

# Analysis and Design Marketing Information System to Improve Competitive Advantage in East Java SMEs

Anni Rahimah, Endang Siti Astuti, Djamhur Hamid

Business Administration Department, Administrative Science Faculty, University of Brawijaya, Indonesia

\* E-mail of the corresponding author: [anni@ub.ac.id](mailto:anni@ub.ac.id)

## Abstract

The existence of Micro, Small and Medium Enterprises ( SMEs ) have a very important role in the economic structure of a country , including Indonesia . SMEs can be regarded as a business sector that is elastic because it can move and survive in the midst of turmoil and economic crisis. However, SMEs also have some problems in the development of its business in the midst of intense competition not only with the products of the domestic, but also from the invasion of the products from abroad . This study aims to determine the problems experienced by the SMEs in the area of Sidoarjo and Pasuruan , East Java, Indonesia especially in the marketing activities . Based on the existing conditions in the field, can be determined appropriate marketing information system to be applied to support the marketing activities of SMEs in Pasuruan and Siodarjo. The method used is action research by taking a sample of 39 leading SMEs in Sidoarjo and Pasuruan as informants. The results of this study found several factors that cause the problems that arise in the SMEs. The solution offered is to design a marketing information system based on SMS ( Short Message Service ) Gate Way or called mobile marketing . The consideration is choosing this technology because the technology by using mobile tools tend to be more applicable to SMEs and are user friendly.

**Keywords:** SMEs, Marketing Information System, Competitive Advantage, SMS Gate Way

## Introduction

SMEs have a vital role in the economic structure of a country, including Indonesia. SMEs also play a role in alleviating poverty and unemployment both directly and indirectly. This can happen because SMEs have a high degree of flexibility and elasticity in the face of market changes. So that despite the economic turmoil of SMEs are still able to maintain its existence. His success as a backbone of the economy in many countries is not in doubt, both in terms of employment, toughness in the face of the flow of economic growth and the ability to contribute to the GDP of a country.

Department of Cooperatives and SMEs in East Java Province by September 30, 2012 mentions 1671 are featured SMEs spread across 38 cities and regencies in East Java with a variety of commodities. The SMEs engaged in the field of food, fashion, shoes and sandals as well as souvenirs and furniture. That SMEs has a market share of local, regional, national and some are reaching out to international trade through export activities. With a fairly large number of SMEs, the SMEs have great potential and promise for the development and economic growth in East Java. SMEs in particular will contribute significant and promising to Gross Domestic Product ( GDP ) in East Java. Nevertheless, in the middle of the magnitude of the potential and the role of SMEs in the national and regional economy of East Java, there is the fact that quite a concern faced by the SME sector. There is a critical problem experienced by SMEs in developing their business. The problems existing SMEs in East Java is also found in two places that has a large number of SMEs that is Sidoarjo and Pasuruan. Based on data from the Central Bureau of Statistics, the number of SMEs in East Java amounted to 4,211,541 and as many as 362.448 SMEs located in Sidoarjo.

The level of utilization of Information Communication Technology in the SMEs sector is still very limited. Application of Information Technology ( IT ) is needed in order to support the activities of SMEs in winning the free market competition, especially with regard to marketing management . The advantages of Information Technology in the velocity field of providing information that is both user friendly and applicable without constrained by distance and time can be utilized in developing a marketing concept that is effective and efficient.

## Material and Methods

Kotler and Keller (2012), defines : "Marketing Information Systems as an interacting structure of people , equipment and procedures to gather sort , analyze , and distribute, evaluate timely and accurate information for use by marketing decision makers to improve their marketing planning, implementation, and control". Professor Philip Kotler also identifies three types of marketing information that is intelligent marketing, internal marketing information and marketing communications. (Jogiyanto, 2005). In addition, Harmon (2003) stated that "A marketing information system is a computerized system that is designed to provide an organized flow of information to enable and support the marketing activities of an organization". Moreover, Colgate (1998) adding that the marketing information system is the use of information technology in marketing information systems.

From the definition above states that the marketing information system as a processing information, collect data and information from the marketing environment, process the data and the information and then presenting the results to the marketing manager in the format of information management.

