Brilliance
Research of Artificial Intelligence

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

Information System Ordering Bouquet Custom And Hampers Using The E-CRM Feature Store Giftbysha TanjungBalai

Dinda Maharani[1*], Neni Mulyani[2], Nurullita Astriani[3]
[1,2] Information System, Faculty Of Computer Science, University Royal, Indonesia
[3] Mathematics Education, Faculty Of Education, University Royal, Indonesia
[1*]dm050419@gmail.com, [2]neni.muliani@gmail.com, [3]nurullitaastriani@gmail.com

open access

***Corresponding Author**

Article History:
Submitted: 02-08-2026
Accepted: 17-08-2026
Published: 01-11-2026

Keywords:
E-CRM; Custom Bouquet; Giftbysha; Hampers.

Brilliance: Research of Artificial Intelligence is licensed under a Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0).

ABSTRACT

GiftBySha is a business engaged in the sale of custom bouquets and hampers in The development of information technology has significantly influenced business processes, particularly in improving customer relationship management. GiftBySha Store, a business engaged in custom bouquet and hamper sales, still relied on conventional ordering methods through manual communication, which often caused inefficiencies in data management, delays in response, and difficulties in maintaining customer relationships. Therefore, this study aims to design and implement a web-based Electronic Customer Relationship Management (E-CRM) system to improve service quality and operational efficiency. This research uses the system development method, which includes requirement analysis, system design using Unified Modeling Language (UML), implementation, and testing. The developed system provides several features, including user registration and login, product catalog, shopping cart, transaction management, live chat, customer reviews, and report generation for administrators. The results show that the implementation of the E-CRM system can facilitate customers in placing orders, accessing product information, and communicating with the store more effectively. From the administrative perspective, the system helps manage customer data, transactions, and reports in a structured and organized manner. In addition, the system improves service quality by reducing manual errors and accelerating the transaction process. In conclusion, the web-based E-CRM system successfully enhances operational efficiency and strengthens customer relationships at GiftBySha Store, making business processes more effective and integrated.

INTRODUCTION

The rapid transformation of digital technology in the current era has brought significant changes to various aspects of life, including the world of business and commerce. The use of web-based technology has become a solution widely used by businesses to improve service quality, expand marketing reach, and build better relationships with customers. Today's customers tend to want services that are fast, easy, and accessible at any time without having to visit a business's premises.

The increasingly rapid transformation of digital technology in the current era has brought significant changes to various aspects of life, including the world of business and commerce (Ayuninggati et al., 2021). The use of web-based technology has become a solution widely used by businesses to improve service quality, expand marketing reach, and build better relationships with customers (Cahyanti et al., 2021). Today's customers tend to want services that are fast, easy, and accessible at any time without having to visit a business's premises (Putra, 2021).

One business sector that has also experienced growth is the sale of bouquets and custom gifts. Custom-made bouquets and gifts are highly sought after because they can be customized to customers' needs and desires, including design, size, and type (Firmansyah & Herdin, 2021). are often used for various important events such as graduations, birthdays, weddings, and other special occasions. Gifts are also highly sought after for special occasions such as religious holidays, celebrations, as thank-you gifts, and as a way to show attention to family, relatives, and colleagues (Warsela et al., 2021). The high demand for custom-made bouquets and gifts requires businesses to provide responsive and communicative service to maintain customer satisfaction.

GiftBySha is a business specializing in custom bouquets located on Jalan Pahlawan, Tanjung Balai City. Owned by Sahayani Sinaga, the shop has been operating since 2023. GiftBySha handles custom bouquet and hamper orders with various designs and concepts tailored to customer preferences. Orders are generally made through direct communication or through social media (Facebook, WhatsApp, and Instagram), depending on the customer's design and concept requirements.

Throughout its business operations, GiftBySha experiences varying sales volumes for custom bouquets and hampers each month. These differences are influenced by various factors, such as specific occasions (graduations,

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

holidays, and special events), customer needs, and the manual order management process. Sales data obtained from the shop reveals significant month-to-month fluctuations in bouquet and hamper sales.

Unstable product orders fluctuate monthly, and GiftBySha's ordering process and customer data management remain simplistic and unintegrated into a web-based system. This situation creates several challenges, such as poorly structured order recording, potential errors in understanding customer order details, and difficulties in storing and managing customer data and order history. Furthermore, the lack of a system to support customer relationship management results in suboptimal service.

