
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

MSME's (*Micro Small Medium Enterprises*) plays an important sector to drive the economic productivity of a country. In Indonesia 99% of businesses come from MSME'S, 97% of workers depend on the MSME's sector, and 57% contribute to Indonesia's GDP. However, the problems faced by MSME's today are related to the capacity and quality of human resources, as well as access to productive resources and markets. MSME's also needs to increase its resilience in its 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 the occurrence of buying and selling transactions. *E-Commerce* is very profitable for producers and consumers, because it can reduce costs and time efficiency for both parties.

E-Commerce that will be made by researchers is E-IEM (*E-Integrated Education Marketing*). This application provides access to superior product information from MSME's in an area and sells it to the general public. In addition, this application also provides guidance on MSME's starting from the beginning of opening a business until it is steady. E-IEM will be a forum for MSME's to sell products easily domestically and abroad. So the problems faced by MSME's can be overcome. Writing this scientific paper uses secondary data and primary with qualitative descriptive writing method. To be able 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 be able to increase sales, productivity and market share effectively and efficiently.

Keywords

E-Commerce, MSME's, E-IEM

1. Introduction

The role and contribution of Micro, Small and Medium Enterprises (MSME's) is quite large in the Indonesian economy in 2016-2017 (Kemenko Perekonomian, 2017). After the 1997 crisis, the contribution of MSME's grew fertile to include economic activities from the primary, secondary and tertiary sectors. MSME's as a role provide jobs with relatively small capital, also as a complement or support unit for large industries. On the other hand, the contribution of MSME's to national exports is still low at 15.7%, this shows lower compared to other ASEAN countries such as Vietnam 17%, Malaysia 28%, and Thailand 35% (Kemenko Perekonomian, 2017). The development of MSME's at present cannot show business actors with high power.

However, the role of MSME's has not been sufficient enough to encourage economic growth and increase the income of the higher population. MSME's still experience many

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obstacles related to the low capacity and quality of low human resources, limited access to productive resources (capital, raw materials, information, knowledge, skills and *technology*), and high transaction costs (Bappenas, 2014) MSME's contribute substantially towards the economic growth of developing countries (Keizer et al., 2002; Gupta et al., in the press; Manhas et al., 2015).

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

2. Suitability of MSME's 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 (Nuryanti, 2013). The use of the internet for various business activities is called *E-Commerce* (Agustine, 2017). 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.

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. (Nugroho, 2006)

Projected *E-Commerce* will control around 50% of total internet visitors by 2020 (Techinasia, 2017). According to Clarion Event Managing Director the organizer of the Internet Retailing Expo Indonesia, the Southeast Asian Market is experiencing the fastest growth in the world. This year the users reached 260 million and 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 a growth 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 ranked first in Southeast Asia.

The Indonesian *E-Commerce* market is estimated to reach 52% of *E-Commerce* in the Southeast Asia region. 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 advances in *Technology* that provide convenience for shopping for consumers. 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 interesting activities because it provides a new experience in shopping for consumers. This is one of the reasons consumers start switching from having to go to the market to buy goods (offline), and now they are starting to switch digitally by just visiting shopping sites. Big open opportunities for innovation and shifts in people's lifestyles are one of the strengths of the *E-Commerce* business. At present, most *E-Commerce* transactions are still carried out using a desktop or laptop. Later, smartphones will dominate digital trading transactions (Databooks, 2017).

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's entrepreneurs. This platform has a vision of making *Technology* a superior tool in empowering communities, especially traditional market traders through intermediation with buyers for small and medium enterprises development.

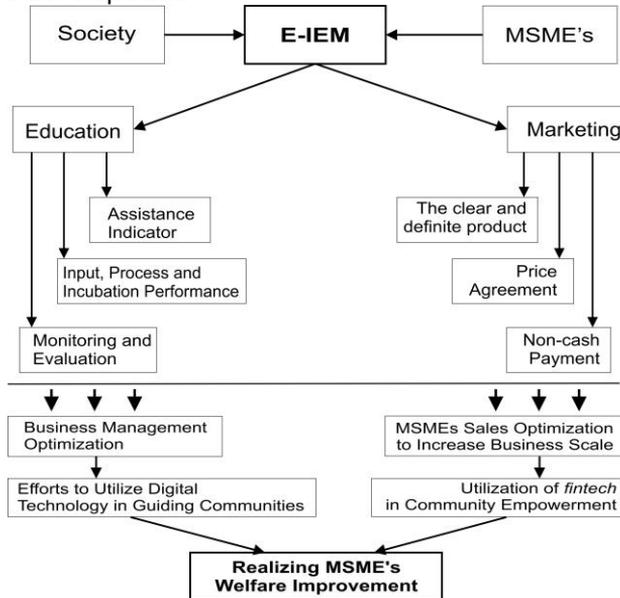


Fig. 1. Operational Scheme E-IEM

3.1 Integrated Education system

The feature system developed in the E-IEM (Integrated Education and Marketing) start-up platform is to use the mentoring method through start-up for MSME's. This is done by providing education in the form of ways to be able to manage the business from financial management, operational management, and marketing management. In activities Measurement of business performance is a process of measuring the development of parameters that are 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) To evaluate/take lessons from things that have been done; and 5) Identify and find solutions to problems or obstacles faced.

