Determinant Factors of E-Commerce and Impacts on Increasing Company Performance

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ABSTRACT

The implementation of a travel service company is expected to adopt e-commerce as a digitizing company to facilitate online marketing and sales. This study aims to examine and analyze the factors that influence company performance with independent variables consisting of integrated information systems, networking, and technological innovation, using the e-commerce adoption variable as an intervening variable.

The data collection method uses a questionnaire distributed to 70 companies engaged in services, namely travel, by using a purposive sampling technique. The population of 103 samples consisted of the travel owner, service department, and marketing department. Data were analyzed using SEM from the PLS 3.0 application. The study results with a significance of 5% to show a significant influence that integrated information systems, networking, and technological innovation have a significant impact on company performance through e-commerce adoption. The adoption of e-commerce as an intervening variable has a significant effect on company performance. This research is supported by the theory (TOE) Technology, Organization, Environment and (RBV) Resource-Based View Theory which theoretically can provide evidence about the factors that influence the adoption of e-commerce in terms of technology, organization, and environment, this research provides support for research progress in the scope of management, especially in terms of company performance, and contribute to the development of information technology in the use of e-commerce in the range of travel service companies.

Keywords: integrated information systems, networking, technological innovation, e-commerce, company performance.

INTRODUCTION

The development of science and technology impacts business development, in this case, an integrated, significant role as supporting the activities of a company. Many businesses that invest in offering digital solutions such as marketing automation, analytics, and social media, this results in a constantly changing digital marketing industry, and ensuring that businesses continue to keep pace with these changes is very important. Someone has not been said to learn integrated if they have not learned integrated systems because integrated is basically an information processing system that produces output in the form of integrated information, since the
data is recorded through several power divisions within a company organization. As the company's activities increase, management is demanded to work more effectively and efficiently carrying out the company's operations. The progress of a company is inseparable from the company's ability to collect the latest information. One of the criteria for a successful company is a company that can connect the scope of internal and external business networks called business networking. In networking, the key to improving the performance of a series of business processes lies in the company's ability to work with its business partners, in this case, suppliers/suppliers. Optimal integration between internal business processes within the company only, but furthermore, that can increase competitive advantage for the company. (Barrat et al., 2004) The application of information and communication technology in car body companies is necessary in the context of exchanging data and information as well as the distribution of information/data quickly, accurately, and safely. Information technology acts as a tool to facilitate the management of a resource that is owned by the company. Company performance is not enough to measure performance in financial terms but needs to be balanced with non-financial measurements, to make it easier to achieve the desired target many companies are competing to take advantage of technological sophistication by switching to using electronic commerce. The term use of the internet as a marketing medium can be called e-commerce, a business activity of marketing goods and services carried out automatically through an electronic system using a computer or smartphone. The use of e-commerce is related to the overall business processes, including distribution, purchasing, sales, and marketing electronically (electronic purchasing), processing electronic orders and working with business partners. Research conducted by (Zelig, 2016) related to the influence of integrated information systems on retail industry companies, the results of the study showed that the integrated information system consisting of back end and front end is an important part because it affects the company's performance through the use of e-commerce.

Companies that experience rapid development due to the use of e-commerce are travel agencies. Travel is a service company whose business activities are planning, organizing, and serving the sale of many airplane tickets for domestic and international destinations, along with the increasingly sophisticated technology led to a phenomenon in society related to changes in consumer purchasing patterns where before the internet travel business model was fairly simple. Various methods are used in developing the travel sector. One of them is to increase domestic and foreign airplane ticket sales through e-commerce. Today, the development of the internet has triggered the emergence of e-commerce. It is undeniable that the existence of the internet has made things easier in life. E-commerce that is meant here is a travel agent service provider platform, for example, Traveloka, Booking, Pegipegi, and so on. This third party is called the Online Travel Company (OTC) or also called Online Travel Agents (OTA). OTA is considered to be able to increase airplane ticket sales. The more sophisticated technology can shorten the time and make it easier for consumers to order flight tickets. Before OTA’s existence, consumers must place an order only through one door, namely ordering through a walk-in. The term used for manual bookings
in front of travel employees. Since 2019, the daily social data shows that Online Travel Agents (OTA) are asked by many consumers. Consumers are more interested in travel that use online travel agents (OTA) than those who do not use OTA in their business. This condition is at the same time a challenge for service companies, especially for business travel service providers in big cities or areas that are now increasingly mushrooming, many new travel companies are emerging every year, this will affect the performance of the company itself. Many studies have examined related information systems integration, innovation, networking, e-commerce, and company performance in manufacturing companies. However, there is still little research that examines service sector companies such as travel. Research conducted by (Awa et al., 2015) related to the use of e-commerce on company performance, the results showed that e-commerce has a positive effect on company performance when e-commerce is implemented properly and maximally it will provide positive benefits to company performance such as increased sales, customer satisfaction and business development. This research is supported by research (Pavlou, 2003) that examines information systems integration by referring to the Technology Organization Environment (TOE) theory and innovation diffusion theory, and research is conducted in ten countries, the results of the study show that information systems integration is important in the use of e-commerce. Information system technology and internet skills are the most important factors in using e-commerce in companies.

