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Increasing MSME's Competitiveness in East Java: E-IEM Alternative Applications Based on E-Commerce to Increase Productivity, Output Growth, and Market Share

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Abstract

MSMEs (*Micro, Small Medium Enterprises*) drive a country's economic productivity. In Indonesia, 99% of businesses come from MSME, 97% of workers depend on the MSME sector, and 57% contribute to Indonesia's GDP. However, the problems faced by MSMEs today are related to the capacity and quality of human resources and access to productive resources and markets. MSMEs also need to increase their resilience in their business in conditions of increasing business competition and changes in market demand caused by technological developments. Referring to this problem, a trading platform in the form of an internet platform is needed to reduce these problems. *E-Commerce* is a trading platform that utilizes the advancement of internet *technology* to facilitate buying and selling transactions. *E-Commerce* is very profitable for producers and consumers because it can reduce costs and time efficiency for both parties. The *E-Commerce* that researchers will make is E-IEM (*E-Integrated Education Marketing*). This application provides access to superior product information from MSMEs in an area and sells it to the general public. In addition, this application also includes guidance on MSMEs starting from the beginning of opening a business until it is steady. E-IEM will be a forum for MSMEs to sell products quickly domestically and abroad. So the problems faced by MSMEs can be overcome. This scientific paper uses secondary and primary data with a qualitative descriptive writing method. To create the validity of information about the E-IEM application, researchers plan to work with the East Java Provincial Government Communication Committee to get the data. So, E-IEM is expected to increase sales, productivity and market share effectively and efficiently.

Keywords:
E-Commerce, MSME, Competitiveness, East Java

1. Introduction

The role and contribution of Micro, Small, and Medium Enterprises (MSMEs) were quite significant in the Indonesian economy in 2016-2017 (Economical Ministry, 2017). After the 1997 crisis, the contribution of MSMEs grew fertile to include economic activities from the primary, secondary, and tertiary sectors. MSMEs, as a role, provide jobs with relatively small capital and also as a complement or support unit for large industries. On the other hand, the contribution of MSMEs to national exports is still low at 15.7%. This is lower than other ASEAN countries, such as Vietnam 17%, Malaysia 28%, and Thailand 35. The development of MSMEs at present cannot show business actors with high power. However, the role of MSMEs has not been sufficient to encourage economic growth and increase the income of the higher population. MSMEs still experience many obstacles related to the low capacity and quality

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of low human resources, limited access to productive resources (capital, raw materials, information, knowledge, skills, and *technology*), and high transaction costs [1]. MSMEs contribute substantially to the economic growth of developing countries [2][3].

Based on *Technology* in the development of internet access with MSMEs is to provide a technical description of business actors by creating applications and providing guidance in designing, developing, and improving all aspects of MSMEs, improving quality and encouraging production at a unique level, both Short Term, Medium Term, and Term Long.

2. Suitability of MSMEs supported by E-IEM Based on E-Commerce

The use of the internet today has developed in various aspects of life. Moreover, more and more people are using the internet and getting easier and cheaper internet connections. The use of the internet for various business activities is called *E-Commerce*. Business activities carried out online can include marketing, promotion, public relations, transactions, payment, and scheduling of goods delivery, as well as the possibility of innovating online business activities along with the development of *E-Commerce Technology* itself [3].

E-Commerce, including electronic advertising, will reduce promotional costs and make it easier for potential buyers to browse products at will without fear of damaging the product or irritating impatient sellers. In this case, seller companies can also reduce sales intermediaries, which in turn will contain the price of goods or services can be reduced as low as possible this is also very profitable from the buyer's point of view. Regarding the presence of these intermediaries, not all intermediaries act less favorably. There are cases where the role of intermediaries is needed [4].

Projected *E-Commerce* will control around 50% of total internet visitors by 2020. According to Clarion Event Managing Director, the Internet Retailing Expo Indonesia organizer, the Southeast Asian Market is experiencing the fastest growth in the world. This year, the number of users reached 260 million; in 2020, it increased to almost 500 million. The retail Internet industry, which has the highest growth and sustains the Internet economy, is *E-Commerce*, Online Media, Travel Industry, Tourism, and Hotels, with an increase of 32%. Indonesia ranks 5th in Asia for *E-Commerce* growth under China, India, Malaysia, and Kazakhstan. According to data from Google and Temasek, Indonesia's *E-Commerce* is rated first in Southeast Asia [5].