(Whitten et al. 2004) states that information systems in organizations capture all activities (noted / recorded in a permanent file) and manage data to produce useful information to support an organization, employees, customers, suppliers of goods , and its affiliates . Thus, Li et al., (1993) confirms that a manager should act and take decisions based on such information as the fulfillment of the demands of the environment in its operations.

Although the marketing information system should not use information technology and even can be done manually, but in general, marketing information systems in many business units are supported by information technology. Obviously this will require activities more complex. However, with the use of information technology makes it easy to connect all the departments or business units within the organization and at the same time will eliminate the processing of the same data in each department. Therefore, this will have an impact on making the right decisions when faced with different marketing problems from time to time. This perspective is in line with O'Brien et al., (1995) opinion which states that: "An efficient Marketing Information System captures the status and the relevant changes in the marketplace simultaneously ridding the environment of redundant information reporting".

Utilization of information technology in business activities of SMEs will create new value for customers that will create the competitive advantage of SMEs. Moreover, Michael E. Porter stressed that the five factors in achieving competitive advantage in a business unit includes :

- a. The new technology,
- b. The increase in the needs of the buyer,
- c. The emergence of new industry segments,
- d. Rising input costs and its availability, and
- e. Changes in government regulations.

In summary, the use of information technology, especially in the marketing activities will create a sustainable business of SMEs because it has a competitive advantage compared to its competitors. As a reinforcement, a company can be categorized to have a competitive advantage if it has the advantages than its competitors to attract customers and be able to defend itself from the competitive pressures of the market.

Sugiyono (2004:9), explains that the method of action research is a research that aims to develop the most efficient working methods, so that the production cost can be reduced and productivity can be increased institutions. Along with the goals of this research, the action research will be used in this study.

The study site was taken in SMEs in the East Java region by taking samples in 2 regions of Pasuruan and Sidoarjo. Pasuruan and Sidoarjo were selected by looking at the consideration that the second place as a city that has the highest number of SMEs in East Java based on data from the website of the East Java Provincial Cooperative Office ([www.diskop.go.id](http://www.diskop.go.id)). From the available data, there are 50 known leading SMEs in the town of Pasuruan and 28 leading SMEs in the area of Sidoarjo. Based on these data, this study uses 14 SMEs in Sidoarjo and Pasuruan 25 SMEs to be used as a resource through an interview (depth interviews).

The main method used for data retrieval in the preparation of this research is a field study (field research) which is a method of data collection is carried out by means of reviewing and direct observation of the object of research with the intention that the data obtained is factual. While the research instrument used in this study in accordance with the translation Moleong (2002:4) that the researchers themselves or with help from others is the primary data collection tool. This was done because only a human being can relate to the informant or other objects and only humans are capable of understanding the relation realities on the reality. It is also supported with tools interview guide is a list of questions to be put to the informant linked to get more information on the implementation of the marketing information system.

## Results and Discussion

The existence of Micro, Small and Medium Enterprises (SMEs) in East Java, contributing significantly to the economy of East Java. SMEs who pursue the kinds of crafts, such as handicrafts, furniture, and so forth, contribute to the role of about 20 to 25 percent of the GDP of East Java. Head of Industry and Trade Department of East Java states that SMEs have contributed more to the economy of East Java when compared to its growth. This is due to the growth of SMEs in East Java, around 10 %, or less when compared to the growth of industry in East Java, which reached 15%.

Sidoarjo is an area that has 28 SMEs seed scattered in 18 sub-districts with the highest number of SMEs in Indonesia. Sidoarjo have a superior product that is already well-known both at home and abroad. Sidoarjo is known as shrimp city also has other excellent products as prop craft bags, luggage, accessories, sandals, shoes, handicraft, garments, food, fashion, kitchen appliances and batik. Researchers tried to describe the development SMEs in Sidoarjo by taking 14 SMEs that dominate the area of Sidoarjo.