The problems encountered at GiftBySha are not only related to the manual ordering process but also to suboptimal customer relationship management. Previously placed customers lack a well-recorded history, making it difficult for the store to recognize repeat customers, understand frequently ordered design preferences, and provide more personalized service. Furthermore, information about promotions and new products is only communicated through social media posts without any structured customer management. This situation has the potential to cause customers to switch to competitors due to a lack of interaction and follow-up from the store.

Based on these issues, a web-based custom bouquet and hamper ordering system integrated with the Electronic Customer Relationship Management (E-CRM) concept is needed (Hermiati et al., 2021). E-CRM is an approach that utilizes information technology to assist businesses in managing customer data, improving communication quality, and building sustainable relationships with customers (Anindira & Imran, 2021). With an E-CRM system, the ordering process can be more structured, customer data is securely stored, and service can be optimally improved (Wicaksono, 2021).

The implementation of the Electronic Customer Relationship Management (E-CRM) feature in the GiftBySha Store ordering system is an appropriate solution to address issues in managing orders and customer data (Del Vecchio et al., 2022). E-CRM features include storing order history and recording frequently ordered bouquet and hamper design preferences (Musthofa & Adiguna, 2022). Furthermore, the order management feature allows stores to monitor order status in a more organized and streamlined manner, reducing recording errors (Ariska et al., 2022). Customer communication and feedback features also support improved service quality by making it easier for customers to obtain information and provide assessments of products and services (Ngelyaratan et al., 2022). Furthermore, the system can provide loyalty rewards for frequent customers, such as discounts, bonuses, or additional items as a token of appreciation, thereby increasing customer satisfaction and encouraging repeat orders (Rahayu et al., 2022). These features are expected to foster a better relationship between GiftBySha Store and its customers, increasing customer satisfaction, and fostering sustainable customer loyalty (Anggara et al., 2022).

With this information system, it is hoped that the previously manual ordering process can transition to a computerized and integrated system. This system allows customers to order custom bouquets and hampers more easily, quickly, and efficiently without having to visit the store in person (Pangestu & Mardiani, 2022). Furthermore, the implementation of the E-CRM feature is expected to assist stores in managing customer data, monitoring order history, and providing more personalized service, thereby increasing customer satisfaction and loyalty.

LITERATURE REVIEW

Electronic Customer Relationship Management (E-CRM) is an approach that utilizes information technology to manage customer relationships effectively through digital platforms. E-CRM enables businesses to collect, store, and analyze customer data to improve service quality, enhance customer satisfaction, and build long-term relationships (Anindira & Imran, 2021). In the context of web-based systems, E-CRM plays an important role in facilitating communication between businesses and customers in a more structured and efficient manner.

Previous studies have shown that the implementation of Customer Relationship Management (CRM) systems can significantly improve customer satisfaction and loyalty. Anggara et al. (2022) stated that CRM systems help businesses manage customer data systematically and support better decision-making processes. Similarly, Rahayu et al. (2022) explained that CRM implementation can enhance service quality and strengthen customer relationships through personalized interactions.

In addition, the use of web-based information systems provides advantages in terms of accessibility, real-time data processing, and wider market reach. According to Hermiati et al. (2021), web-based systems developed using PHP and MySQL can support efficient data management and improve business operational performance. Furthermore, Pangestu and Mardiani (2022) highlighted that integrating CRM into web-based applications enables businesses to provide better product recommendations and customer services.

Several studies also emphasize that E-CRM features such as customer data management, order history tracking, feedback systems, and promotional services can increase customer engagement and retention (Ariska et al., 2022; Ngelyaratan et al., 2022). Therefore, the development of a web-based ordering information system integrated with E-CRM is considered an effective solution to address problems related to manual ordering processes and unstructured customer data management.

