

Implementation of e-crm (electronic customer relationship management) in improving the quality of service at 3 Saudara motorcycle wash

Ali Amran¹, Siti Muawanah², Mala Ayu Setia Wati³, Yustia Fitrotul Nisa⁴, Wahyu Nur Aprilia⁵
^{1,2,3,4,5}Digital Business, Institut Teknologi dan Bisnis Tuban, Jawa Timur, Indonesia

ARTICLE INFO

Article history:

Received Jan 3, 2025
Revised Feb 14, 2025
Accepted Mar 11, 2025

Keywords:

Customer Loyalty
E-CRM;
Motorcycle Wash Business;
Reservation System
Service Quality.

ABSTRACT

The purpose of this research effort is to critically examine the application of electronic customer relationship management (E-CRM) practices in improving service quality in Micro, Small, and Medium Enterprises (MSMEs). The methodological approach of this research is qualitative, using data collection techniques such as observation, interviews, and data collection. shows that the implementation of E-CRM can improve service quality through features such as online reservations, customer data management, and feedback systems. Key findings show that E-CRM facilitates queue management, speeds up service processes, and increases customer loyalty. The implications of this study highlight the importance of technology-based customer relationship management for SMEs to increase competitiveness and customer satisfaction.

This is an open access article under the [CC BY-NC](#) license.



Correspondence Author:

Ali Amran,
Digital Business,
Institut Teknologi dan Bisnis Tuban,
Jl. Mulyo Kusumo Sumurgung, Kecamatan Montong, Kabupaten Tuban, Jawa Timur, 62357, Indonesia
Email: aliamran37705@gmail.com

1. INTRODUCTION

In the digital era, technological innovation has become one of the key factors in increasing operational efficiency and competitiveness, especially for medium MSMEs, an increasingly important innovation concept is the implementation of electronic customer relationship management (E-CRM), which integrates information technology to manage customer relationships more effectively and efficiently. E-CRM allows companies to create personalized customer experiences through customer data management, online reservation systems, and feedback features that support data-driven decision-making. Previous research shows that the implementation of E-CRM can increase customer loyalty, improve service quality, and provide a competitive advantage for service companies (Wahyuni & Irawan, 2018; Budi Purnomo, 2023).

The use of digital technology in customer service continues to increase in the service industry, thanks to breakthroughs such as AI, automation services, and data analytics. Some of the most prominent developments. E-CRM contributes significantly to this development by managing customer data, automating interactions, increasing customer loyalty, and predicting consumer behavior. According to a study of the motorcycle washing industry, implementing an E-CRM system can improve service efficiency through customer data management, automated service reminders, and more personalized marketing, resulting in increased customer satisfaction and loyalty.

The motorcycle washing business, as part of the service sector, faces challenges in providing high-quality services in an increasingly fierce competition. In this context, Cuci Motor 3 Saudara is an example of a small business that has started to adopt E-CRM technology to overcome classic problems such as difficulties in manually recording and managing customer data, low customer loyalty, and customer dissatisfaction due to long wait times. Established in 2018 in

Montong District, Cuci Motor 3 Saudara faced significant challenges in managing operations effectively with limited resources. As a result, the implementation of e-CRM is anticipated to provide innovative solutions that not only improve service quality but also foster long-term relationships with customers.

In the literature, various studies have shown the effectiveness of E-CRM in improving service quality and customer loyalty in the service sector. For example, research by (Ryadi Sardi et al., 2019) found that E-CRM helps companies improve customer interactions in real-time and personalize services based on customer needs. Similar research by (Voutama, 2022) It also shows that technology-based customer relationship management can improve customer satisfaction by reducing wait times and improving service speed. However, studies in this field are still limited to medium and large businesses, so it is necessary to further explore the relevance of the application of E-CRM in small businesses such as Cuci Motor 3 Saudara.