Based on the explanation above, this study refers to the Technology Organization Environment Theory (TOE) and Resource-Based View Theory (RBV) that are used to support the theory of TOE. The TOE theory introduced by (Tomatzky & Fleischer, 1990), is a theory often used to introduce new technologies in analyzing factors in technological, organizational and environmental factors, one of which is the use of e-commerce in companies, the RBV approach also contributes to the development business performance. (Barney, 1991) provides an overview of strategic resource coordination which is the result of a combination of entrepreneurial orientation and organizational learning that will support the creation of resources, thus that the ability to think flexibly and innovatively in the development of company technology can be applied to business development mainly in travel companies to trigger the development of performance. This research's uniqueness is that there is still little research, especially in Indonesia, which examines e-commerce, especially in travel companies, even though the impact of increasingly sophisticated technology affects travel businesses because it affects consumer purchasing patterns.

**AIM OF RESEARCH**

This study aims to examine and analyze the factors that influence company performance with independent variables consisting of integrated information systems, networking, and technological innovation, using the e-commerce adoption variable as an intervening variable. Improving overall company performance where the level of success of e-commerce depends on the company's ability to change the technology it has into strength for service companies, especially travel.
METHOD OF RESEARCH

Research Model
This research is explanatory research (analytical research) that is a study that explains the influence of several variables by testing hypotheses. The unit of analysis of this research is a travel company. The company, which is the object of study, is a service company in the field of travel ticketing. The data collection method is done by survey or self-administered survey, which is the primary data collection method by giving questionnaires to respondents.

Population and Samples
The population in this study is a company engaged in the service sector, namely travel ticketing. The sampling technique is purposive sampling. Purposive sampling is a technique for sampling by setting specific criteria. The criteria in this research are travel ticketing located in Makassar City, travel ticketing which includes the address on Google Maps and travel ticketing that has a website.

Data Collection Method
The method of data collection in this study is to use a questionnaire (questionnaire), a data collection technique that is carried out by giving written questions to respondents. These questions will be answered based on a Likert scale technique. The questionnaire distributed contained a list of structured questions addressed to respondents to obtain information relating to information systems integration, marketing networks, technological innovation, e-commerce adoption, and company performance.

Data Analysis
Descriptive statistical analysis is intended to determine the frequency distribution of answers from questionnaire results. By collecting data from the results of the respondents' answers, then tabulated in a table and conducted a detailed discussion. Detailed measurement is the giving of numbers, both in the name of respondents, along with the average value of the answers and percentages. This data analysis provides an overview of the effect of integrated information systems, networking, and technological innovations on company performance through e-commerce adoption. This analysis technique is assisted by the application of Partial Least Square (PLS) version 3.0.

ANALYSIS AND DISCUSSION

Data Analysis
Respondents in this study are travel owners, staff/service departments, and marketing/marketing departments. The questionnaire was distributed directly and online using Google Drive to respondents. The number of questionnaires distributed was 200 copies. Surveys returned and filled in as many as 103 copies meant the return of questionnaires that did not return
as many as 97 copies, the reason of not returning was because some respondents of the travel company did not operate due to COVID-19 pandemic, some were being closed and some whose addresses were not appropriate. The questionnaires used in the analysis of the research model were 103 questionnaires. Characteristics of respondents for the sex shows that the number of respondents female sex more than the number of respondents male sex. The number of female respondents in this study was 72 people or 70.1% of the respondents, while male respondents were 31 people or 29.9% of all respondents. Characteristics of respondents based on the position of the respondent showed that filling out the questionnaire by the travel owner as many as 30 people or 30.4%, the marketing department as many as 36 people or 33.2%, and the service section 37 people or 36.4%. The most respondents are the service section as many as 37 people or 36.4% of the total number of respondents, and this is because the service part most often uses e-commerce compared to the marketing and travel owner section, because the service section is directly related to the company's routine operations such as serving the consumer.

