

# ECRM Strategy In Improving Services And Sales Of Electronic Products

**Qevin Dwi Rafitrah**  
Information System  
Royal University  
Asahan, Indonesia  
[qevinnnn@gmail.com](mailto:qevinnnn@gmail.com)

**Dewi Anggraeni**  
Information System  
Royal University  
Asahan, Indonesia  
[dewianngraeni2024123@gmail.com](mailto:dewianngraeni2024123@gmail.com)

**Ruri Ashari Dalimunthe**  
Computer System  
Royal University  
Asahan, Indonesia  
[ruriashari1986@gmail.com](mailto:ruriashari1986@gmail.com)

**Abstract**—The rapid development of information technology has transformed the way businesses interact with customers, particularly in the electronic products industry. This study examines the implementation of Electronic Customer Relationship Management (eCRM) strategy as a tool for improving service quality and increasing sales performance in the electronic products sector. The research explores how eCRM systems enable companies to collect, analyze, and utilize customer data to deliver personalized experiences, streamline communication channels, and enhance after-sales services. Using a descriptive qualitative approach, data were gathered through interviews, observations, and documentation related to eCRM adoption in electronic product businesses. The findings indicate that the implementation of eCRM significantly contributes to improving customer satisfaction, building long-term customer loyalty, and driving sales growth by enabling more targeted marketing efforts and responsive customer service. Furthermore, the integration of digital platforms within the eCRM framework facilitates real-time interaction between businesses and customers, resulting in faster problem resolution and more efficient service delivery. This study concludes that a well-implemented eCRM strategy serves as a critical competitive advantage for electronic product companies in navigating the increasingly digital marketplace, and recommends that businesses continuously update their eCRM systems to align with evolving customer expectations and technological advancements.

**Keywords**— eCRM, Customer Relationship Management, Service Quality, Sales Performance, Electronic Products, Digital Strategy.

*Article info: Date Submitted: 2026-03-13 | Date Revised: 2026-03-19 | Date Accepted: 2026-03-27  
This is an open access article under the CC BY-SA license*



## I. INTRODUCTION

Electronic Customer Relationship Management is a software application that provides customers access to business processes from the initial request through post-sales service and support [1] [2]. A customer information warehouse that records all the contracts that customers have with the company and produces customer profiles that are available to everyone in the company who needs to know about the customers [3].

Development has become a part of people's lives. With business, everyone can gain benefits, whether large or small. Various kinds of businesses are offered, such as manufacturing business, service business, agricultural business, financial business, information business, and others [4]. With the development of the times and the increasing competition in the era of globalization, CRM has become one of the important things for companies [5]. With CRM, we can know every profile of our customers, the desires of the customers, the needs of the customers, and maintain those customers to stay connected with the company [6].

In increasing sales profit, a trading company must ensure that the revenue obtained from sales exceeds the total costs incurred, including the cost of goods sold. If the revenue is much higher compared to the total expenses, the company will gain profit. Conversely, if income is lower than the total costs incurred, the company will experience a loss [7].

Therefore, it is important for business actors to design effective strategies to maintain and increase profits sustainably in the long term. These strategies include efforts to retain the loyalty of existing customers, facilitate business growth in increasing sales profit, improve customer service, and attract more new customers through the implementation of an Electronic Customer Relationship Management system [8] [9].

Electronical Customer Relationship Management is a strategy used to learn more about customer needs and characteristics in developing a closer relationship with customers [10]. By utilizing E-CRM, a company can acquire new customers, improve relationships with customers, and retain customers [11].

Recent studies have shown that the implementation of Electronic Customer Relationship Management (E-CRM) has been widely applied to support customer data management, improve service quality, and increase customer loyalty in various business sectors. However, most of these studies still focus primarily on transactional data processing and basic customer data storage, without fully optimizing the use of customer data for strategic decision-making, such as personalized promotions, customer segmentation, and long-term relationship management. This limitation indicates that the role of E-CRM has not been maximized as a strategic tool to enhance sales performance and service effectiveness.

Based on these conditions, this research aims to develop a web-based E-CRM system that not only facilitates transaction management but also supports more effective customer interaction and data-driven decision-making. The proposed system is expected to contribute by integrating customer data, transaction history, and promotional strategies into a unified platform to improve service quality and sales performance. A case study is conducted in a retail business environment to validate the implementation of the proposed system.