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

METHOD

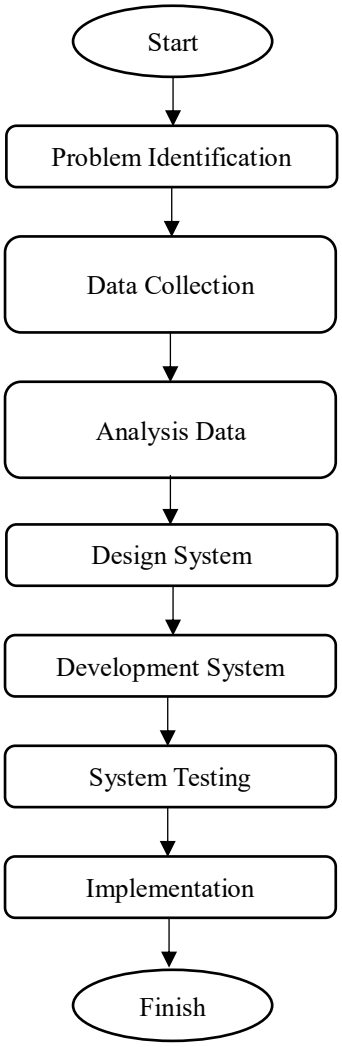


Figure 1. Research Stages

This research has the following stages:

Problem Identification

Based on problem identification, it is an initial stage of problem mastery where we can recognize a certain object in a certain situation as a problem. The aim of problem identification is to obtain a number of problems related to the research title. The problem found was that the marketing system and customer data management were not yet optimal. Apart from that, the delivery of product information is still carried out directly in stores without the support of digital media, so market reach is limited.

Data Collection

Data collection was conducted through direct observation, interviews with the owner and employees, and documentation of the store's operational activities.

Analysis Data

Data analysis is an activity of changing research results into information that is used to draw conclusions in research. The way to draw conclusions can be by estimating the results. The analysis carried out is on sales carried out using the E-CRM method.

Design System

System design is an activity to design and design a system so that it can run well according to user needs. In this research, system design was carried out to build a web-based information system for ordering custom bouquets and

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

hampers which can make it easier for GiftBySha Store customers to obtain product information and place orders. The system design process is carried out using the PHP programming language as the application processor and MySQL as the data storage medium.

Development System

At the system creation stage, software installation will be carried out to support the implementation or testing of this research. The software used is a browser, Visual Studio Code, XAMPP.

System Testing

System testing is a process carried out to assess whether what is designed is in accordance with what is expected, or is an activity to evaluate the strengths and weaknesses of a system. The system testing has been designed using the PHP programming language and MySQL database to find out the results of the previous design.

Implementation

Implementation is a procedure carried out to complete the design in the document. After the testing phase is complete, the program that has been designed and tested at the GiftBySha Store must be implemented or implemented.

RESULT

Data Analysis

The data obtained in the field is sales data for 1 year as information processing material in the system.

Table 1. Sales Data for 2025

No	Mounth	Bouquet Sales (pcs)	Hampers Sales (pcs)	Total Sales (pcs)
1	January	40	30	70
2	February	38	28	66
3	March	65	50	115
4	April	55	45	100
5	May	50	40	90
6	June	45	35	80
7	July	60	45	105
8	August	58	42	100
9	September	52	38	90
10	October	55	40	95
11	November	60	45	105
12	December	80	65	145
	Total	**658**	**503**	**1.161**

Table 1 presents the sales data of bouquet and hamper products at GiftBySha Store throughout 2025. The data consist of monthly sales quantities for bouquets, hampers, and the total number of products sold. These historical sales records were collected from the store's transaction documents and serve as the primary dataset for analyzing sales trends and designing the proposed web-based Electronic Customer Relationship Management (E-CRM) system.

Based on the data, monthly sales fluctuate throughout the year, with the highest total sales recorded in December (145 units) and March (115 units), while the lowest sales occurred in February (66 units). Overall, the store sold 658 bouquet products and 503 hamper products, resulting in a total annual sales volume of 1,161 products. These findings indicate that customer demand varies across different months, emphasizing the importance of a computerized system that can efficiently manage transaction records, customer information, and promotional activities. The sales data presented in Table 1 also provide the basis for identifying customer purchasing patterns and supporting the implementation of E-CRM features to improve customer relationship management and service quality.

System Design

A Use Case Diagram is used to illustrate the relationships between actors and the system to be developed. Figure 2 shows an overview of the system design.

