2: Convergent Validity Result

In the Figure above, it is known that all indicators have a loading value >0.7 . In addition, the AVE value for each construct is also above 0.5, thus all indicators are declared to meet the requirements of convergent validity.

4.1.2 Composite Reliability dan Cronbach Alpha

The results of the PLS output for composite reliability and Cronbach alpha are shown in the following Table 2:

Table 2: Cronbach's Alpha and Composite Reliability Result

| | Cronbach's Alpha | Composite Reliability | Remarks |
|-----------------------|------------------|-----------------------|----------|
| Competitive advantage | 0,705 | 0,819 | Reliable |
| E-commerce adoption | 0,828 | 0,874 | Reliable |
| ERM | 0,786 | 0,854 | Reliable |
| Financial literacy | 0,744 | 0,839 | Reliable |
| Manager competence | 0,885 | 0,909 | Reliable |
| TAM | 0,879 | 0,904 | Reliable |

4.2 Inner model

Analysis of Variant (R²) or Test of Determination, namely, to determine the influence of the independent variable on the dependent variable, the value of the coefficient of determination can be shown in Table 3:

Table 3: Inner Model Result

| | R Square | R Square Adjusted |
|-----------------------|--------------|-------------------|
| Competitive advantage | 0,895 | 0,890 |
| E-commerce adoption | 0,898 | 0,890 |

Based on the results of the calculation of R², it is known that the competitive advantage variable has a score of 0.895 which means that E-commerce adoption, TAM, Manager competency, and ERM affect competitive advantage by 89.5% and the rest is influenced by factors that have not been discussed in the study. The R² score for the competitive advantage variable is included in the category of the perfect relationship. Based on the results of the calculation of R², it is known that the e-commerce variable gets a score of 0.898 which means that TAM, Manager competency, and ERM affect the e-commerce adoption variable by 89.8% while the rest is caused by factors outside this research. The R² score for the e-commerce adoption variable is in a perfect relationship.

3.3 Hypothesis Test (Table 4)

Table 4: Hypothesis Result

| Hypothesis | β | T Statistics | P Values | Remarks |
|--|---------|--------------|----------|----------|
| E-Commerce effect Adoption on Competitive Advantage | 0,432 | 4,764 | 0,000 | Accepted |
| TAM effect on Competitive Advantage | 0,216 | 2,121 | 0,034 | Accepted |
| Manager Competence effect on Competitive Advantage | 0,090 | 2,073 | 0,047 | Accepted |
| ERM effect on Competitive Advantage | 0,267 | 2,700 | 0,007 | Accepted |
| TAM effect on E-Commerce Adoption | 0,221 | 2,214 | 0,027 | Accepted |
| Manager Competence effect on E-Commerce Adoption | 0,206 | 2,135 | 0,036 | Accepted |
| ERM effect on E-Commerce Adoption | 0,227 | 2,490 | 0,013 | Accepted |
| TAM effect E-Commerce Adoption Moderated by Financial Literacy | 0,048 | 0,861 | 0,390 | Rejected |
| Manager Competence effect on E-Commerce Adoption Moderated by Financial Literacy | 0,107 | 2,102 | 0,039 | Accepted |
| ERM effect on E-Commerce Adoption Moderated by Financial Literacy | 0,097 | 1,460 | 0,145 | Rejected |
| TAM effect on Competitive Advantage Moderated by E-Commerce Adoption | 0,487 | 4,748 | 0,001 | Accepted |
| Manager Competence effect on Competitive Advantage Mediated by E-Commerce Adoption | 0,433 | 4,666 | 0,000 | Accepted |
| ERM effect on Competitive Advantage Mediated by E-Commerce Adoption | 0,098 | 2,037 | 0,042 | Accepted |

5. Discussion

5.1 E-Commerce Effect on Competitive Advantage [H1]

Based on the test results, it is known that E-Commerce affects competitive advantage. Competition continues to change along with the times, one of which is technological advances. This situation requires companies to be able to attract consumers to use the products or services offered. One form of following technological developments in

increasing competitive advantage is the use of e-commerce. the application of information technology (including e-commerce) has a strong influence on competitive advantage both in terms of cost and differentiation (Svobodová and Rajchlová). E-Commerce itself consists of several innovations which are supported by technological advances, including applications contained in smartphones, online shops on social media, and so on. Along with the increasing income of the community and the higher need for logistics, the opportunity to want to do marketing activities through E-Commerce is becoming increasingly open, this is one solution to making it easier for people to get what they want.

