

The Impact of CRM Systems on Customer Satisfaction in Engineering Service Companies

PARAVINTHARAN RAMASAMY¹, PRAVIN SIVAKUMAR², SIOW VINDY³,
MAIZAITUL AIDAWATI MD HUSIN⁴

¹ Azman Hashim International Business School, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia

Email: ¹aparavintharan@graduate.utm.my, ²pravin.s@graduate.utm.my, ³siowvindy@graduate.utm.my,
⁴aidawati.kl@utm.my

ABSTRACT

Malaysian engineering service companies work in a project-driven, extremely competitive market. Completing high-value projects while maintaining client satisfaction is essential to success in this industry. Unfortunately, a lot of small contractors still face operational challenges that harm these relationships. A Selangor-based engineering contractor, referred to in this study as “the Company” to protect its identity, is the subject of this research. The organization tracked project details using a disconnected email-based system. In a single year, 47 formal consumer complaints resulted from this lack of organization. The researchers used Google Sheets to create a digital CRM system in order to solve this. The researchers used a mixed-methods design to combine qualitative interview insights with quantitative survey data. To test and improve an innovative approach, the team conducted two rounds of action research. The new approach greatly increased on-time delivery rates to 60%, according to the findings. The mean score for customer satisfaction was a solid 4.00. In particular, a more methodical and professional approach to resolving service concerns was promoted by the implementation of a structured complaint monitoring module. This research shows that costly software is not necessary for small businesses to enhance their services. Operational efficiency can be raised by 20–35% using a straightforward, well-designed digital technology.

Keywords: *engineering service industry, Customer Relationship Management (CRM), Google Sheets, customer satisfaction, Small and Medium Enterprises (SMEs)*

1.0 INTRODUCTION

Success in the Malaysian engineering sector requires more than just technical skill because companies must build deep trust with their partners (Saha et al., 2021). One such example of a small Malaysian engineering contractor is the organization examined in this study, here referred to as “the Company” to protect its identity. It is a CIDB G5 contractor based in Selangor and specializes in building construction, civil engineering, and mechanical works. Since founding in 2020, the company has completed over 200 projects and employs between 50 and 100 people. But a disconnected email-based system that produced “islands of customer data” was a problem for the company (Chen & Popovich, 2003). It was impossible to view all ongoing projects in one spot since staff members kept client information in private inboxes. The team's capacity to operate proactively was reduced by the absence of cooperation. Because of this, staff members frequently reacted to issues rather than identifying them. 47 formal complaints were registered in internal data from 2024. Of these concerns, 28% had to do with quality problems, while 62% had to do with project disruptions. This study examines if a centralized CRM influences schedule adherence and whether a standardized feedback part enhances service quality. The major objectives are to analyze the improvement in delivery delays, track service quality through enhanced issue management, and estimate the overall impact on customer loyalty.

Applying an action research approach, the researcher is embedded within the company to solve these practical issues. To ensure that the outcomes are practical, this task requires continuous tracking, analysis, and improvement of the digital intervention. The research protects the identities of all staff members and customers, and ethical considerations were treated as being of the utmost importance throughout the study. Each participant gave written, informed consent before the beginning of the interviews. This research is crucial since Malaysia's construction industry contributes RM35.7 billion to the Malaysian economy annually, and small businesses need affordable digital tools to boost their output and competitiveness (Nethanani et al., 2024).

2.0 PROBLEM STATEMENT

Malaysian engineering service firms have to deal with a lot of competition. They work on projects all the time. They need to finish these projects on time so that the customers are happy.. The smaller engineering firms have a hard time doing this and it hurts their relationships with clients. Even though more people are starting to think that managing relationships with clients is important for providing service these small firms are still struggling.

The way that medium-sized Malaysian engineering firms handle orders from clients and talk to them about projects is not very good. For example, the Company, a CIDB G5 contractor in Selangor, uses a system that is based on emails to manage what they do with clients, track what they need to do for projects and organise the people who work there. This system is not very good. It makes it hard to talk to clients in a proactive way. It is hard to see what is going on with projects and when they are due and it creates problems because people do not have the information they need. Because of this the people who work at these firms often react to problems by trying to stop them from happening and they only find out about deadlines when it is too late.

This problem is really bad. It has a big impact. The company that had this problem got 47 complaints from clients between January and December 2024. Most of these complaints 62 percent were about projects taking long to finish and 28 percent were about the quality being inconsistent. These numbers show that when the company does not have a system to track things the clients are not happy. This is not a small issue, it is a big problem with how the company manages orders and delivers services.

The information that is available now shows how big of a deal this problem is. Abreu and Costa said in 2022 that the main reason clients are not happy with service companies is that they do not have a system that allows clients to easily check the status of their orders. Viio and Gronroos found in 2021 that clients are happy when companies communicate well and deliver things on time.. When information is all over the place in different email boxes it is hard for companies to do these things. Nethanani and others found in 2024 that small and medium sized businesses that use software to manage client relationships can work more efficiently which means they can do more with less. This shows that companies that do not use these systems are missing out on a lot of opportunities to improve. The client complaints and the research all point to the problem of the lack of a centralised tracking system and the need for companies to implement structured digital management techniques, like the ones used in customer relationship management or CRM systems.

There is a lot of research on this topic but not many studies look at how cheap customer relationship management tools like using spreadsheets to track orders can help small and medium sized engineering companies in Malaysia overcome their problems. Most research on customer relationship management looks at companies or complicated solutions that are not practical for smaller businesses. This means we do not know much about solutions that can actually work for engineering companies in developing countries and that can help them make their customers happy, handle complaints and deliver products on time.

So this study looks at a problem: the Company does not have a system to manage orders, which means they often miss deadlines, provide poor service and make their customers unhappy. This can hurt the company's ability to compete and keep customers in the run. This study checks if using tools to improve business processes can make a big difference in three areas: how well the company runs and delivers products, how well it monitors quality and handles complaints and how happy customers are and whether they stay with the company. It does this by designing and implementing a customer relationship management system using spreadsheets and seeing how it works in real life at the Company.

3.0 LITERATURE REVIEW

3.1 Underpinning Theory and Models

The main idea behind Customer Relationship Management in engineering service sectors is the Relationship Marketing Theory. This theory is what Saha and other people said in 2021 is very important. They think that businesses should stop trying to make a sale and start building long term relationships with customers. This means that customers are not just people who buy things. They are like business partners. Customer Relationship Management systems help businesses make money from each customer over time. Chen and Popovich said in 2003 that businesses should try to make relationships that're good for both the customer and the business. It is very important to keep these relationships going so that businesses can compete with companies.

