Technological Innovation Model In Implementing E-Marketing For MSMEs In East Kalimantan

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TOE model, e-marketing, MSMEs.

ABSTRACT
The world is experiencing significant changes in information and communication technology development, making e-marketing a very critical method to implement. The open competition requires MSMEs in the regions to pay more attention to marketing aspects via the Internet as a modern marketing medium that is more profitable and closer to customers. Studies on the implementation of e-marketing in MSMEs still need to be completed, especially in developing countries like Indonesia, where MSMEs are very large and are one of the supporting sectors in increasing state income. This research examines the influence of technological, organisational, environmental (TOE) and individual contexts on the implementation of e-marketing for MSMEs in East Kalimantan. The results show that the technical and ecological context positively influences the performance of e-marketing in East Kalimantan. In contrast, organisational and individual variables do not affect the implementation of e-marketing for MSMEs in East Kalimantan.

INTRODUCTION
Micro, small, and medium enterprises (MSMEs) are economic business units that contribute significantly to economic growth in many developing countries, especially Indonesia. According to data from the Ministry of Cooperatives, Small and Medium Enterprises (KUKM), 64.2 million MSMEs, or 99.99% of all business actors in Indonesia, are MSMEs, with a labour absorption capacity of 97% or 117 million workers. Microbusinesses still dominate business and labour absorption capacity even though the rise of micro-enterprises’ GDP is only around 37.8%.

Indonesia has an excellent opportunity to strengthen its economic base due to the high number of MSMEs, particularly microbusinesses, and their enormous capacity to absorb labour. Support and policies are needed from the government so that micro-business actors can "move up" to become medium and large businesses. One of them is economic digitalisation, where the world of business and marketing has become more advanced with the development of technology. MSMEs are expected to be able to use e-marketing to remain relevant and even compete globally. MSMEs are forced to be able to utilise digital technology to survive and be able to develop on an international scale.

The results of the We Are Social survey released on the website in 2020 show that around 175.4 million Indonesians have used the internet. The increase occurred compared to the previous year, namely around 17% or about 25 million Indonesians who had used the internet. Regarding Indonesia's population of 272.1 million people, around 64% of Indonesia’s population enjoys internet access, with users aged between 16 and 64 years. The percentage of device type users is 96% using mobile phones, 94% using smartphones, 21% using non-smartphone mobile phones, 66% using desktop computers or laptops, 23% using tablets, 16% using game consoles, and 5.1% using virtual reality devices.
In We Are Social data for 2020, Indonesia has the most significant number of e-commerce users, with 88% of the total internet users worldwide. There is quite a lot of Internet use in Indonesia for online buying and selling purposes. However, there are still many areas in Indonesia that the internet network has not touched. Data on online buying and selling shows that Indonesia dominates developed countries such as the United States and China.

The world is currently experiencing very rapid changes, especially in the development of information and communication technology. This impacts the marketing method changing to e-marketing, which is essential to implement. In the internet era, there is tight and open competition, which requires MSMEs in the regions to pay attention to modern marketing aspects that are more profitable in terms of saving time and space as well as access and service to younger customers, in the sense of bringing the company closer to customers (Sheth & Sharma, 2005). Also, e-marketing is a promotional medium because it can reduce operational costs and increase company sales growth.

The sustainability of marketing features is positively influenced by the development and use of technology (Mokhtar, 2015). The benefits that can be achieved from e-marketing are enormous. Sales growth and cost reduction are part of the advantages of internet use, which is part of technology and has become a widespread tool among institutions (Yannopoulos, 2011). Effective website use will make it easier for companies to interact with customers to answer their questions about products and services. Another benefit of e-marketing is that the distribution network is more comprehensive, product value is more valuable, closeness to customers is maintained, increasing the number of sales and listening to customer demands (Babalola & Babalola, 2015). Apart from that, business actors can get new customers, new markets, new brands, new market leaders, and further market distribution and marketing tools. (Sin Tan et al., 2013; Thian, 2021). Furthermore, the exchange of information, products, services, and ideas can be facilitated by online activities, so the marketing goals of each company can be easily achieved (Dholakia & Kshetri, 2004).

Researchers concerned with developing online activities in the e-marketing aspect (Rahayu & Day, 2015). Developed a model based on the TOE framework, with eleven proposed variables influencing SMEs in adopting e-commerce. This model is grouped into four factors: technological, organizational, environmental, and individual factors. The results of a survey of 292 Indonesian SMEs found that perceived benefits, technology readiness, owner innovation, owner IT capabilities and owner IT experience were determining factors that influenced Indonesian SMEs in adopting e-commerce. Meanwhile, other factors did not influence Indonesian SMEs to adopt e-commerce. Moreover, research conducted by Qashou and Saleh (2018) on MSMEs in Palestine found that relative advantage, customer pressure, and market scope positively and significantly influenced the implementation of e-marketing in small Palestinian restaurants. Meanwhile, the thirteen other factors in the TOE model are relatively insignificant in adopting and using e-marketing.