The purpose of this study is to evaluate the application of E-CRM in improving the quality of service at Cuci Motorcycle 3 Brothers, focusing on three main aspects: operational efficiency, increased customer loyalty, and competitive advantage. The research effort also aims to explain the obstacles faced in the implementation of E-CRM as well as provide recommendations that can be adapted by other small businesses. Through a case study approach, this research is anticipated to produce substantial practical implications. and theoretical in the field of technology-based customer relationship management in SMEs, especially in the service sector.

2. RESEARCH METHODS

This exploration uses a qualitative methodology characterized by a case study framework. The data acquisition process is carried out through structured interviews with business owners and customers, on-site observation, and filling out questionnaires by customers who have used the service more than three times. To ensure sample representativeness and reduce selection bias, a combination of stratified and random sampling procedures are utilized. The sample size is calculated using the average number of clients each month, guaranteeing adequate representation of both regular and infrequent consumers.

Primary data comes from interview results and survey instruments, while secondary data comes from related scientific literature. To overcome possible restrictions like as response bias and restricted access to certain consumer groups, a variety of data gathering methods are used, including direct interaction, online surveys, and incentive-based participation tactics. In addition, a comparison study is performed by evaluating similar firms in the Tuban area to increase the generalizability of the results.

The research steps include: a) Data Collection: Conduct direct observation at the business location and collect data from business owners and customers. Consider consumer frequency and demographics to provide a broad sample of responders; b) Data Processing: The data analysis process is carried out through the phases of data reduction, data presentation, and conclusion formulation. To find important trends and insights, theme analysis and qualitative coding are employed; c) Data Analysis: Analyze the impact of the implementation of E-CRM on service quality, process efficiency, and customer loyalty. To get more general conclusions and suggestions, findings are contrasted with information from other firms in Tuban that are comparable.

3. RESULTS AND DISCUSSION

Brothers Motorcycle Wash Business Profile

Wash Motorcycle 3 Saudara is a family business established in 2018 in Jetak, Montong District. The business initially relied on a manual system without recording customer data. Customers who come are served in a physical queue, without an online ordering system or customer database management.

Management structure

The management structure in the 3 brothers motorcycle wash business is as follows:



Figure 1. Management structure

E-CRM Implementation

The implementation of E-CRM at Cuci Motor 3 Saudara is carried out through the development of a web-based system that allows customer data management features, online reservations, feedback management, and service personalization. Here are the key features in E-CRM implemented: a) Online Reservations: Customers can book a laundromat schedule through the website or app, avoiding physical queues; b) Customer Data Management: Customer data is automatically logged, allowing for service history management and service personalization; c) Customer Feedback: Customers can provide reviews and feedback directly through the E-CRM system; d) Loyalty Program: Customers who use the service frequently are entitled to certain discounts or rewards.

Process flow

In accordance with the interview and questionnaire methods conducted by the researcher regarding the application of e-CRM (electronic customer relationship management) in improving the quality of service at the 3-brother motorcycle wash. In Wash Motorcycle 3, you have not implemented e-crm in running a business. Therefore, the researcher made a website design with several processes as follows:

- a. Login process, this image shows the login and registration process. The user signs in if they have an account, or sign up first if they don't already have one. After successfully logging in, the main menu will be displayed.

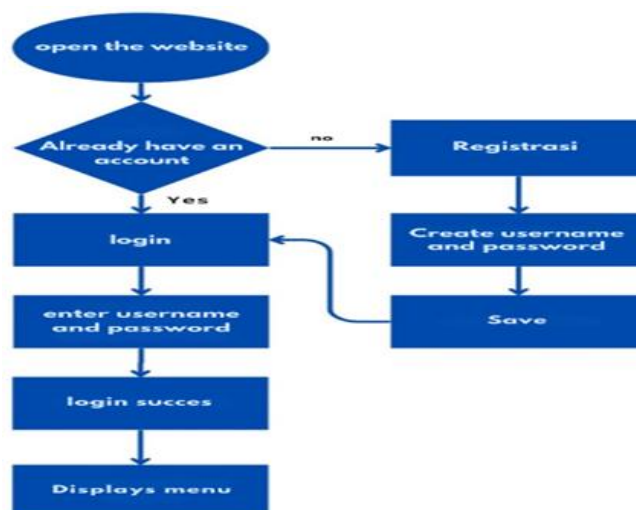


Figure 2. Login process

- b. Menu view, this image depicts the flow of the main menu after login. Users select an option for Orders, view History, or manage Account. Each option will lead to the selected function.