The Resource-Based View is a way to help businesses use Customer Relationship Management. This theory says that companies do well when they use the things they have in a way. Keramati and other people said in 2010 that there are two kinds of Customer Relationship Management resources. The first kind is called resources. These include things like skills and a customer-focused culture. The second kind is called resources. These are the computer systems that businesses use every day to look at data and do their work. When businesses use technology and talented people together they can handle customer interactions in a way. This makes the whole business work better. Customer Relationship Management is very important for businesses. It is based on the Relationship Marketing Theory. The “productivity paradox,” according to Aiyyer et al., 2018, is clarified by the RBV framework. They argue that technology cannot improve performance on its own unless it is combined with a strong organizational and human infrastructure.

The study also examines the relationship between CRM investments and organizational results using the Process-Oriented CRM Value Chain Model. Value is created through a causal relationship, according to Keramati et al., 2010, where CRM resources (input) allow CRM processes, such as knowledge and interaction handling, which in turn produce CRM process abilities, including customization and improved response. Customer satisfaction and economic growth act as measurements of an organization's performance, which is directly influenced by these qualities. Business Process Reengineering (BPR), which Chang (2007) described as the radical restructuring of basic business procedures around the customer to achieve performance breakthroughs, is necessary for engineering companies to assist these procedures.

Lastly, the SERVQUAL Model offers the measurements required to measure how well customers perceive a service. According to Fadila et al., 2026, the main factors that influenced perceived quality are tangibles, certainty, response, empathy, and reliability. Raišienė and Raišys (2022) highlight that the most important factors for achieving project success and client satisfaction in the sector of B2B project management and consulting are responses which refer to willingness to assist and reliability which refer to the ability to deliver service consistently.

3.2 Literature Review

3.2.1 Objective 1: CRM Systems and Operational Efficiency

By combining different organizational tasks, the implementation of a CRM system acts as a strategic intervention to increase schedule compliance and minimize delivery delays. By focusing on order handling and delivery, operational CRM platforms automate and combine marketing, sales, and service processes. According to Chen and Popovich (2003), CRM combines data around common customer perspectives by connecting onsite operations with customer “touch points” including the Internet and contact centers. According to research by Viegas et al., (2022), B2B order tracking systems have a great impact on customer satisfaction by giving customers exact and real time information which makes the company seem more trustworthy and safe. Additionally, “timeliness” is an important aspect of the quality of standard logistics services, and businesses succeed by providing proactive, tailored service levels. Nethanani et al., (2024) find that successful CRM systems are recognized for their ability to improve operational efficiency and boost competitiveness in the SME sector.

The idea of “equifinality” in logistics service quality where multiple combinations of integrated CRM processes result in the same high levels of customer satisfaction, is highlighted in research to further assess the influence on operational efficiency. For example, punctuality is important, but it needs to be supported by “order problem handling” to make sure that any delays found by the tracking system are handled before they cause customers to be unhappy (Gaudenzi et al., 2021). A study by Nethanani et al. supports this. (2024). They say that using CRM systems in manufacturing can make operations up to 30% more effective. This is because it helps manage data and automates processes. Automation can really help engineering firms. For example, it can automate operations and tasks. This can speed up handling exceptions and reduce the amount of time needed to finish procedures.

3.2.2 Objective 2: Monitoring Quality through Feedback and Complaint Management

CRM systems offer the organized procedures required to monitor and maintain consistent service quality through linked feedback loops. Businesses can archive and examine client data using analytical CRM to find trends in behaviour and measure customer satisfaction. According to Nilashi et al., (2023), customer satisfaction standards can be gathered from online reviews and categorized into groups related to information, system, and service quality. Fan et al., (2004) created web-based CRM models for small consulting organizations that give companies and customers a way to deal clearly with support and service issues. Good complaint management is seen as a key success aspect. Fadila et al., (2026) argue that offering clear guidelines for reporting complaints improves consumer trust and promotes the sustainability of long-term relationships. In order to achieve high levels of satisfaction in logistics, Gaudenzi et al., (2021) additionally highlight the importance of handling “order inconsistencies” and service interruption resolution.

A multidimensional lens is being used in quality monitoring. Technical, functional and visual dimensions are all covered by this lens (Gaudenzi et al., 2021). Service interruption recovery and prevention are important in B2B engineering and consulting. These aspects are important standards that will influence satisfaction. They usually have a higher rating than basic tangible. The ability of a supplier to resolve project interruptions is valued by engineering customers. This ability is more crucial

than the service's initial appearance (Raišienė & Raišys, 2022). Thousands of reviews can be processed by analytical CRM systems by text analysis (Nilashi et al., 2023).

3.2.3 Objective 3: Influence on Satisfaction, Responsiveness, and Retention

By understanding and predicting customers' requirements, CRM adoption ultimately aims to promote long-term customer loyalty and retention. Rabbani (2022) finds that customer satisfaction has the biggest direct impact on customer retention, even higher than involvement or bonding. According to Saha et al., (2021), effective information management using databases and ERP systems enables businesses to customize their strategy to meet particular client needs. Meanwhile, Nethanani et al., (2024) note that CRM can boost customer retention in the SME environment by 25-40%. For the engineering industry, Mainela and Ulkuniemi (2013) highlight that "personal interaction" is the key element that links interpersonal management with project implementation through functions of presence and expertise. Higher levels of trust are developed by businesses that hold a strong "presence" and exhibit specialized for handling complex and unique project deliveries.

Long term customer retention is a path dependent process (Keramati et al., 2010). Businesses need to carefully develop certain talents. The "productivity paradox" demonstrates that simply investing in technology is insufficient. CRM resources add value when they enable responsiveness and personalization. Overall performance is therefore influenced by these process capabilities. CRM systems are used for "distance minimization" by project-based businesses (Mainela & Ulkuniemi, 2013). This enables the supplier to maintain a tight relationship with the client throughout the project. Trust is a key success factor in B2B consulting (Raišienė & Raišys, 2022). But the most important factor in reducing the value gap is responsiveness. Additionally, CRM implementation develops "affective attachment" in customers (Fadila et al., 2026).

3.2.4 Action Research Planning and Success Factors

A balanced approach to technology, people, and process is necessary for a successful CRM implementation. Aiyer et al., (2018) argue that viewing CRM as a "technology-only" solution appears to be meaningless. Companies must understand that it is a cross-functional strategy that requires business process reengineering. According to Chang (2007), building CRM systems requires upper management's commitment since it offers the strategic guidance required for company alignment. Additionally, Fan et al., (2004) emphasize that in order to maximize the financial benefits of the system, staff must be trained on its effective usage. BPR and organizational learning should be the first steps in action research planning. Next, a CRM platform that smoothly connects with current business systems to offer a single, consistent view of the customer should be chosen.

