

Marketing Network System Analysis of Relief Craft MSMEs

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ABSTRACT

MSMEs (Micro, Small, and Medium Enterprises) have a strategic role in improving the community's economy. As a center for wood carving, most MSMEs in Jepara have not yet utilized information technology optimally. They tend to use conventional marketing methods. As a result, they have to face a severe impact on the decline in turnover due to the COVID-19 pandemic. This study aims to describe and analyze the obstacles MSMEs face in expanding the product marketing network in order to expand the reach of product marketing in Relief Craft MSMEs. The methods used are interviews, observations, and literature studies. The open interviews were conducted with the owners and two workers of Relief Crafts MSMEs. Currently, Relief Crafts MSMEs do marketing manually through social media, banners, brochures, and word of mouth; thus, it is necessary to implement a system that can support their housing marketing activities. The Marketing Information System for Relief Crafts MSMEs is designed on a web-based basis, so it is hoped that it will provide the companies with an opportunity to expand their marketing network, not only limited to local areas but also can reach a wider area as long as consumers have internet access.

Keywords: MSMEs, Digital Marketing, Digital Marketing Model.

1. INTRODUCTION

Today, according to BEKRAF (Tourism and Creative Economy Agency), the non-furniture woodcraft business in Indonesia is snowballing throughout the archipelago [1]. The development of wood crafts grows in line with the existence of people in the country. The potential of natural resources that are pretty abundant and human resources that are pretty productive provides an excellent opportunity to run a woodcraft business. One of the woodworking businesses is a form of wall decoration craft. Examples of wood carvings include relief, wall clocks, wall decorations, flower vases, lamp holders, and perfume holders.

At this time, the internet is developing very rapidly, especially during the Covid-19 pandemic. MSMEs can follow technological developments in order to be able to compete and survive in the development of information and communication technology. Business development is inseparable from the dynamics of business competition, which results from the development of the

increasingly advanced and rapid world of information technology.

In this wall decoration craft business, MSMEs still use the traditional way of doing business, especially in marketing and documentation of product catalogs. Marketing is still run manually, by displaying product installs and catalogs in the form of books and photos stored in MSME mobile phone owners. Buyers must come directly to the showroom to see examples of wooden wall hanging crafts. Many consumers feel ineffective and inefficient when shopping and choosing MSME products because of the distances and time constraints. This problem is due to the lack of understanding of information technology, especially in using websites, causing marketing and catalog to be less optimal.

Along with the development of information technology and data communication, the marketing and use of product catalog can be accessed via intranet (internal) networks or the internet (web) [2]. The need for more and faster information requires information providers to have media as a comprehensive

marketing tool, where the information can be easily and quickly obtained by website visitors. It can be done by using the internet as an online medium to develop a developed business. Building a marketing network system is necessary to help broaden the marketing area. Hence, it will increase MSMEs' performance, customer interest, and the MSMEs' network. In the end, it will ultimately increase MSMEs revenue.

2. LITERATURE REVIEW

2.1 Digital Catalog

Before the Digital Catalog, all business entities competed to design attractive manual catalogs to market their products or services. Catalogs are printed in various sizes and shapes. Some are printed like regular sheets; some are like magazines. Catalogs are created as a promotional tool to spread to the public that the shop or company sold goods or services of this type. Also, they provide the information that the business is holding a promo or discount.

Digital Catalog is a very effective means of promoting and selling products and services. Using electronic catalogs and the power of the internet, Digital Catalogs can improve the way a business is done. Digital Catalog is a type of electronic catalog for a company or product that can be viewed on a computer or electronic device [3]. Electronic Catalog (Digital Catalog) is an electronic information system that contains lists, types, technical specifications, and prices of certain goods/services from various government or goods/services providers. It can also be said to be a Virtual Showroom of all products and services.

2.2 Information System

A system has specific characteristics: components, boundaries, the environment outside the system, interface, input, output, processing, targets, or goals. Information system (IS) [4] is a combination of information technology and the activities of people who use that technology to support operations and management. In a vast sense, the term information system refers to the interactions between people, algorithmic processes, data, and technology. In this sense, the term refers to the organization's use of information and communication technologies (ICTs) and how people interact with these technologies to support business processes [5].