Consumer satisfaction will be achieved if consumers get facilities that are in line with expectations, both in terms of time efficiency for customers, because with the Online/E-commerce marketing method, consumers can easily access and at the same time place orders for the desired traditional culinary products as well as in terms of the effectiveness of the product. business actors in providing satisfactory services, With the services provided by traditional food businesses in South Sulawesi by means of Online/E-commerce, it will be felt not only to the consumers but also to business actors which will quickly have an impact in the form of profits and competition with other types of culinary businesses, with a note that every type of culinary business that has provided services in this way must also be able to provide fast and best service for consumers who need the products offered. This is also defined by Elbeltagi et al., (2016).

5.2 TAM Effect on Competitive Advantage [H2]

Based on the test results, it is known that TAM Affects Competitive Advantage. The application of Information Technology (IT) for companies has an important role and can be the center of business strategy to gain competitive advantage. In addition, IT also has an important role for companies in competitive advantage strategies. IT will influence almost all aspects of business management and can provide added value if it is managed properly and designed to become an effective information system. When users are faced with new technology, a number of factors that influence In TAM the factors that influence the usefulness and perceived ease of use in the use of information technology are related to the level of importance in the usefulness of a technology to help find their decision problems. If an individual believes in the ease of using an information system, the individual will use that. If an individual does not believe in the ease of using an information system, the individual will not use that. Many indicators are able to form the dimensions of perceived ease in using information systems. This also applies in the business world. If consumers believe that the technology used will facilitate the realization of their needs, then consumers will prefer stores that are already able to provide this convenience. This makes the store more attractive than its competitors. In research (Ibrahim et al.) and (Scherer et al.) found that TAM has a positive and significant effect on competitive advantage.

5.3 Manager Competence Effect on Competitive Advantage [H3]

Based on the test results, it is known that manager competence has an effect on competitive advantage. This result is in accordance with the findings of King, A. W., Fowler, S. W., & Zeithaml, C. P. (2001) and Lee 2004 that the competence of managers also determines the company's competitive advantage. A manager is a company leader who has the authority to influence various strategies and goals, commitment, and obedience to tasks to achieve goals. Leaders have a very important message that will direct the company's performance. Leaders between management have dynamic relationships, and organizational systems are antecedents of market orientation. One of the determinants of the progress of a company or office depends on a leader or manager and how he directs employees or employees and improves employee performance. The management of all activities of each organization must be really precise so that the planned organizational goals can be achieved optimally. Because every organizational activity cannot be separated from the human usability of the workforce or employees. HR planning that is carried out by managers properly can manage existing human resources to improve the competence and quality of human resources, making it easier for companies to gain a competitive advantage and win the competition in an increasingly competitive business environment.

5.4 ERM Effect on Competitive Advantage [H4]

Based on the test results, it is known that ERM has an effect on competitive advantage. Risk is a condition that occurs due to uncertainty. In the business world, something that is uncertain is very vulnerable to occur so companies will think about how to manage risk properly so that it has benefits in the future. The number of competitors who arrive every day makes the company in a position full of risk. The most important thing in business competition is not to destroy competitors but to attract consumers to buy products to increase profits. In managing risk, it is important for companies to implement ERM first. Every industry will always be faced with its own risks. Enterprise Risk

Management itself has advantages as a component or important point of business strategy within a company. For this reason, risk management is one of the important things that can help companies achieve competitive advantage (Elbeltagi et al.). This result same as founded by (Saeidi et al.).