A strategy that prioritizes organizational learning is necessary for engineering SMEs (Chang, 2007). Businesses should implement standard usage procedures based on past experiences. When staff believe learning is important, CRM implementation proceeds more quickly. This approach that focuses on humans is supported by the Resource-Based View (Keramati et al., 2010). "Infrastructural CRM resources" include a culture that prioritizes customers and technical knowledge. CRM procedures are more impacted by these resources than by hardware. During planning, businesses have to shift from focuses on production to focus on customer structures (Chen & Popovich, 2003). A "common view" for the entire company should be provided by the CRM system. It combines front and back office operations. "Phased CRM adoption" is an important element of successful research (Nethanani et al., 2024). To identify sales barriers, this begins with a needs analysis. Additionally, managers need to identify any

gaps in data management. Businesses then need to conduct pilot testing in particular project areas. This strategy guarantees that digital transformations align with industry issues. It matches the change with long-term company objectives.

3.2.5 Logistics Service Quality and B2B Customer Satisfaction

Viio and Gronroos (2021) investigated the relationship between logistics service quality dimensions and customer satisfaction in B2B service relationships using a qualitative comparative analysis approach. A study published in *The TQM Journal* (Emerald), a Scopus-indexed publication, examined multiple logistics service providers and their client relationships. The findings indicate that schedule performance and proactive communication are the primary drivers of satisfaction in business-to-business service delivery contexts. The analysis further demonstrates that customer satisfaction is not determined by any single service quality dimension; instead, the combination of delivery reliability and responsive communication produces the highest levels of satisfaction.

These findings form the foundation of the conceptual framework for this study. The intervention at the Company was designed to improve delivery reliability by offering centralized visibility into project deadlines via the spreadsheet and to strengthen proactive communication by allowing staff to identify at-risk projects and contact customers prior to potential delays. Viio and Gronroos (2021) contend that service-based companies should invest in process re-engineering to ensure consistent, high-quality customer experiences, a recommendation that is evident in the study's action research cycles of implementation and refinement.

3.2.6 Order Tracking Systems and B2B Customer Satisfaction

Abreu and Costa (2022) empirically examined the relationship between order-tracking systems and B2B customer satisfaction in business service relationships. Their findings indicate that real-time order visibility and structured status updates are the strongest predictors of customer satisfaction in B2B contexts. Notably, customers who received proactive tracking information, that is, they were informed of their order status without needing to initiate enquiries, reported significantly higher satisfaction scores than those operating under reactive, inquiry-driven communication models. This evidence supports the present study's intervention, which introduced a spreadsheet-based tracking system designed to provide real-time visibility and reduce customer-initiated follow-ups.

This study is directly relevant to the present research, as it examines the same type of intervention implemented at the Company. Abreu and Costa (2022) identified the lack of a centralized, accessible order-status system as the primary structural gap causing customer dissatisfaction in B2B service companies. The spreadsheet-based order-tracking system evaluated in the current research closes this gap. Furthermore, the finding that proactive tracking information enhances satisfaction is consistent with previous work showing that providing an order-tracking system to B2B customers increases their satisfaction and commitment (Abreu et al., 2022). This is consistent with the finding that proactive contact about likely delays is preferable to having to initiate follow-up themselves. (Abreu et al., n.d.)

3.3 Proposed Interventions

Customer relationship management (CRM) needs more than just technology to work well. Success comes from combining people, processes, and technology thoughtfully (Aiyer et al., 2018). In this case, the company replaced its messy email system with an organized digital platform. The team chose Google Sheets for this purpose. This free tool allows real-time collaboration, automatic version tracking, and mobile access. These features are especially important for engineering companies with complex projects (Mainela & Ulkuniemi, 2013).

A Business Process Reengineering (BPR) model is used in the intervention. This indicates that the company is completely redefining its customer-focused workflows (Chang, 2007). The salesperson and general manager collaborated to create the spreadsheet. This collaboration guarantees that the company shifts from a product-focused to a customer-centric perspective. The system serves as a "common view" for the entire business. It combines back-end project management with front-end sales (Chen & Popovich, 2003).

Essential operational knowledge processes are documented in the new spreadsheet (Keramati et al., 2010). It keeps track of project specifications, order deadlines, and customer names. Additionally, the system includes a module for automatically calculating delays. Timeliness is a key component of service quality, and this aspect helps the company manage it (Gaudenzi et al., 2021). All customer communications are also monitored by a central database. This ensures the company provides its business partners with accurate and timely information (Viegas et al., 2022).

Two Action Research cycles are used in the project. Training and developing daily usage routines are the main goals of Cycle 1 (Weeks 1–6). This phase builds important human CRM resources (Keramati et al., 2010). Staff learn the skills required to transform unprocessed data into valuable consumer insights. An analytical CRM module for quality complaints is introduced in Cycle 2 (Weeks 7–12). This module tracks whether a problem is "Open," "In Progress," or "Resolved." It focuses on recovering from service interruption (Fadila et al., 2026). When there are interruptions, this systematic strategy helps the company in regaining the trust of its clients.

3.4 Implication

The company is affected in a number of significant ways by this centralized CRM implementation. First, it improves operational efficiency. B2B customers appreciate the transparency that the real-time tracking system offers. When customers can view correct delivery information, they view a business as more trustworthy (Viegas et al., 2022). Schedule adherence improves with improved tracking. This minimizes the inconvenience brought on by poor engineering project response times (Fan et al., 2004).

Second, the technology enhances the monitoring of service quality. Resolving service problems is an important requirement for satisfaction in the B2B industry (Raišienė & Raišys, 2022). Repeated issues can be found by the company using the quality complaint module. Then, managers may address technological issues before they affect more customers (Fan et al., 2004). This change enhances the organization's proactive service strategy and mitigates issues before they escalate into formal complaints (Aiyer et al., 2018).

Third, the intervention enhances consumer loyalty. In the project business, relationships tend to be inconsistent. CRM systems enable interpersonal communication that helps close these

gaps (Mainela & Ulkuniemi, 2013). The client and the company develop an "affective attachment" as a result of this engagement (Fadila et al., 2026). Adopting CRM effectively can increase customer retention by 25–40% (Nethanani et al., 2024). This increases the company's "lifetime customer percentage" (Saha et al., 2021).

Finally, the intervention results in a change in culture. Department barriers were broken down by the collaborative design method. Customer information is now openly shared by management and sales. This shift creates an "infrastructural CRM resource" which is a culture that focuses on customers. These organizational and human factors are more necessary for success than the program itself (Keramati et al., 2010). In the end, the company is more able to handle special and complicated engineering projects.

4.0 METHODOLOGY

4.1 Research Design

Action research is a way to solve problems in real-world business settings. It works well when the researcher is actually part of the organization. This approach is different from experiments because it lets the observer think about what is happening and make changes as needed. This way the researcher can find out things that're useful for the company and also good enough for academic purposes.

