

A Prototype E-Commerce Website for SMEs in West Sumatera, Indonesia

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Abstract—The widely used of internet in e-commerce activity due to the operational of the website is one of the e-commerce technology applications which is utilized by companies. The tremendous development of internet and website technology, to some extent is the evident of significant contribution to the companies. Thus, businessman should also consider to make use the technology in advancing their business's activity and in order to achieve their company's target. Hence, the use of website for the business's activity is more trustable at recent as one of the media for the marketing; as the new place to promote product and service. By no means, the use of internet and website in Indonesia yet develop well. It is due to the lack of availability of the infrastructure, the expert human resource regarding to Information Technology (IT), the involvement of the financial institution and the educational background of the users. Indeed, technology is significant enough for small scale business's advancement in the future.

Index Terms—E-commerce, internet technology, SMEs, website technology

I. INTRODUCTION

Geographically, Indonesia's areas and regions are separated by oceans and seas. It is one of the obstacle occurred in marketing products to all parts of Indonesia especially for companies located outside Java. Regarding to that situation, It is believed that Internet technologies and e-commerce in Indonesia will provide alternative solutions to an easier national and global markets exploration. Therefore, the study of the use of e-commerce will help to solve this geography problem.

Rapid development of Internet technology and websites has been provided a significant contribution to the company. Therefore, businessmen in Indonesia also should

consider applying this technology to support their business activities and to achieve their company's strategical objectives. Despite the current situation in Indonesia shows that the development of the use of the internet and the website is still very limited, businessmen must be confident to conquer this challenge in promoting their company. It is because they cannot ignore the reality especially for those who want to expand their marketing area and get into the global marketplace. Hence, this research needs to be conducted in order to find the best solution for the problem.

Based on data from Internet World Stats, Indonesia is the 4th largest country after China, Japan and India in terms of users of Internet services in Asia. As a developing country, Indonesia has 12,000 islands with a population of 228 million people, 60 percent among the population lives in Java which indicates that the population in Indonesia is not widely dispersed [1]. Indonesia most areas are separated by oceans and seas. Therefore, the question of geographical problem is a complicated issue in Indonesia. Emerging e-commerce provides an opportunity intelligently to solve problems concerning the geographical problem. In particular, in business activities with the aim of different places in the presence of e-commerce will be an opportunity for business enterprises that have a geographical problem in marketing activities [2]. V. Pujani has found the influence of quality factors in using of e-commerce website, a website needs a reliable quality that can meet the expectations of users when using it. Quality factors of e-commerce websites consists of systems, information, and services quality [3].

This paper will propose a prototype design E-Commerce Website in increasing Small and Medium-Sized Enterprises in West Sumatera, Indonesia by considering the influence of quality factors in using of e-commerce website.

II. LITERATURE REVIEW

Ainur Rofiq (2007) conducted a study titled "The influence of Trust toward the participation of E-commerce customer". The result points out that of three predictor variables that influence customer's trust, namely ability, benevolence, and vendor's integrity, only vendor's integrity variable that has positive and significant influence. It could be said that vendor's integrity and customer's trust are the most important variable in influencing participation of e-commerce customers in Indonesia.

Luciana Spica Almilia (2008) with a study on "E-commerce Application as an Attempts to increase business competition". As the result, it shows that based on descriptive analysis on motive factors. It can be concluded that there are six factors which motivate the company to use e-commerce. The motivation will be the highest expectation for the company when they apply the e-commerce; the factors are to access global market (56%), to promote product (63%), to build brand (56%), to reach the customers (74%), to support faster communication with the customers (63%), and to satisfy the customers (56%). Referring to the second analysis; descriptive analysis, there are two benefit factors that could be gained by the company by applying e-commerce. They are the two biggest benefit factors obtained by the company, namely consumers' satisfaction (74%) and superiority in competition (81%).

Vera Pujani and Eri Besra (2009) conducted a study titled "The use of the E-Commerce Website in Indonesia." The result states that the system and information quality, and features are significant in the use of e-commerce in Indonesia. On the other hands, to ensure visitors' satisfaction with the ecommerce website, the system quality factors and the benefits of using the website itself need to be considered. System quality is ensured by using more friendly user technology, fast loading, and accessible on the internet. Information quality is by giving complete and up-to-date content of the company website. Meanwhile, it seems that the most important features used in the company pages are the contact address and a complete navigation features for browsing to the web page.

The concern is on the online payments for the users who want to shop through e-commerce website. Besides, the benefits of using also determined mainly to the effectiveness of the visitors in surfing the web pages of e-commerce in Indonesia.

III. THE USE OF E-COMMERCE IN ASIA AND ITS DEVELOPMENT IN INDONESIA

The development of the use of Internet technology in Indonesia was facilitated by Internet café businessmen [4] that gradually increased until for about 40 percent by the end of 2006, which amounted to 2500. Indonesia is still categorized as a country at the level of beginning (early adopter) in regards to Internet technologies, with most users (users) are quite educated and the enterprise readiness to anticipate this technology is high. However, the participation and commitment of the Indonesian government is needed to provide better facilities and

infrastructure to encourage companies and potential customers to use the internet / website more in business activities [5].