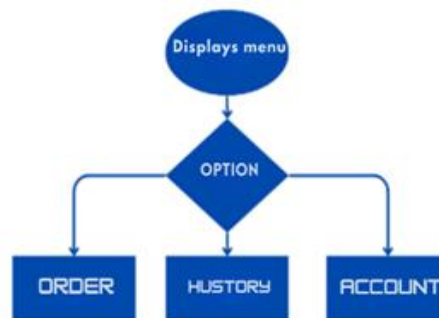


Figure 3. Menu view

c. Order view, this image shows the booking process whether to order a motorcycle or a car.

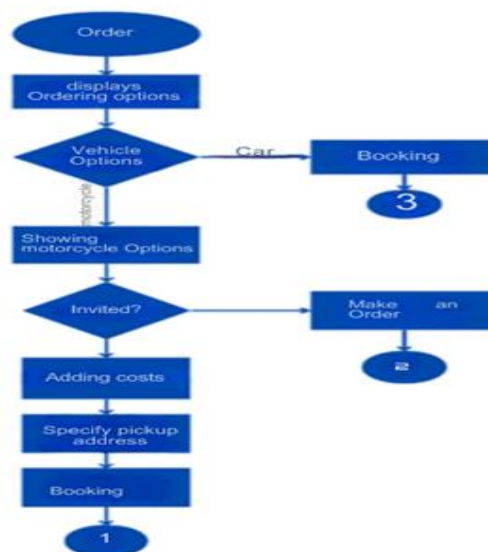


Figure 4. Order process

d. Booking Process, this image presents simple steps in our call motor wash service. Customers only need to choose a payment method, then wait for the motorbike to be picked up and delivered back in clean condition.

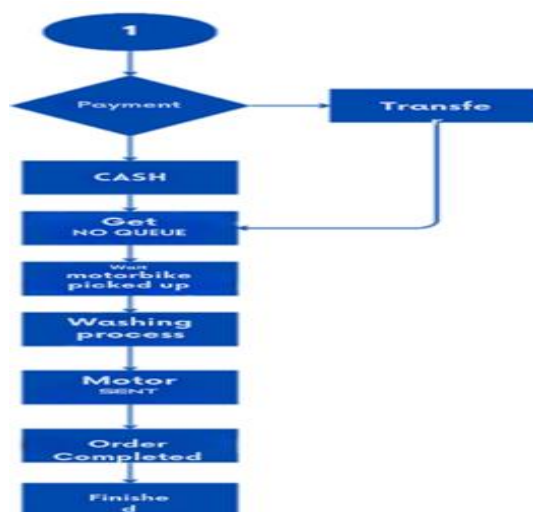


Figure 5. Motorcycle washing proces

- e. Car booking process, this picture shows the payment process in washing motorcycles whether there are members or not, members will get discounts and motorcycles will be prioritized.

