

Research Article

The Utilization of E-commerce as a Strategy to Increase the Competitiveness of Micro, Small, and Medium Enterprises (MSMEs) in Semarang City

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Abstract.

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in strengthening Indonesia's economy through job creation and business growth. This study explores how MSMEs in Semarang City perceive and utilize e-commerce, using a mixed methods approach that combines quantitative and qualitative techniques. The results show that MSME actors have varied perceptions of e-commerce, generally understanding it as a digital platform for buying and selling. Most recognize its benefits in expanding market reach, facilitating easier transactions, and offering flexibility in time and location. E-commerce also provides efficient promotional and marketing tools, enabling MSMEs to adapt to modern trends. However, several challenges hinder adoption, such as intense market competition, limited technical skills, complex operational systems, minimal guidance or training, low digital trust between sellers and buyers, and limited supporting facilities and infrastructure. The study finds that e-commerce significantly impacts the competitiveness of MSMEs with a value of determination on r-square (r^2) of 0.75. Overall, e-commerce serves as a crucial tool for MSMEs to enhance their market presence and sustainability in a digital economy.

Keywords: competitiveness, e-commerce, micro, small and medium enterprises

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1. Introduction

The business world develops along with the change of times. This change enables a shift in business from large scale to smaller scale. Nowadays, small-scale businesses that tend to be in demand are Micro, Small, and Medium Enterprises (MSMEs). MSMEs are considered capable to make the economy of a region increasingly improved, including for the Semarang City. It is not only about that, in a global perspective it is recognized that MSMEs are able to survive the people's economy despite still experience a monetary crisis (1)(2). "Small Medium Enterprises (SMEs) have a significant role in employment creation and growth of gross domestic products of developing countries" (MSMEs

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have an important role in job creation and growth in the gross domestic product of developing countries) (3)(4)(5). "Micro, small and medium-sized enterprises (MSMEs) play a key position in economic development" (MSMEs have a key role in the national economy by carrying out economic growth, employment, and distributing development result(6)(7). Competitiveness is important in conducting a business. Competitiveness is a commitment to market competition which means that the entrepreneur has the ability to compete in maintaining the products produced in the market (8)(9).

The law No. 20 of 2008 concerning Micro, Small, and Medium Enterprises MSMEs groups into several business categories, namely micro, small, and medium businesses (10)(11). There are several factors that can affect the competitiveness of MSMEs, one of them relates to marketing strategies through information technology which is a trend among entrepreneurs. This is due to the increasingly rapid technological advancements that encourage business entrepreneurs, especially MSMEs to utilize these technologies optimally through online product marketing. Today, online businesses are developing rapidly among the society.

The use of IT in the form of e-commerce conducted by MSMEs in Padurenan village had a positive impact on his business (12). There is a significant influence in the utilization of e-commerce media in retail businesses to increase MSMEs revenue in Depok (13). The rapid development of this technology has caused large companies to run their businesses via the internet or commonly referred to as e-commerce. E-commerce or that is well known as electronic commerce is the use of communication and computer networks to carry out business processes (14). UMKM has become an important part of the national economic system that is able to accelerate economic growth (15).

MSMEs develops rapidly and increasingly in demand by many people in Indonesia, including in Semarang City. Based on observations, the existence of MSMEs in Semarang City is very complex and has various types. The types of MSMEs can be from culinary, fashion, laundry, computer or laptop service, photocopies, and etc. The development of MSMEs is due to the growth of society and population growth in an area that is increasing. The increase of population has an impact on marketing strategies. The change of community behavior that prioritizes information and technology advances in various activities require the existence of MSMEs to change their marketing strategy patterns. The social phenomenon is a reason of MSMEs in Semarang City that must change their marketing strategies by e-commerce. Although information technology is increasingly advanced, there are still a number of MSMEs that have not utilized this sophistication through e-commerce applications.

There are many factors that cause the lack of the use of information technology that has an impact on the weak competitiveness of several MSMEs in the Semarang city. According to the increasingly high business competition and the lack of the utilization of e-commerce in the development of MSMEs businesses, the urgency in this study needs to be an in-depth study of improving MSMEs competitiveness. Therefore, this study focuses on efforts to determine the perceptions of MSMEs entrepreneurs on the utilization of e-commerce information technology, analyze the supporting and inhibiting factors of the utilization of e-commerce information technology, and to determine the effect of the utilization of e-commerce as a strategy to increase the competitiveness of MSMEs in Semarang City.

