


Analysis and design of a web-based marketing information system with a CRM approach at Tenun Resti Sipirok

Ofelius Laia¹, Jurisman Waruwu², Arisman Telaumbanua³

¹Department of Information Technology, Nias University, Nias, Indonesia

³Department of Building Engineering Education, Nias University, Nias, Indonesia

ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received Jul 27, 2023 Revised Jul 29, 2023 Accepted Jul 31, 2023</p> <hr/> <p>Keywords:</p> <p>Customer Relationship management (CRM) Email</p>	<p>Tenun Resti Sipirok is a company engaged in trading woven products such as Jas, Ulos, Souvenirs and other woven products. In marketing its products, Tenun Resti Sipirok still uses the shop as a marketing place, so that consumers who are interested in buying these products must come directly to the store where they are marketed. Not infrequently consumers are disappointed because the product they want to buy is not available which requires consumers to order in advance until the product is finished being produced. By designing and implementing a web-based marketing system with a CRM approach to Tenun Resti Sipirok, it is very helpful in the process of marketing products via the internet, such as selling and promoting products to consumers. This also has a positive impact on the consumer side, because consumers do not have to come directly to the marketing shop, but consumers can buy and order products through the website that is created and information about new products and promos is easy for consumers to get through the website page as well as via email messages.</p> <p><i>This is an open access article under the CC BY-NC license.</i></p> 

Corresponding Author:

Ofelius Laia,
Department of Information Technology,
Nias University,
Jalan Pancasila No. 10 Kota Gunungsitoli, Sumatera Utara, 22814, Indonesia.
Email: ofeliuslaia@gmail.com

1. INTRODUCTION

The increasing use of the internet by the business community in carrying out their daily activities has indirectly had a positive impact on the company (Persis et al., 2021; Redjeki & Affandi, 2021; Šaković Jovanović et al., 2020). With the rapid changes in the world of information technology, it has brought many benefits, one of which is sales technology through website media (Fraccastoro et al., 2021; Infante & Mardikaningsih, 2022; Santoso et al., 2019). A website can help and provide distinct advantages for companies in carrying out their business processes (Santos et al., 2020; Wamba-Taguimdje et al., 2020; Yang et al., 2020). Tenun Resti Sipirok is a company engaged in the trading of woven products such as Jas, Ulos, and Souvenirs. In an effort to improve the quality and revenue of the company, there are still several obstacles that are often faced by companies such as the marketing information system that has been used so far has not been optimal for further utilization (Malhotra et al., 2020; Moisanter et al., 2020; Van Heerde et al., 2021).

The information provided by the company to customers is currently not fully efficient in dealing with problems such as promoting the company, making sales and providing services to customers and co-workers. Through the utilization of this information system, it is hoped that it will

be able to provide the need for data and information to customers and colleagues of Tenun Resti Sipirop quickly, precisely and efficiently (Lucini et al., 2020; Rita et al., 2019; Varadarajan, 2020).

Customer Relationship Management (CRM) is a marketing strategy that builds close relationships between companies and their customers. This strategy recommends that companies open communication channels as easily as possible with a high response rate, so that customers feel close to the company. Communication that is not smooth, can grow customer doubts. The relationship between the company and the customer that is very close will make the customer feel that he owns the company. From there, his loyalty to the company will gradually grow and develop. Thus, the company will benefit from implementing this CRM, namely having loyal customers (Khan et al., 2022; Nuseir & Refae, 2022; Salah & Abou-Shouk, 2019) .

Based on the background above, the authors formulate the problem in this study is how to design a Web-Based Marketing Information System with a Customer Relationship Management approach that can help and improve the marketing process at Tenun Resti Sipirop.

2. RESEARCH METHOD

The data collection methodology used in this study is:

a. Library Studies

Literature study is a study conducted to collect theoretical data for the purposes of writing this research including books, articles, PHP, MySQL, information systems and related references (Kadir, 2023).

b. Observation Method

This method is carried out by making direct observations at Tenun Resti Sipirop to obtain the required data accuracy (Shin & Miller, 2022).

c. Interview Method

The interview method is to conduct question and answer directly with the owner of Tenun Resti Sipirop to collect the data needed for this research (Moore et al., 2021).

