Analysis of Utilization of E-Commerce Technology as A Supporting Media in Adding Marketing and Improving SME Services

Aprisa Rian Histiarini¹, Mirga Maulana Rachmadhani¹*, Intan Iriani Supriatna¹, and Yogi Pariama¹

¹ Department of Industrial Engineering, Faculty of Engineering, Universitas Muhammadiyah Sorong, Jln. Pendidikan No 27, Remu Utara, Malaingkedi, Kecamatan Sorong Utara, 98416, Kota Sorong Papua Barat Daya

Abstract. Technology development is growing fast that it even encourages businesses to follow the development. The benefits of e-commerce are providing services for customers and SME competitiveness. This study aimed to analyze the benefits of E-commerce in Izdihaar, such as SMEs, by using PIECES Analysis to add marketing options and increase the variety of services for consumers. It has six evaluation variables, such as performance, information, economics, control, efficiency, and service. Thus, it found that there are weaknesses in each variable of PIECES. Hence, a design recommendation for a website E-commerce that can be used for the shop appears. This study must be carried out immediately to see the results of maximizing the utilization of e-commerce for the development of one of the SMEs in Sorong. One of them is by adding options for marketing and to increase the variety of services to consumers of covid-19 impacts. Hopefully, the website design that recommended can help the marketing and selling process of the product in Izdihaar SME.

1 Introduction

Technology development is growing fast nowadays, where technology can help humans in obtaining more updated information with time savings [1]. Information technology continues to innovate and transform and is increasingly sophisticated, making human life easier [2]. Moreover, during the pandemic, we are required to stay at home. Then, by the technological advances, it is no longer a problem because of the impact of technological progress itself. For instance, we can get what we want even without leaving the house and visit the shop in just a bottom of clicks. SMEs are businesses that empower the Home Industry. Indonesian SMEs contribute 15.8% to the global production supply chain at the Asean level. The micro, small and medium enterprises' contribution to gross domestic product increased from 57.84 percent to 60.34 percent in the last five years [3]. SMEs have become an essential part of the national economic system [4]. The development of SMEs year by year is influenced using Information Technology and Information Systems.

E-commerce is buying and selling transactions using the internet and telephone devices [5]. The growth of internet users in Indonesia also impacts increasing the E-commerce business and other online businesses to provide an increase for Indonesia's digital economy [6]. The use of E-commerce not only makes it easier for consumers, but shop owners are also much facilitated [7-8]. E-commerce is one of the technologies that support the development of SMEs and trade today [9]. Thus, the presentation of information using e-commerce is more complete, transparent, and reliable than other service media in promoting goods/products to consumers [10]. Such [11], online E-Commerce applications greatly facilitate the process of product buying transactions quickly. Also, [12] state that the E-Commerce business could save up to 90% of the total business design and maintenance costs per year. Research conducted by [13] showed that e-commerce designed using MySql Xampp is helpful as a media for promoting and marketing Silungkang songket products. The lack of use of e-commerce will impact weak competitiveness in the product marketing system [14].

Moreover, technology development is so fast that it even encourages businesses to follow the development. This study must be carried out immediately to see the results of maximizing the utilization of e-commerce for the development of one of the SMEs in Sorong. One of them is by adding options for marketing and to increase the variety of services to consumers of covid-19 impacts. The benefits of e-commerce are providing services for customers and SME competitiveness.

Furthermore, the problems found in one of SME in Sorong to start the current study such as spending a long time for customers to search for products, the use of social media such as Facebook and Instagram which were less effective in marketing products, requiring a lot of costs for advertising, the absence of an order recap system made employees have to record product order data via Facebook, Whatsapp and Instagram manually, and the unavailability of an online payment system.
Hence, it is necessary to do an investigation regarding the use of e-commerce as supporting in marketing and SMEs’ public service. Hence, from the background described previously, the purpose of this study is to find out how the analysis of the use of E-commerce for Izdihaar SME uses Pieces analysis in adding options for marketing and to increase the variety of services to consumers.

2 Research Method

This study was conducted in Sorong, West Papua. Specifically, it locates on Jalan Jendral Sudirman, Pasar Baru. The map can be seen in Figure 1 as follow.