According to Databooks, 2017, the Indonesian *E-Commerce* market is estimated to reach 52% of *E-Commerce* in Southeast Asia. Nielsen's presentation entitled Indonesia Ocean of Opportunities Overcoming Dead Win and Riptide 2017, Indonesian *E-Commerce* in 2025 will reach US $ 46 billion or equivalent to Rp. 612 trillion compared to 2015, which only reached US $ 1.7 billion. While the total *E-Commerce* of six ASEAN member countries in 2025 will increase to US $ 87.8 billion compared to 2015, which only reached US $ 5.5 billion. Retail sales (electronic trade) in Indonesia will grow 133.5% to US $ 16.5 billion or around Rp. 219 trillion in 2022 from the position in 2017. This growth is supported by the rapid technological advances that provide convenience for consumer shopping. The Birth of Generation Z (Gen Z) born in the digital era also contributed to the growth of *E-Commerce* in the country. Shopping online has also become one of the exciting activities because it provides a new experience for consumers. This is one of the reasons consumers start switching from going to the market to buying goods (offline), and now they are starting to change digitally by just visiting shopping sites.

3. The role of E-IEM in intelligent decision-making processes

E-IEM (Electronic Integrated Education and Marketing) is an application platform that provides features to guide and sell various products from MSME entrepreneurs. This platform has a vision of making *Technology* an excellent tool in empowering communities, especially traditional market traders, through intermediation with buyers for small and medium enterprises development.

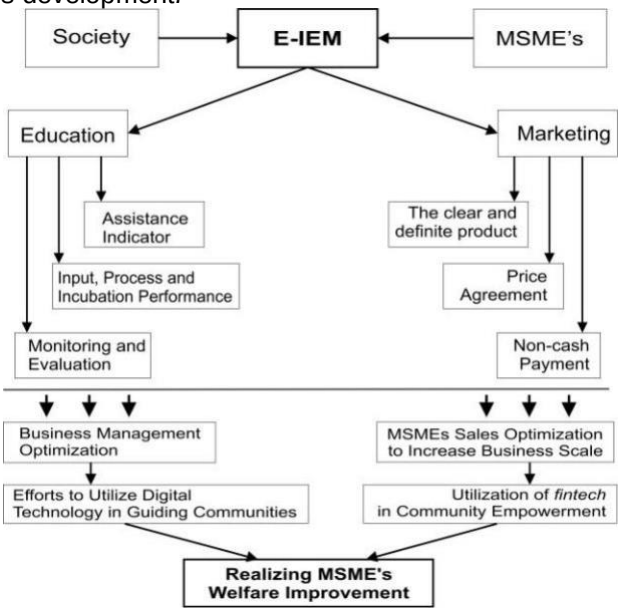

Fig. 1. Operational Scheme E-IEM

3.1 Integrated Education system

The feature system developed in the E-IEM (Integrated Education and Marketing) start-up platform uses the mentoring method through start-ups for MSMEs. This is done by providing education in business management, from financial management to operational management and marketing management. In activities, measuring business performance is a process of measuring the development of parameters set as indicators of development. The function of performance measurement functions to:

1) Evaluate how well the business performance of SMEs;
2) Controlling SMEs to carry out their business activities properly;
3) Setting targets as motivations for achievement to be achieved;
4) evaluate/take lessons from things that have been done, and 5) Identify and find solutions to problems or obstacles.

The measurement of the performance of the Business Incubator SMEs is done by setting KPIs as parameters that reflect the development of the built tenant business. Five main parameters are taken into account, namely:

1) Product competitiveness;
2) Business productivity;
3) Product value added;
4) Absorption of labor;
5) Quality of work.

Several assessment indicators, namely evaluate the five parameters: 1) Product standardization certification that has been obtained; 2) Licensing of business / legal aspects that have been obtained; 3) Business turnover; 4) Application of production SOP;
The number of workers and level of education of workers; 6) Training for workers; 7) Costs of business research and development; 8) Bookkeeping and financial records; 9) Quality of product competitiveness with other competitor products; and 10) Obtaining business capital assistance.

The tenant business performance survey that has been conducted on respondents of the College Business Incubator uses four leading assessment indicators, namely: 1) Increased turnover; 2) Increasing the number of workers; 3) Increased certification and standardization of products (PIRT, halal, etc.); and 4) Obtaining business capital assistance from credit from banks, BUMN PKBL, grants or other capital sources.