2.3 Data Flow Diagram (DFD)

Data Flow Diagram is a structured data analysis technique that represents data processes within the organization. DFD is very popular today because it can describe the flow of data in the system with a clear structure. Diagrams that use these notations to describe the flow of system data are now known as data flow diagrams (data flow diagrams or DFDs [6]).

According to [7], DFD includes the following characteristics: (1) support the analysis phase and system design requirements; (2) has diagram technique with annotations; (3) describe the network of activities/processes of the target system; (4) allow parallel and asynchronous behavior; and (5) improve gradually through a hierarchical decomposition process.

3. METHODOLOGY

This study aims to analyze and describe the obstacles faced by wall decoration crafts MSMEs in product marketing and design a Digital Catalog model to expand the marketing network of MSME products. This study used observation and interview approaches. The interviews were conducted with the owners and two workers of MSMEs for Wood Carving Wall Hanging Crafts. They were in the form of open interviews because we needed to know the detailed problems. Observations were conducted directly by observing the marketing methods and existing product catalogs.

3.1 Research Method

The stages carried out in this research are:

1. Preliminary Research Stage

This stage began with a literature study, finding general problems from previous research, general goals, a thorough exploration of the problem in the field.

2. Preparation Stage

The preparation stage consisted of identifying the problem and its information found at the preliminary research stage, narrowing the problem, selecting the problem, determining research objectives, and preparing the proper method.

3. Need Analysis Stage

This stage was to formulate and describe the needs of MSME partners from the analysis of product marketing network constraints, to then serve as the basis for making a Digital Catalog model for MSME products.

4. Digital Catalog Model Design Stage

The next step was to design an online-based digital product catalog model from the need analysis results. During this stage, the proposer and partners discussed together to evaluate the online catalog model composed to later will be implemented according to the partner's needs.

5. Report Generation Stage

At this stage, the process of making research reports was carried out. The report consists of documentation of preparation, production, up to the socialization process.

3.2 Research Road Map

A Fishbone diagram is used to describe the road map of this research. Fishbone diagram [8] is a cause-and-effect diagram that can be used to identify what potential (actual) can be the cause of the birth of a need (problem). The Fishbone diagram provides a structure for discussion groups around the potential (actual) causes of the birth of the need (problem).

The following is the fishbone diagram based on explanations and guidelines.

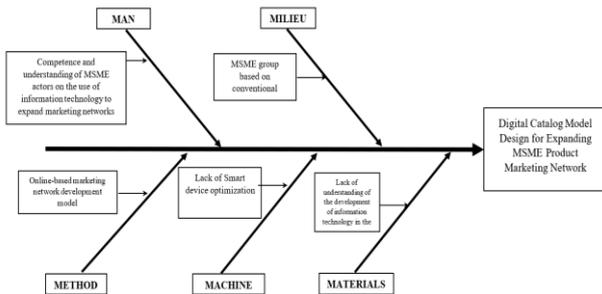


Figure 1 Fishbone Diagram

4. RESULTS AND DISCUSSION

4.1 Current System Analysis

In this wall decoration craft business, MSMEs still use the traditional way to market and document their product. Marketing is still done manually by displaying products in book catalogs and photos stored in the MSME owner's mobile phone. Therefore, this study created an online marketing web which is expected to be able to expedite all marketing processes. During the pandemic, the company activities need to increase especially in online channels as people choose to increase the comfort of their homes [9]. MSME owners need to develop new ways to connect with customers to retain their business and capture new customers and clients [10]. In detail, the marketing flow of wall-hanging crafts can be seen in Figure 2.

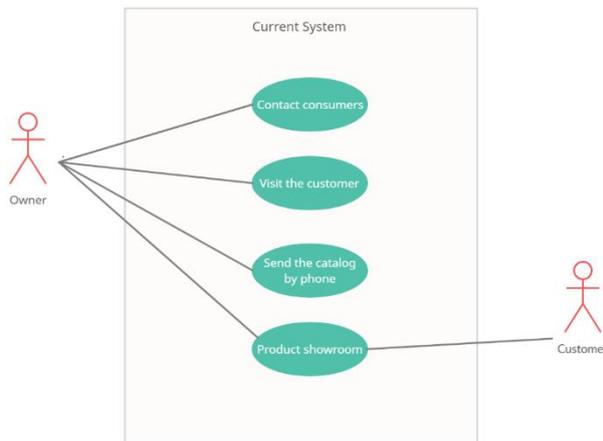


Figure 2 Current System

The main disadvantage of traditional marketing is that in many cases, it is considered more expensive in terms of resources (material, monetary, human), such as for printing brochures, leaflets, catalog presentations, and product sheets [11]. In the context of wall hanging craft MSME, we found several weaknesses in the marketing process, such as:

1. Marketing is still done conventionally. Hence the information received by consumers is slow.
2. The limited information is spreading via message and word of mouth.
3. Limited range of promotion areas.
4. Wall carving artisans must print brochures and banners regularly so that the public widely knows their products.
5. MSMEs perform low handling of the sales process.
6. Prospective customers have to come to the marketing office to see the wall craft catalog and cannot get information in real-time because it is limited by the working hours.

4.2 Activity Diagram of Ordering Goods

The ordering system is still handled manually by the owners of MSME. One of the obstacles faced when using manual ordering is the absence of facilities that provide information to prospective buyers that the gallery sells products that can be ordered according to the needs of prospective buyers [12]. The owners record orders and check payments manually, so it takes much time and causes a high error rate. The detail of activity ordering goods can be seen in Figure 3.

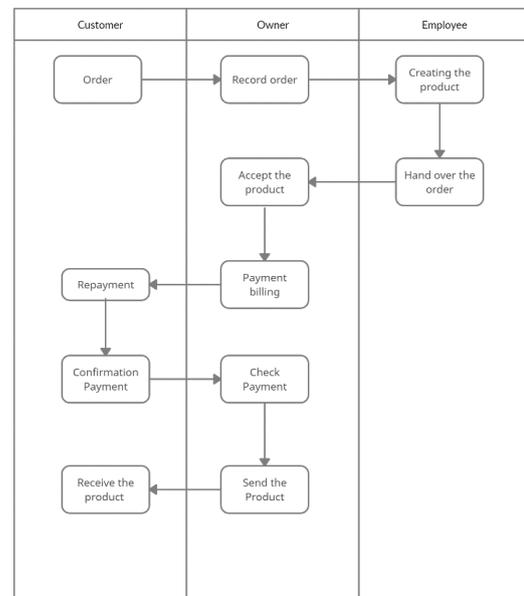


Figure 3 The Flow of Ordering Goods

4.3 Troubleshooting Solution

A website that can help wall carving artisans provide services and information to the public is the solution to overcome the above problems. The development of a

web-based information system can make ordering easier since customers do not have to come to the location, besides, the information will also spread wider [13]. Web design for media promotion and sales will help to market various types of online products [14]. Thus, the proposed problem solving is as follows:

1. Designing a web-based marketing information system.
2. The website contains comprehensive information relating to products and how to order, which can be accessed by anyone, anytime, and anywhere.
3. All website contents can be managed efficiently by the company owners.

4.4 Marketing Network

In the modern period, the old marketing network methods such as print advertising, direct mail, or radio advertising are gradually disappearing and being replaced by digital technologies. Now, the success of any business largely depends on how effectively it applies digital marketing, including a completely innovative approach to the consumer and new tactics as well as strategies for understanding customer behavior, both in the network and in the market [15].

The implementation of the marketing network as a promotional medium for relief products has the potential to increase sales [16]. This method is considered more powerful and less expensive [17]. With this marketing network, consumers do not need to come directly to the store to see the products and place orders. For the relief craft businesses, it will be very easy to keep a catalog of the products so it will help them if there is a consumer who wants to order again. Besides, it will also help to record the sales and product orders.

5. APPLICATION IMPLEMENTATION

5.1 Context Diagram

A context diagram outlines the components of an overall system design that can be seen directly from the system. It shows the information system as a process. This process is connected with external entities through data flow and information [12]. We can see in Figure 4 and there are two external entities; customer and admin. The admin is the owner of MSME.