Previous research shows that there are still differences in studies regarding the use of the TOE context in implementing e-marketing. To date, no comprehensive concept related to the technological innovation model explains the adoption of e-marketing in SMEs (Alrousan & Jones, 2016). Therefore, the author intends to research to investigate the specialized innovation model that influences micro, small and medium enterprises (MSMEs) in using e-marketing by using the technology-organization-environment (TOE) model and adding individual factors as variables that affect use. E-marketing.

This research aims to examine and obtain empirical evidence on the influence of technology, organisation, environment, and individual context on the implementation of e-marketing. The contribution of this research is to provide support and benefits for MSME managers in finding essential factors in the use of e-marketing to compete and improve performance in the era of digital technology.

METHODS

This research aims to understand the influence of exogenous variables on endogenous variables in the context of e-marketing use. The exogenous variables studied involve aspects such as technological
context, organisational context, environmental context, and individual factors. Operational definitions for each variable help determine the construct with values that can describe the phenomenon so that it can be measured clearly. A case study approach was used in this research design to provide in-depth insight into the relationships between the variables that have been identified. Research participants involve communities or organisations implementing e-marketing in their business strategy. Data collection instruments include surveys to measure exogenous and endogenous variables and a better understanding of the organisational context and individual factors. The data collected will be analysed using statistical methods, and the research conclusions will provide an experience of the factors that influence the use of e-marketing, with practical implications that can be applied in a business context. The primary reference in this research methodology is the book "Business Research Methods" by Cooper and Schindler (2012).

RESULTS

Respondent Data

This research obtained data from survey results by distributing questionnaires to owners or managers of culinary MSMEs in East Kalimantan. The questionnaire was created referring to the questionnaire used by previous research. This research found four variables with 27 statement items, with details: the technological context variable is 9 statements, the organisational context variable is 7 statements, the environmental context variable is 4 statements, the individual context variable is 3 statements, and the dependent variable e-marketing adoption is 4 questions.

The research questionnaire was distributed via Google Forms in social media groups such as WhatsApp, Facebook inbox, Facebook culinary group, Instagram group and Telegram. The questionnaires collected were 136 respondents and were selected again based on sample criteria and filled questionnaires. The screening results obtained 113 respondents who could be used as samples. The characteristics of the respondent data used as samples are as follows:

![Figure 1. Age of Respondents](image)

The respondent age table shows that the total number of respondents who filled out the questionnaire was 113 respondents with details of 75% or 85 people aged under 30 years, 15% or 17 people aged between 30-40 years, 9 people or 10% aged 41-50 years old. The remaining 2 people are over 50 years old.
The respondent education table shows that 54 respondents were D3/S1 graduates, 52 had SMA/K-educated elementary and middle school education, and 3 had postgraduate master’s degrees.

The table of roles in the organisation shows that there were 64 respondents, or around 57%, in this research questionnaire filled in by owners, and the remaining 49 respondents were employees and managers.

The table of respondents’ involvement in implementing e-marketing shows that 78 respondents, or 69%, are involved in implementing e-marketing in the culinary business they run. In comparison, the remaining 35 respondents are not interested in implementing e-marketing.
Discussion

A. Validity test

The factor loading value on the latent variable with its indicator is the concurrent validity values. The concurrent validity value is used to determine the validity of a construct. The hand is valid if the loading factor value is above 0.5 (original sample value) and the probability value (P value) is below 0.05. This research has 4 independent variables and 1 dependent variable with 27 indicators. The assessment results show that all indicator constructs have a loading factor value above 0.5, which means the indicators are valid.

The criteria for discriminant validity is by comparing the roots of the average variance extracted (AVE roots) for every construct along with the relationship between that construct and the other model constructs. If the AVE root of each construct is higher than the correlation between other constructs, the model's discriminant validity is sufficient. The AVE and discriminant validity values met the specified requirements, namely 0.5.

All variables in this research are at a threshold above 0.5, so it can be said to have met what can be seen in the average variance extracted (AVE) value table. Thus, the data collected meets the requirements of being homogeneous.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0.69</td>
</tr>
<tr>
<td>O</td>
<td>0.63</td>
</tr>
<tr>
<td>T</td>
<td>0.64</td>
</tr>
<tr>
<td>Y</td>
<td>0.67</td>
</tr>
<tr>
<td>Z</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Meanwhile, this study's discriminant validation results can be seen in the discriminant validity table. Based on the table of discriminant validity values, numbers are obtained discriminant validity has been above 0.5 so that all variables are declared valid.