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence
E-ISSN : 2807-9035
Volume 6, Number 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

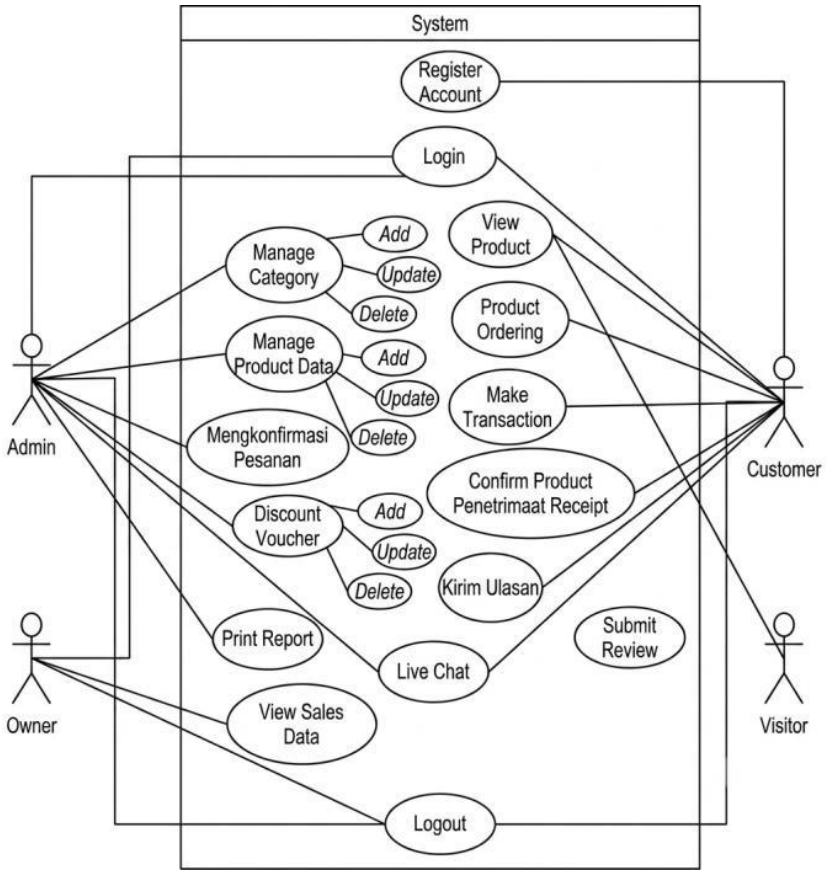


Figure 2. Use Case Diagram Design

The Use Case Diagram illustrates the interaction between users (actors) and the system in the web-based E-CRM application developed for GiftBySha Store. There are two main actors in the system, namely the admin and the customer.

The customer actor can perform several activities, including registering an account, logging into the system, viewing product information, adding products to the cart, placing orders, making payments, viewing transaction details, and communicating with the admin through the live chat feature. These functionalities are designed to facilitate customers in accessing services and completing transactions efficiently.

Meanwhile, the admin actor has broader access to manage the system. The admin can manage product data, process customer orders, verify payments, respond to customer messages via live chat, and generate sales reports. The admin also has access to customer data and transaction history, which supports better customer relationship management.

Overall, the Use Case Diagram shows how the system supports both operational processes and customer interactions in an integrated manner through E-CRM features, ensuring that all activities related to ordering and customer service can be handled effectively.

Implementation

In this phase, the system design is realized into an application that can be operated and utilized to the fullest according to user needs. Here are the results of its implementation.

Login Page

The login page is the initial page used by users to access the system by entering a username and password.

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

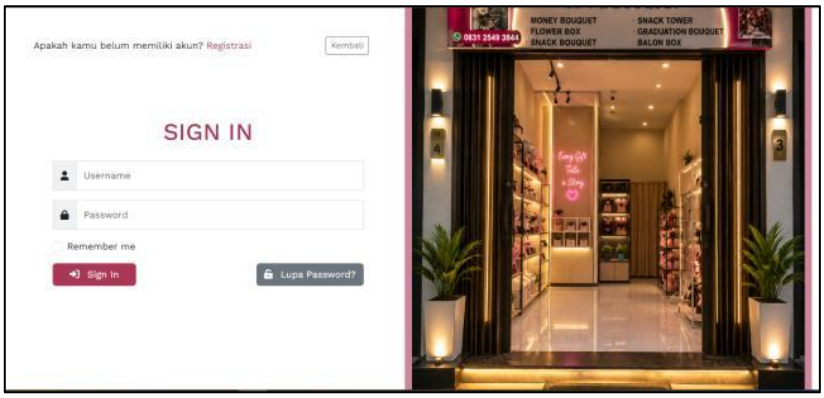


Figure 3. Login Page

Register Page

This page is used by users to create an account and log in to the system. The system validates user input to ensure data security and accuracy.