5.5 TAM Effect on E-commerce Adoption [H5]

Based on the test results, it is known that TAM has an effect on E-COMMERCE ADOPTION. For companies that utilize information system technology, namely the use of e-commerce technology in the company's operational activities, will affect the company's performance. This is because it is easy for investors to see the business that will, is being, and has been done by the company in an effort to increase its business returns which can be accessed through the company's website. TAM was specifically developed to analyze the user's desire to accept and use new technology or media in the context of information system management (Acheampong et al.). The determining factor for the use of e-commerce comes from the individual and the system itself. (Xuhua et al.) revealed that perceived ease of use and perceived usefulness contribute to the formation of user attitudes in using technology which in turn has an impact on increasing user intentions to use e-commerce. Research by (Hamid et al.) shows that perceived usefulness and perceived ease of use have a significant influence on interest in using M-Commerce.

5.6 Manager Competence Effect on Competitive Advantage [H6]

Based on the test results, it is known that manager competence has an effect on competitive advantage. Manager competence is what is needed to combine all the elements that exist in a company or organization into company practices to achieve common goals. In any company, the manager's most basic task is to lead, direct, and supervise staff to work together to achieve organizational goals. This main task will be easier for Human resources to carry out when the company has competent managers. The manager is in charge of a division as well as the main decision-maker based on experience, knowledge, and competence. This also applies in determining the implementation of e-commerce for companies. Seeing the increasingly volatile business competition conditions, a manager certainly has strategic steps to maintain his position. One of the things that attracts people's interest in buying through e-commerce. This adoption is one of the managerial tactics to balance market tastes. The research by (Saeidi et al.)(Daengs GS et al.) argues that the better the competence of managers, the easier it is for companies to adopt e-commerce. The competencies possessed can make it easier for HR to solve difficulties when working in the world of e-commerce. The results of this study are in accordance with the research by (Teece et al.).

5.7 ERM Effect on E-Commerce Adoption [H7]

Based on the test results, it is known that ERM has an effect on E-Commerce Adoption. With risk management, the emergence of risks can be managed so that losses can be minimized. MSME actors must carry out various innovations in creating quality and competitive products/services. The courage to reach a larger market is one of the challenges of MSME. On the other hand, this can also be a risk when MSMEs are not able to achieve it. The reason is, currently there are many local brands that are worldwide which incidentally is a sign of their success in reaching a wider market. According to research that found by Lam (2014) is, the use of e-commerce in several companies is motivated by the results of the risk management evaluation. Many companies realize that the increasing number of internet users has given birth to a new consumption culture. One of them is purchasing through e-commerce. The results of this study are relevant to the research by (Mahmod et al.) (Rauf et al.) that the adoption of e-commerce is caused by the findings of the company's ERM activities.

5.8 Financial Literacy does not moderate TAM relationship to E-Commerce Adoption [H8]

Based on the test results, it is known that financial literacy is not able to moderate the relationship between TAM and E-Commerce Adoption. The results of this study reject the findings (Al-Rahmi et al.) Research by (Scherer et al.) The use of the Internet facilitates the understanding of financial literacy so that it will have an increasingly positive impact on company performance. In TAM, user acceptance in the use of information systems is influenced by two constructs, namely perceived usefulness, and perceived ease of use. With the current convenience, business actors can market their products assisted by the E-Commerce platform as an example. The use of e-commerce can help business actors to market products online and take orders. The perception of usability and convenience will encourage consumers to use e-commerce. Perceived ease of use is defined as a person's level of confidence that the use of information system technology (e-commerce) will be easy and does not require hard effort. Perceived usefulness is defined as a person's level of belief that the use of information systems (e-commerce) improves performance in their work. The use of e-commerce is determined by individual perceptions and attitudes which will ultimately shape a person's behavior in

the use of an information technology (e-commerce). The existence of financial literacy is not relevant to a procedure in TAM and E-Commerce. Financial literacy is more likely to focus on managing company finances, while e-commerce and TAM are related to the product marketing process. Thus, financial literacy is not able to influence the relationship between TAM and E-Commerce.