Fig. 1. Study Location Map

The current study is qualitative research with the type of case studies. This type is one type of qualitative research that conducts in-depth exploration of a program, process, activity, event in the surrounding environment. It is used to be able to understand deeply about a problem to provide recommendations that are in accordance with the results of the needs analysis.

Further, the data collection is done by observation, interview, and documentation. Observation process to find out the implementation of the sales system process to get sales information. Followed by an interview process with SME owners to find out the process of service to consumers, namely ordering, paying, and shipping products. In this process, researchers analyzed the PIECES method to collect information about Performance, Information, Economic, Control, Efficiency, and Service [15] in the SME.

3 Results and Discussion

Besides must be going to go-digital for SME to keep up with the flow of economic development, there are several things that make this E-commerce recommended for izdihaar SME. The website recommended by the author affects economic development such as for SME, it can open opportunities to reach a wider market. Then, it can minimize marketing constraints for SME, thus SME have the potential to reap more profits.

In addition, SME is more professional and increases customer confidence because they have a website page to support incoming orders from online platforms. Also, it can help SME not to need many employees and still serve consumers so that they can save costs to pay employees. Lastly, it can manage marketing budgets such as promotional activities carried out with websites and is relatively cheaper than conventional marketing methods.

3.1 PIECES Analysis

Here the author analyzed a system, and this is done on several aspects including performance, information, economy, application security, efficiency, and customer service. Thus, from the data that has been collected through the observation and interview process and then analyzed using the PIECES method.

a. Performance: In terms of performance, the current marketing system, namely social media used by SMEs, as mentioned above. The absence of a content search feature. The weakness of social media is that there is no content search feature, so finding the desired product will be difficult. Because social media only provides search features for people, accounts, groups, other users, and fan pages. Then to find the desired product, the customer must know the fan page and enter the profile page, or the customer can search one by one, wasting time. From those analysis, it recommended that e-commerce should be implemented for “Performance”, namely adding a system that can provide convenience and can provide stock information and product details in a systemized manner to provide effectiveness for users and business owners.

b. Information: In analyzing information on the marketing system using Facebook and Instagram, the problem was that posts sank quickly, especially on Facebook. Due to many Facebook users and friends, posts will likely be quickly drowned by other people's posts which are widely used to write statuses, and so are posts uploaded on buying and selling groups will quickly overwhelm other people's posts due to many users. The convenience that Instagram provides in terms of interacting makes this social media prone to spamming. However, users can work around this by imposing to be private on the account so that not just anyone can comment on the posts. If it is private, other people who do not follow the account cannot see the products offer. The recommendation is by adding a system that has a clear information system for product details and can conduct promotions in the form of discounts or discounts to attract consumer interest.

c. Economic: Economic analysis of the existing SME information system based on the costs required to advertise on social media in the short term is
relatively small. However, it costs a lot to approach the customer through Facebook in the long term. It is a matter of the cost of advertising, and in the group, posting live streaming costs 100,000 / month, and that is only for a month, but in the long term, it will cost a lot. It is recommended to place advertisements directly on the website to save advertising costs, which can be ± Rp.400,000 / 6 months.

d. Security or Control: In SMEs, using social media as a marketing tool requires security, especially in an online media account with essential company information. The social media used by Izdihaar SME Sorong is already used Security or Control.

e. Efficiency: The employees must record product order data via Facebook, WhatsApp, and Instagram. Due to the absence of a system from online media that is used to being able to order and record automatically concurrently. It will affect the efficiency of employee performance, where a lot of time and energy is used in recording all order data from online media used by the paper. So that they can concurrently all consumer orders. It is recommended to add a system that can duplicate orders and record automatically and can be connected to google map so that it can provide effectiveness to employee performance where previously a lot of time and energy was used in recording all order data from online media used to paper so that it can clearly duplicate all consumer orders.

f. Service: The current service does not provide an online payment system but uses manual payments. Hence, it needs to be improved by providing an online payment system to make it easier for consumers who cannot come to the place and pay directly and must cooperate with local delivery services so that when there is an order outside Sorong area, the SME manager does not have to come to either the port or the terminal in delivering goods. It is recommended to provide an online payment system on the website to make it easier for consumers to pay.