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. There are five main parameters that are taken into account, namely: 1) Product competitiveness; 2) Business productivity; 3) Product value added; 4) Absorption of labor; 5) Quality of work.

The five parameters are evaluated by several assessment indicators, namely: 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; 5) 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 main 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 both in turnover, number of workers, acquisition of product certification, as well as 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 increase of 8 and the highest of 30. One of the stages of incubation activities is the facilitation of 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 certainly very useful and has an impact on increasing the turnover of the tenant business that is fostered. Along with increasing turnover, of course productivity also increases. This has an effect on increasing the number of employees or labor. The average increase in the number of workers/tenants per year is 14.8, with the lowest increase being 5, and the highest is 25. The co-incubation program, which is a collaborative program between Business Incubators, needs to be developed with the aim of supporting tenant SMEs in expanding the market both domestic and export markets (Purwadaria, 2011).

One form of other assistance carried out by Business Incubators is facilitating product certification and standardization. Tenant products that have just joined the Business Incubator usually do not have certification 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 in accordance with the standard and not the same for each process. The role of the incubator in facilitating the management and standardization of tenant products is very useful in improving the quality and competitiveness of tenant products. Through the preparation and implementation of production SOPs, ownership of PIRT certificates, and halal, the use of good packaging and attractive designs can certainly improve the quality and competitiveness of tenant products.

3.2 Marketing system

(1) The wider community as potential buyers to meet their needs. (2) MSME's traditional traders are the object of empowerment through the use of 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 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 transparency when conducting transactions can be achieved. (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.

In addition, there are also non-cash transactions called *patraIndosyariah.pay* as a *patraIndosyariah.com* platform service that can be used by buyers to make payments for purchase transactions so that they can provide several benefits, which can reduce the growth of demand for money with a clear allocation for transactions, besides that it can also provide 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 (7) 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, availability of 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 been able to achieve the maximum from this aspect. From these aspects is a disclosure of the developmental benchmarks of MSME's. MSME's until now have not understood how to improve this aspect. The possibility of lack of good empowerment, empowerment in the form of 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 MSME's. Actors of MSME's in Europe, especially in the Netherlands and Italy. They prefer *Technology*-based business such as the production of heavy equipment. But, what distinguishes Europe from other countries is that each campus has its own 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 carry out research aimed at implementing 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, how they are considered through more traditional business ventures. Support and if they understand the significant functions of *E-Commerce* remind about very broad opportunities with good results. We use the skinative method with a questionnaire then integrated into the E-IEM working mechanism.

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

Economic growth in East Java reached 5.55% in 2016, an increase from the previous year at 5.44%. Even from East Java GRDP that is able to reach 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 MSME's that grew and developed.

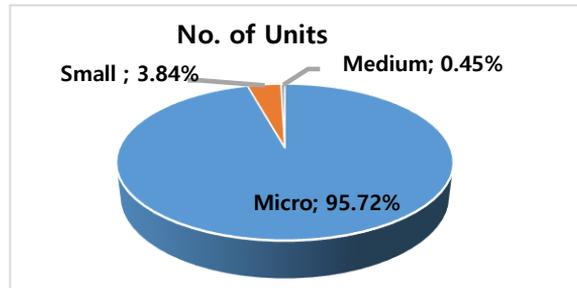


Fig. 2 Percentage of MSME's Growth in East Java 2016

At that time, the total 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 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 businesses in East Java. There is five largest number of MSME's, the first is Jember 424,151 units, Malang 414,516 units, Bojonegoro 281,967 units, Sumenep 269,005 units, and Surabaya 260,762 units. The biggest contribution of MSME's to the total East Java GRDP was shown in the city of Surabaya, we were interested in conducting a survey of the city.

We took survey data from Surabaya City as a contribution of 3.82% of the number of MSME's, and 4.19% absorption of the number of MSME's 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 the application of *E-EIM* applications feasible, but still requires assessment because the level of productivity of MSME's in Surabaya is not in line with expectations.