In other hand, SMEs Pasuruan superior product consists of furniture, wood crafts and barrel, Pasuruan typical foods such as corn chips, and bread. Besides that, Pasuruan has typical batik patterns and unique, so that the incoming Pasuruan batik as a souvenirs for tourists who visiting Pasuruan. Development of SMEs in the town of Pasuruan quite rapidly. Pasuruan is one of the centers of SMEs with superior export commodities in East Java. Based on data from official website cooperatives in East Java Province <http://www.diskopjatim.go.id/note> that there are 50 leading SMEs in the town of Pasuruan. Researchers took 25 leading SMEs already represent as an informant in support of this study.

Based on observations in the field, there are crucial problems experienced by SMEs in developing their business. The internal problems that become an obstacle to the productivity of SMEs in general and particularly in East Java is related to institutional management problems of SMEs, limited human resources quality, product quality, limited access and network markets, limited access to capital and financing sources. More specifically, the fundamental problems faced by SMEs is the lack of resources in the marketing.

Based on observations and interviews of the SMEs in the area of Sidoarjo and Pasuruan, almost all SMEs in both regions still run conventional management in selling and offering their products. This is due to several factors. The first factor is the lack of understanding of the SMEs in response to market needs. Understand that the products offered to consumers should have the value added for their consumers and customer is important. However, it is not enough, SMEs also need to have a high enough response with regard to the demands of the market and the needs and tastes of the market of a product. The ideal product should meet the criteria both in terms of shape, quantity and quality are good.

SMEs in Pasuruan and Sidoarjo still do not understand well the right entrepreneurial activities in order to achieve its business objectives. Stevenson, (1990) in the journal entitled "A Paradigm of Entrepreneurship: Entrepreneurial Management " states that entrepreneurship is more than just starting a new business. Entrepreneurship is a process of both individuals and organizations in pursuit of opportunities that exist to manage the limited resources they have now. Thus, the SMEs should not be passive with their capability to producing the same product, but rather trying to find a new way called innovation to pursue an opportunity to get a wider market and lead to more profit.

The second factor is the lack of willingness and experience Sidoarjo and Pasuruan SMEs in designing a program of marketing activities. At the time of entrepreneurial activity requires a willingness and experience to market their products to a wider audience. Although it has the capital and other resources but weak enough in determining the marketing strategy can also have a negative impact on the sustainability of its business.

This is supported by the third factor is related to the lack of skills SMEs in financial management eventually ignored the allocation of costs for marketing. In reality, SMEs simply rely on instinct alone in determining the cost of marketing is needed, of course this is not quite right. In fact, often the SMEs are reluctant to spend money for market their products. Marketing costs incurred should be viewed as the exchange rate to support the performance of its resources in order to increase sales of its products. The size of the cost incurred for marketing activities depend on the achievement of sales plans. The higher the sales target, the higher the cost of the promotion is needed. Imprecision in managing marketing costs can also be bad for the sale of products that can threaten the sustainability of SMEs.

While the fourth factors related to the lack of skills and work ethic of its human resources of SMEs . Most SMEs using the services of the marketer (sales) who still has family ties, this triggers a low work ethic of employees of SME. In addition, the conventional style of marketing that became the cause of the failure marketers attract the attention of consumers to buy their products.

Finally, the causes of poor management of SMEs is the lack of understanding of the importance of applying the right technology for their business development. Lack of understanding of the use of information technology SMEs make the conventional marketing activities, such as using the services of the marketer (sales) or the distributing flyers and advertisements in print media. There are also some SMEs are already using information technology to marketing their products through the internet social networks such as facebook and twitter, but have not yielded the expected results. This is due to lack of well-organized marketing management used the technology-based operation.

Seeing that causes an obstacle in conducting marketing activities, it needs to make a marketing information system by using information technology. Based on data from interviews conducted for the entire sample of SMEs in the town of Pasuruan and Sidoarjo have a mobile phone or cell phone. To that end, researchers offering information technology solutions applicable to the SMEs is that mobile marketing which is based SMS gate way . The election of SMS gate way as a marketing media because it is user friendly. The SMEs can use this marketing system easily because previously they have made use of SMS technology, it's just not used as a medium of marketing with an integrated information system.

