

E-Commerce, Competitive Advantage And Business Performance Of Banyuwangi Small And Medium-Sized Enterprises

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Abstract— The aim of this research is to examine the mediating effect of competitive advantage on the relationship between e-commerce and performance of SMEs in Banyuwangi East Java Indonesia. It proposed a quantitative analysis in which uses proportionate sampling method to collect the data from 209 owner/managers SMEs. Four hypotheses were formulated to answer the research questions; (a) There is significant relationship between e-commerce and competitive advantage, (b) There is significant relationship between e-commerce and SMEs performance, (c) Competitive advantage mediates the correlation between e-commerce and SMEs performance, and (d) There is significant correlation between competitive advantage and SMEs performance. The findings revealed that no significant correlation exist between e-commerce and performance, but competitive advantage was found as mediator to totally correlate e-commerce and performance. These findings shows that owner/managers of SMEs can use e-commerce to gain competitive advantage and increase SMEs performance.

Keywords— business performance, competitive advantage, e-commerce, SMEs

1 INTRODUCTION

Improving the performance of small and medium enterprises (SMEs) can be done by realizing new entrepreneurs based on science and technology. Information technology is needed to develop innovation and market products. The digital age has offered a variety of information and knowledge quickly and can be accessed at any time [1]. Therefore, SMEs are expected to be able to use information technology advances to achieve competitive advantage and improve company performance.

E-commerce as information technology can be used by SMEs to increase market share and introduce their products to new consumers without constraints of distance and time. E-commerce is another term for electronic commerce. E-commerce facilitates buying and selling transactions over the internet network. The adoption of e-commerce in SMEs in Taiwan helps the marketing department to market their products in seconds without limiting the territory of a particular country [2].

E-commerce can affect a company's competitive advantage. Electronic sales transactions make it easy for sellers to offer their products without limitation of distance and time, where time efficiency and innovation have been identified as sources of competitive advantage [3]. SME's competitive advantages can be achieved through the use of e-commerce technology.

The use of e-commerce to achieve competitive advantage, aside from being a marketing transaction, can also be used as a medium to get to know the market. SME managers can use

e-commerce to get to know consumer tastes and current trends, so they can outperform their competitors by introducing new products and winning market competition.

The objective of this study is to investigate the correlation between e-commerce, competitive advantage and business performance of owner/manager SMEs in Banyuwangi East Java Indonesia. Specifically, this study aims to determine (1) the significant correlation between e-commerce and competitive advantage, (2) the significant correlation between e-commerce and SMEs performance, (3) mediating effect of competitive advantage on the correlation between e-commerce and SME performance, and (4) the significant correlation between competitive advantage and SMEs performance.

The findings has enriched the existing e-commerce literature by means of providing better understanding of e-commerce and its impact on competitive advantage and business performance. This research found that e-commerce did not have significant effect on the performance, but competitive advantage had full mediating effect on the correlation between e-commerce and performance.

The rest of the paper proceeds as follows. The next section deals with the literature review, hypotheses development, and conceptual framework. The research method is presented in section 3. Section four presents the findings and followed by the conclusion.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

E-commerce, Competitive Advantage and Business Performance

E-commerce affects the company's competitive advantage. Competitive advantage is the competence that companies have to win competition, with critical management decisions, which distinguish themselves from their competitors.

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Information technology including e-commerce had a positive effect on the competitive advantage of manufacturing SMEs in Greece [4]. Likewise, a study on the food industry in Jordan showed that interactive marketing, goods supply chain management and electronic transactions in e-commerce have a positive effect on competitive advantage [5].

Referring to the description above, it can be concluded that e-commerce has an effect on competitive advantage. Therefore, the hypothesis of this study is as follows.

H1: E-commerce has a positive effect on SME's competitive advantage

E-commerce can improve SMEs performance. E-commerce implementation provides added value for SMEs, new services, new markets, new business models, expanding their business and being able to compete in global markets [6]. SMEs try to take advantage of the benefits of e-commerce which is strategic management for their rapid growth [7]. In Taiwan, aspects of e-commerce operations and marketing have a strong impact on the performance of SMEs in the context of B2B and B2C [2]. Likewise E-commerce has a positive influence on performance Italian fashion industry [8].

From the description above, it is clear that e-commerce can affect SMEs performance. Therefore, the hypothesis of this study is as follows:

H2: E-commerce has a positive effect on the performance of SMEs.

Databases in e-commerce that contain information on product marketing increase the competitive advantage of SMEs [9]. The increasing use of online transactions changes the way SMEs interpret customer data. Active data integration is very important, enabling an increase in online market share. The database can be used as a tool to see the level of customer satisfaction. Increasing market share and increasing customer satisfaction will improve the performance of SMEs [9]. Previous research that examined the mediation of competitive advantage in e-commerce relations and performance has never been done. The next hypothesis is based on the theory put forward by [9] is:

H3: Competitive advantage mediates the influence of e-commerce on the performance of SMEs.