<table>
<thead>
<tr>
<th>Variable</th>
<th>L</th>
<th>O</th>
<th>T</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>0.64</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.73</td>
<td>0.74</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>0.59</td>
<td>0.49</td>
<td>0.55</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.52</td>
<td>0.68</td>
<td>0.66</td>
<td>0.37</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Based on the average variance extracted value table and the discriminant validity value table, it shows that each variable has obtained a value above 0.5. This is precisely what Akbar, Pilcher, & Perrin, (2012) suggests. The AVE value is used to determine whether the average variance of the indicators in each variable is homogeneous or not for each research variable, which has a value above 0.5.

B. Research Variable Construct Reliability Test

Reliability testing uses composite reliability and cronbach alpha by using a reference value greater than or equal to 0.7 (Sholihin & Ratmono, 2013). The reliability test establishes whether all
the research variable indicators are suitable constructs to form a latent variable. The table below displays the construct reliability test results for each variable:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0,85</td>
<td>0,86</td>
<td>0,90</td>
</tr>
<tr>
<td>O</td>
<td>0,90</td>
<td>0,92</td>
<td>0,92</td>
</tr>
<tr>
<td>T</td>
<td>0,93</td>
<td>0,94</td>
<td>0,94</td>
</tr>
<tr>
<td>Y</td>
<td>0,84</td>
<td>0,84</td>
<td>0,89</td>
</tr>
<tr>
<td>Z</td>
<td>0,87</td>
<td>0,92</td>
<td>0,92</td>
</tr>
</tbody>
</table>

The table indicates that all research variables have composite reliability and Cronbach's alpha values greater than 0.7. This outcome demonstrates the dependability of every variable used in the study.

C. **Test result Multicollinearity**

The multicollinearity test is performed by computing the VIF value (Variance Inflation Factor), (Ghozali & Latan, 2015). The VIF value measures the relationship between exogenous variables. The stronger the collinearity between the exogenous variables, the higher the VIF value. According to Ghozali & Latan (2015), the recommended VIF value is less than 5.00.

<table>
<thead>
<tr>
<th>Variable</th>
<th>L</th>
<th>O</th>
<th>T</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,26</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,70</td>
</tr>
<tr>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,16</td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,10</td>
</tr>
<tr>
<td>Z</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the table of inner VIF values, it has been shown that all values obtained are below 5.00, so this result can be stated that the relationship between exogenous variables is not high or multicollinearity does not occur.

D. **Test Results of the Inner Structure Model of Research Variable Relationships**

The inner model test aims to determine whether the relationship between exogenous and endogenous constructs, which are latent variables, can answer questions about previously hypothesised relationships between latent variables. Three different sorts of values from the earlier SmartPLS data processing demonstrate this inner model test, also known as a structural test, namely by looking at the R Square Adjudged value, Relevance of Predictions (Q²) and the Goodness of Fit (GoF) value.

<table>
<thead>
<tr>
<th></th>
<th>Saturated Model</th>
<th>Estimation Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>0,10</td>
<td>0,10</td>
</tr>
<tr>
<td>d_ULS</td>
<td>3,51</td>
<td>3,51</td>
</tr>
<tr>
<td>d_G</td>
<td>1,84</td>
<td>1,84</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>1007,29</td>
<td>1007,29</td>
</tr>
<tr>
<td>NFI</td>
<td>0,65</td>
<td>0,65</td>
</tr>
<tr>
<td>R Square</td>
<td></td>
<td>Adjusted R Square</td>
</tr>
</tbody>
</table>
Based on the FIT Model table, the Adjusted R Square value for each variable is above 0.2, which is considered high in scientific disciplines such as consumer behavior. In scientific research that focuses on marketing problems, an Adjusted R Square value above 0.50 for endogenous latent variables can be used as a rough rule to illustrate that the endogenous variable is able to predict exogenous variables at a moderate level (Joseph F Hair, Jr, G. Thomas M Hult, Christian M Ringle, 2014).

E. Hypothesis test

Hypothesis testing is carried out to find out whether all variables ultimately have a statistical relationship or influence like the hypothesis proposed previously or may also reject the hypothesis that has been proposed. The first step is hypothesis testing using software Smart PLS with the output display having undergone construct deletion, as can be seen in the following picture.