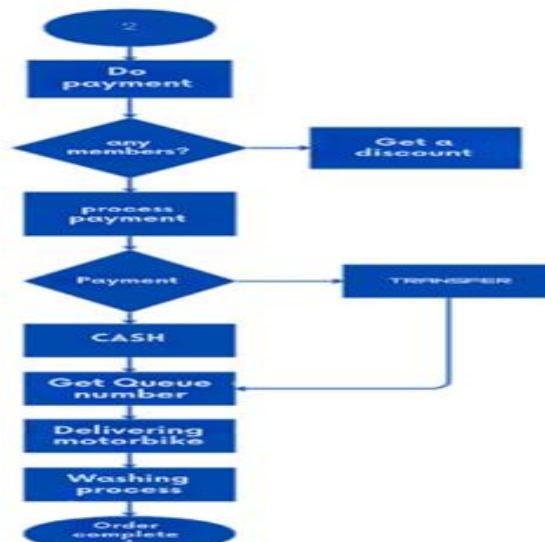


Figure 6. Conveyor motorcycle washing process

- f. View of shipped orders, this image presents simple steps in our call motor wash service. Customers only need to choose a payment method, then wait for the motorbike to be picked up and delivered back in clean condition.

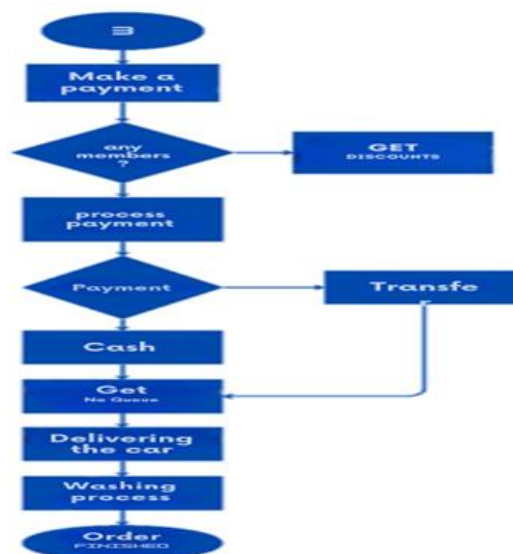


Figure 7. Delivered washing car process

- g. History page, this image shows the order history display



Figure 8. Order history

- h. Account page, this image shows the settings found in the user's account



Figure 9. Account view

Display

- a. Landing pages



Figure 10. The home page contains services, features, and call-to-action buttons

- b. Login page



Figure 11. Page to open an account by entering your email/username and password

- c. Registration page



Figure 12. New account registration page with user data form.

d. Dashboard Pages



Figure 13. The main page after login, displays a summary and access to key features