If this unstable sales pattern continues without evaluation and improvement, it has the potential to create negative impacts on business performance, particularly regarding the store's ability to maintain revenue and cover operational costs [12]. In the long term, the imbalance between sales and expenses can lead to decreased profitability, disrupt cash flow, and even pose a risk of losses for Mega Cell Sei Piring Pulau Rakyat.

This study proposes and implements a web-based E-CRM system as a solution to improve customer service and sales performance. as it emerges as a strategic solution by combining technology, customer data, and service processes to create more personal, faster, and relevant interactions [13]. The implementation of E-CRM allows the recording of purchase history, product preferences, service interactions, as well as customer complaints in a single platform that can be accessed across channels (e.g., WhatsApp Business, website, marketplace, or point-of-sale) [14]. With this data, Mega Cell can perform more accurate market segmentation, send personalized promotions, and respond to customer issues faster factors proven to increase customer satisfaction and loyalty [15]. Empirical research shows a positive relationship between E-CRM practices and customer loyalty, both in the context of e-commerce and traditional services transforming into digital channels.

## II. METHODOLOGY

This research method uses a qualitative approach. The research stages begin with problem identification to find the root causes of income instability at Mega Cell Sei Piring Pulau Rakyat, which is then followed by data collection through interviews and observations to obtain comprehensive information about the ongoing service processes. After the data is collected, a system analysis is conducted to formulate the appropriate technical solutions for the problems faced by the company [16]. The next step is system design, where the researcher prepares a blueprint for a functional application capable of

providing information in real-time and facilitating the management of sales and customer data for business owners [17].

At the system development stage, the design was realized using software such as PHP and MySQL. After the system was successfully built, a thorough system testing was conducted to validate the application's functionality and minimize potential operational errors to ensure accurate results [18]. This research series concludes with the implementation of the system, which includes the process of installation and infrastructure preparation so that the new system can be immediately operated and used optimally by users in a real work environment .

### III. RESULTS AND DISCUSSION

The system design uses a use case diagram with the aim of being able to map the system requirements in detail [19]. The use case diagram design is presented in the following figure 1.

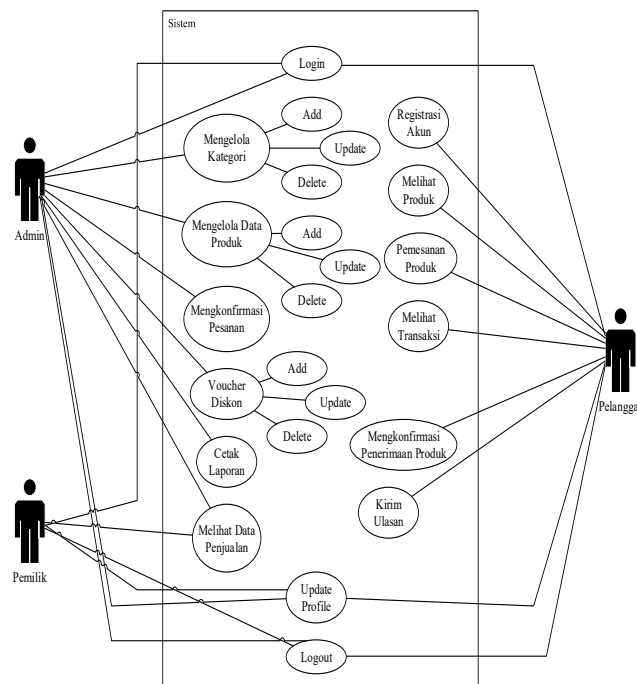


Figure 1. Use Case Diagram

After designing the system, the next step is to implement the design into the PHP programming language and MySQL database [20].