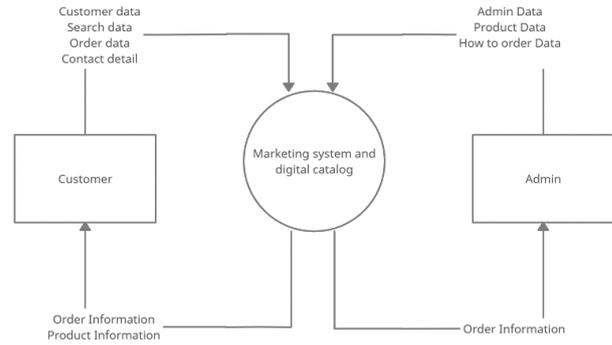


Figure 4 Content Diagram

5.2 Data Flow Diagram Level

DFD Level is a description of the Context Diagram. DFD explains the work of the system in detail by dividing the system into several interrelated processes. In figure 5, we divided them into three processes (Input, Order and Information).

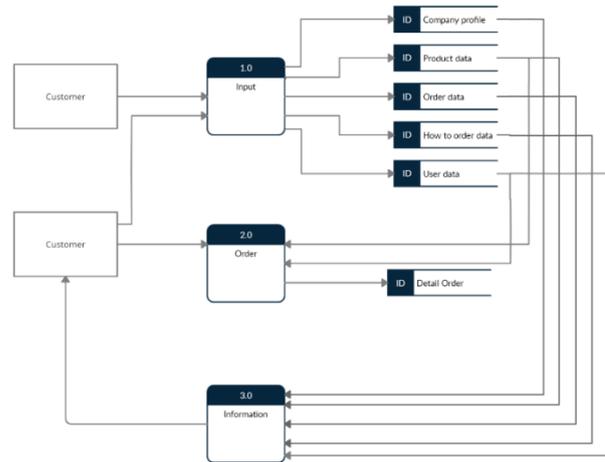


Figure 5 Data Flow Diagram Level

5.3 Interface Design and Implementation

The next step is to design the system display to describe how it operates. For more details about the design overview of the website, the implementation of the Wall Carving Marketing Information System results in the following website pages:

1. Home Page

This main page is the first display seen when website visitors open the wall carving website address. On this main page, the visitors can access several menus such as product featured image, home, shop, about us, order, contact, more.

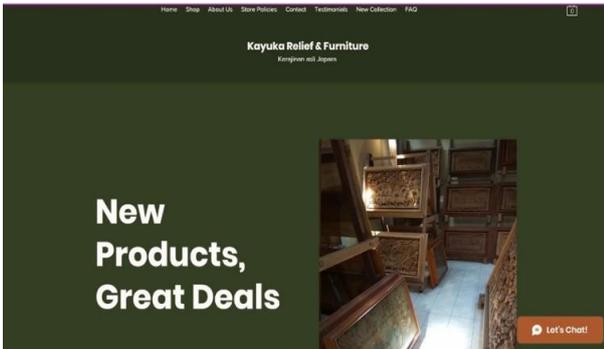


Figure 6 Home Page.

2. Shop

On this page, visitors can choose available wall decoration products, and they can see the available promos this week; this promo includes some of the marketing strategies. See Figure 7 for more detail.

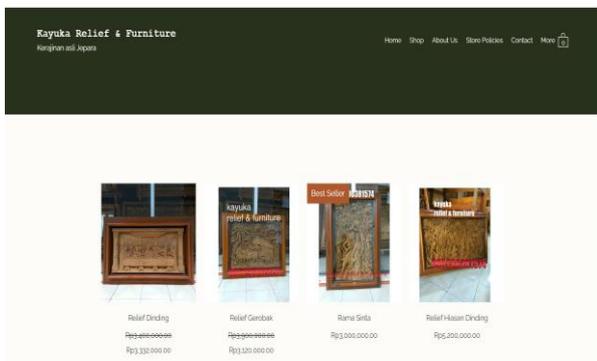


Figure 7 Shop.

3. Order

This page contains the procedure for ordering wall decorations.



Figure 8 Order.

4. Contact

The page contains showroom address information if consumers want to come to see the products in person.