The business performance of Business Incubator tenants based on the results of surveys and interviews is presented in Table 4. After participating in the incubation program, the average business performance of tenants increased in turnover, number of workers, acquisition of product certification, and obtaining business capital assistance with a different percentage of the tenant. Based on Table 4, it can be seen that the average increase in turnover of tenants per year is 21.7, with the lowest growth of 8 and the highest of 30. One of the stages of incubation activities is the facilitation of the promotion and marketing of tenant products.

The incubator helps promote tenant products in various activities, such as exhibitions, workshops, seminars, joint marketing outlets, and online. This activity is undoubtedly beneficial and impacts increasing the turnover of the fostered tenant business. Along with increasing turnover, of course, productivity also increases. This affects expanding the number of employees or labor. The average number of workers/tenants per year is 14.8, with the lowest increase being five and the highest 25. The co-incubation program, a collaborative program between Business Incubators, needs to be developed to support tenant SMEs in expanding the domestic and export markets (Purwadaria, 2011).

One form of other assistance carried out by Business Incubators is facilitating product certification and standardization. Tenant products just joining the Business Incubator usually do not have credentials such as PIRT certificates, halal certificates, POM TR, Barcodes, and other standardization. In addition, the production SOP is also not owned by tenants, so the quality of the products produced is not under the standard and is not the same for each process. The incubator's role in facilitating tenant products' management and standardization is instrumental in improving the quality and competitiveness of tenant products. Through the preparation and implementation of production SOPs, ownership of PIRT certificates, and halal, good packaging and attractive designs can improve tenant products' quality and competitiveness.

3.2 Marketing System

(1) The broader community as potential buyers to meet their needs. (2) MSME's traditional traders are the object of empowerment through socio-digital finance *Technology* in business strategy. (3) The general public as potential buyers and traditional market traders as sellers are connected or met by the E-IEM (Integrated Education and Marketing) platform to be able to carry out buying and selling transactions without having to meet, without having to go directly to the merchant for convenience in shopping and save time, while products sold have the quality that is guaranteed and also products that are clear and

certain. Transactions are carried out with the agreement of both parties (sellers and buyers) so that transactions can be transparent. (4) In its operational activities, E-IEM becomes a mediator between buyers, namely the wider community, and sellers, namely MSME's traditional traders, in transacting with transparency, such as certain and clear goods to avoid fraud through the existence of product selection features, complete and honest product descriptions that given by MSME's entrepreneurs and also managerial oversight [6][7].

In addition, there are also non-cash transactions such as a patraIndosyariah.com platform service that buyers can use to make payments for purchase transactions so that they can provide several benefits, which can reduce the growth of demand for money with a transparent allocation for commerce, that it can also offer convenience for buyers and sellers with practicality in paying and do not need more time to ensure the amount of money paid or received. (5) With the above concept, it is hoped that it can become a means to empower the traditional MSME's business community through increased marketing and increasing sales, and increasing business scale. (6) Efforts to use socio-Tecno finance in business strategy for community empowerment are the initial goal of the concept of an E-IEM (Integrated Education and Marketing) platform

(2) Finally, the mechanism described is expected to realize small and medium enterprises' development as the ultimate goal E-IEM (Integrated Education and Marketing) platform.

4. Ethical aspects in collecting and using information

Business people need to pay attention to productivity: availability of raw materials, capital, access to capital, obstacles, *Technology*, and skills—output growth: market demand and advantages for other goods. Then on market access to marketing and branding. On the other hand, business people have not achieved the maximum from this aspect. From these aspects is a disclosure of the developmental benchmarks of MSME. MSMEs, until now, have not understood how to improve this aspect. The possibility of lack of good empowerment, guidance, and good sales on various types of products from MSME actors. In the Government Regulation of the Republic of Indonesia, Implementation of Law Number 20 the Year 2008 concerning Micro, Small, and Medium Enterprises: (1) Efforts to Improve (2) Protection (3) Certainty of Micro, Small, and Medium Enterprises and to Implement

Lack of empowerment does not have to blame the government. Of course, the role of the government is not enough to achieve the vision and mission. The community and MSME actors must also be open to the new digital era today and often create the latest innovations for the sustainability of MSMEs. Actors of MSMEs in Europe, especially in the Netherlands and Italy. They prefer *Technology*-based businesses such as the production of heavy equipment. But, Europe is different from other countries because each campus has its business incubator (Lia Yuldinawati, 2017). This is the way to get encouragement about increasing productivity, output growth, and market share is a questionable aspect. It is also possible that the media in the form of electronic device applications as supporting media is still very underutilized, especially in the Surabaya area.