Analysis of the measurement model (outer model) aims to measure valid and reliable models through the Algorithm process in SEM Smart PLS 3.0 analysis. The measurement model (outer model) includes a test of validity (convergent validity and discrimination validity), as a prediction model that does not use certain distributions to estimate parameters and predict causality. Concurrent validity test in PLS is assessed based on loading factors indicators that measure the construct. The rule of thumb used for initial research is the maximum factor if the value is ≥ 0.30 (level of minimum), for loading factors ± 0.40 is better, and if > 0.50 is considered excellent. Or the T statistical value is twice as significant as the standard error values. The higher the factor loading value, the more important is the role of loading in interpreting the factor matrix.

<table>
<thead>
<tr>
<th></th>
<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>Standard Deviation (STDEV)</th>
<th>T. Statistics Standard Error (STERR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC1 &lt;- E-Commerce</td>
<td>0,439</td>
<td>0,443</td>
<td>0,153</td>
<td>2,879</td>
</tr>
<tr>
<td>EC2 &lt;- E-Commerce</td>
<td>0,532</td>
<td>0,513</td>
<td>0,123</td>
<td>4,310</td>
</tr>
<tr>
<td>EC3 &lt;- E-Commerce</td>
<td>0,807</td>
<td>0,797</td>
<td>0,052</td>
<td>15,386</td>
</tr>
<tr>
<td>EC4 &lt;- E-Commerce</td>
<td>0,567</td>
<td>0,543</td>
<td>0,180</td>
<td>0,375</td>
</tr>
<tr>
<td>EC5 &lt;- E-Commerce</td>
<td>0,526</td>
<td>0,511</td>
<td>0,160</td>
<td>3,275</td>
</tr>
<tr>
<td>EC6 &lt;- E-Commerce</td>
<td>0,744</td>
<td>0,729</td>
<td>0,074</td>
<td>10,079</td>
</tr>
<tr>
<td>IT1 &lt;- Inovasi Teknologi</td>
<td>0,673</td>
<td>0,640</td>
<td>0,259</td>
<td>1,056</td>
</tr>
</tbody>
</table>
Then, testing the structural model is done by looking at R Square's value, which is a goodness fit model test. R2 is used to measure the validity of forming independent variables against the dependent variable. The higher R2 means, the better the prediction model of the research model used based on the calculation results obtained by R square is processed with Smart PLS 3.0.
**Hypothesis Testing**

Testing using the inner model test can be used to evaluate the relationship between latent constructs that have been hypothesized in research. After processing the data, the results of the transformed data path coefficient with Smart PLS 3.0 can be presented as follows:

| Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (|O/STDEV|) | P Values | Ket |
|---------------------|-----------------|-----------------------------|-----------------------------|----------|-----|
| EC -> KP            | 0,389           | 0,416                       | 0,181                       | 2,148    | 0,032 | Diterima |
| IT -> EC            | 0,208           | 0,247                       | 0,082                       | 2,553    | 0,011 | Diterima |
| NET -> EC           | 0,331           | 0,328                       | 0,102                       | 3,237    | 0,001 | Diterima |
| SIT -> EC           | 0,243           | 0,262                       | 0,096                       | 2,517    | 0,012 | Diterima |

In the table above, it can be seen that integrated information systems (X1), networking (X2), technological innovation (X3) affect e-commerce (Y1) which have path coefficients (β = 0.389, t = 2.148, p = 0.032 <0.05). It can be concluded that e-commerce has a positive and significant influence on company performance. Thus the hypothesis in this study was accepted. As for the integrated information system variable (X1), networking (X2), technological innovation (X3) affect company performance (Y2) through e-commerce variables, which have a value <0.05 that is influenced by other variables not included in this research model. It can be concluded that the three variables have a positive and significant influence on e-commerce. Thus the hypothesis in this study was accepted.