5.9 Financial Literacy Able to moderate the Relationship Manager Competence to E-Commerce Adoption [H9]

Based on the test results, it is known that financial literacy can moderate the relationship between Manager Competence and E-Commerce Adoption. Competent management is characterized by the ability to make decisions, marketing strategies, financial management, and good investment tactics to face the competition so that the business continues to run. Competent managers will be able to know all the risks that are being and will be faced by the company. One of them is financial problems. Financial literacy has a close relationship with business continuity. In running a business, it is not only about recording transactions and financial records, running a business also requires supervision and planning for its business as well as financial management. in making effective and efficient decisions when the company's circumstances are up and down so that the results can be maximized. Financial literacy that is well understood raises managers to formulate strategic tactics to maintain the company's position. Technological developments have made many people turn to buying electronically, this is what then makes many company leaders try their luck in the electronic market. the existence of electric sales, all buying and selling activities are easier and expand marketing and increase buyer loyalty, not only by expanding marketing in doing business but by adding innovation, increasing access to capital and verified products.

5.10 Financial Literacy is unable to moderate the relationship between ERM and competitive advantage [H10]

The results of the research reject the findings by (Kulathunga et al.) that financial literacy is a significant determinant of two endogenous constructs, namely ERM and SME performance of 319 chief financial officers (CFO) in Sri Lankan SMEs. ERM seeks to generate Capital at Risk from all business-operational activities. The size and character of Capital at Risk will provide input for management to adopt certain policy attitudes, including ways to adapt and innovate. ERM makes companies more adaptive, one of which is the decision to implement e-commerce. E-commerce is very beneficial for its users because it makes it easy for buyers who want an item without having to travel to buy it. Risk management in the company's operations includes risk identification, measurement, and assessment and the aim is to minimize the negative effects of risk on the company's financial results. Risk management is a preventive effort to prevent losses that will be faced by the company. ERM activities cover all company activities including estimating financial problems. In other words, financial literacy is the scope of ERM. With good ERM, companies are automatically able to manage their finances well. The application of risk management can improve and provide an overview to company managers regarding the possibility of company losses in the future, improve methods and systematic decision-making processes based on the availability of information and create robust risk management in order to increase the company's competitiveness.

5.11 E-Commerce Adoption is able to mediate the relationship of TAM to competitive advantage [H11]

The results of this study are in accordance with the findings of (Elbeltagi et al.) found that the key to increasing customer trust in e-commerce is to design and develop technologies to reduce the distance between customers and each entity, thereby increasing product information efficiency. E-commerce is a form of Information Technology System that offers various advantages for SMEs if it is adopted or implemented. One of the advantages offered by e-commerce for Small-Medium Enterprises is to expand product marketing channels or market share so that they can reach various parts of the world. The existence of TAM makes E-Commerce capabilities more convincing for consumers to use E-Commerce. Currently, the use of the internet in Indonesia is getting higher, especially with the ease with which people access the internet through various means, especially mobile devices. With the existence of E-commerce, it is possible for a company or business owner to be able to sell the products they make to more consumers due to the nature of the web itself. In other words, the company can cover a wider market. With E-commerce, business owners or companies do not need to incur excessive costs in providing many shops or buildings as well as many employees. This will increase profits by lowering the company's operating costs. With e-commerce, consumers can save their time in shopping because they don't need to go to the store directly. The perceived convenience is one of the predictors that make companies achieve a competitive advantage.