We decided to research to implement E-IEM applications, as mentioned earlier in Surabaya. We are interested in their view of being less effective and efficient when using *Technology* in the form of applications in electronic devices in business and how they are considered through more traditional business ventures. Support and, if they understand the significant functions of *E-Commerce,* remind them about broad opportunities with good results. We used the active skin method with a questionnaire and integrated it into the E-IEM working mechanism.

5. Research on measuring Increase Productivity, Output Growth, and Market Share in Surabaya MSME

Economic growth in East Java reached 5.55% in 2016, an increase from the previous year at 5.44%. Even from East Java GRDP, which can get Rp 1,855.04 trillion, the East Java MSME GDP ratio to the total East Java GRDP in 2016 was 54.85%, obtained from 6.8 million MSMEs that grew and developed.

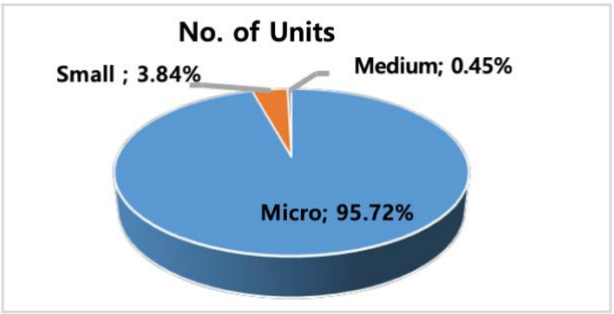

Fig. 2 Percentage of MSME's Growth in East Java 2016

At that time, the business consisted of 6,533,694 business units, with 95.72% micro businesses, 261,827 units with 3.84% small businesses, and 30,410 units with 0.45% medium businesses. From these results, there are still many micro businesses that dominate the business level of the total MSME total of 6,825,931 units, with 100.00% of companies in East Java. There is five most significant number of MSMEs. The first is Jember 424,151 units, Malang 414,516 units, Bojoenegoro 281,967 units, Sumenep 269,005 units, and Surabaya 260,762 units. The immense contribution of MSMEs to the total East Java GRDP was shown in the city of Surabaya. We were interested in surveying the town.

We took survey data from Surabaya City as a contribution of 3.82% of the number of MSMEs and 4.19% absorption of the number of MSME workers according to the City and Regency sectors in East Java. With a more advanced economic intensity compared to other regions, simultaneous internet access makes *E-EIM* applications feasible. However, it still requires assessment because the level of productivity of MSMEs in Surabaya is not in line with expectations.

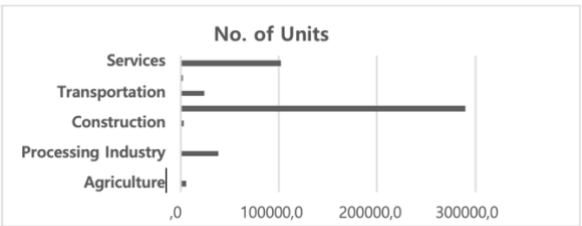

Fig. 3 Number of MSMEs in Surabaya Persons by Sector

We embodied the survey with a sample of 50 MSME respondents in Surabaya in the position of odd traders, upper middle managers, or business owners. We applied identification questions to analyze the structure of the study sample with a business size of 30 micro businesses, 14 small businesses, and six medium businesses) with business fields (16% in manufacturing, 16% in agribusiness, 18% in services, 26% in culinary fields,

24%. We were selected randomly with consideration of areas that dominate in 13 sub-districts.

From E-IEM including:

1. Productivity
2. Output Growth
3. Market Share

Respondents' answers were examined according to the current business development as an indicator of the position of observations on E-IEM.

6. Material and Research Methodology

At the beginning of our study of E-IEM applications based on *E-Commerce* and measuring productivity, output growth, and market share. In this study, we determined the purpose of identifying the platform solutions we planned by making a proportion of testing to MSMEs, with the source of the field survey using a questionnaire. In addition to primary data, we also collected secondary data as a source of positive information reinforcement from government agencies such as the Ministry of Cooperatives and MSME.