**Discussion**

A discussion of the results of this study was conducted in analyzing the findings obtained from observations at the Makassar City travel service company. Where in this study, the empirical findings were obtained as follows:

*Integrated Information Systems have a positive and significant effect on company performance through the adoption of E-Commerce.*

The results of this study are in line with the results of research conducted by previous researchers such as research conducted by (Awa et al., 2015), (Chatzoglou et al., 2017), (Asnita, 2019), and (Soto-Acosta et al., 2016) which concluded that integrated information systems have a positive and significant influence on the level of e-commerce adoption and is the most important part in supporting the e-commerce adoption process to the
maximum and effectively will have an impact on the company's performance itself. To achieve maximum performance in the use of e-commerce, it is necessary to utilize an integrated and maximum information system, especially in the travel services business, in ticketing sales.

The integrated information system in this study is the level of connectivity between the information systems that involve various functional units of the company and those that are externally integrated to improve company performance, reduce operational costs, save time and improve customer service. The integration information system is essential in the use of e-commerce because in the use of e-commerce requires efficient data flow along the value chain, and must automatically communicate changes every transaction made always to affect the company's performance in travel companies.

The positive influence between integrated information systems and company performance through the use of e-commerce is also supported by the theory of TOE (Technology organization environment). According to the TOE theory, the company's decision to encourage adopting or using new technology is influenced by technological, environmental, and organizational factors. One of them is the technological factors include integrated information systems. A travel company integrated information system is essential because it is a significant factor in the success or failure of e-commerce. After all, the use of e-commerce requires efficient sales data flow along the company's value chain, especially travel service businesses. Theories that support the TOE theory are RBV theory or resource-based theory. This theory is a theory that emphasizes the ability of a company to use a direct strategy on resources as an essential part of the product and ends in the company's performance. The resources in question are all that can be considered as the strengths and weaknesses of the company. More formally, company resources are tangible and intangible assets that are tied semi-permanently to the company, such as technology. Therefore companies with more sophisticated information technology capabilities will be able to integrate and use their information resources. This will affect the company's performance in terms of improving product quality and customer service (Barney, 1991).

**Networking Has a Positive and Significant Impact on Company Performance Through E-Commerce Adoption.**

The results of this study indicate that the adoption of e-commerce in the travel services business is supported by the existence of networking from other travel companies' business networks. Most respondents tend to feel that the adoption of e-commerce in the industry of travel services, especially in ticketing sales, is influenced by the existence of a binding network or business network formed at the level between individuals and between organizations to more easily feel the benefits of new technology. As an
essential part of bringing together and bringing joint efforts to an innovative system of contractual relations, product development, and alliances between organizations, this research is in line with research (Jin & Jung, 2016) which concludes that business people are competing in the evolution of initially only offline companies also switched to online companies intending to expand share so that the company's performance had increased according to the expected target.

This research is not in line with study conducted (Neneh, 2018) and (Rohmaniyah & Nurhayati, 2017) found that networking does not play an important role and has a negative impact on the adoption or implementation of e-commerce in companies, companies can reduce internal problems in replacing technology that more recent and dependent on their business relationships and network marketing, to effectively utilize opportunities that arise from identified customer needs. Networking is the efforts of two or more companies, each of which is active in achieving the desired objectives such as consumers, market share, survey ratings, or resources needed through the use of technology such as e-commerce. Networking or business network affects the company's performance in travel service companies.

The significant influence between networking and company performance through the use of e-commerce is also supported by the theory of TOE (Technology Organization Environment Theory) by (Tornatzky & Fleischer, 1990). According to (Tornatzky & Fleischer, 1990), three factors encourage companies to use technology: technology, organizational and environmental factors, internal ecological factors including networking, technological innovation, and government encouragement (Ilin et al., 2017). Various empirical studies using TOE theory use slightly different elements in the context of technology, organization, and environment. In essence, researchers agree with (Tornatzky & Fleischer, 1990) that the three TOE contexts, such as technology, organization, and environment, influence the adoption and implementation of technology. To support the TOE theory, this study also refers to the Resource-Based View Theory (RBV). Resource-based view theory (RBV) focuses on the ability of corporate resources to maximize internal resources to bring business network excellence. Business network excellence and marketing approach emphasize a company's ability to use a direct strategy on resources as an essential part of the product and end up in the company's performance.