The development of information technology and telecommunications in Indonesia is still underdeveloped. As reported by APDIP [6] and Orbeta [7], Indonesia, with the population exceeding 200 million people, has some indicators of low ICT usage, especially the indicators of the level of acceptance of e-commerce, PC (personal computer) and Internet hosts ownership.

Despite the use of ICT in Indonesia is very low, businessmen must be optimistic in conducting business by online because no one can avoid the influence of the development of technology in all over the world. Therefore, this research is expected to be able to give contribution on how to ensure the success of e-commerce and website in Indonesia.

IV. DESIGN FRAMEWORK E-COMMERCE

The development of the concept of this website is based on the concept of the success of use of information system and e-commerce in the technology acceptance model [7]. Websites are considered to be success when the users have accepted and made use of them [8], [9]. The use of this website can be determined in terms such as (1) the daily hit-rate, (2) the number of visits, (3) the web-usage analysis, (4) the sessions, and (5) the web traffic [10]-[12].

This research will establish the success model of the web usage by using the user's satisfaction and the benefits of website as the dependent variable. Meanwhile, quality of the system, information and services plus features of website are the independent variable. Web usage will be closely related to a good quality. Quality in this research means quality of the system/design, information, and services. (1) The quality of website system is the capability of the website such as giving the ease of use, fast navigation on the website, customization, satisfying loading time, and fun or entertainment provided [13]. (2) The quality of website information provided also contributed to a qualified website. The quality of website is measured from the dynamic, personalization, accuracy, up-to-date and completeness of the content [14]. (3) In the meantime, the quality of service provided will also influence the level of web usage. Quality of the website service can be seen from the response given, empathy, guarantee and after sales service [15], [16].

Therefore, the dependent variable would be the concern of this study, on the establishment of the success model of the web usage by using user satisfaction and the benefit of website. On the other hand, it also will use the quality of system, the information and the service, as well as the feature of website as the independent variable. There are several stages would be implemented in this research, the first stage is conducting exploratory case study as the initial activity to develop simulation from the model of e-commerce website in Indonesia. This case study is aimed at exploring a problem, phenomenon, or new things to analyze the problem. The researchers are trying to access several e-commerce website in all over the world and

Indonesia to obtain new idea or hypotheses which is more appropriate to develop the simulation of model of e-commerce website in Indonesia.

This study does not use random sampling techniques; the potential respondents are selected based on their skills and knowledge on the topic of this study. The first respondent to be interviewed is the most trusted person to provide the information in this study. Then s/he will recommend the next person to be interviewed. The next person will also recommend others for the interview, and so on. The respondents are likely the entrepreneurs who have an e-commerce website, expert in information system (website), or academics. The selection process of this sampling would be ended at the time the research does not obtain any new information. The sampling technique is known as the snowball technique (snowball). In the snowball technique, the number of respondents to be interviewed cannot be determined; it depends on the interview process [17], [18]. The interview process has been carried out in the capital Jakarta and West Sumatra province. Jakarta is selected because it has the trade centers which utilize e-commerce for business and commerce, while the reason for West Sumatra is because it has many small and medium businesses to be used to implement a model of e-commerce website later and to support its business activities using the website later. Of the three models of the design of e-commerce system is presented, one model desired by the users will be obtained.

There are 3 models proposed as e-commerce website for small and medium scale enterprise in West Sumatra, Indonesia

V. RESULT AND DISCUSSION

Of the three models proposed, 65% of users choose the model C to be used as e-commerce model in West Sumatra, Indonesia. It shows that the Model C offered has considered quality systems, quality of information and features as important things in the use of e-commerce website in Indonesia. It also shows that e-commerce websites needs to consider the quality factor of the system and benefit in using the website in order to ensure visitor's satisfaction.

After the model is designed for the e-commerce system, a prototype will be obtained as follow: Those three models have similar quality system. However, for the user, the model C uses more friendly technology, the loading is fast, and it is easy to find on the internet. The quality is shown on the percentage of users who select C models to be implemented in West Sumatera.

The research is in line with qualitative research on the early success of e-commerce websites conducted by V. Pujani [3]. Her study showed that the use of e-commerce website in Indonesia should consider some factors, namely system quality, information quality, and features provided by the e-commerce website. Furthermore, to ensure visitors' satisfaction with the ecommerce website, the system quality factors and the benefits of using the website itself need to be considered. Meanwhile, service quality in the use of ecommerce website in Indonesia is not so

important for the visitor. Similarly, the level of visitor's satisfaction, information quality, service quality, and features available in the e-commerce website in Indonesia are not so important because e-commerce websites in Indonesia is still considered simple with standard features.

VI. CONCLUSION

In short, after conducting this research, it is expected that all parties can enjoy the benefit of this research so that the result can really give contribution to Small and Medium Scale enterprises in West Sumatera, Indonesia.

The use of e-commerce website in Indonesia should consider some factors, namely system quality, information quality, and features provided by the e-commerce website. Furthermore, to ensure visitors' satisfaction with the ecommerce website, the system quality factors and the benefits of using the website itself need to be considered. Meanwhile, service quality in the use of ecommerce website in Indonesia is not so important for the visitor. Similarly, the level of visitor's satisfaction, information quality, service quality, and features available in the e-commerce website in Indonesia are not so important because e-commerce websites in Indonesia is still considered simple with standard features.

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