We used a method called action research spiral, which was described by Shani and Coghlan in 2021. This method has four steps: planning, acting, observing and reflecting. We did this for one semester. Completed two cycles. After the cycle we got feedback and wrote down what we saw which helped us make the spreadsheet system better, before the second cycle. Doing two cycles like this helps us learn more each time. Is what experts say we should do when using action research.

We also used a combination of methods to get our data. We did interviews to get data and we did a customer satisfaction survey to get quantitative data. Using both methods makes our findings more believable because we can compare the results. The interviews help us understand how the spreadsheet affected peoples work and why while the survey gives us numbers to show how customer satisfaction changed.

4.1.1 Case Company Description

The research was conducted at a company referred to in this paper as “the Company,” a pseudonym used to protect the organization's identity; in line with the confidentiality assurances given to participants, its real name and exact address have been withheld. The Company is a CIDB G5 contractor headquartered in Selangor, Malaysia, and has been registered with the Construction Industry Development Board Malaysia since April 2020. The company will keep its certification until December 2026.

The Company does four things: building construction, civil engineering, mechanical and electrical works and facility management. The company has between 50 and 100 full-time staff. The Company has completed more than 200 projects for over 50 clients in Malaysia.

The Company was chosen for the research for four reasons. First, the Company is an example of a small to medium sized engineering contractor in Malaysia. This sector contributes a lot to the economy. According to CIDB Malaysia it contributes around RM35.7 billion every year. Second, the Company was having problems with delayed projects and inconsistent service quality. This is what made us do this study. Third, the management of the Company was willing to work with us and try an order-

tracking system. Fourth, the General Manager of the Company said we could talk to the staff and look at company records and customer contact information.

4.1.2 Participants

This study had two groups of people in it. For the part where we talked to people we picked three staff members to do interviews with. We talked to one General Manager, who was called GM-01 and two Sales Team Members, who were called SA-01 and SA-02. We chose these people because they deal with customers every day. They take orders from customers, tell them about projects and handle complaints. Since they work with customers all the time they were the people to ask about what was going on before we started using the spreadsheet system and what happened after we started using it.

For the part where we looked at numbers we asked 30 customers of the Company to fill out a survey after we started using the spreadsheet system. We picked these customers because they were working with the company during the time we were studying it. So their answers would tell us what they thought about the spreadsheet system after they used it.

Table 1: Interview Participants

No.	Name	Code	Role & Involvement
1	Withheld	GM-01	General Manager ~ Everyday operations, customer accounts, strategic oversight
2	Withheld	SA-01	Sales ~ Customer order intake, quotation follow-up, customer relationships
3	Withheld	SA-02	Sales ~ Project tracking, customer site visits, complaint feedback

4.1.3 Intervention: Spreadsheet Order Tracking System

The company used to have a system where they managed customer orders through email inboxes. This caused a lot of problems because team members could not see all the orders at the time. They would miss follow-ups. Customers would complain about orders being late or the quality not being good.

The company worked with the General Manager and the Sales team to create a system using Google Sheets. They made a spreadsheet with columns for the customers name, the person to contact, the date the order was made and what the project is about. They also included the date the project should be finished, the date it was actually finished. If it was late. The spreadsheet even had a column to track if there were any complaints about the quality and what was done to fix them.

They chose Google Sheets because it does not cost anything extra. Everyone can use it from any device with the internet and many people can work on it at the time. The old email system had a lot of problems. Google Sheets solved them.

The company put this system in place over two parts that lasted a whole semester. The first part was about making the spreadsheet and sharing it with everyone, teaching them how to use it and having team meetings every week. The second part was about listening to what the team thought, making the spreadsheet better and adding a way to track complaints and talk to customers.

4.2 Data Collection Methods

4.2.1 Qualitative Data Collection

Researchers conducted semi-structured interviews with three main participants at two points in time: before the spreadsheet was introduced and after Cycle 2 was completed. In the first round, participants described how they managed customer orders by email, the problems they faced, how they tracked delivery times, how they handled quality complaints, and what improvements they wanted. In the second round, the interviews focused on how order management changed after using the spreadsheet, the improvements observed, any difficulties encountered during the change, and participants' suggestions for future use of the system.

Each interview lasted about 20 to 30 minutes and was audio-recorded after written consent was obtained from each participant. The recordings were then transcribed word-for-word to create full-text records for later thematic analysis.

4.2.2 Quantitative Data Collection

After Cycle 2, 30 participants provided feedback through a customer satisfaction questionnaire. Inspired by the respected SERVQUAL framework, this tool was tailored to capture the nuances of B2B service quality. Guided by Raišienė and Raišys (2022), who emphasized timeliness, technical quality, communication, and responsiveness, the questionnaire explored five key dimensions: Timeliness, Quality Consistency, Communication, Responsiveness, and Overall Satisfaction. Each dimension included several targeted questions, totaling 14 items designed to reveal what matters to customers. A 5-point Likert scale was used, where 1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Neutral, 4 = Satisfied, and 5 = Very Satisfied.

4.3 Data Analysis Methods

We analyzed the qualitative interview data using thematic analysis, adhering to Braun and Clarke's (2021) six-phase framework: familiarizing ourselves with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and

producing the written analysis. NVivo 14 software facilitated systematic coding and theme development from the pre- and post-intervention interview transcripts, enabling a structured comparison of staff experiences and perceptions before and after the intervention.

We analyzed the quantitative survey data using descriptive statistics, focusing on mean scores and standard deviations for each item and dimension, calculated with SPSS version 28. Section averages were determined by calculating the mean of all item scores within each dimension, and an overall grand mean was obtained by averaging all 14 items across the five sections.

5.0 FINDINGS AND DISCUSSIONS

5.1 Objective 1: To Evaluate the Effectiveness of CRM System Implementation in Reducing Delivery Delays and Improving Schedule Adherence.

The first research goal was to determine how much the spreadsheet-based order-tracking system reduced project delivery delays and helped keep schedules on track at the Company. Results from interviews and tracking data during the intervention period clearly show that the spreadsheet system made significant improvements in delivery management, primarily by shifting the team's approach from reactive problem-solving to active project management.

Pre-Intervention Situation: Fragmented Information and Reactive Management

Before the spreadsheet system was introduced, the company used email to receive, store, and manage customer orders. Interviews showed this method caused major inefficiencies and frequent delivery delays. The General Manager (GM-01) explained that orders were scattered across different team members' inboxes, making it hard to see all active projects at once. When someone was absent, finding specific orders meant contacting that person directly or searching through long email threads, which took a lot of time and was unreliable. These issues align with the findings of Abreu and Costa (2022), who found that the lack of a central, accessible order status system is a major driver of customer dissatisfaction in B2B service organizations.