Information System Design Methodology: In designing this application, the information system design methodology used is the Waterfall model, Data Flow Diagram (DFD) and Normalization.

3. RESULTS AND DISCUSSIONS

a. Current System Analysis

The system that is running at Tenun Resti Sipirop as shown in Figure 1, consumers who want to buy products first come directly to the marketing shop by looking at product samples. If a consumer is interested in buying a product, the clerk first checks whether the product requested is available. If the product is available, a purchase transaction is made, but if the product requested is not available, the consumer must place an order and if the product already exists, the consumer then comes to the marketing store to make a transaction on the product ordered.

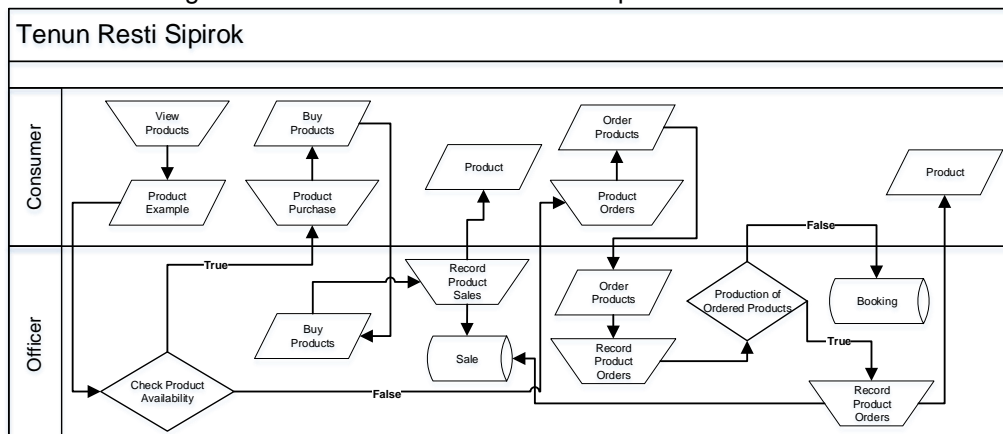


Figure 1. Current System Flow Map

b. System Analysis Designed

The system designed at Tenun Resti Sipirok as shown in Figure 2 is divided into 3 parts, namely consumers, officers/admins and leaders. The system provides facilities for each of these sections, such as consumers being able to view products by category via the internet as well as member registration forms and live chat services. Meanwhile, officers/admins can control the system, such as inputting product data, serving orders from consumers, validating payments and serving consumers via live chat. Meanwhile, leaders can control officers/admins and can view reports on products, sales, etc.