e. Service options page

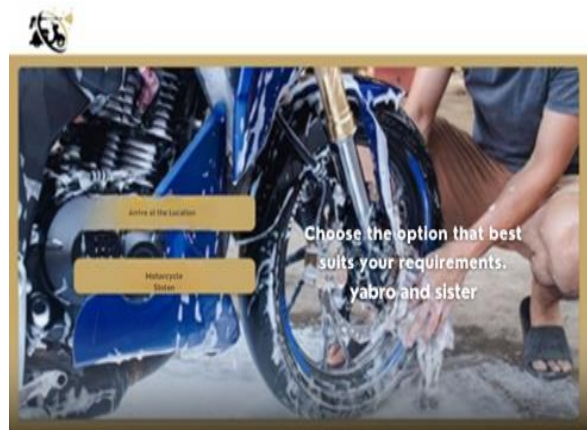


Figure 14. Page to select a service

f. Members Page

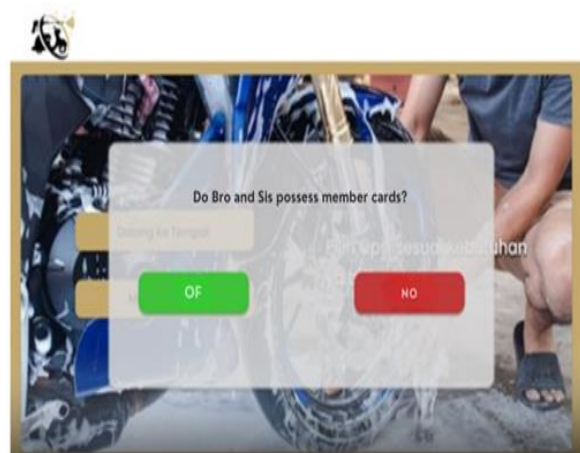


Figure 15. Membership card validation page

g. Payment Page

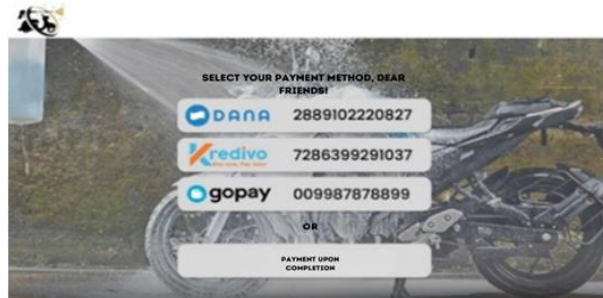


Figure 16. Page to select a payment method

h. Order verification page

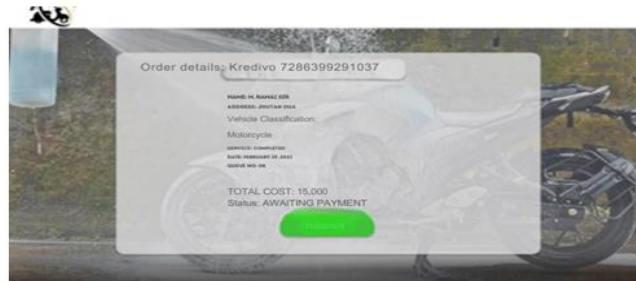


Figure 17. A page to complete the transaction with the order details and payment method

i. Account view

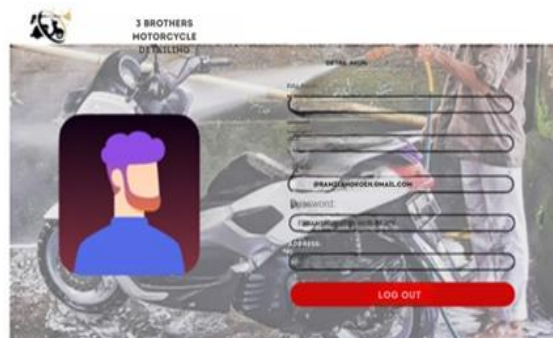


Figure 18. Pages for manage profile

j. Account view

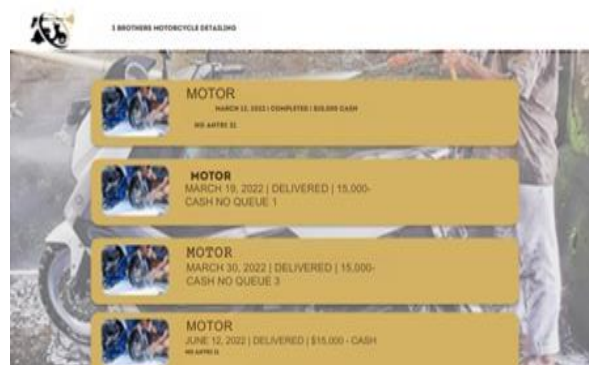


Figure 19. The page lists previous transactions or activities

The results of this study show that (E-CRM) in the 3 brothers motorcycle washing business has had a positive impact in improving service quality, customer loyalty and operational efficiency. Features such as online reservations help reduce physical queues and speed up the service process, while customer data management allows for personalized service based on customer needs. In addition, loyalty programs that offer discounts or rewards to loyal customers manage to build better long-term relationships. On the other hand, the implementation of E-CRM also improves operational efficiency through automatic recording of customer data, thereby reducing manual errors and supporting faster decision-making.

4. CONCLUSION

This study concludes that the application of E-CRM in Cuci Motorcycle 3 Saudara can improve service quality, customer loyalty, and operational efficiency. Online reservation features, customer data management, and customer feedback have a positive impact on service quality. The challenges faced include customer data management, system security, and HR training needs. Recommendations for business managers are to prioritize strengthening data security and increasing human resource capacity in managing the E-CRM system.