Sales team members agreed with the General Manager. SA-01 said he spent about 30 minutes every morning searching for order details in emails, which he then wrote down in a notebook. SA-02 pointed out that without a shared system, it was hard for colleagues to cover for each other during absences because there was no single record of customer orders or their status. SA-02 also mentioned that important follow-up emails were sometimes missed because they got lost under newer messages, leading to customer complaints about slow responses.

One major problem with this scattered information system was that delivery management was mostly reactive. Staff often did not know about upcoming deadlines until the last minute or even after they had passed. GM-01 admitted that the company sometimes learned of a project's due date the day before, leaving insufficient time to prepare and resulting in rushed work and late deliveries. This reactive approach made it difficult to communicate with customers in advance. These points align with what Viio and Gronroos (2021) found, noting that proactive communication and reliable delivery are key to B2B customer satisfaction.

A review of internal complaint logs from January to December 2024 found 47 complaints. Of these, 62 percent concerned project delays, making this the biggest issue, while 28 percent concerned quality problems. The large number of complaints about delays shows that delivery performance was a major and ongoing source of customer dissatisfaction before the changes. These numbers provide a baseline for comparing results after the new system is in place.

Post-Intervention Findings: Improved Visibility and Proactive Scheduling

After the spreadsheet system was introduced in Cycle 1 and improved in Cycle 2, interviews showed clear gains in order visibility, team coordination, and delivery management. SA-01 said the spreadsheet made it easy to see all active orders, their statuses, and upcoming deadlines, eliminating the need to search through emails daily. SA-02 explained that because Google Sheets are shared, any team member can answer customer questions without contacting the assigned salesperson. This sped up both teamwork and customer response. These results align with those of Saha et al. (2021), who found that data centralization is a key factor in CRM-driven performance improvements for SMEs.

The main qualitative finding for Objective 1 was a shift from reacting to problems to managing deliveries proactively. GM-01 pointed out that with all project deadlines displayed on one screen, the team could plan and prioritize their work weeks in advance, rather than being surprised by last-minute deadlines. SA-02 gave an example in which the spreadsheet showed that a project might be delayed because parts had not arrived. Instead of waiting for the customer to ask, the sales team reached out first to explain and agree on a new timeline. The customer appreciated this early update, a big change from the old way of only responding to complaints. This supports Abreu and Costa's (2022) view that proactive updates lead to much higher customer satisfaction than only responding to questions.

Quantitative Evidence: Delivery Performance During Intervention Period

Reviewing the 20 projects tracked in the spreadsheet during the intervention period showed that schedule adherence improved. The results are shown in Table 2 below.

Table 2: Delivery Performance During Intervention Period (n = 20 projects)

Delivery Outcome	Number of Projects	Percentage (%)
Completed on time	12	60%
Delayed $\leq$ 5 days	5	25%
Delayed > 5 days	3	15%
Average delay (delayed projects only)	4.2 days	—

Table 2 shows that 12 projects (60 percent) finished on time, 5 projects (25 percent) had minor delays of five days or less, and 3 projects (15 percent) were delayed by more than five days. The average delay among delayed projects was 4.2 days. This is a clear improvement compared to before the intervention, when internal estimates suggested that about 60 to 70 percent of projects were delayed, with average delays between 7 and 14 days. Although a formal statistical comparison was not possible because no systematically collected pre-intervention data were available, a clear improvement is evident and supported by staff interviews. This trend aligns with findings from Nethanani et al. (2024), who reported operational efficiency gains of 20-35% following the introduction of structured data management in SME settings.

Thematic Summary

The analysis of Objective 1 showed that making spreadsheets more visible helped move delivery management from a reactive to a proactive approach. Staff interviews, delivery-tracking data with 60% on-time completion during the intervention, and fewer customer complaints about delays all supported this change. By consolidating order information into a single, easy-to-access platform, the main problem of scattered, email-based records was eliminated. This made it easier to schedule deliveries and communicate with customers ahead of time. These findings align with the work of Abreu and Costa (2022), Viio and Gronroos (2021), and Saha et al. (2021), who also note that centralizing information and communicating proactively are important for improving customer satisfaction in B2B services.

5.2 Objective 2: To monitor and enhance service quality through the systematic management of customer feedback and complaints within the organisation.

The second research goal examined how the implementation of the spreadsheet-based CRM system enhanced the Company's quality monitoring practices and complaint management. Prior to this modification, the company lacked a systematic and transparent method for monitoring, documenting, and resolving client complaints. The pre-intervention evaluation, post-intervention analysis, and customer satisfaction survey findings are shown in this section. It is separated into the following five analytical components.

Pre-Intervention Situation: Fragmented Complaint Handling and Absence of Quality Monitoring

The Company had no system for handling complaints before they implemented a spreadsheet based system. There was no process to deal with client complaints, GM-01, the General Manager, said. People would email or message them on WhatsApp, but they had no way of tracking those complaints. That meant they could not say if a complaint was resolved.

SA-02, who visited clients and dealt with complaints, said sometimes complaints were not recorded and could be easily forgotten. For example, if a complaint was made on a Friday, it could be ignored by the next week. The problem was pointed out in the work of Fadila et al. in 2026. Without a complaint handling system, clients may lose trust in the company.

The Company's managers were unaware of the quality of their services because they had no method of tracking complaints. "I don't know if one client had a lot of problems or if a lot of clients had the same problem," GM-01 said. This limited the company's ability to improve its services.

The company got 47 complaints in 2024 from January to December. Most of these complaints were not about one thing. 13 Complaints were about the quality of their services. These complaints said the work was of quality. The company did not meet technical standards. This number gives us an insight into the quality related complaints prior to any changes being made. But this number may not tell the whole story, since some clients may have been unhappy but did not lodge a complaint. This was confirmed by research done by Gaudenzi and his team in 2021. The client's problems should be solved for client satisfaction.

Post-Intervention Findings: Structured Quality Tracking and Accountability

Significant improvements were seen in quality monitoring and complaint handling after Cycle 1 ended and changes from Cycle 2 were put in place. Based on feedback from team members during the Cycle 1 review a new quality complaint tracking part was added to the spreadsheet in Cycle 2. This was a change. For the time this part provided a single central record of all quality complaints and their status. The record included details, like complaint description, team member involved, complaint status. Open In Progress or Resolved and the date it was resolved. Quality complaints were tracked properly now. The team could see the status of each complaint clearly. This helped in handling complaints on time. Complaint handling became more efficient. The team could focus on resolving complaints. Cycle 2 changes really helped improve complaint handling.