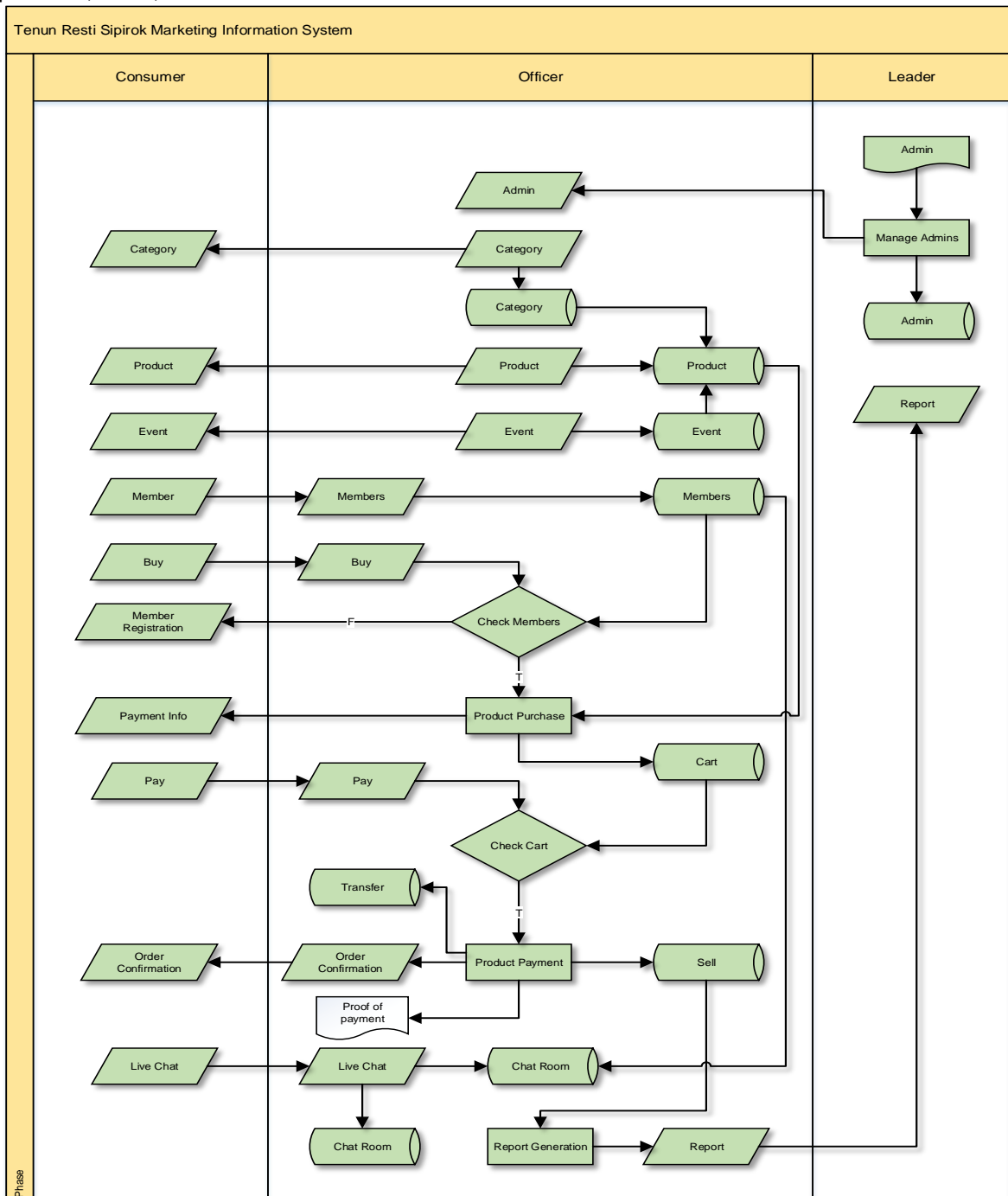


Figure 2. Flow Map designed system

- c. A Web-based Marketing Information System with a built-in CRM approach can help Tenun Resti Sipirok in marketing its products and really helps consumers or customers to buy products at Tenun Resti Sipirok via the internet without coming directly to the marketing shop.

The screenshot displays the checkout page of the Tenun Resti Sipirok website. At the top, there is a search bar with the placeholder text 'Aku Mau Belanja...' and a search icon. To the right, there is a shopping cart icon and a 'CONTACT US' link. Below the search bar, the breadcrumb navigation shows 'Home > Checkout Detail'. The main content area is titled 'Daftar dan Rincian Keranjang Belanja Anda' and contains a table with the following data:

Gambar	Nama Produk	Qty	Harga satuan	Harga total	Opsi qty	Aksi
	Kotak Tempat Barang	1	Rp. 85.000	Rp. 78.200	+ -	Batalikan
Total Bayar :				Rp. 78.200 .-		

At the bottom of the table, there are two buttons: 'Belanja Lagi' (blue) and 'Selesaikan Pembayaran' (green).

Figure 3. Checkout Page Display

4. CONCLUSION

In facing the challenges of marketing woven products, the step of designing and implementing a web-based marketing system with a CRM approach at Tenun Resti Sipirok proved to have a positive impact. This transformation has increased product accessibility for consumers through an online platform, reducing barriers by enabling product purchases and orders without having to visit a physical store. By providing product information, promos, and the convenience of interacting through the website, customers get a more personalized and transparent experience. Going forward, it is recommended to continue development with a focus on technological innovation and responsive website design, as well as improved interaction through communication tools such as intelligent chatbots. Tracking and analysis of user data should be improved to understand consumer behavior more deeply, so that marketing strategies can be optimized. In the face of technical and data security challenges, companies need to invest in employee training and cybersecurity measures. Future developments should be based on a review of the evolving market, with a focus on adding value to customers and maintaining business continuity through smart and relevant technology integration.

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