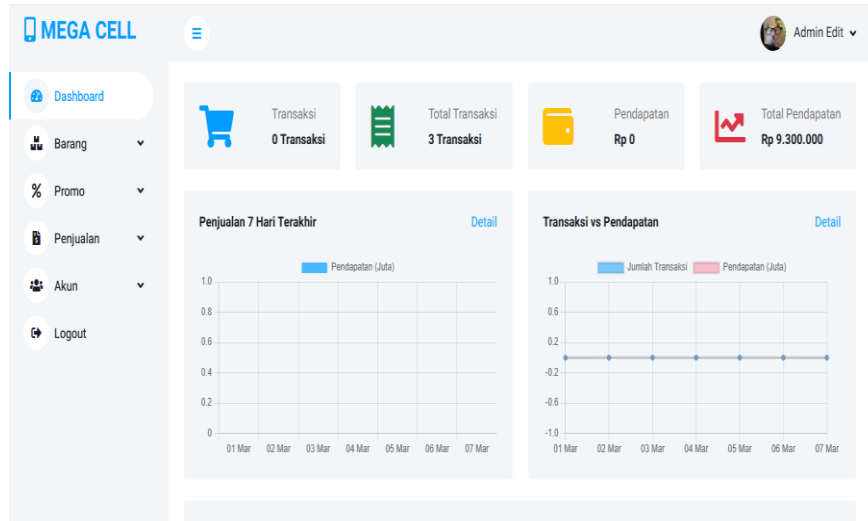


Figure 2. Page Admin Dashboard

The main page for the admin that displays a system summary such as adding products, categories, discounts, transactions, and sales graphs as well as reports that can be viewed.

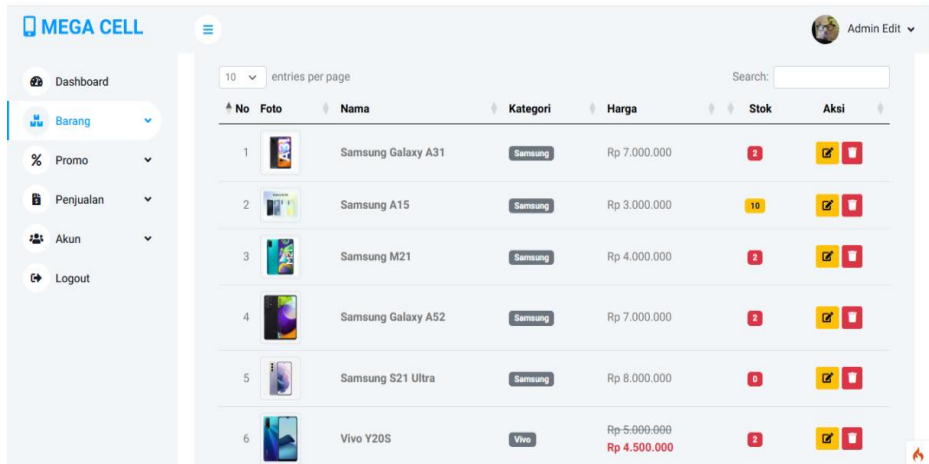


Figure 3. Product Page

This page contains a list of all products in the system. Admins can add, modify, or delete products.

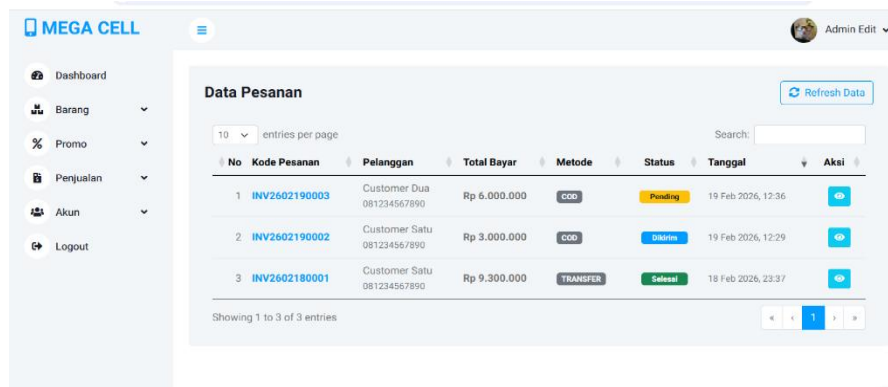


Figure 4. Incoming Orders Page

Displaying a list of orders that have just arrived and have not been processed. Admin can view order details and change the transaction status.