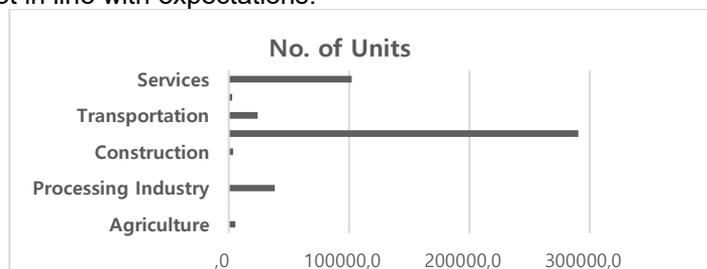


Fig. 3 Number Of MSME's in Surabaya Persons By Sector

We embodied the survey with a sample of 50 MSME's 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, 6 medium businesses) with business fields (16% in manufacturing, 16% in agribusiness, 18% in services, 26% in culinary fields, 24% in the field of fashion / crafts). Selected randomly with consideration of areas that dominate in 13 sub-districts.

Respondents' answers were then analyzed by descriptive and statistical methods. We record the number of absolute and relative answers to summarize the answers depending on the criteria specified in the questionnaire. To determine the level of confidence of respondents, we also use descriptive statistics such as percentages, on average. To measure MSME's actors and productivity aspects, increase output, and market share, we describe the benefits of *E-IEM*.

The questions are divided into four fields as well as the aspects of information needed

from E-IEM including:

- Productivity
- Output Growth
- 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 measurement of productivity, output growth, market share. In this study, we determined as the purpose of identifying the platform solutions we planned by making a proportion of testing to MSME's, 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's, East Java Bappeda, Bappeko Surabaya, Open Access Journal. Randomly selected questionnaire forms were developed to obtain data that had closed and open questions. Collection of primary and secondary data from the best in this sector and comparative analysis of data.

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, integrate facilities
 - Humanware namely user capabilities, operations, improve, 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

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

Fig. 4 Summary of Productivity

The findings on productivity are summarized in **Figure 4**, 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 good investment methods; 21 units have a very low 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, less productive workforce and less awareness of equipment damage, and poor operational standards have increased the process of production constraints in high rankings with 20 business units.

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

Fig. 5 Summary of Output Growth

Out of 50 MSME's, 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 are not too strong the presence of significant drivers and inhibitors for other goods that affect the product. The output growth faced by MSME's is analyzed based on responses obtained through surveys. It needs more empowerment so that it can improve the class to a higher level and in accordance with the implementation of E-IEM based on the most important *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 effective education of good 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.

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

Fig. 6 Summary of Market Share

By collecting primary data from MSME's, the aim 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.

In Figur 6 shows access to marketing is quite good for MSME's, which have reached 10 units at the highest level, on the other hand there are still almost at very low 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 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 MSME's in Surabaya.

6. 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 production, effective and efficient marketing. Support for the development of visual implementation, representing various aspects of the business. The implementation of E-IEM with *E-Commerce* systems leads to good productivity, increased output, and broad market share by building the image of MSME's on GRDP or Indonesia's GDP more optimally. This E-IEM integration standard is the quality and quantity with the contribution of MSME's and once its implementation is achieved it becomes the main requirement that becomes the basis of the system.

References

- [1] BAPPENAS (2014) 'Laporan Analisis Daya Saing UMKM di Indonesia', p. 302.
- [2] Kemenko Perekonomian (2017) 'Tingkatkan Daya Saing UMKM Ekspor Melalui Fasilitas KURBE', (November), pp. 12–13. Available at: <https://www.ekon.go.id/berita/view/tingkatkan-daya-saing-umkm.3717.html>.
- [3] Nuryanti (2013) 'Peran E-Commerce untuk Meningkatkan Daya Saing Usaha Kecil dan Menengah (UKM)', *Jurnal Ekonomi Manajemen Ekonomi Universitas Riau*, 21(4), p. 15. doi: 10.1073/pnas.0703993104.
- [4] Hasbullah, R. et al. (2015) 'Peran Inkubator Bisnis Perguruan Tinggi dalam Peningkatan Kinerja Usaha UKM Pangan (Role of University Business Incubators on the Improvement of Food SMEs Business Performances)', *Jurnal Ilmu Pertanian Indonesia (JIPI)*, 20(1), pp. 59–65. Available at: journal.ipb.ac.id/index.php/JIPI.
- [5] Unnikrishnan, S. et al. (2015) 'Safety management practices in small and medium enterprises in India', *Safety and Health at Work*. Elsevier Ltd, 6(1), pp. 46–55. doi: 10.1016/j.shaw.2014.10.006.
- [6] Pomffyová, M. and Bartková, L. (2016) 'Take Advantage of Information Systems to Increase Competitiveness in SMEs', *Procedia - Social and Behavioral Sciences*, 220, pp. 346–354. doi: 10.1016/j.sbspro.2016.05.508.
- [7] Jewalikar, A. D. and Shelke, A. (2017) 'Lean Integrated Management Systems in MSME Reasons, Advantages and Barriers on Implementation', *Materials Today: Proceedings*. Elsevier Ltd, 4(2), pp. 1037–1044. doi: 10.1016/j.matpr.2017.01.117.