Business owners should focus on continuous HR training in advanced data analytics, cybersecurity awareness, and customized customer engagement strategies to enhance the effectiveness of E-CRM. To further streamline operations and improve customer relationships, technological enhancements including chatbot-assisted customer service, automated promotions, and AI-driven consumer insights can be implemented.

REFERENCE

- Agus Nurofik. (2023). Pengaruh Kualitas Pelayanan Dan Harga Terhadap Kepuasan Konsumen Pada Cuci Motor Ag Di Lubuk Alung. *Journal of Innovation Research and Knowledge*, 2(Januari), 3345–3349.
- AJA, G., & NURYANTO, U. W. (2018). Analisis Keberhasilan Usaha Cuci Sepeda Motor Di Kota Serang Dilihat Dari Besarnya Modal, Kualitas Pelayanan Dan Harga. *ISLAMICONOMIC: Jurnal Ekonomi Islam*, 8(2), 141–168. <https://doi.org/10.32678/ije.v8i2.72>
- Bernik, M. (2019). ANALISIS KUALITAS PELAYANAN UNTUK MENINGKATKAN KEPUASAN KONSUMEN: STUDI KASUS GOLD'S GYM BANDUNG. *Sustainability (Switzerland)*, 11(1), 1–14.
- Darmansah. (2018). Kualitas Pelayanan Jasa Terhadap Kepuasan Pelanggan. *FOKUS: Publikasi Ilmiah Untuk Mahasiswa, Staf Pengajar Dan Alumni Universitas Kapuas Sintang*, 16(1), 312–318. <https://doi.org/10.51826/fokus.v16i1.136>
- Debbie Mistikaweni, L. L. H. (2019). Penerapan Electronic Customer Relationship (E-Crm) Dalam Upaya Meningkatkan Loyalitas Pelanggan Dan Pelayanan Terhadap Pelanggan Catering Handayani. *Jurnal I D E A L I S*, 2(2), 72–77.
- Fitriany, A. E., & Mulyono, H. (2024). Analisis Customer Relationship Management (CRM) Pada Bisnis Penjualan Sepeda Motor dengan Pengujian Sistem Metode UCD. *TIN: Terapan Informatika Nusantara*, 5(1), 90–99. <https://doi.org/10.47065/tin.v5i1.5212>
- Harliana, E. W., Chumaidiyah, E., & Kamil, A. A. (2019). Analisis Kelayakan Bisnis Startup Cuci Mobil Dan Motor Di Kota Tangerang Selatan. *Jurnal Mitra Manajemen*, 3(8), 845–858. <https://doi.org/10.52160/ejmm.v3i8.267>
- Heni Rohaeni1, N. M. (2020). Kualitas Pelayanan Terhadap Kepuasan Pelanggan. *Amsir Management Journal*, 1(1), 46–58. <https://doi.org/10.56341/amj.v1i1.202>
- Hutahean, J. (2018). E-Commerce Penjualan Menggunakan Metode Customer Relationship Management (CRM). *Jurnal Mantik Penusa*, 2(2), 98–104.
- Ichsan, M. (2019). APLIKASI CUCI MOBIL ABC BERBASIS WEB MOBILE. *Sustainability (Switzerland)*, 11(1), 1–14.
- Ida Sukmawati, J. D. . M. (2015). *KEPERCAYAAN PELANGGAN TERHADAP LOYALITAS PELANGGAN PADA PT AIR MANADO THE EFFECTS OF SERVICE QUALITY MEDIATED BY CUSTOMER SATISFACTION AND TRUST TOWARD CUSTOMER LOYALTY IN PT AIR MANADO sejak tahun 2007 telah berganti pemegang saham dan berubah nama menja*. 3(3), 729–742.
- Lubis, A. S., & Andayani, N. R. (2018). Pengaruh Kualitas Pelayanan (Service Quality) Terhadap Kepuasan Pelanggan Pt. Sucofindo Batam. *Journal of Applied Business Administration*, 1(2), 232–243. <https://doi.org/10.30871/jaba.v1i2.619>
- Maria, M., & Anshori, M. Y. (2016). Pengaruh Kualitas Produk Dan Kualitas Layanan Terhadap Kepuasan Konsumen King Cake. *Jurnal Manajemen Teori Dan Terapan| Journal of Theory and Applied Management*, 6(1), 50–51. <https://doi.org/10.20473/jmtt.v6i1.2654>
- Mariana, I. (2015). *PENGARUH CUSTOMER RELATIONSHIP MANAGEMENT TERHADAP LOYALITAS PELANGGAN PADA SALON MOBIL KILAT SERVICE DI PEKANBARU*. 6.