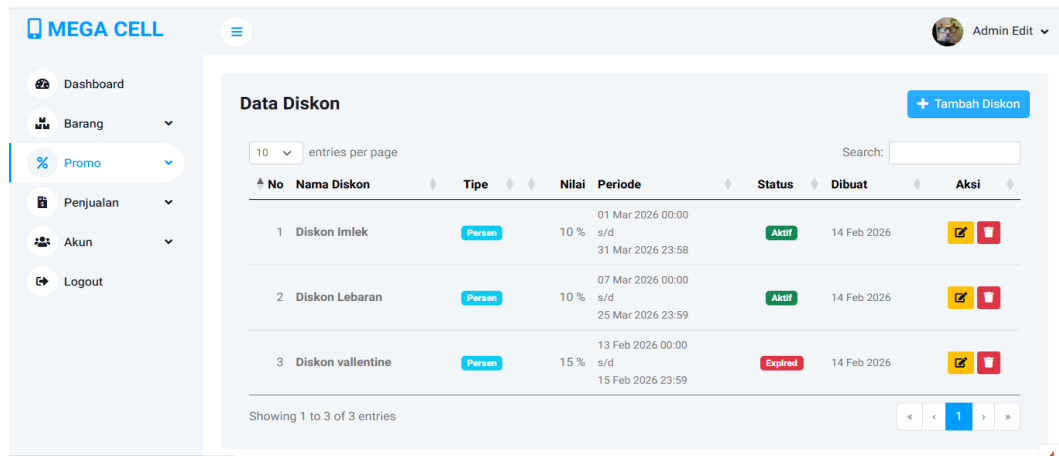


Figure 5. Discount Page

Page for managing Promo discount data. Admins can create Promo codes to set the discount value, expiration date, and usage limit.

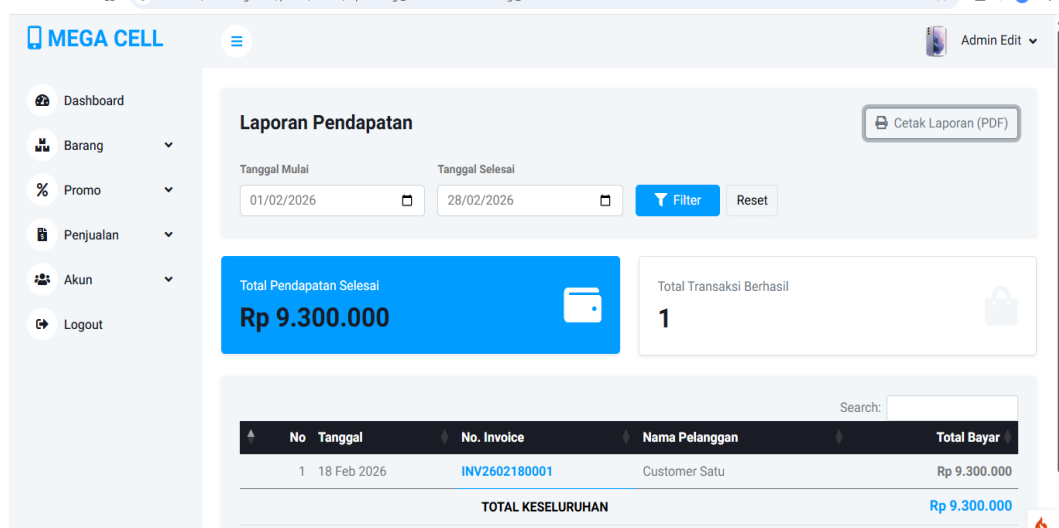


Figure 6. Report Page

A page for the admin to manage sales report data and the reports can be printed in PDF format or printed directly.

The results of this study demonstrate that the implementation of the E-CRM system provides significant support in addressing the problems related to customer data management and inconsistent sales performance. The system enables the integration of customer data, transaction records, and promotional management into a unified platform, allowing more efficient and structured data processing compared to conventional methods.

From an analytical perspective, the use of E-CRM facilitates better customer segmentation and supports data-driven promotional strategies. This finding indicates that the system does not only function as a transactional tool but also as a strategic instrument to improve customer engagement and service quality. The ability to record and analyze customer interactions allows businesses to respond more effectively to customer needs, which is aligned with the core concept of Customer Relationship Management.

Furthermore, compared to previous studies that primarily focused on basic transaction management and data storage, this research emphasizes the integration of customer interaction features and promotional strategies within a single system. This shows that the developed system provides added value by supporting decision-making processes and improving operational efficiency. Thus, the implementation of the proposed system demonstrates its potential to enhance service performance and sales management in a more systematic and data-driven manner.