SMS Gate Way is the liaison between the system with other systems and enable the exchange of data between systems. The data traffic is called SMS Gate Way. The ways of working of SMS Gate Way system can be seen in

Figure 1 below.

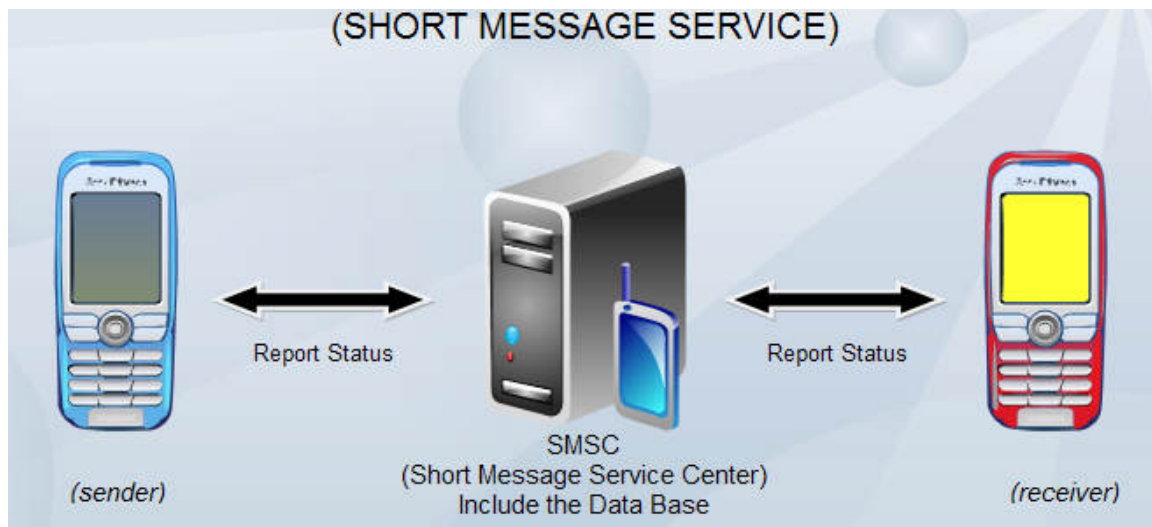


Figure 1

Source: data processed

The following image and its context diagram explanation stages of mobile marketing (m-marketing) based on SMS. The steps are as follows:

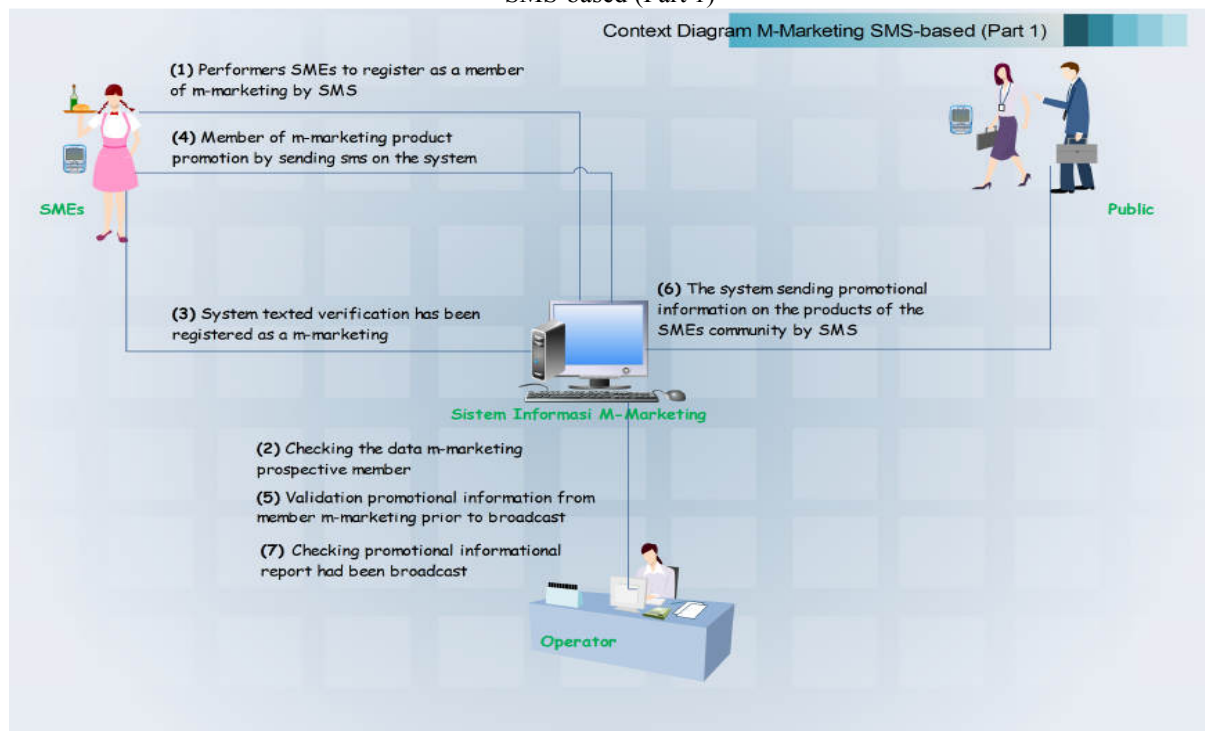
(Part 1)