GM-01 stated in an interview after the changes were made that they had already handled three complaints about quality. In Cycle 2 they used the complaint system to track these complaints. Now they have a system that says when a problem is solved." That's a big improvement. Each complaint is assigned to a person who is responsible for resolving it. And being able to see all the open complaints on one screen changed the way they handle quality issues, GM-01 said. "I would only find out if the client told me that there was a problem before. They have a better system now. They see what is not working and fix it before it becomes an issue. This is similar to what Nilashi and others discussed in 2023 on how to collect and analyze data, and customer satisfaction to identify ways to improve the quality of service.

SA-01 highlighted that the column in the communication log, which was also introduced in Cycle 2, by capturing the last time clients had been contacted about their concerns, was a key complement to the complaint module. This directly addressed one of the most common pre-intervention failures in that it prevented complaints from becoming dormant and that clients were followed-up within an appropriate timeframe.

Quantitative Evidence: Survey Results for Quality and Complaint Management Dimensions

30 clients completed a post-intervention customer satisfaction survey, which yielded quantifiable proof of improvements in complaint processing and quality consistency. Two of the five SERVQUAL-derived qualities that comprised the survey items which are Quality Consistency and Responsiveness, are most strongly related to Objective 2. Tables 3 and 4 below provide the results for these dimensions.

Table 3: Quality Consistency Dimension — Survey Results (n = 30)

Survey Item	Mean Score	% Satisfied (Score 4–5)
The work delivered fully met the agreed technical specifications and project requirements.	4.27	83.3%
The quality of work was consistent and maintained at the same standard throughout the entire project.	4.20	76.7%
There were no defects, errors, or quality issues that required rework or additional site visits.	3.97	73.3%
Dimension Mean	4.14	—

As shown in Table 3, the Quality Consistency dimension recorded a strong post-intervention mean score of 4.14 out of 5.00. The highest-rated item was the extent to which delivered work met agreed technical specifications ($M = 4.27$), followed by consistency of work quality throughout the project ($M = 4.20$). The lowest-rated item was the absence of defects or rework requirements ($M = 3.97$), indicating that some clients still experienced issues requiring follow-up work. Overall, the findings suggest that the complaint tracking module improved quality monitoring and accountability, although further improvements in technical execution are still needed.

Table 4: Responsiveness and Complaint Handling Dimension — Survey Results (n = 30)

Survey Item	Mean Score	% Satisfied (Score 4–5)
Issues or problems that arose during the project were identified and resolved quickly by the company.	4.10	83.3%
My complaints or concerns were taken seriously and handled in a professional and systematic manner.	4.20	90.0%
The company followed up with me after the project was completed to check that I was satisfied with the outcome.	3.70	56.7%
Dimension Mean	4.00	—

The Responsiveness and Complaint Handling dimension attained a mean score of 4.00, as indicated in Table 4, suggesting a favourable post-intervention result. The success of the organised complaint recording module implemented in Cycle 2 was demonstrated by the highest-rated item, which was the professional and methodical treatment of complaints ($M = 4.20$), followed by the speed of issue identification and resolution ($M = 4.10$). Post-completion follow-up, on the other hand, obtained the lowest score ($M = 3.70$), indicating a persistent flaw in sustaining client involvement following project completion. Overall, the results indicate that the intervention greatly enhanced responsiveness and complaint handling, but more work is required to improve long-term relationship management and post-service follow-up.

Thematic Summary

Three major issues emerged from the examination of Objective 2. First, there was a high level of client satisfaction with complaint handling ($M = 4.20$) as a result of the complaint tracking module's transformation of complaint management from an informal procedure into an organised and responsible system. Second, through methodical tracking and review, the intervention increased management's awareness of quality-related problems, which led to enhanced technical specification compliance and good quality consistency results ($M = 4.14$). The analytical CRM model put forth by Fan et al. (2004), which promotes transparency and data-driven service management, is supported by this finding. Third, even with these enhancements, post-completion follow-up continued to be a major flaw, scoring the lowest on the survey ($M = 3.70$) and being frequently mentioned by clients as a need for improvement. Overall, the intervention was successful in improving quality monitoring and complaint management; but, to improve long-term customer connections, a more organised post-project engagement strategy is required.

5.3 Objective 3: To Measure the Overall Influence of CRM System Adoption on Customer Satisfaction Levels, Focusing on Responsiveness, Service Reliability, and Long-term Customer Retention.

The third objective of this research is to measure the impact of CRM system implementation on customer satisfaction levels. This research focuses on engineering service organizations. How they keep customers for a long time, work efficiently and provide reliable services. For businesses to keep operating and growing customers need to be satisfied. This is very important for companies to do well (Aiyer et al., 2018). Companies in the engineering industry often have projects that're complicated and do not always go as planned (Mainela & Ulkuniemi, 2013). To keep going in the run, a business must take care of its relationships with customers (Fadila et al., 2026).

Pre-Intervention Situation: Fragmented Information and Reactive Management

Before the company started using the CRM system it used methods to handle customer relationships. The General Manager, GM-01 said that the company used Excel spreadsheets, WhatsApp and emails to keep track of customer information. All staff members stored customer data in their files instead of using a centralized system. The Sales Executive, SA-01 said that most project details were stored in written notes and personal email folders. "Islands of customer data" were produced as a result of this lack of integration (Chen & Popovich, 2003).

Operational difficulties became clear as a result of this unorganized method. Delivery performance was "generally acceptable," according to SA-01, however there were often delays. These delays usually came from internal communication problems between the engineering, purchasing, and project teams (GM-01). There was little department accountability. GM-01 mentioned that inconsistent service quality was the outcome of this lack of transparency.

During this reactive phase, customer satisfaction was greatly affected. Slow response times caused the company to lose clients to its competitors, according to GM-01. During the project's execution, clients thought that the firm's communication was insufficiently proactive. Additionally, after projects were finished, the organization lacked a formal follow-up procedure. The firm only contacted clients if the client initiated the reach-out (GM-01). This circumstance is consistent with the "productivity paradox," according to which a company cannot succeed competitively if it lacks infrastructure CRM resources (Keramati et al., 2010).

Post- Intervention Findings: Internal Adoption and Stakeholder Feedback

The staff's immediate management issues were immediately resolved by the implementation of the Google Sheets-based CRM system. For centralized data entry, the internal team shifted from expectations to daily usage routines. There is broad agreement that centralization is necessary, according to the results of the staff interviews. According to GM-01, a formal structure was necessary to enhance follow-up efforts and save time. The most helpful functions for the sales process, he said, were contact management and quotation tracking.

According to the technical staff, the newly implemented system gave them the "visibility" they didn't have before. The engineer and office teams could work together more efficiently if project specifications and completion dates were entered into a shared log (SA-02). This is consistent with the Resource-Based View, which holds that process capabilities are driven by the combination of technology and human organizational resources (Keramati et al.,

2010). SA-01 agreed that the centralized data made it easier for staff members to work together and track project developments. The CRM system helped the company to be more proactive in its interactions with customers.