2. Literature Review

2.1. E-Commerce

Electronic Business or Electronic Commerce (E-Commerce) is the implementation of commerce in the form of sales, purchases, orders, payments, and promotions of goods and / or services by using computers and digital electronic communication facilities or data telecommunications. In addition, this form of commerce can also be done globally by using the internet network (16). E-Commerce is a commercial transaction in the service sector in electronic format (Transatlantic Business Dialogue Electronic Commerce White Paper). E-Commerce generally refers to all forms of transactions related to commercial activities, both of organizational and individual based on the processing and transmission of digitized data, including text, sound, and images (17). E-Commerce is a new concept that is commonly described as the process of buying and selling goods or services through information networks including the internet. This e-commerce revolution has just begun. In the future, people and companies will more use the internet to trade with more goods and services sold online. This also has an impact on the industrial field that will change with e-commerce, including the ticket marketing industry, music and entertainment, news, software, education, and finance and even MSMEs themselves in Indonesia.

Based on the e-commerce business model classification from the (18), the business model conducted by e-commerce business entrepreneurs in Indonesia can be illustrated through Table 1. Below

TABLE 1: E-Commerce Business Model.

E-Commerce Model	Definition
Online Market Place	Sites provided by internet service providers to sellers can sell their wares through cyberspace.
Classified Ads	Activities provide a place and / or time to display the content of goods and / or services for advertisers to post advertisements aimed to users of advertisements through sites provided by the organizers of classified ads.
Daily Deals	The activity of providing a place of business activity in the form of daily deals site as a place of seller. The site sells goods and/ or services to the buyer by using vouchers as a means of payment.
Online Retail	The activity of selling goods and/ or services carried out by organizing online retail to buyers on the online retail site.

Source: The Ministry of Finance, 2013

2.2. Competitiveness

Competitiveness can be defined as the ability to gain more attention compared to other parties who manage similar activities. The competitiveness (ability/ strategy to compete) of a product/ company/ industry is not only seen in terms of production (the ability to produce cheap products) but also a combination of the final results (goals/ mission) with efforts (policies) to achieve it. This effort is not only a production effort (manufacturing, product lines, and research and development) but also involves finance, marketing, target markets, sales, distribution, procurement, and purchase of goods and labor (19).

In formulating competitiveness and competency strategies, there are several things that need to be considered. It relates to what the company is doing now, how about environmental conditions (industry analysis, competitors, social and political strengths and weaknesses), and what the company should do. Porter then developed five strengths in the analysis of industrial structure which included the intensity of competition in the industry, the challenges of new entrants, the pressure of substitute products, bargaining power of buyers and bargaining power of suppliers. From these five strengths, there are three basic strategies for the success, namely over-all cost leadership, differentiation, and focus. A research on industrial competitiveness (including MSMEs) that uses the Porter model approach has been carried out by previous researchers. The study also uses the Diamond Porter model by making adjustments to various competitiveness elements according to the type of industry that is being analyzed.

2.3. Sub Micro, Small and Medium Enterprises

The morphological description of the MSMEs concerned can be seen from the business aspects and the entrepreneurial nature of the MSMEs entrepreneurs. From the business aspect, the MSMEs profile can be seen from its ability to create added value from the products, the efficient use of capital, and the profits obtained. While from the aspect of development, the MSMEs profile can be seen from its ability to utilize waste materials, its ability to hire labor and its ability to contribute to the Gross Domestic Product (GDP).

In accordance with Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises, MSMEs are defined as productive economic businesses that are independently carried out by individuals or business entities that are not subsidiaries or not a branch of the company that is owned, controlled, or become part both of directly and indirectly from medium or large businesses. Nowadays, the phenomenon of MSMEs in the community is filled with the dynamics of competition between businesses. One of the media used in the dynamics of competition is the utilization of e-commerce. This e-commerce model is widely used by MSMEs owners. The Law Number 20 Year 2008 states that MSMEs has the following criteria (see Table 2).