- (1) Performers SMEs to register as a member of m-marketing by SMS,
- (2) Checking the data m-marketing prospective member,
- (3) System texted verification has been registered as a m-marketing,
- (4) Member of m-marketing product promotion by sending sms on the system,
- (5) Validation promotional information from member m-marketing prior to broadcast,
- (6) The system sending promotional information on the products of the SMEs community by SMS,
- (7) Checking promotional information report had been broadcast.

(Part 2)

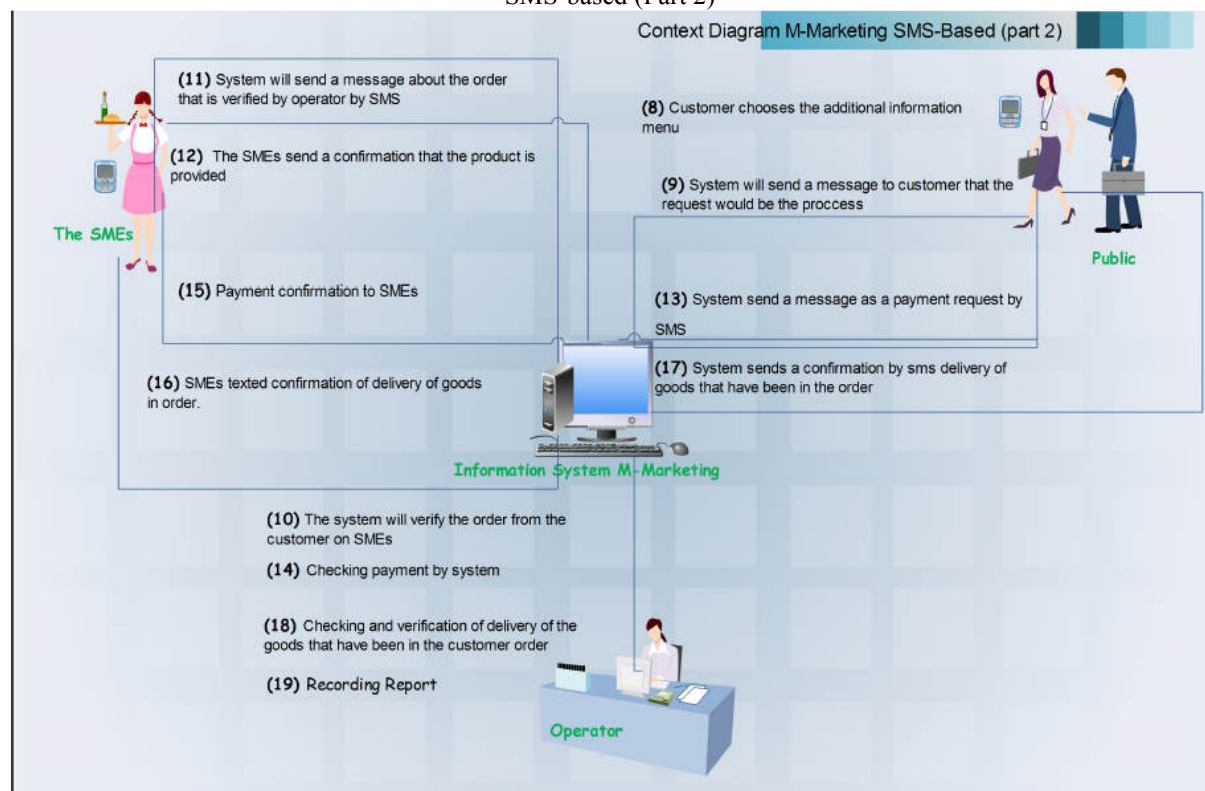
- (8) Customer chooses the additional information menu.
- (9) System will send a message to customer that the request would be the process.
- (10) The system will verify the order from the customer on SMEs.
- (11) System will send a message about the order that is verified by operator by SMS
- (12) The SMEs send a confirmation that the product is provided
- (13) System send a message as a payment request by SMS
- (14) Checking payment by system
- (15) Payment confirmation to SMEs
- (16) SMEs texted confirmation of delivery of goods in order.
- (17) System sends a confirmation by sms delivery of goods that have been in the order
- (18) Checking and verification of delivery of the goods that have been in the customer order
- (19) Recording report