Based on the image display output above, it is known that the highest coefficient value for the technology variable with indicators compatibility is at T4, namely 0.87; this shows that T4 is the construct that has the strongest correlation among other constructs in forming indicators in the technology variable. This construct shows the importance of technology in electronic marketing activities via the Internet, social media, and web advertising. E-marketing using social media and the internet is increasingly popular because it brings SMEs closer to customers. Meanwhile, the lowest value is for constructs T1 and T2, 0.74 each. T1 and T2 are ease of use of technology, which means it has the lowest correlation among all. From the results of this construct, a logical correlation can be seen between the habits of using e-marketing and the results of this research.

Furthermore, in the organizational variable, which consists of 6 constructs, namely O1-O6, it is known that the most muscular construct is O1 of 0.84 regarding the use of e-marketing, which is in line with company values and the weakest constructs are O5 and O7 each of 0.76 regarding the availability of technological infrastructure and the desire to implement e-marketing in companies even though there is no human resource support. The following variable is the
environment, which consists of 4 constructs, namely L1-L4. The most muscular construct was found, namely L4 of 0.89, explaining competitive competition and international business expansion. Another variable is the individual, which consists of 3 constructs, namely Z1-Z3. The within-individual construct relates to the individual manager’s knowledge and individual experience while running their business electronically.

The hypothesis test results table shows that the technology variable positively affects the implementation of e-marketing. This means that technology influences the implementation of e-marketing in culinary MSMEs in East Kalimantan. The results of this research support research conducted by Qashou and Yahya (Qashou & Saleh, 2018) that technological variables have a positive impact on the implementation of e-marketing. The implementation of e-marketing cannot be separated from the use of technology factors, so Ramdani et al. (2009) argue that technological factors are considered to have a significant influence on the adoption of social media technology. However, there still needs to be more research on the impact of technology on company performance. Technological factors include relative advantage, complexity, and compatibility ((AlBar & Hoque, 2019; Alkhateeb & Abdalla, 2021). AlBar and Hoque (2019) argue that relative advantage has a significant positive relationship with social media adoption among MSMEs. Ahani et al. (2017) support these findings, with their research results revealing that relative advantage and complexity are the most critical factors influencing social media adoption. Compatibility is among the most essential determinants in ICT adoption by MSMEs (Premkumar, 2003).

The second hypothesis that organizational variables positively affect e-marketing implementation is rejected. This means that organizational variables do not influence e-marketing implementation in East Kalimantan culinary MSMEs. The results of this research differ from those conducted by Qashou and Yahya (2018) which state that organizational variables positively impact the implementation of e-marketing. Meanwhile, research results from Ramdani et al. (2009) show that organizational context is considered an essential determinant with a substantial impact on the adoption of e-marketing by organizations. These organizational factors include top management support, employing ICT skills and organizational culture. The opinion Ahani et al., (2017); Albar & Haque, (2019) is that top management support influences technology adoption, and there is a positive relationship between top management support and technology adoption in MSMEs. Moreover, Twati Gammack (2006) has found a strong relationship between organizational culture and the adoption of information technology in MSMEs.

The third hypothesis, namely that environmental variables positively affect e-marketing implementation, is accepted. This shows that environmental aspects influence e-marketing implementation in East Kalimantan MSMEs. The results of this research support research conducted by Qashou Yahya (2018) that environmental variables have a positive impact on the implementation of e-marketing. Environmental factors include the regulatory environment, competitive environment, and supplier and customer pressure. AlBar Hoque (2019) argues that government regulations provide adequate protection for adopting new technologies. Dahnil et al.
that government influence, policies and initiatives influence technology adoption. According to researchers Al-Somali, Gholami & Clegg (2011), government policies and regulations, intellectual property laws, and consumer protection compliance can facilitate or hinder ICT adoption in MSMEs. Researchers Ahani et al. (2019) argue that competitive pressures significantly influence the decision to adopt social media and that competitors use social media to increase competitive advantage, increase customer satisfaction levels, and achieve financial benefits. Conflicting results were presented in a study by Ahmad, and Bakar (2018), which found no significant influence of competitive pressure on social media adoption.

The fourth hypothesis is that individual variables positively affect e-marketing implementation and is rejected. This shows that individual factors do not influence e-marketing implementation in East Kalimantan MSMEs. This is different from the results of research conducted by Hanum & Sinarasri, (2018); Rahayu (2015); Ghobakhloo & Tang (2013), and Thi & Lim, (2011) that individual factors partially have a positive and significant effect on e-commerce adoption.

CONCLUSION

The conclusion of this research is that of the four variables studied, only two were accepted: technological and environmental. Meanwhile, the other two variables were rejected. This shows that the technological and environmental contexts support e-marketing implementation in East Kalimantan MSMEs. Meanwhile, the organizational and individual context does not support it.

REFERENCES


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