TABLE 2: E-Commerce Business Model.

<i>Business</i>	<i>Asset (Excl.Land and Building)</i>	<i>Income per Year</i>
	(in Rupiah)	(in Rupiah)
Micro	≤ 50 Million	≤ 300 Million
Small	> 50 Million – 500 Million	> 300 Million – 2,5 Billion
Medium	> 500 Million – 10 Billion	> 2,5 Billion – 50 Billion

Source: The Law Number 20 Year 2008

In the MSMEs world, the utilization of e-commerce needs to be developed by business entrepreneurs in marketing the products as well as making transactions easier with consumers to increase sales turnover. In addition, e-commerce will facilitate business entrepreneurs in handling all business activities without considering the many losses that will be borne. The better MSMEs are in utilizing e-commerce for their business processes, the better the competitiveness they will form. Vice versa, the fewer MSMEs utilizes e-commerce for business processes, the MSMEs will be crushed by other competitors, which means that competitiveness decreases.

3. Research Methodology

This type of research is a mixed methods research. Mixed method research is a research method that combines quantitative methods and qualitative methods [20]. This research method aims to obtain more comprehensive, valid, reliable, and objective data. The mixed methods model used in this study is a sequential model by using an explanatory approach. An explanatory approach is an approach in which quantitative data and analysis is carried out at the first stage followed by the collection and analysis of qualitative data at the second stage. It was done to strengthen the results of quantitative research conducted in the first stage. The location research in this study is Semarang City. This location was chosen because in Semarang City has many diverse and varied MSMEs. The data sources in this study include (1) informants consisting of MSMEs entrepreneurs, entrepreneurs who use e-commerce, and MSMEs goods/ service users, (2) events namely events that occur at the location of the data source, and (3) available documents. The data collection techniques used were interviews, observation, and documentation study. Meanwhile, the data collection tools used were interview guides, field notes, and observation sheets. The validity of the data is tested through informant reviews, member checks and triangulation. The triangulation conducted is triangulation of sources (informants, events, and documents) and triangulation of tools (interviews, observations, and documentation). The analysis technique used is interactive analysis with data collection steps, data reduction, data display, and conclusions. The research variables in this study used two types of independent variables (independent) and dependent variables (bound). The independent variable in this study is e-commerce which is given the symbol X, while the dependent variable in this study is the competitiveness of MSMEs which is given the symbol Y. The population in this study is all MSMEs in of Semarang city. The sample used was 30 MSMEs in Semarang City. In this study, there are two types of questionnaires distributed. The questionnaire is a questionnaire related to the utilization of e-commerce (independent variable) and a questionnaire related to the competitiveness of MSMEs (dependent variable). The data analysis techniques in this study were carried out through regression tests with the help of the SPSS program. Before the regression test, researchers conducted a linearity and significance test in order to maintain the quality of the analysis of the research results..

4. Research Result and Discussion

The Micro, Small, and Medium Enterprises (MSMEs) has become a strategic step in efforts to improve the economy of the Indonesian people. Many efforts to empower MSMEs have been carried out in efforts to solve poverty, stabilize the economy of the poor society, and create new jobs vacancy. The development and role of MSMEs is shown by the large number of business units and their contribution to employment in Indonesia. These developments and roles are growing in line with the advances of online-based technology that are growing rapidly among the society, one of them is e-commerce.

This interesting condition is able to invite many MSMEs in Semarang City. The MSMEs in Semarang City is diverse in providing products in the form of goods and services. In this study, researchers conducted a research of 30 respondents. They are MSMEs entrepreneurs who use e-commerce as a media in developing their business. These respondents were distributed among culinary MSMEs entrepreneurs and non-culinary MSMEs entrepreneurs as illustrated in Figure 1 below.