Other recommendations include the addition of a "shopping cart", a function used to place collections that have been selected by visitors. This allows visitors to purchase more than one product. Then also the addition of the "Guest Book" menu, used to leave messages, suggestions, or criticisms about the website. Another menu is "Search" to search for collections. Services for product searches so that consumers can more easily search based on the product categories that have been provided. Product Info, information about all products both in stock quantities and others. Furthermore, "Payment Methods" that can be selected by buyers, through credit cards or cash when the goods are delivered to areas that can be reached. Lastly, a system that can duplicate and record all orders and customer addresses can be connected to google map. this aims to replace the old system because the data collection process is still manual and can facilitate couriers in delivering goods with the help of google map.

3.2 Context Diagram Design

Fig. 2. Context diagram of the izdihaar sorong sales system

3.3 Decomposition Design System Analysis

Fig. 3. Izdihaar Sorong Sales System Decomposition

3.4 Recommendations for E-Commerce for Izdihaar SMEs

The results of this website design are divided into two views, namely the admin view as a store manager and the view for visitors.
3.4.1 Admin View Page

Fig. 4. Home Menu Display

The order menu, as shown below, serves to check the list of incoming orders, check payments, packaging, and shipping, and can cancel an order request from a product.

Fig. 5. Order Menu Display

On this page there is information about transactions in the system consisting of the customer’s name, the date of payment, and the total payment. In addition, the system also provides settings to make it easier for administrators to check monthly transaction reports.

Fig. 6. Produk Menu Display

Furthermore, the online shop menu below is a menu for setting the online store display, domain, and website page display when a customer visits.

Fig. 7. Online Shop Display (set up an online store)

The Settings menu below is for making payment settings, shipping methods, order locations, and others.

Fig. 8. Setting/Pengaturan Display

3.4.2 Customer Display Page

Website display page for visitors where on this page there are links for Instagram and WhatsApp so that visitors can still see the products on Instagram.

Fig. 9. Customer Website Display

Fig. 10. Customer Website Display
On this payment confirmation page, there is data needed for the product delivery process, including the Izdihaar Store account number, order address, total shopping, postage, member discounts, and for users who have finished making payments are required to upload proof of payment as proof that the payment for the product has indeed been completed. Meanwhile, the store determined the shipping costs and member discounts.

4 Conclusion

Based on the data from the PIECES analysis, it found that adding variations to e-commerce services that will be proposed are as follows: Performance: a system that can provide convenience and can provide information on stock items and product details systematically to provide effectiveness for users as well as business owners. Information: a system with a transparent information system on product details and can carry out promotions through discounts or discounts to attract consumer interest. Economic: a comparison of the economic analysis of the old system when using social media in conducting promotions, of course, requires costs in
carrying out the promotion, for example, when using Facebook and being a member of a buying and selling group when you want to do promotions using live in a monthly fee group is Rp. 100,000, - while using the website costs in making and advertising the product ± Rp. 400,000, - / 6 months, there is even an android application specifically to create an online store website without spending any money.

Moreover, it can be the primary option. Security or Control: In SME, when using social media as a tool in doing marketing, it requires security in using it. Especially in an online media account there is essential company information. In Izdihaar SME Sorong is the social media user already using Security or Control. Efficiency: A system that concurrently orders and records automatically and can be connected to a Google map so that it can provide effectiveness on employee performance where previously a lot of time and energy was used in recording all order data from online media used on paper so that they can double up with clear all customer orders.

Then, Service: the service from Izdihaar SME towards consumers is quite excellent and responsive to customers. Therefore, several services need to be improved, such as the need to provide an online payment system to make it easier for consumers who cannot come to the place and pay directly and can work same with local courier. Lastly, It is hoped that the results of the recommended website design can help marketing and selling process for this SME’s products.

References

12. S. Pujiangkoro, R. Ginting. Perancangan sistem pemasaran e-commerce berbasis forum online invasion powerboard (ipb) dengan metode structured analysis and design technique pada pt. tapioka. J@ti Undip: Jurnal Teknik Industri, 6, 1, 39-46 (2012)