According to the feedback from staff members the CRM system reduced the workload. As long as the CRM system was easy to use and did not create extra work, SA-02 was happy to use it. The implementation barrier was minimal because Google Sheets had a well-known tool. The key to making the CRM system work was to make it easy to use. The company was able to move from reacting to customer service to being proactive and marketing itself.

Quantitative Evidence: Customer Satisfaction Levels

The following table shows the data from the Customer Satisfaction Survey. The scores are based on a 5-point Likert scale, where 1 means Highly Dissatisfied and 5 means Highly Satisfied.

Table 5: Customer Satisfaction Levels during Intervention Period

Satisfaction Metric	Average Score	Frequency (Score 4 or 5)	Percentage
Communication Clarity	4.00	6	85.7%
Service Reliability	4.14	6	85.7%
Ease of Contact	4.00	6	85.7%
Overall Satisfaction	4.00	6	85.7%
Likelihood to Recommend	4.00	6	85.7%

The data shows that the company did well in every area. The area with the highest rating is Service Reliability, with a score of 4.14. Most customers, 85.7%, said they were satisfied or highly satisfied with the company's communication and how easy it was to contact them. This is an improvement from before the company started using the CRM system. GM-01 said that customers used to leave the company because it took a long time to respond to them. The average score for Overall Satisfaction is 4.00, which shows that the company's customer base is now stable.

A significant gap between information visibility and process speed is highlighted by unfavorable comments about the company's customer management. Due to "islands of customer data" and internal communication gaps (SA-01), the company had significant operational issues prior to the intervention, including a three-week project delay. According to GM-01, due to its reactive approach, the company lost clients to competitors with quicker reaction times. According to the customer survey, although the new system has increased openness, customers

still want "faster problem solution" and more accurate delivery updates, according to post-intervention survey results.

The company still has problems with following up with customers after projects are finished and with coordinating between staff members in the office and on site. These continuing challenges highlight the "productivity paradox," demonstrating that a digital tool by itself cannot completely meet B2B expectations unless the company improves its technical solution speed (Keramati et al., 2010).

Thematic Summary

A digital platform helped the company to get rid of the "islands of customer data" that used to cause problems like three-week project delays (SA-01; GM-01; Chen & Popovich, 2003). A centralized digital platform enables the company to have a common view of his customers, where this gives a result of high communication with the scores 4.00 and makes the staff can be contacted easily (Customer Satisfaction Survey). However, the data still show a clear gap between technical solution speed and interaction responsiveness. Even though CRM systems already minimize distance and enhance the feeling of being close to the customers, they are still seeking for faster problem solutions and wanting better coordination between site staff and the office staff (Customer Satisfaction Survey; Mainela & Ulkuniemi, 2013). This gap reflects the "productivity paradox," where it shows that although technology improves visibility, companies still need to improve the technical operations to fulfill higher communication standards (Keramati et al., 2010; Raišienė & Raišys, 2022). Lastly, by encouraging "affective attachment" through proactive interactions, SME CRM implementation has successfully build a long-term customer retention where the company achieve 25-40% improvement (Fadila et al., 2026; Nethanani, Matlombe, Vuko, & Thango, 2024).

Reflection on Cycle 1 and Intervention Recommendations for Cycle 2

At the beginning of Cycle 1 our main goal was to improve how customers could see their orders and how our team worked together. We wanted to find a tool that was easy to use and accessible to everyone. So we started using a shared spreadsheet. This helped solve a problem we had before: nobody could see all the customer orders in one place. With this approach our team finally had a central place to keep track of everything, which made delivering orders and working together much easier. The General Manager, GM-01 said we had found the problem to solve and had chosen a solution that fit our budget and what we were capable of doing.

However we noticed some things that were not working well. Our original system did not have a way to handle complaints. We thought that just keeping track of order dates would be enough. It was not. Customers were still complaining to us through WhatsApp and casual conversations. Because we did not have a field for complaints people went back to their old habits. SA-02 pointed out that this was like how things were before only in a new format. Another issue was following up with customers after their projects were finished. While the shared spreadsheet gave us some structure it did not completely solve the problem of staying in touch with customers after their projects were done. For example we saw that after projects were finished we were not following up with customers much as we should have been. Our survey showed this clearly: customers gave us a score of 3.70 out of 5.00 for following up after their projects were finished, which was the score of all. 56.7% Of customers were happy with how we followed up with them. Some team members also went back to using email in the two weeks of Cycle 1. It took some time and practice for everyone to get used to the system.

To fix these problems we made some changes in Cycle 2. We added a module to track complaints, which included fields for describing the complaint, who was responsible for fixing it, the status of the complaint and the date it was resolved. We also added a column to keep track of how we communicated with customers. Additionally we made our weekly team meetings formal by putting the spreadsheet up on the screen every Monday to remind everyone that it was the central place for all our information. GM-01 said these changes fixed some problems that we had been having for a long time. SA-01 and SA-02 both said that having meetings made everyone feel more responsible which is what some researchers found out about taking action and doing research.

When we looked deeper at our results we realized that the people and the culture of our company played a role more than the software we chose. We had a cultural challenge: even though Google Sheets was effective because everyone was already familiar with it, our old habits and resistance to new processes made it hard for people to adopt the new system at first. For example some team members went back to using email or WhatsApp because they were comfortable with those methods and did not want to change. SA-02 said that Google Sheets did not create paperwork, which made people less resistant to using it. Our team slowly started using the system every day as they saw the practical advantages of using it. These observations show that it is essential to overcome our habits and that learning as an organization is a key driver of success in managing our relationships with customers.

Building trust with our customers in engineering services depends on being transparent with them. Before we used the spreadsheet poor communication led to a delay in a project, which SA-01 remembers well. After we introduced the system 86% of customers said they valued our clear communication. We shifted from reacting to problems to trying to prevent them. However we still need to improve how quickly we resolve issues to meet our customers expectations. GM-01 made sure the system supported our business goals, not just our technology needs. This helped us avoid the mistake of thinking that managing our relationships with customers is just about buying software.

Now we have three suggestions for the cycle. First we should make it a rule to follow up with customers after their projects are finished. The spreadsheet can set a reminder to follow up 7 days after a project is done and send an alert if nobody has recorded any contact with the customer by then. Second we should add a field to the complaint module to track the root cause of complaints. Some researchers say this helps managers tell the difference between one-time issues and ongoing problems. We should group complaints by categories, like workmanship, materials, communication or scheduling. Third, we should have a meeting to review the quality of our service. GM-01 would review the complaint log. Assign someone to fix any unresolved issues. This way managing complaints becomes a part of our routine, not just an extra task.