**Technology Innovation Has a Positive and Significant Impact on Company Performance Through the Adoption of E-Commerce.**

The results of this study found that the variable of innovation or technological innovation has a positive and significant effect on company performance through e-commerce adoption. This means that the third hypothesis stating that technological innovation influences company performance through e-commerce adoption can be empirically tested to be
accepted. The results of this test indicate that the adoption of e-commerce in the travel services business is supported because of the application of innovation in the organization to change every time step by taking action that is better and different from before, this process will strengthen the company’s performance but must be supported by the use of technology, so innovation is very much influenced by future visibility, creativity, and environmental changes from other travel companies. Most respondents tend to feel that the adoption of e-commerce in the business of travel services, especially in ticketing sales is influenced by the process of innovation that will create the phenomenon of networking (internetworking) as a step to determine the position in the market, forcing companies to conduct discussions by adopting various information about market changes to can offer products or services competitively. So innovation is a tool to provide a replacement to increase market share. Service companies, especially travel ticketing, will realize that using e-commerce will increase competitiveness in terms of marketing, promotion, and information exchange with customers. Binding is formed at the level between individuals and between organizations to more easily feel the benefits of new technology.

The intensity of innovation has been found as an important driver of the use of technology such as research conducted by (Chang et al., 2015) and (Soto-Acosta et al., 2016) find that innovation is the act or process of introducing a new thing such as e-commerce adoption, so innovation is a tool to make changes to increase market share. The significant influence between technological innovation and company performance through the use of e-commerce is also supported by the theory of TOE (Technology Organization Environment Theory) by (Tornatzky & Fleischer, 1990). Various empirical studies such as those conducted (Burn & Szeto, 2000) that prioritize technological innovation in the form of ideas or new ways to do technological upgrading in the form of technological development using TOE theory agree with (Tornatzky & Fleischer, 1990) that the three TOE contexts such as technology, organizations, and the environment influence the adoption and use of technology. To support the TOE theory, this study also refers to the Resource-Based View Theory (RBV), empirical evidence found in the field that the dominant travel ticketing owner prioritizes technology for innovation. As for the flow of technology obtained in addition to through the internet and market observations, it can also be obtained from business networks between travel owners and then developing innovations.

**E-Commerce Adoption Has a Positive and Significant Effect on Company Performance.**

This study found that the e-commerce usage variable had a positive and significant effect on company performance. The influence can be seen from the estimated value, which shows a positive influence between e-commerce adoption and company performance. This shows that the fourth
hypothesis, which states that e-commerce adoption has a positive and significant effect on company performance, can be empirically tested so that it can be accepted. The use of e-commerce in this study uses websites to transact or facilitate the sale of products and services online that serve as a tool to buy and sell products or services via the internet by using a computer system to increase overall company efficiency. Usually consists of trades that occur through buyers visiting the company's travel ticketing website and online transactions. The results of this study are in line with research conducted (Awa et al., 2015) supported by research ((Hanum & Sinarasri, 2017) dan (Bhatnagar, 2015)) showing that the scope of e-commerce adoption has a positive impact on company performance in terms of internal process improvement, competition, customer service, and overall company performance. When e-commerce is implemented correctly and maximally, it will provide positive benefits to the company's performance both financially and non-financially, such as increased sales, customer satisfaction, and business development. Besides, information technology (IT) plays an essential role in supporting the e-commerce process in a company, where the success rate of e-commerce depends on the level of the company's ability to change the technology that is owned by the company for services, especially travel.

The significant influence between the use of e-commerce and company performance is supported by the theory of TOE (Technology Organization Environment Theory) and RBV theory. The RBV theory argues that the company's technological capability in terms of integrated information systems from a resource-based display (RBV) is the ability of an organization to use information resources in adopting increasingly sophisticated technologies so that Information technology (IT) plays an essential role in supporting the use process e-commerce in a company. Therefore the level of e-commerce usage depends on the company's information integration system. IT refers to the company's ability to effectively transform technology into the ability to increase competitive strength and drive organizational growth through adjustment, reconfiguration, and integration. Therefore companies with higher information technology capabilities will be able to integrate and use their information resources. This will affect the company's performance in terms of increasing company sales and marketing (Laudon & Traver, 2016).

CONCLUSION

Based on the results of the study, the conclusions that can be drawn that can be given in this study are, to improve the performance of travel service companies can be enhanced by adopting e-commerce as digitizing companies that are key to marketing in service companies especially travel that makes it easy to process data, The company's database is neatly organized, improving services, and saving operating costs. Supported by an
integrated company information system that is accurate in the connectivity relationships between information systems, networking of business networks of other travel companies, and technological innovations that will create the phenomenon of networking (internetworking) as a step to determine a position in the market and force companies to make discussions.

REFERENCES