5.12 E-Commerce Adoption is able to mediate the relationship between Competency Managers and Competitive Advantage [H12]

Based on the test results, it is known that E-Commerce Adoption is able to mediate the relationship between competent managers and competitive advantage. The results of this study are in accordance with the findings (Azeem et al.) that the quality of human resources supported by the implementation of e-commerce is able to significantly influence competitive advantage. Human resource systems can support competitive advantage through competency development, namely strengthening specifications, and establishing complex social relationships which then result in understanding organizational knowledge. Continuous superior performance in most companies has been associated with the unique ability of a manager's role in managing human resources in gaining a competitive advantage. Competence is an ability that can make a manager be able to effectively carry out his work and achieve the objectives of the organization. Competence can include aspects of knowledge, skills, attitudes, and behavior of employees. The best performance in managing their business is characterized by knowledge, attitudes, and skills regarding how a product is marketed that is connected to one another that entrepreneurs need to be trained and developed in order to be able to produce the best performance in managing their business in order to have a competitive advantage. The competence of managers who are supported by the company's ability to adopt e-commerce will make it easier for companies to achieve a competitive advantage. The success of a company is largely determined by the success of its marketing efforts. E-commerce allows sellers to market their products quickly, easily, and for free. By uploading photos and describing products that are supported by recent updates of advertisements that have appeared, the availability of contact links and the availability of quality control on goods and services offering advertisements, free advertisements for users, and coverage of advertising areas throughout Indonesia and many others. The results of this study are in accordance with the guest, that the presence of competent managers followed by the adoption of e-commerce makes it easier for companies to achieve competitive advantage. E-commerce really allows sellers to market their products quickly, easily, and for free. By uploading photos and describing products that are supported by recent updates of advertisements that have appeared, the availability of contact links and the availability of quality control on advertisements for goods and services offerings, free advertisements for users, and coverage of advertising areas throughout Indonesia and many others.

5.13 E-Commerce Adoption is able to mediate the relationship between and competitive advantage [H13]

Based on the test results, it is known that E-Commerce Adoption is able to mediate the relationship between ERM and competitive advantage. The results of this study are in accordance with the findings by (Ilyas et al.; Mahmud et al.). (Murray et al.) that the risk analysis supported by the adoption of e-commerce is able to significantly influence competitive advantage. The ERM mechanism is taken to provide security for existing risks that may arise in the future to be able to provide an overview of the steps that must be prepared by the company. Corporate risk management is the company's efforts to manage the risks it faces so that the risks generated are minimized so as not to burden the company's operations. The risks faced by the company arise due to business competition and a dynamic environment. With good ERM, the company can absorb the level of competition and changes in the business environment, the company's ability to manage risks will give the company a competitive advantage. The relationship between ERM and competitive advantage will be more significant when companies can implement E-Commerce. E-Commerce is a dynamic set of technologies, applications, and business processes that connect companies to consumers and specific communities. E-Commerce itself consists of several innovations which are basically supported by technological advances, including applications contained in smartphones, online shops on social media, and so on. As people's incomes are increasing and the need for logistics is getting higher, the opportunity to want to do marketing activities through E-Commerce is becoming more and more open, this is one solution to making it easier for people to get what they want, especially in culinary products.

6. Conclusion

Based on the research results, it is known that E-Commerce adoption, TAM, Manager Competence, and ERM have a significant positive effect on competitive advantage. The variables TAM, Manager Competence, and ERM were found to have a significant positive effect on e-commerce adoption. Meanwhile, Financial Literacy is only able to moderate the relationship between Manager Competence and E-Commerce adoption and has not been able to moderate the relationship between TAM and ERM to E-Commerce adoption. In addition, the researchers also found that Competitive Advantage was able to mediate the relationship of TAM, Manager Competence, and ERM to competitive advantage. Business owners are expected to be able to disclose enterprise risk management (ERM) and develop quality

human resources on an ongoing basis so that the company is able to win the market competition. It is hoped that further research can add other variables that are predicted to affect competitive advantage.