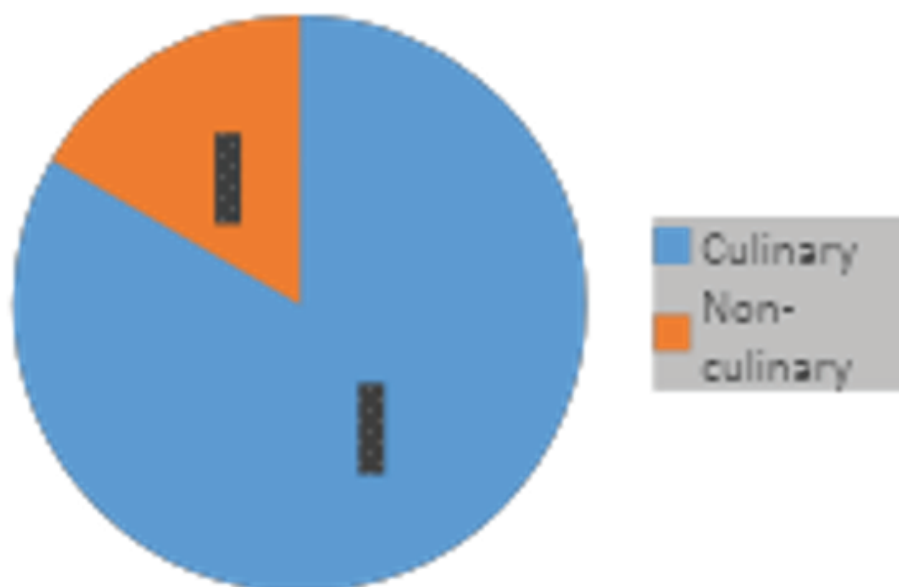


Figure 1: Respondent Distribution. **Source:** The Processed Primary Data, 2020.

The MSMEs entrepreneurs in Semarang use different e-commerce media, some of them use websites, blogs, social media, and online store applications. Most of MSMEs entrepreneurs use social media namely Instagram, Whatsapp, Facebook, Line, and others as a means of marketing products. It is not only utilizes social media, but MSMEs entrepreneurs also utilize online shops in developing their businesses. The utilization of

the online store system as an e-commerce media presents challenges for the MSMEs to improve competitiveness. It is because large scale online shops namely Lazada, Buka Lapak, Blibli, Tokopedia, Shopee, and Olx have very tight competition.

4.1. Result Perceptions of MSMEs Entrepreneurs towards the Utilization of E-Commerce Information Technology

The results showed that MSMEs entrepreneurs had different perceptions related to the utilization of e-commerce information technology as a strategy to increase competitiveness. In general, this perception is divided into six things. First, MSMEs entrepreneurs has an understanding that e-commerce is able to expand their networks. In their perspective, expanding the network and market through e-commerce can be effective for the promotion process and product sales because it makes it easier to introduce products to the potential customers. Second, business efficiency. For MSME entrepreneurs, e-commerce is a breakthrough in streamlining their business. E-commerce is able to produce as much output as possible with the most optimal resources. Through online media, MSMEs entrepreneurs no longer need to provide a special budget in terms of promotion and advertising. Third, an ease of access. The ease of access is one of the dominant perceptions of e-commerce utilization by MSMEs entrepreneurs. The access in this study is the ability of MSMEs to organize the process of buying and selling transactions. Fourth, eliminate the concepts of space and time. Being an inseparable part of the globalization process, e-commerce is able to legitimize and even eliminate space and time limitations. The short process of providing products quickly becomes one of the advantages of e-commerce. Fifth, reduce production costs. This is still related to business efficiency practices. E-commerce is able to eliminate the need for budget posts because it has been covered by other posts, for example budget posts of advertising needs that can be accommodated by marketing posts. Sixth, increase income. Trough business efficiency, the costs of supporting the production process will be controlled. It has an impact on reducing the operational of the business to be able to increase income. In addition, this increase was also marked by an increase of consumers related to the wide of consumers target of e-commerce. These various perceptions can be seen in the following Figure 2.