- Maydiana Luthfia. (2019). Pengaruh Kualitas Pelayanan dan Fasilitas Terhadap Kepuasan Pelanggan Pada Jasa Cuci Motor Mandiri. *Jurnal Pendidikan Tata Niaga (JPTN)*, 7(2), 444–450.
- Muti'ah Fadillah, R., & Ibrahim, A. (2023). Implementasi Customer Relationship Management (Crm) Berbasis Website Dengan Menggunakan Strategi Up-Selling Dan Cross-Selling. *JOISIE Journal Of Information System And Informatics Engineering*, 7(1), 85–96.
- Nurhadi, N. (2020). Konsep Pelayanan Perspektif Ekonomi Syariah. *EkBis: Jurnal Ekonomi Dan Bisnis*, 2(2), 137. <https://doi.org/10.14421/ekbis.2018.2.2.1100>
- Rahayu, F., & Irawan, H. (2019). Perancangan Sistem Electronic Customer Relationship Management (E-Crm) Guna Membantu Meningkatkan Pelayanan Dan Loyalitas Pelanggan Studi Kasus: Lembaga Pendidikan Kumon. *IDEALIS: InDonEsiA Journal Information System*, 2(4), 205–212. <https://jom.fti.budiluhur.ac.id/index.php/IDEALIS/article/view/1351>
- Rahayu, P. (2020). ANALISIS PENGENDALIAN KUALITAS PRODUK MENGGUNAKAN METODE STATISTICAL QUALITY CONTROL (SQC) DI PLANT D DIVISI CURING PT. GAJAH TUNGGAL, Tbk. *Jurnal Teknik*, 9(1). <https://doi.org/10.31000/jt.v9i1.2278>
- Sari, N. Y., Sutomo, Y., & Nurdianto, A. D. (2022). Pengaruh Kualitas Pelayanan dan Harga terhadap Kepuasan Pelanggan (Studi pada Cuci Motor Pojok Berkah 024). *JBE (Jurnal Bingkai Ekonomi)*, 7(2), 52–61. <https://doi.org/10.54066/jbe.v7i2.221>
- Taqwa Putra Budi Purnomo Sidi, Justin Bongsoikrama, Triana Anggraini, & Devit Setiono. (2023). Peningkatan Loyalitas Pelanggan Melalui E-CRM Pada Doktorandus Koffie. *Maeswara: Jurnal Riset Ilmu Manajemen Dan Kewirausahaan*, 1(5), 327–337. <https://doi.org/10.61132/maeswara.v1i5.343>
- Wahyuni, R., & Irawan, H. (2018). PENERAPAN ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT (E-CRM) DALAM UPAYA MENINGKATKAN LOYALITAS DAN PELAYANAN TERHADAP PELANGGAN Studi Pada Bengkel Yamaha Inti Mbak Motor. *Jurnal IDEALIS*, 1, 489–496.
- Yudhanto, B., Waloejo, H. D., & Farida, N. (2022). Pengaruh Kualitas Pelayanan terhadap Loyalitas Konsumen melalui Kepuasan Konsumen sebagai Variabel Intervening (Studi Pada Konsumen Susuku Café Ungaran). *Jurnal Ilmu Administrasi Bisnis*, 11(2), 142–150. <https://doi.org/10.14710/jiab.2022.34203>