References

- Acheampong, Patrick, et al. "Hybridizing an Extended Technology Readiness Index with Technology Acceptance Model (TAM) to Predict E-Payment Adoption in Ghana." *American Journal of Multidisciplinary Research* © 2017 *Americanajournals* |, 2017.
- Ahmad, Sumera, et al. "Towards Sustainable Textile and Apparel Industry: Exploring the Role of Business Intelligence Systems in the Era of Industry 4.0." *Sustainability (Switzerland)*, 2020, doi:10.3390/su12072632.
- Al-Fraihat, Dimah, et al. "Evaluating E-Learning Systems Success: An Empirical Study." *Computers in Human Behavior*, 2020, doi:10.1016/j.chb.2019.08.004.
- Al-Rahmi, Waleed Mugahed, et al. "A Model of Factors Affecting Learning Performance through the Use of Social Media in Malaysian Higher Education." *Computers and Education*, 2018, doi:10.1016/j.compedu.2018.02.010.
- Altanashat, Mohammad, et al. "The Impact of Enterprise Risk Management on Institutional Performance in Jordanian Public Shareholding Companies." *Journal of Business & Retail Management Research*, 2019, doi:10.24052/jbrmr/v13is03/art-23.
- Azeem, Muhammad, et al. "Expanding Competitive Advantage through Organizational Culture, Knowledge Sharing and Organizational Innovation." *Technology in Society*, 2021, doi:10.1016/j.techsoc.2021.101635.
- Bhatti, Anam, et al. "E-Commerce Trends during COVID-19 Pandemic." *International Journal of Future Generation Communication and Networking*, 2020.
- Brustbauer, Johannes. "Enterprise Risk Management in SMEs: Towards a Structural Model." *International Small Business Journal: Researching Entrepreneurship*, 2016, doi:10.1177/0266242614542853.
- Chen, Lijun, and Apetogbo Komlan Aklikokou. "Determinants of E-Government Adoption: Testing the Mediating Effects of Perceived Usefulness and Perceived Ease of Use." *International Journal of Public Administration*, 2020, doi:10.1080/01900692.2019.1660989.
- Daengs GS, Achmad, et al. "The Effect of Business Sphere on Competitive Advantage and Business Performance of SMEs." *Management Science Letters*, 2019, doi:10.5267/j.msl.2019.4.025.
- Durodolu, Oluwole. "Technology Acceptance Model as a Predictor of Using Information System' to Acquire Information Literacy Skills." *Library Philosophy and Practice*, 2016.
- Elbeltagi, Ibrahim, et al. "Levels of Business to Business E-Commerce Adoption and Competitive Advantage in Small and Medium-Sized Enterprises: A Comparison Study between Egypt and the United States." *Journal of Global Information Technology Management*, 2016, doi:10.1080/1097198X.2016.1134169.
- Florio, Cristina, and Giulia Leoni. "Enterprise Risk Management and Firm Performance: The Italian Case." *British Accounting Review*, 2017, doi:10.1016/j.bar.2016.08.003.
- Guo, Hongdong, et al. "The Role of E-Commerce in the Urban Food System under COVID-19: Lessons from China." *China Agricultural Economic Review*, 2020, doi:10.1108/CAER-06-2020-0146.
- Hamid, Adnan Abd., et al. "The Effects of Perceived Usefulness and Perceived Ease of Use on Continuance Intention to Use E-Government." *Procedia Economics and Finance*, 2016, doi:10.1016/s2212-5671(16)00079-4.
- Hidayati, Ratnaningsih, et al. *Factors Affecting E-Commerce Adoption and Their Impact on SMEs' Performance: A Case Study of Jabodetabek Region*. 2019, doi:10.2991/icot-19.2019.5.
- Hock-Doepgen, Marianne, et al. "Knowledge Management Capabilities and Organizational Risk-Taking for Business Model Innovation in SMEs." *Journal of Business Research*, 2021, doi:10.1016/j.jbusres.2019.12.001.
- Ibrahim, R., et al. "E-Learning Acceptance Based on Technology Acceptance Model (TAM)." *Journal of Fundamental and Applied Sciences*, 2018, doi:10.4314/jfas.v9i4s.50.
- Ilyas, Gunawan Bata, et al. "Reflective Model of Brand Awareness on Repurchase Intention and Customer Satisfaction." *Journal of Asian Finance, Economics and Business*, 2020, doi:10.13106/JAFEB.2020.VOL7.NO9.427.
- Ishak, Siti Salwa Mohd, and Sidney Newton. "An Innovation Resistance Factor Model." *Construction Economics and Building*, 2016, doi:10.5130/AJCEB.v16i3.5164.
- Kadoya, Yoshihiko, and Mostafa Saidur Rahim Khan. "What Determines Financial Literacy in Japan." *Journal of Pension Economics and Finance*, 2020, doi:10.1017/S1474747218000379.
- Kamal, Syeda Ayesha, et al. "Investigating Acceptance of Telemedicine Services through an Extended Technology Acceptance Model (TAM)." *Technology in Society*, 2020, doi:10.1016/j.techsoc.2019.101212.
- Koe, Wei Loon, and Nurul Afiqah Sakir. "The Motivation to Adopt E-Commerce among Malaysian Entrepreneurs." *Organizations and Markets in Emerging Economies*, 2020, doi:10.15388/omee.2020.11.30.