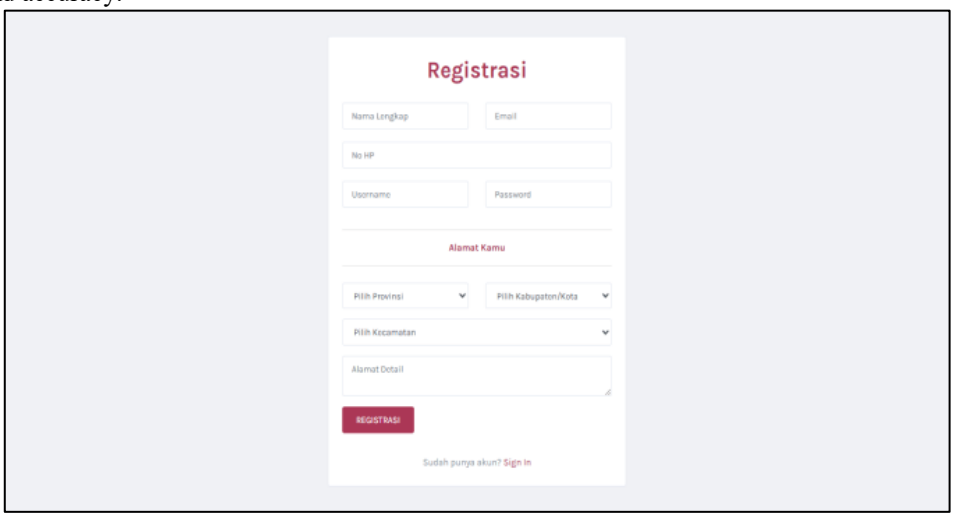


Figure 4. Register Page

Dashboard Page

The dashboard page serves as the main interface for the admin to monitor system activities. It provides a summary of important information such as total transactions, sales data, and graphical representations of sales performance. This feature helps the admin quickly understand business conditions and supports decision-making processes based on real-time data.

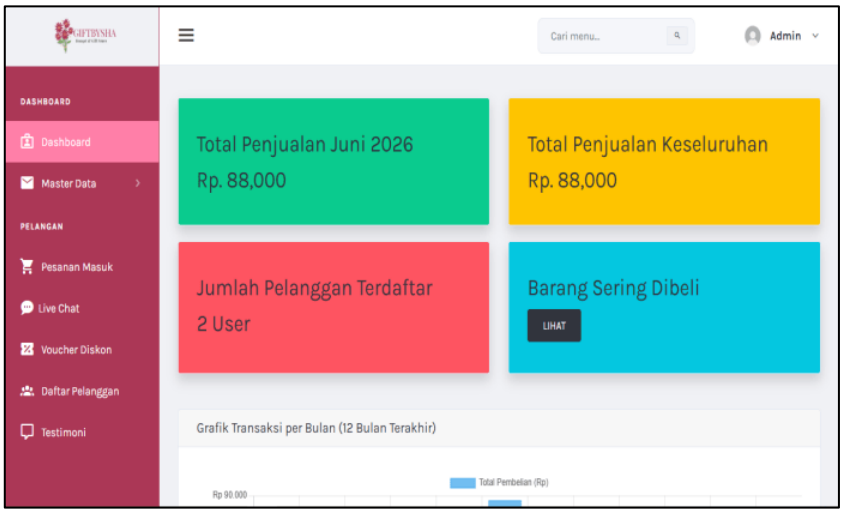


Figure 5. Dashboard Page

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

Cart Page

The cart page displays a list of products selected by the customer before proceeding to checkout. On this page, users can adjust product quantities, remove items, and review their selected products. This functionality ensures flexibility and convenience for customers in managing their orders before finalizing transactions.