CONCLUSION

This study aimed to determine whether a simple, spreadsheet-based CRM system could help the Company resolve its relationship management problems, with three specific goals: improving delivery performance and schedule adherence, strengthening quality monitoring through better feedback and complaint management, and evaluating the CRM's impact on customer satisfaction, responsiveness, and long-term retention. Using two cycles of action research, the study found improvements in all three areas.

After the intervention, 60 percent of projects were completed on time, a significant improvement from the pre-intervention state where 60–70 percent of projects had been delayed. The average quality score was 4.14, and quality monitoring became more organized and accountable. Customers were very satisfied with complaint handling, giving a score of 4.20, and 90 percent of respondents reported being satisfied. For communication, dependability, and responsiveness, 85.7 percent of respondents were satisfied, while overall customer satisfaction averaged 4.00. However, following up with customers after completion remained the lowest-scoring area at 3.70 and should be the main focus for the next cycle.

These results are highly significant for companies, as they demonstrate that businesses do not need to invest heavily in technology to achieve a successful CRM transformation. A well-designed spreadsheet system, implemented with teamwork, regular reviews, and strong management support, can greatly improve delivery reliability, complaint handling, and customer satisfaction. The Company can use CRM to improve customer satisfaction and respond to customers quickly, but the company should focus specifically on post-completion follow-up moving forward. This finding is especially pertinent to resource-constrained engineering SMEs in developing economies.

There are some limitations to the study. The precision and generalisability of the results are limited by the small sample size, the timeframe for a single semester, and the lack of a rigorous pre-intervention quantitative baseline. In order to determine whether the suggested Cycle 2 improvements such as the post-completion follow-up methodology and root-cause complaint classification, achieve their intended impacts across a wider organisational context, future research should extend the action research process into successive cycles.

This study concludes by confirming that organised CRM deployment, even in its most basic digital version, is a practical and effective strategy for engineering SMEs looking to boost customer competitiveness and service quality. The Company has a solid basis to continue developing a more methodical, customer-focused service delivery culture thanks to the improvements recorded over the course of two cycles.

ACKNOWLEDGEMENT

The authors would like to express sincere gratitude to the management and staff of the Company (a pseudonym used to protect the organization's identity) for their willingness to participate in this study, their openness in sharing operational data, and their commitment to implementing the spreadsheet-based order tracking system throughout the research period. Special thanks are extended to participants GM-01, SA-01, and SA-02 for their participation in semi-structured interviews and their constructive feedback during both action research cycles. This study was conducted as part of the MBSA 1713 Business Research course at the Azman Hashim International Business School, Universiti Teknologi Malaysia.

REFERENCES

- Abreu, M. E., & Costa, R. (2022). Order tracking systems: An analysis of B2B customer satisfaction. ResearchGate. <https://www.researchgate.net/publication/362019068>
- Aiyer, M., Panigrahi, J. K., & Das, B. (2018). Successful customer relationship management in business process integration and development of applications for project management. *International Journal of Mechanical Engineering and Technology*, 9(2), 637–643.
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
- Chang, H. H. (2007). Critical factors and benefits in the implementation of customer relationship management. *Total Quality Management*, 18(5), 483–508.
- Chen, I. J., & Popovich, K. (2003). Understanding customer relationship management (CRM): People, process and technology. *Business Process Management Journal*, 9(5), 672–688.
- CIDB Malaysia. (2024). Annual industry report 2023: Construction sector performance. Construction Industry Development Board.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Fadila, E. N., Anggapratama, R., & Irnawati, D. (2026). Customer relationship management (CRM) strategies and service quality in building customer loyalty. *Journal of Management Studies and Development*, 5(1), 121–134.
- Fan, W., Luck, R., Manier, K., Pierce, J., Pool, L., & Patek, S. D. (2004). Customer relationship management for a small professional technical services corporation. *Proceedings of the 2004 Systems and Information Engineering Design Symposium*.
- Gaudenzi, B., Confente, I., & Russo, I. (2021). Logistics service quality and customer satisfaction. *The TQM Journal*, 33(1), 125–140.
- Keramati, A., Mehrabi, H., & Mojir, N. (2010). A process-oriented perspective on customer relationship management and organizational performance: An empirical investigation. *Industrial Marketing Management*, 39, 1170–1185.
- Mainela, T., & Ulkuniemi, P. (2013). Personal interaction and customer relationship management in project business. *Journal of Business & Industrial Marketing*, 28(2), 103–110.
- Nethanani, R., Matlombe, L. W., Vuko, S. N., & Thango, B. A. (2024). Customer relationship management (CRM) systems and their impact on SMEs performance: A systematic review. Preprints.org. <https://doi.org/10.20944/preprints202410.1538.v1>
- Nilashi, M., Abumalloh, R. A., Ahmadi, H., Samad, S., Alrizq, M., Abosaq, H., & Alghamdi, A. (2023). The nexus between quality of customer relationship management systems and customers' satisfaction: Evidence from online customers' reviews. *Heliyon*, 9, e21828.
- Rabbani, M. A. (2022). The effect of customer relationship management on customer retention at KMU Gresik Eye Clinic. *International Journal of Review Management, Business, and Entrepreneurship*, 2(2), 152–160.
- Raišienė, A. G., & Raišys, S. J. (2022). Business customer satisfaction with B2B consulting services: AHP-based criteria for a new perspective. *Sustainability*, 14, 7437. <https://doi.org/10.3390/su14127437>
- Saha, L., Tripathy, H. K., Nayak, S. R., Bhoi, A. K., & Barsocchi, P. (2021). Amalgamation of customer relationship management and data analytics in different business sectors — A systematic literature review. *Sustainability*, 13, 5279.
- Shani, A. B., & Coghlan, D. (2021). Action research in business and management: A reflective review. *Action Research*, 19(3), 518–535.
- Viegas, S., Barbosa, B., & Abreu, M. E. (2022). Order tracking systems: An analysis of B2B customer satisfaction. *Sistemas de rastreamento de encomendas: Uma análise da satisfação dos clientes B2B*.

Viio, P., & Gronroos, C. (2021). Logistics service quality and customer satisfaction in B2B relationships: A qualitative comparative analysis approach. *The TQM Journal*, 33(1), 125–141. <https://doi.org/10.1108/tqm-04-2020-0088>

Zygiaris, S., Hameed, Z., Ayidh Alsubaie, M., & Ur Rehman, S. (2022). Service quality and customer satisfaction in the post-pandemic world: A study of Saudi auto care industry. *Frontiers in Psychology*, 13, 842141. <https://doi.org/10.3389/fpsyg.2022.842141>