Before the implementation of the system, the process was carried out manually, which resulted in several limitations such as longer processing time, higher risk of data inaccuracies, and less effective decision-making. Data processing was not structured, making it difficult to obtain accurate and timely information.

After the implementation of the proposed system, the process becomes more structured and efficient. The system is able to process data automatically, reduce errors, and provide more accurate information to support decision-making. In addition, the system improves operational efficiency by reducing processing time and minimizing manual intervention.

The comparison between the two conditions shows that the implementation of the system provides significant improvements in terms of efficiency, accuracy, and effectiveness. Therefore, the developed system is proven to be effective in addressing the problems identified in the initial stage of the research.

#### IV. CONCLUSION

Based on the results of the research conducted, it can be concluded that Mega Cell needs to implement the right business strategies to increase the stability of sales revenue in order to reduce potential losses and minimize the risk of bankruptcy in the future. This can be done through more planned sales management as well as the development of effective marketing strategies. Improving business operations is important for Mega Cell, especially in enhancing the purchasing and selling processes to be more efficient, improving customer service quality, and adjusting product pricing strategies to be more competitive in the market. The use of information technology through website development can help Mega Cell provide product, price, and promotion information more quickly and easily accessible to customers. This can also increase marketing reach and make it easier for customers to obtain the information they need and The implementation of promotion strategies such as discounts or special offers is an effective step to increase customer appeal, boost purchasing interest, and drive an increase in sales profit at Mega Cell.

#### REFERENCES

- [1] L. A. Anggraeni, "Tantangan Kompetisi dan Risiko Monopoli dalam Transformasi Digital E-Commerce dengan Studi Kasus Aplikasi TikTok di Indonesia," *Sains J. Manaj. dan Bisnis*, vol. 16, no. 1, p. 87, 2024, doi: 10.35448/jmb.v16i1.23398.
- [2] S. S. Lubis, F. S. Lubis, and B. Hendrik, "Customer Relationship Management Dalam Meningkatkan Loyalitas Pelanggan Pada Doorsmeer Keluarga Nasution Menggunakan Metode Algoritma K-Means," *Jised J. Inf. Syst. Educ. Dev.*, vol. 1, no. 2, pp. 33–40, 2023.
- [3] J. Issn, "Pengaruh Customer Relationship Management (Crm) Terhadap Customer Loyalty Pada Pembelian Unit CV Yamaha Surya Prima Tanjung Kabupaten Tabalong," vol. 7, pp. 1515–1527, 2024.
- [4] A. Rona, M. Sihombing, I. Kelana Jaya, I. S. Dumayanti, and H. Artikel, "Penerapan Customer Relationship Management (CRM) Pada Toko Premium Kids Berbasis Web," *J. Ilm. Sist. Inf.*, vol. 3, no. 1, pp. 52–58, 2023, [Online]. Available: <http://ojs.fikom-methodist.net/index.php/methodisfo>