The following are the stages of primary data provided from MSME's visits by collecting data, namely:

A. Productivity:

1. Availability of Raw Materials from the business (scale 1-5), method:
   - Amount of Raw Material
   - Storage Costs
   - Buyer Fees
   - Number of Users
   - List of Purchases and Orders
2. Classification of availability of venture capital (scale 1-5):
   - Micro business Rp. 10,000,000 to Rp. 50,000,000 / month
   - Small businesses Rp. 60,000,000 to Rp. 300,000,000 / month
   - Medium business Rp. 350,000,000 to Rp. 500,000,000 / month
3. Capital Access (scale 1-5):
   - Distance to sources of capital from 1-25 kilometers
   - Licensing obtains capital
   - Capital information network
4. *Technology* and Information for Production (scale 1-5):
   - Technoware namely manual equipment, automatic machines, integrase facilities
   - Humanware, namely user capabilities, operations, improvement, innovation
   - Infoware, namely assessing, explaining, using facts, doing classification
5. Obstacles to the Production Process (scale 1-5):
   - Internal Constraints
   - External constraints

B. The Growth of Output (scale 1-5):
   - Market Demand
   - Advantages of other goods (imported goods and substitutes)

C. Market Share (scale 1-5):
   - Access to Marketing
   - Access to Branding

Table 1: Summary of Productivity

Productivities					Rating
Availability of raw materials	Capital Availability	Capital Access	Information and *Technology*	Barrier	
2	1	1	3	5	Very High
22	3	16	9	20	High
11	25	18	8	11	Medium
13	18	11	9	9	Low
1	3	4	21	5	Very Low

The findings on productivity are summarized in **Table 1**, which shows that the availability of raw materials ranks the highest in 2 units and is dominated by 22 units. In the availability of capital of 18 units, we can see that there are still many entrepreneurs who lack, which may be based on the introduction of suitable investment methods; 21 units have a deficient rating on the use of *Technology* and information on the fact that traditional systems still apply to the perspective of the high cost of purchasing *Technology* tools. Using manual methods, a less productive workforce, less awareness of equipment damage, and poor operational standards have increased the process of production constraints in high rankings with 20 business units.

Table 2: Summary of Output Growth

Output Growth		Rating
Demand	Product Excellence	
2	5	Very High
16	15	High
15	12	Medium
16	15	Low
1	3	Very Low

Out of 50 MSMEs, only 2 respond to high demand from business actors. This shows that consumer interest in goods and services is relative to the will; the superiority of MSME's products to other goods states that there is not too strong the presence of significant drivers and inhibitors for other goods that affect the product. The output growth faced by MSMEs is analyzed based on responses obtained through surveys. It needs more empowerment to improve the class to a higher level and under the implementation of E-IEM based on the most critical *E-Commerce* (according to **Figure 5**) for education and marketing *Technology*. The latest and improved *Technology* is market competitiveness, better efficiency, fewer risks, and strict laws. The lack of adequate education for excellent and efficient output of new and old businesses, namely lack of awareness, refusal to change, and lack of training for employees in other business fields.

Table 3: Summary of Market Share

Market Share		Rating
Market access	Branding	
10	3	Very High
13	5	High
12	9	Medium
13	23	Low
5	10	Very Low

The aim of collecting primary data from MSMEs is to increase market share because the questions asked are based on their marketing, and the data is a reference to improve access to marketing and branding.

Figure 6 shows access to marketing is quite suitable for MSMEs, which have reached ten units at the highest level. On the other hand, there are still almost at shallow levels with 13 units of business; on branding such as distribution products, mass media promotion, service centers, easily recognizable and history that is positive on the quality that is still at a low level of 23 units and the lowest level is 10 units of business actors. Ineffective use of *Technology* is due to the unavailability of educational and marketing-based applications such as E-IEM, which is one of the reasons for the low-ranking traps of all MSMEs in Surabaya.

7. Conclusion

Some of the benefits of E-IEM as an application based on *E-Commerce* are the direction of new or old MSME actors, the development of value-added products, and effective and efficient marketing. Support for the development of visual implementation, representing various aspects of the business. Implementing E-IEM with *E-Commerce* systems leads to good productivity, increased output, and overall market share by building the image of MSMEs on GRDP or Indonesia's GDP more optimally. This E-IEM integration standard is the quality and quantity with the contribution of MSME. Once its implementation is achieved becomes the primary requirement that becomes the basis of the system.

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