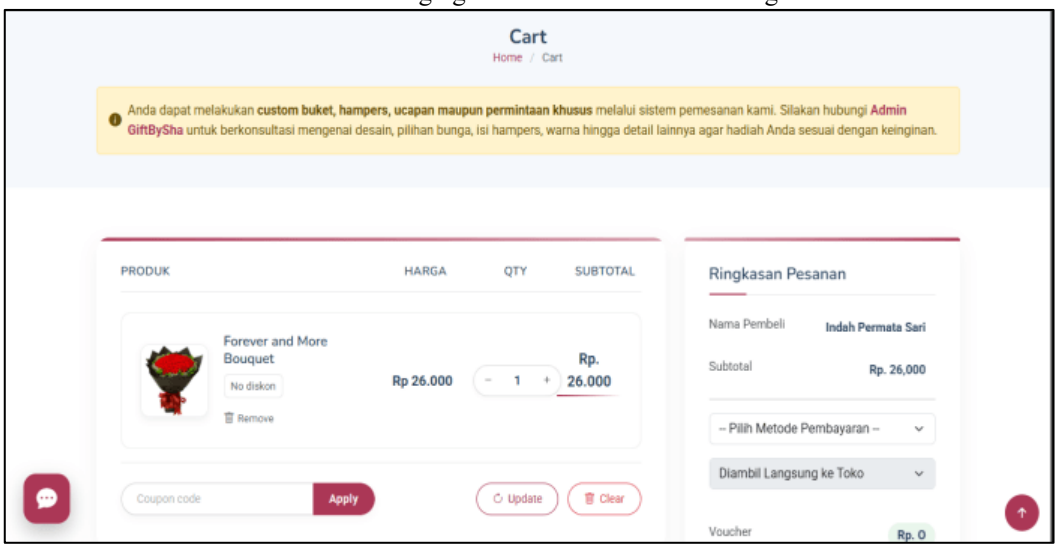


Figure 6. Cart Page

Detail Transaction Page

The detail transaction page provides complete information about a specific transaction. It includes product details, payment methods, delivery status, and proof of payment. This page helps both customers and admins to track and verify transaction processes transparently and accurately.



Figure 7. Detail Transaction Page

Live Chat

The live chat feature enables real-time communication between customers and the admin. Through this page, admins can respond directly to customer inquiries, while customers can ask questions regarding products or orders. This feature enhances interaction and improves customer service quality.

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Brilliance
Research of Artificial Intelligence
E-ISSN : 2807-9035
Volume 6, Number 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

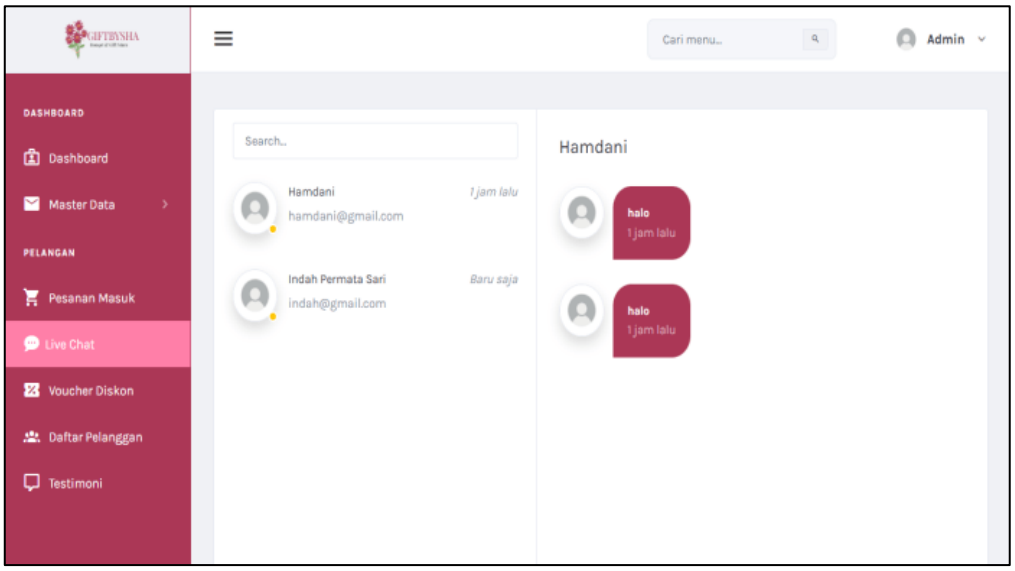


Figure 8. Live Chat

Report Page

The report page allows the admin to generate and print reports based on a selected period. These reports typically include transaction data and sales summaries, which are useful for evaluation and business analysis. This feature supports better management and documentation of sales activities.