- [5] D. P. Ramadhani, H. Syafwan, and C. Latiffani, "Penerapan Metode E-CRM Pada Toko Wati Collection," *JATISI (Jurnal Tek. Inform. dan Sist. Informasi)*, vol. 9, no. 4, pp. 3503–3518, 2022, doi: 10.35957/jatisi.v9i4.2839.
- [6] D. Ngelyaratan and D. Soediantono, "Customer Relationship Management (CRM) and Recommendation for Implementation in the Defense Industry: A Literature Review Customer Relationship Management (CRM) dan Usulan Penerapannya Pada Industri Pertahanan : A Literature Review," *J. Ind. Eng. Manag. Res.*, vol. 3, no. 3, pp. 17–34, 2022.
- [7] P. R. Siregar, N. Irawati, and I. R. Harahap, "E - CRM Penjualan Keripik Kemuning Pada Usaha Kecil Menengah (UKM)," *J-Com (Journal Comput.)*, vol. 2, no. 3, pp. 195–204, 2022, doi: 10.33330/j-com.v2i3.1937.
- [8] D. Pertiwi, Y. Siagian, and A. K. Syahputra, "E-CRM For Sales Of Fashion At Jannah Simpang Four Boutique," *J. Tek. Inform.*, vol. 3, no. 4, pp. 929–937, 2022, doi: 10.20884/1.jutif.2022.3.4.474.
- [9] M. Warsela, A. D. Wahyudi, and A. Sulistiyawati, "Penerapan Customer Relationship Management Untuk Mendukung Marketing Credit Executive (Studi Kasus: PT. FIF Group)," *J. Teknol. dan Sist. Inf.*, vol. 2, no. 2, p. 78, 2021, [Online]. Available: <http://jim.teknokrat.ac.id/index.php/JTSI>
- [10] E. Rahayu, W. M. Kifti, and R. Rohminatin, "Analisis Implementasi Customer Relationship Management Pada Safira Bakery," *J. Sci. Soc. Res.*, vol. 5, no. 1, p. 37, 2022, doi: 10.54314/jssr.v5i1.812.
- [11] F. Firmansyah and S. F. W. Herdin, "Pengaruh Customer Relationship Management (CRM) Terhadap Kepuasan Pelanggan Produk Sepatu Converse," *J. Bisnis dan Pemasar.*, vol. 11, no. 1, p. 11, 2021.
- [12] D. P. Ramadhani, H. Syafwan, and C. Latiffani, "Penerapan Metode E – CRM Pada Toko Wati Collection," *JATISI (Jurnal Tek. Inform. dan Sist. Informasi)*, vol. 9, no. 4, pp. 3503–3518, 2022, doi: 10.35957/jatisi.v9i4.2839.
- [13] I. A. Pangestu and G. T. Mardiani, "Sistem Informasi Rekomendasi Produk Dengan Pendekatan Customer Relationship Management Di Cv. Xyz," *Komputa J. Ilm. Komput. dan Inform.*, vol. 10, no. 2, pp. 78–86, 2022, doi: 10.34010/komputa.v10i2.6807.
- [14] F. L. D. Cahyanti, F. Sarasati, W. Widiastuti, and E. Firasari, "Perancangan E-Commerce Sebagai Media Pemasaran Kerajinan Bambu," *Edumatic J. Pendidik. Inform.*, vol. 5, no. 1, pp. 70–79, 2021, doi: 10.29408/edumatic.v5i1.3275.
- [15] D. Ngelyaratan, D. Soediantono, S. Staf, K. Tni, and A. Laut, "Customer Relationship Management (CRM) and Recommendation for Implementation in the Defense Industry: A Literature Review," *J. Ind. Eng. Manag. Res.*, vol. 3, no. 3, pp. 2722–8878, 2022, [Online]. Available: <http://www.jiemar.org>
- [16] N. A. A. Anggara, J. Hutahaean, and M. Iqbal, "Penerapan Customer Relationship Management (CRM) Dalam Sistem Informasi Penjualan Kosmetik Berbasis Web," *Build. Informatics, Technol. Sci.*, vol. 3, no. 4, pp. 480–488, 2022, doi: 10.47065/bits.v3i4.1440.
- [17] W. Gede Endra Bratha, "Literature Review Komponen Sistem Informasi Manajemen: Software, Database Dan Brainware," *J. Ekon. Manaj. Sist. Inf.*, vol. 3, no. 3, pp. 344–360, 2022, doi: 10.31933/jemsi.v3i3.824.
- [18] A. E. Yanuar and M. A. Senubekti, "Perancangan Aplikasi Penjualan Online Berbasis Website (Studi Kasus : Bakso Emsa)," *Nuansa Inform.*, vol. 16, no. 1, pp. 19–32, 2022, doi: 10.25134/nuansa.v16i1.4661.
- [19] A. F. Prasetya, Sintia, and U. L. D. Putri, "Perancangan Aplikasi Rental Mobil Menggunakan Diagram UML (Unified Modelling Language)," *J. Ilm. Komput. Terap. dan Inf.*, vol. 1, no. 1, pp. 14–18, 2022.
- [20] A. F. Prasetya, U. Lestari, and D. Putri, "Perancangan Aplikasi Rental Mobil Menggunakan Diagram UML ( Unified Modelling Language ) Car Rental

Application Design Using UML ( Unified Modeling Language ) Diagrams,” vol. 1, no. 1, pp. 14–18, 2022.