A competitive environment makes the company must meet the expectations and tastes of consumers, optimize the resources of the company to achieve excellence needed by the company [10]. SME business performance will be enhanced by competitive advantage through increased profitability, increased sales and a large number of customers. According to [11] and [12], competitive advantage has an influence on business performance. It can be concluded that competitive advantage influences performance. Therefore, the hypothesis of this study is as follows:

H4: Competitive advantage has a positive effect on the performance of SMEs.

Based on theoretical studies and empirical studies that have been described, the conceptual model of this research can be seen in Figure 1 below:

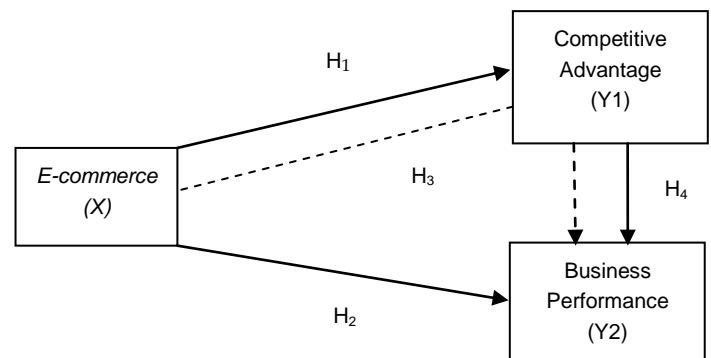


Figure 1. Conceptual Framework of the Study

3 RESEARCH METHOD

This study describes the e-commerce variable causal relationships, competitive advantage variables and performance variables through empirical hypothesis testing. The population of this study was all SMEs assisted by the Banyuwangi Regency Cooperative and UMKM Office, which amounted to 209 SMEs. The sample in this study was taken using the proportionate sampling method based on the proportions of each sector. The method used to determine the number of samples is using the Slovin formula with an error rate of 5%. The total samples consists of 137 SMEs.

Data obtained from 137 respondents, tabulated, were then examined for data. The results of the data checking process indicate that data numbers 52, 60 and 61 were excluded from the analysis because the data did not meet the assumptions. So that the data that can be analyzed in this study changes from 137 to 134.

Measurement of Variables and Data Collection Methods

The research questionnaire used a 5-point Likert scale and was adapted from the appropriate literature. E-commerce variable measurements adapted from a questionnaire developed by [13], measurements of the variable competitive advantage adapted from a questionnaire developed by [14], and measurement of performance variables adapted from a questionnaire developed by [15].

The method of data collection in this study used a questionnaire. The unit of analysis is an organization which in this case is represented by SME managers. This study analyzes managers' perceptions of the relationship between e-commerce, competitive advantage and the performance of SMEs.

According to the data obtained from the questionnaires from 134 respondents, it was found that most of the respondents were men (71.6%), most of them aged between 41-50 years old (35.8%). The majority of respondents were high school graduates (54.5%) and almost all of them were married (85.1%). Almost of them were in the business for 6 to 10 years (25.4%) and lead the business for 6 to 10 years too (23.9%). Most of them have within 20 employees (85.4%) and age of company between 11-15 years old (23.1%).

4 RESULTS AND DISCUSSION

The results of the instrument validity test on e-commerce variables, competitive advantage, and performance have a significant correlation value because ρ value $< \alpha$ (0.05) so that it can be concluded that all variable items are declared valid. The instrument reliability test results on all variables have an alpha Cronbach coefficient greater than 0.60, so that the instruments of all variables are declared reliable. The results of the calculation of the correlation coefficient can be seen in Table 1.

Table 1. Results of Correlation Coefficient Calculation

Variable	E-commerce	Competitive	Business
		Advantage	Performance
E-commerce	1,000		
Competitive Advantage	0,552*	1,000	
Business Performance	0,287*	0,515*	1,000

Note: * significant at 1% level

From the results of correlation analysis, it can be concluded that e-commerce has a significant relationship with competitive advantage and performance. Competitive advantage has a significant relationship with performance.

The direct effect test results is shown in Table 2. It can be seen that e-commerce has significant effect on competitive advantage, but e-commerce has no significant effect on business performance, and competitive advantage has significant effect on business performance.

Table 2. The Summary of Direct Effect Test Result

Hypotheses	Path Coefficient			Notes
	Estimate	C.R	P	
H₁ (X ₁) → (Y ₁)	0,317	3,485	0,000*	Significant
H₂ (X ₁) → (Y ₂)	-0,068	-0,676	0,499	Not Significant
H₄ (Y ₂) → (Y ₂)	0,452	4,926	0,000*	Significant

Note: * significant at 1% level

From the summary of direct effect test result it can be concluded that hypotheses 1 and 4 are accepted, but hypothesis 2 is not accepted.