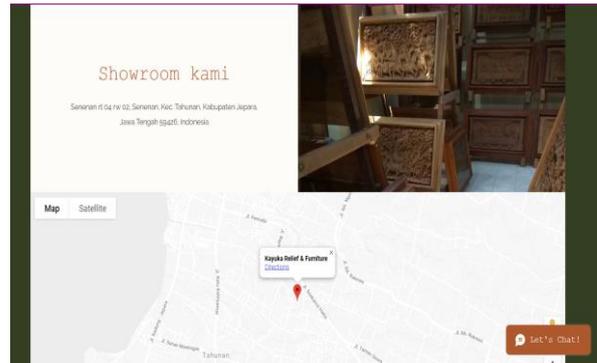


Figure 9 Contact.

6. CONCLUSION

This web-based marketing information system for wall carving MSMEs is an alternative solution for dealing with various problems in the marketing process. It can also be used as an alternative promotional medium to offer products to the broader community.

In processing the marketing system of this wall carving website, there is no need to conduct manual data storage. One can already use the processing system by employing information technology in data management. It is completed with a database system to add, store, edit, and delete data. Besides, it can send e-mails about the latest product promos to visitors who fill in visitor data.

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REFERENCES

[1] Purnomo, R.A., *Ekonomi Kreatif Pilar Pembangunan Indonesia*. 2016: Ziyad Visi Media.

[2] Davis, F.D., *Perceived usefulness, perceived ease of use, and user acceptance of information technology*. MIS quarterly, 1989: p. 319-340.

[3] Sahara, F. and R. Adriana, *Aplikasi E-Katalog Perpustakaan Berbasis Mobile Android*. Jurnal Informatika Global, 2016. 7(1).

[4] Naveh, Z. and A.S. Lieberman, *Landscape ecology: theory and application*. 2013: Springer Science & Business Media.

[5] Dirgantari, P.D., et al., *Level of use and satisfaction of e-commerce customers in covid-19 pandemic period: An information system success model (ISSM) approach*. Indonesian Journal of Science and Technology, 2020: p. 261-270.

[6] Kendall, K. and J.E. Kendall, *Analisis dan Perancangan Sistem. Edisi Terjemahan*. 2003, PT Intan Sejati: Klaten.

- [7] Li, Q. and Y.-L. Chen, *Modeling and Analysis of Enterprise and Information Systems: from requirements to realization*. 2009: Springer.
- [8] Coccia, M., *Fishbone diagram for technological analysis and foresight*. *International Journal of Foresight and Innovation Policy*, 2020. **14**(2-4): p. 225-247.
- [9] Sima, E. *Managing a brand with a vision to marketing 5.0*. in *MATEC Web of Conferences*. 2021. EDP Sciences.
- [10] Timtong, J. and C. Lalaeng, *Product Innovation and Digital Marketing Affecting Decision to Purchase OTOP Products*. *International Journal of Crime, Law and Social Issues*, 2021. **8**(1).
- [11] Pascalau, S.V. and R.M. Urziceanu, *Traditional Marketing Versus Digital Marketing*. *Agora International Journal Of Economical Sciences*, 2021. **14**.
- [12] Pratama, W.A., *Sistem Informasi Pemasaran Produk Usaha Kecil Menengah Berbasis Web Pada Galeri UKM Soppeng*. *Jurnal Ilmiah Sistem Informasi dan Teknik Informatika "JISTI"*, 2019. **2**(1): p. 61-69.
- [13] Doni, A., et al. *Development of Web Based Information System for Branding Services*. in *IOP Conference Series: Materials Science and Engineering*. 2021. IOP Publishing.
- [14] Suwita, F., S. Sholihat, and N. Dewi. *Web-based information system sales*. in *Journal of Physics: Conference Series*. 2021. IOP Publishing.
- [15] Muhammedrisaevna, T.M., A.N. Bakhridinovna, and K.N. Rasulovna. *Use of digital technologies in marketing*. in *E-Conference Globe*. 2021.
- [16] Imaniawan, F.F.D. and H.M. Nur, *Perancangan dan Pembuatan Website Penjualan Biji Kopi Pada Society Coffee House Purwokerto*. *EVOLUSI: Jurnal Sains dan Manajemen*, 2019. **7**(1).
- [17] Novita, E., et al., *Pendampingan Pengembangan Produk dan Metode Pemasaran pada Agroindustri Kopi Wulan Kabupaten Bondowoso*. *Jurnal Masyarakat Mandiri*, 2020. **4**(5): p. 859-869.