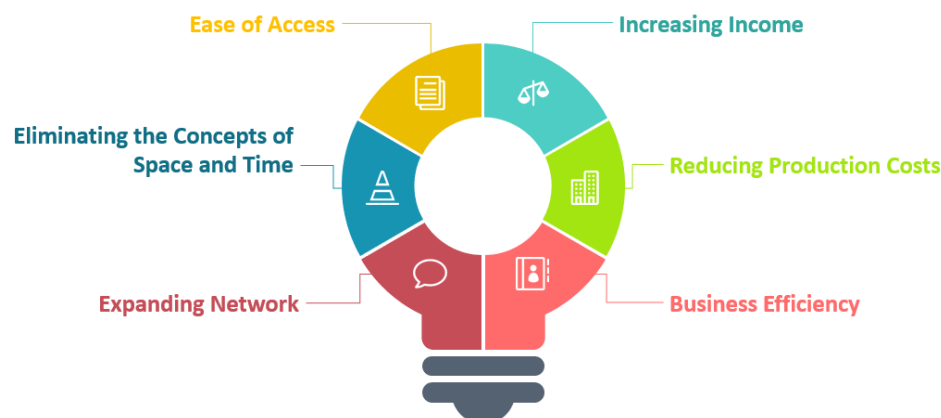


Figure 2: Perception of MSMEs Entrepreneurs. **Source:** The Processed Primary Data, 2020.

4.2. Result Perceptions of MSMEs Entrepreneurs towards the Utilization of E-Commerce Information Technology

The results of this study also indicated several factors that support and inhibit the implementation of e-commerce for MSMEs entrepreneurs in Semarang city. These supporting factors include five things (see Figure 3). First, there is the desire of MSMEs entrepreneurs to develop their businesses on a broader scale. Second, the ease of doing transactions every where and every time. Third, e-commerce allows the absence of space and time limits. Fourth, e-commerce is always up to date and able to adjust to the times. Fifth, the ease of advertising, promoting and marketing products. Based on the five factors, the ease of advertising, promoting and marketing products and the desire of MSMEs entrepreneurs to develop their business on a broader scale are the most dominating factors and influencing MSMEs in implementing e-commerce. These five factors lead to the creation of a more stable MSMEs due to the support of e-commerce technology.

While inhibiting factors for MSMEs in implementing e-commerce include six things (see Figure 4). First, the limited facilities and infrastructure to support the implementation of e-commerce for MSMEs. Second, the level of competition among MSMEs entrepreneurs. Third, the lack of expertise and assistance for MSMEs in implementing e-commerce. Fourth, in terms of the development, e-commerce has a fairly complex operating system. Fifth, the lack of education and training from the government and private parties. Sixth, the low level of trust between sellers and buyers because transactions tend to be done without face to face system. Based on these factors, the most

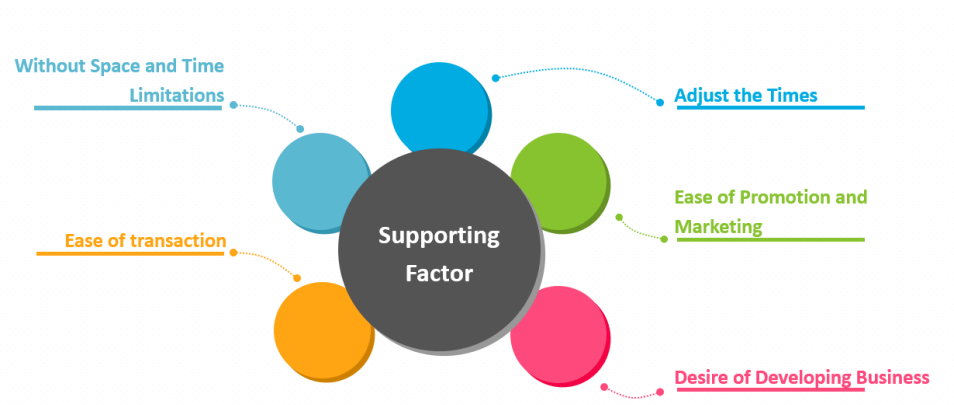


Figure 3: Supporting Factors of the Utilization of E-Commerce. **Source:** The Processed Primary Data, 2020.

constraining and inhibiting MSMEs entrepreneurs from using e-commerce in developing their business is the limited facilities and supporting infrastructure as well as the intense level of competition in the online business world among MSMEs entrepreneurs.