E-commerce has a positive and significant effect on the competitive advantage of SMEs. General marketing transactions, researching the market, achieving international penetration, B2B transactions and B2C transactions are able to enhance the ability of SME's competitive advantage. This finding is in line with the theory that e-commerce affects SMEs competitive advantage. E-commerce technology helps SMEs to achieve their competitive advantage [16]. Electronic sales transactions make it easy for sellers to offer their products without limitation of distance and time, where time efficiency and innovation have been identified as sources of competitive advantage [17].

E-commerce has no significant effect on the performance of

SMEs. This finding is not in line with the theory that e-commerce has a significant effect on the performance of SMEs [18]. Ideally, the use of e-commerce technology affects the performance of the company. The lack of knowledge of the internet is one of the factors that influence this correlation. In a practical perspective, these findings do not support the results of previous studies. The fashion industry in Italy, found that e-commerce had a significant influence on performance [8].

Based on the results of observations in the field, not all SMEs under the guidance of Office of Cooperative and SMEs in Banyuwangi Regency who market their products through e-commerce are ideally. However, that does not mean they do not use internet marketing. WhatsApp, Facebook, Instagram are still used by Banyuwangi UKM managers to market their products. Electronic marketing through e-commerce is still considered to be rather difficult to be implemented optimally. This happened because of the limited understanding of the internet, where the majority of the age of SME managers (49.2%) were over 40 years old. The educational background of SME managers also affects this correlation, where 55.5% of them are high school graduates, only 16.8% have diploma, S1 and S2 diplomas. Different results may be obtained if SME managers are under 40 years old and have a secondary education (high school, diploma, S1 and S2).

Competitive advantage has a positive and significant effect on the performance of SMEs. This finding supports the results of previous studies [1], [19], [20], [21], [14], and [12]. A competitive environment makes the company must meet the expectations and tastes of consumers, optimize the resources of the company to achieve excellence needed by the company [10].

The indirect effect test results are shown in Table 3. The results indicate that competitive advantage totally mediates the effect of relationship e-commerce and business performance. Thus, hypothesis 3 is accepted.

Table 3. The Summary of Indirect Effect Test Result

Hypotheses	Path Coefficient					Notes
	A	b	SE _a	SE _b	C.R	
H₃ (Y ₂) → (Y ₂) → (Y ₃)	0,750	4,139	0,215	0,840	2,845*	Significant

Competitive advantage mediates the influence of e-commerce on performance. Without competitive advantage, e-commerce cannot affect performance (hypothesis 2). It can be concluded that the mediation of competitive advantage that occurs in e-commerce relations and performance is total mediation, meaning that all effects of e-commerce on the performance of SMEs run through mediating competitive advantage.

In a theoretical perspective, the findings of the research support the theory put forward by [9] that databases in e-commerce that contain information on product marketing increase SME's competitive advantage. The increasing use of online transactions changes the way SMEs interpret customer data. Active data integration is very important, enabling an increase in online market share. The database can be used as a tool to see the level of customer satisfaction. Increasing market share and increasing customer satisfaction will improve

the performance of SMEs [9].

The influence of e-commerce on the performance of SMEs is getting bigger when through competitive advantage. The results of this study support this. Based on observations in the field, this is due to the existence of several benefits of competitive advantages that can be achieved by SMEs using e-commerce, including reading market movements and responding to customer needs quickly, so as to improve the performance of SMEs.

5 CONCLUSION

This study aims to determine relationships e-commerce, competitive advantage and performance. The use of e-commerce as a marketing transaction, researching the market, achieving international penetration, conducting B2B and B2C transactions will increase competitive advantage. On the other hand, the influence of e-commerce in improving SMEs performance is not significant. This happened because not all SMEs assisted by the Banyuwangi Regency Cooperative and UMKM Office, which were the samples of this study, used e-commerce optimally to market their products. This happened considering the lack of internet knowledge and the limited level of education of managers, most of them (73.2%) were within under high school graduates. Mediation of competitive advantage increases the influence of e-commerce on performance. It can be concluded, the mediating effect of competitive advantage in e-commerce relations and performance is total mediation.

This research was only limited to UKM assisted by Banyuwangi Regency Cooperative and UMKM Office, so the results of the study did not reflect SMEs in Banyuwangi Regency nor generalizations to other regions. Future studies are expected to be able to use objects in a wider range of regions to generalize the results of the study.

SMEs assisted by the Office of Cooperative and SMEs in Banyuwangi Regency of Banyuwangi Regency still use e-commerce in a simple way, WhatsApp, Facebook, Instagram is still an application used by the majority of the SMEs' managers to market their products. Therefore, research on e-commerce in the future, is expected to be the object of research from SMEs that actually use e-commerce to the fullest.

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