- Kulathunga, K. M. M. C. B., et al. "How Does Technological and Financial Literacy Influence SME Performance: Mediating Role of ERM Practices." *Information (Switzerland)*, 2020, doi:10.3390/INFO11060297.
- Mabula, Juma Buhimila, and Han Dong Ping. "Financial Literacy of SME Managers' on Access to Finance and Performance: The Mediating Role of Financial Service Utilization." *International Journal of Advanced Computer Science and Applications*, 2018, doi:10.14569/ijacsa.2018.090905.
- Mahmod, Mohd Sadad, et al. "A Conceptual Framework of ERM Practices among SMEs IN Malaysia." *International Journal of Academic Research in Business and Social Sciences*, 2018, doi:10.6007/ijarbss/v8-i11/5163.
- Malik, Muhammad Farhan, et al. "Enterprise Risk Management and Firm Performance: Role of the Risk Committee." *Journal of Contemporary Accounting and Economics*, 2020, doi:10.1016/j.jcae.2019.100178.
- Marczewska, Magdalena, et al. "Knowledge, Competences and Competitive Advantage of the Green-Technology Companies in Poland." *Sustainability (Switzerland)*, 2020, doi:10.3390/su12218826.
- McShane, Michael. "Enterprise Risk Management: History and a Design Science Proposal." *Journal of Risk Finance*, 2018, doi:10.1108/JRF-03-2017-0048.
- Moghavvemi, Sedigheh, et al. "Entrepreneurs Adoption of Information System Innovation: The Impact of Individual Perception and Exogenous Factors on Entrepreneurs Behavior." *Internet Research*, 2016, doi:10.1108/IntR-01-2014-0024.
- Murray, Christopher J. L., et al. "Population and Fertility by Age and Sex for 195 Countries and Territories, 1950–2017: A Systematic Analysis for the Global Burden of Disease Study 2017." *The Lancet*, 2018, doi:10.1016/S0140-6736(18)32278-5.
- Mwasiaji, Dr. Evans. "Indicators of Competitive Advantage in the Context of Small and Medium Enterprises: A Review of Literature." *The International Journal of Business & Management*, 2019, doi:10.24940/theijbm/2019/v7/i12/bm1912-004.
- Napitupulu, Darmawan, et al. *Analysis of Technology Acceptance Model (TAM) on E-Learning System*. 2018, doi:10.2991/icedutech-17.2018.49.
- Osano, H. M. "Factors Influencing Global Expansion/Scalability of Small and Medium Enterprises: A Kenyan Case." *World Technopolis Review*, 2019.
- Preeti, Singh, et al. "A Study of Adoption Behavior for Online Shopping: An Extension of Tam Model." *International Journal Advances in Social Science and Humanities*, 2016.
- Rafique, Hamaad, et al. "Investigating the Acceptance of Mobile Library Applications with an Extended Technology Acceptance Model (TAM)." *Computers and Education*, 2020, doi:10.1016/j.compedu.2019.103732.
- Raguž, Ivona Vrdoljak, et al. "Knowledge as a Source of Competitive Advantage in Knowledge Based Companies." *DIEM: Dubrovnik International Economic Meeting*, 2017.
- Rauf, Ummu Ajirah Abdul, et al. "A CONCEPTUAL FRAMEWORK FOR ENTERPRISE RISK MANAGEMENT IN MALAYSIAN PUBLIC HIGHER EDUCATION: APPLICATIONS OF KNOWLEDGE MANAGEMENT." *Academy of Entrepreneurship Journal*, 2021.
- Saeidi, Parvaneh, et al. "The Impact of Enterprise Risk Management on Competitive Advantage by Moderating Role of Information Technology." *Computer Standards and Interfaces*, 2019, doi:10.1016/j.csi.2018.11.009.
- Scherer, Ronny, et al. "The Technology Acceptance Model (TAM): A Meta-Analytic Structural Equation Modeling Approach to Explaining Teachers' Adoption of Digital Technology in Education." *Computers and Education*, 2019, doi:10.1016/j.compedu.2018.09.009.
- Svatosova, Veronika. "The Importance of Online Shopping Behavior in the Strategic Management of E-Commerce Competitiveness." *Journal of Competitiveness*, 2020, doi:10.7441/joc.2020.04.09.
- Svobodová, Zuzana, and Jaroslava Rajchlová. "Strategic Behavior of E-Commerce Businesses in Online Industry of Electronics from a Customer Perspective." *Administrative Sciences*, 2020, doi:10.3390/admsci10040078.
- Tahar, Afrizal, et al. "Perceived Ease of Use, Perceived Usefulness, Perceived Security and Intention to Use e-Filing: The Role of Technology Readiness." *Journal of Asian Finance, Economics and Business*, 2020, doi:10.13106/JAFEB.2020.VOL7.NO9.537.
- Teece, David, et al. "Dynamic Capabilities and Organizational Agility: Risk, Uncertainty, and Strategy in the Innovation Economy." *Http://Dx.Doi.Org/10.1525/Cmr.2016.58.4.13*, vol. 58, no. 4, SAGE PublicationsSage CA: Los Angeles, CA, Aug. 2016, pp. 13–35, doi:10.1525/CMR.2016.58.4.13.
- Teoh, Ai Ping, et al. "The Impact of Enterprise Risk Management, Strategic Agility, and Quality of Internal Audit Function on Firm Performance." *International Review of Management and Marketing*, vol. 7, no. 1, 2017, pp. 222–29.
- Thiel, Monica. "The Power of the Social Domain in Sustainable Development: Non-Market Strategies for Generating Sustainable Competitive Advantage." *International Journal of Innovation and Sustainable Development*, 2017, doi:10.1504/IJISD.2017.083304.