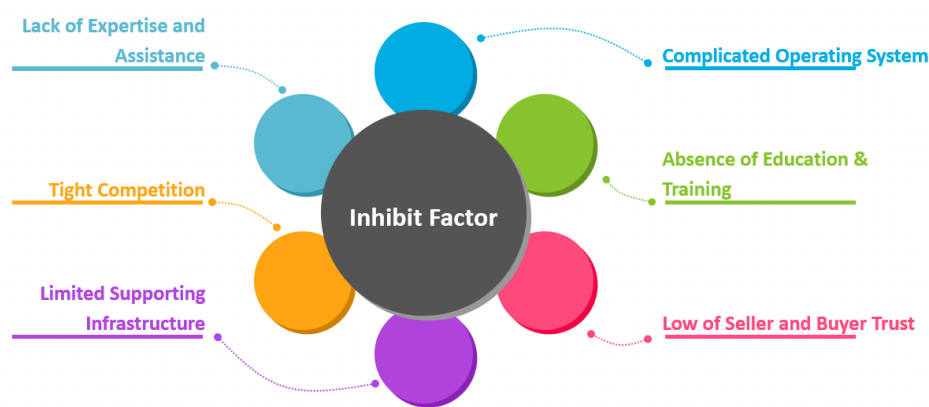


Figure 4: Inhibiting Factors of the Utilization of E-Commerce. **Source:** The Processed Primary Data, 2020.

4.3. Result Effect of the utilization of e-commerce as a strategy to improve the competitiveness of MSMEs

The Utilization of e-commerce certainly has an impact/ influence for MSMEs, both positive and negative impacts felt by MSMEs. The positive impact of the utilization of e-commerce by MSMEs entrepreneurs is that products marketed are easily recognizable by consumers, so it makes easier for MSMEs to get customers. In addition, the

utilization of e-commerce has a positive impact on increasing income, speed and ease transaction, and saving on promotional costs. The results showed that the benefits of e-commerce finally would be able to increase the competitiveness of MSMEs in Semarang city. However, in addition in having a positive impact, the utilization of e-commerce also has a negative impact, namely the existence of investment costs in providing infrastructure that can be categorized as expensive thing, raises the risk of theft of ideas or plagiarism by business competitors, and it is vulnerable to acts of fraud and cheating. The utilization of e-commerce by the MSMEs in the Semarang City is a strategy used to improve the competitiveness of MSMEs. It can be seen by conducting a regression test. The steps taken to obtain the data from the regression test results are by taking quantitative data related to the utilization of e-commerce and the data related to the competitiveness of MSMEs in Semarang City. The data collection was carried out by distributing questionnaires to 30 respondents to be filled in as felt by the respondents.

The simple regression analysis results showed that e-commerce variables have a strong influence on the competitiveness of MSMEs variables of 75%. It means that the competitiveness of MSMEs is influenced by the utilization of e-commerce of 75%. Therefore, to make MSMEs to have strong competitiveness, they must be able to utilize information technology, one of them is e-commerce.

5. Conclusion

Based on the results of the research and discussion, this study concludes on three main points. First, MSMEs entrepreneurs has different perceptions regarding to the utilization of e-commerce information technology in developing their businesses. Generally, this perception is divided into six things, namely expanding marketing networks, business efficiency, easy access, unlimited of time and space, reducing production costs, and increasing income. Second, there are factors that support and inhibit the implementation of e-commerce for MSMEs entrepreneurs in Semarang city. These supporting factors include five things, namely the desire of MSMEs entrepreneurs to develop their business, the ease of conducting transactions, the absence of time and space limits, e-commerce that is always up to date, the ease of marketing products. While the inhibiting factors consist of the limited facilities and supporting infrastructure, the level of tight competition, the lack of expertise and assistance, e-commerce is considered to have a fairly complicated operating system, the lack of education and training, and the low

level of trust between sellers and buyers. Third, the utilization of e-commerce has an influence on MSMEs, both of positive and negative impacts. The positive impact of utilizing e-commerce including marketed products is easily recognizable to consumers, can increase MSMEs income, the speed and the ease of transactions, and savings in promotional costs. However, in addition to having a positive impact, the utilization of e-commerce also has a negative impact, namely the cost of investment in the provision of expensive infrastructure, raises the risk of theft of ideas or plagiarism by business competitors, and it is vulnerable to fraud and cheating. The benefits of e-commerce in the beginning will be able to increase the competitiveness of MSMEs in Semarang City. It is evidenced by the existence of a significant influence that up to 75% by MSMEs entrepreneurs..

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