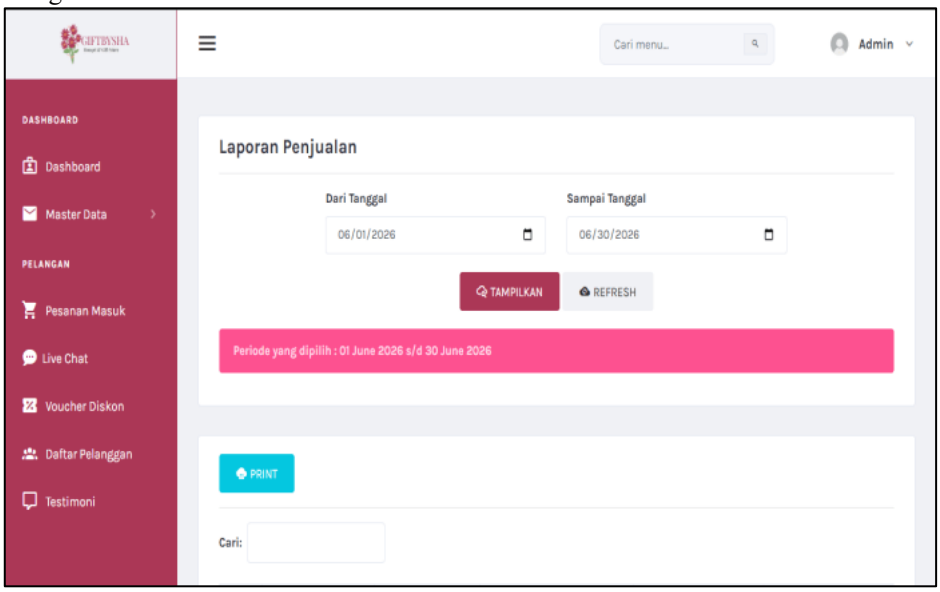


Figure 9. Report Page

DISCUSSION

Based on the results of the system implementation, the developed E-CRM system provides significant improvements compared to the previous manual process. Before the system was implemented, the ordering process at GiftBySha Store was carried out conventionally, where customers had to communicate manually via chat or social media. This often caused delays in response, data recording errors, and difficulties in tracking order history and customer preferences.

After implementing the web-based E-CRM system, the entire process became more structured and efficient. Customers can now place orders directly through the system, view product details, and monitor order status in real time. In addition, features such as live chat, reviews, and promotions improve interaction and engagement between customers and the store. From the administrative side, data management becomes more organized, including customer data, transaction records, and reports that can be generated automatically.

Furthermore, the system enhances service quality by reducing human error and accelerating the transaction process. The availability of centralized data also supports better decision-making for business development. Therefore, it can be concluded that the implementation of the E-CRM system successfully addresses the problems identified in the

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

E-ISSN : 2807-9035
Volume 6, **Number** 4, November 2026
https://doi.org/10.47709/brilliance.v6i4.9469

initial conditions and significantly improves operational efficiency and customer relationship management at GiftBySha Store.

CONCLUSION

The web-based E-CRM system for ordering custom bouquets and hampers at GiftBySha Store has been successfully designed and implemented, providing features that support the custom bouquet and hamper ordering process. This system can assist customers in placing orders and assist GiftBySha Store in managing the ordering process more effectively. The E-CRM feature can help manage customer data and orders in a structured manner through the management of customer data, order data, order history, reviews, promotions, and communication with customers. With this feature, customer data and orders become more organized, documented, and easier to manage. The implementation of the E-CRM feature can improve the quality of service and relationships with customers related to custom bouquet orders. This is supported by the ease in conveying information, the ordering process, communication with customers, and providing reviews. Thus, the implementation of E-CRM helps GiftBySha Store provide better service and build closer relationships with customers.

REFERENCES

Anggara, N. A. A., Hutahaean, J., & Iqbal, M. (2022). Penerapan Customer Relationship Management (CRM) Dalam Sistem Informasi Penjualan Kosmetik Berbasis Web. *Building of Informatics, Technology and Science (BITS)*, *3*(4), 480–488. https://doi.org/10.47065/bits.v3i4.1440

Anindira, R. A., & Imran, A. I. (2021). Strategi Dan Implementasi CRM Melalui Aplikasi KAI Access Dalam Meningkatkan Kepuasan Pelanggan PT. KAI. *E-Proceeding of Management*, *8*(4), 4232–4241.