- Villa, Eliana, et al. "Electronic Commerce: Factors Involved in Its Adoption from a Bibliometric Analysis." *Journal of Theoretical and Applied Electronic Commerce Research*, 2018, doi:10.4067/S0718-18762018000100104.
- Wen, Qi, and Maoshan Qiang. "Project Managers' Competences in Managing Project Closing." *Project Management Journal*, 2019, doi:10.1177/8756972819832783.
- Xue, Jian, et al. "The Impact of Project Manager Soft Competences on Project Sustainability." *Sustainability (Switzerland)*, 2020, doi:10.3390/su12166537.
- Xuhua, Hu, et al. "Effects of Business-to-Business e-Commerce Adoption on Competitive Advantage of Small and Medium-Sized Manufacturing Enterprises." *Economics and Sociology*, 2019, doi:10.14254/2071-789X.2019/12-1/4.
- Yang, Heetae, et al. "User Acceptance of Wearable Devices: An Extended Perspective of Perceived Value." *Telematics and Informatics*, 2016, doi:10.1016/j.tele.2015.08.007.
- Zhang, Bing, and Yudong Wang. "Limited Attention of Individual Investors and Stock Performance: Evidence from the ChiNext Market." *Economic Modelling*, 2015, doi:10.1016/j.econmod.2015.06.009.
- Zulkarnaen, Danny, et al. "Managerial Competency Standard Program Evaluation." *Systematic Reviews in Pharmacy*, 2021, doi:10.31838/srp.2021.1.181.