Figure 2  
 Context Diagram M-Marketing  
 SMS-based (Part 1)



Source: data processed

Figure 3  
 Context Diagram M-Marketing  
 SMS-based (Part 2)



Source: data processed

## Conclusion

The problem that often arises in the SMEs in Sidoarjo and Pasuruan area is still doing conventional management in its product offering. There are 5 factors that cause the problems. To that end, researchers offer solutions offered in the marketing of SMEs products based on information technology by using SMS Gate Way which allows it to be used and easily understood by SMEs Sidoarjo and Pasuruan.

## References

- Albrecht L Simon. (2010). Handbook of Employee Engagement Perspectives, Issues, Research and Practice.
- Colgate, M. (1998), —Creating Sustainable Competitive Advantage Through Marketing Information System Technology: A Triangulation Methodology Within The Banking Industry, International Journal of Bank Marketing, Vol. 16, No. 2, pp. 80-89
- Harmon, R. (2003), —Marketing Information Systems, Encyclopedia of Information Systems, Vol. 3, pp. 137-151.
- Jogiyanto. , 2001. Strategic Information Systems. Yogyakarta: Andi Offset
- Kotler, P. and Keller, K. (2012), Marketing Management, 14th edition, Englewood Cliffs NJ, Prentice Hall International.
- Li, E., McLeod, R., Jr., and Rogers, J. (1993), Marketing Information Systems in the Fortune 500 Companies: Past, Present, and Future, Journal of Management Information Systems, Vol. 10, No. 1, pp. 165-192.
- Moleong, Lexy. , 2002. Qualitative Research Methodology. The 16 prints. Bandung: PT Remaja Rosdakarya.
- O'Brien, V., Schoenbachler, D. and Gordon, G.L. (1995), —Marketing information systems for consumer products companies: a management overview, Journal of Consumer Marketing, Vol. 12 No. 5, pp. 16-36.
- Porter, Michael E., 1998, Competitive Strategy: Techniques for analyzing Industries and competitor, The Free Press, New York.
- Sugiyono. , 2004. Business Research Methodology. New York: CV Alfabeta
- Whitten, Jeffery L, Bentley, Lonnie D. Dittman, Kevin C . 2004. Metode Desain dan Analisis Sistem (Edisi Bahasa Indonesia). Yogyakarta. Andi.
- Stevenson, Howard H. and J. Carlos Jarillo. 1990. A Paradigm of Entrepreneurship: Entrepreneurial Management. Strategic Management Journal, Vol. 11, Special Issue: Corporate Entrepreneurship (Summer, 1990), pp. 17-2.
- <http://www.diskopjatim.go.id/> accessed on August 16, 2013