Ariska, A. M., Irawati, N., & Muhazir, A. (2022). Penerapan Elektronik Customer Relationship Management (E-CRM) Dalam Penjualan Roti Berbasis Web. *Jurnal Media Informatika Budidarma*, *6*(2), 1090. https://doi.org/10.30865/mib.v6i2.4002

Ayuninggati, T., Lutfiani, N., & Millah, S. (2021). CRM-Based E-Business Design (Customer Relationship Management). *International Journal of Cyber and IT Service Management (IJCITSM)*, *1*(2), 216–225. https://iiast-journal.org/ijcitsm/index.php/IJCITSM/article/view/58

Cahyanti, F. L. D., Sarasati, F., Widiastuti, W., & Firasari, E. (2021). Perancangan E-Commerce Sebagai Media Pemasaran Kerajian Bambu. *Edumatic: Jurnal Pendidikan Informatika*, *5*(1), 70–79. https://doi.org/10.29408/edumatic.v5i1.3275

Del Vecchio, P., Mele, G., Siachou, E., & Schito, G. (2022). A Structured Literature Review on Big Data for Customer Relationship Management (CRM): Toward a Future Agenda in International Marketing. *International Marketing Review*, *39*(5), 1069–1092. https://doi.org/10.1108/IMR-01-2021-0036

Firmansyah, F., & Herdin, S. F. W. (2021). Pengaruh Customer Relationship Management (CRM) Terhadap Kepuasan Pelanggan Produk Sepatu Convese. *Jurnal Bisnis Dan Pemasaran*, *11*(1), 11.

Hermiati, R., Asnawati, A., & Kanedi, I. (2021). *Pembuatan E-Commerce Pada Raja Komputer Menggunakan Bahasa Pemrograman Php Dan Database MySQL*. *17*(1), 54–66.

Musthofa, N., & Adiguna, M. A. (2022). Perancangan Aplikasi E-Commerce Spare-Part Komputer Berbasis Web Menggunakan CodeIgniter Pada Dhamar Putra Computer Kota Tangerang. *Jurnal Ilmu Komputer Dan Science*, *1*(03), 199–207. https://journal.mediapublikasi.id/index.php/oktal

Ngelyaratan, D., Soediantono, D., Staf, S., Tni, K., & Laut, A. (2022). Customer Relationship Management (CRM) and Recommendation for Implementation in the Defense Industry: A Literature Review. *Journal of Industrial Engineering & Management Research*, *3*(3), 2722–8878. http://www.jiemar.org

Pangestu, I. A., & Mardiani, G. T. (2022). Sistem Informasi Rekomendasi Produk Dengan Pendekatan Customer Relationship Management Di Cv. Xyz. *Komputa : Jurnal Ilmiah Komputer Dan Informatika*, *10*(2), 78–86. https://doi.org/10.34010/komputa.v10i2.6807

Putra, A. S. (2021). Sistem Manajemen Pelayanan Pelanggan Menggunakan PHP Dan MySQL (Studi Kasus pada Toko Surya). *Tekinfo: Jurnal Bidang Teknik Industri Dan Teknik Informatika*, *22*(1), 100–116. https://doi.org/10.37817/tekinfo.v22i1.1190

Rahayu, E., Kifti, W. M., & Rohminatin, R. (2022). Analisis Implementasi Customer Relationship Management Pada Safira Bakery. *Journal of Science and Social Research*, *5*(1), 37. https://doi.org/10.54314/jssr.v5i1.812

Warsela, M., Wahyudi, A. D., & Sulistiyawati, A. (2021). Penerapan Customer Relationship Management Untuk Mendukung Marketing Credit Executive (Studi Kasus: PT. FIF Group). *Jurnal Teknologi Dan Sistem Informasi (JTSI)*, *2*(2), 78. http://jim.teknokrat.ac.id/index.php/JTSI

Wicaksono, D. R. (2021). Implementasi Customer Relationship Management (CRM) di Atria Hotel Malang. *Jurnal Kajian Dan Terapan Pariwisata*, *2*(1), 19–26. https://doi.org/10.53356/diparojs.v2i1.41

This is an Creative Commons License This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.