Designing a CRM Application: Enhancing Promotional Strategies Efficiency to Increase the Number of New Students at the University of National

Dhieka Avrilia Lantana [1], Marsudi Marsudi [2], Ariana Azimah [3], Tri Waluyo[4], and Fauziah Fauziah[5]

[1] Department of Digital Business, University of National, Jakarta, Indonesia
[2,4] Department of Management, University of National, Jakarta, Indonesia
[3,5] Department of Informatics, University of National, Jakarta, Indonesia

dhiekalantana@civitas.unas.ac.id

Abstract. This research aims to develop a Customer Relationship Management (CRM) application for the university to enhance the efficiency of promotional strategies to increase the number of new students and eliminate manual tasks in the process. In this research, the software development method used was Rapid Application Development (RAD). RAD enables the implementation of software solutions that specifically cater to the users' needs in a shorter duration. The findings show that the CRM application can help universities track applicants' progress efficiently and allow workflow automation based on specific events or conditions, such as sending follow-up emails after registration to complete payment-setting reminders for interviews and enrollment. By automating these processes, universities can save time and reduce the risk of errors or oversights. For future research, an examination of the implementation of proposed CRM in universities can be conducted to assess its influence on the marketing performance of these institutions and to evaluate whether CRM contributed value to the management of potential student relationships within the institution.

Keywords: *customer relationship management, university, potential students, promotion.*

1 Introduction

Over the last few decades, the concept of customer relationship management (CRM) has significantly evolved and matured (Chakravorti, 2023). Organizations must comprehend how a strategically targeted CRM can aid them in achieving their business objectives (Kumar & Reinartz, 2018). CRM is a business approach that emphasizes building strong relationships between providers and customers for mutual benefit (Suryani, 2022). Customer Relationship Management (CRM) is a highly significant and expanding practice in today's business environment. The goal is to create a cooperative partnership where both parties work together to achieve their objectives (Soltani et al., 2018).

Many businesses have adopted CRM software, which has proven to be a valuable tool to improve conversion rates, increase revenue, collect data, and, most importantly, effectively manage customer relationships to improve satisfaction. CRM software is widely recognized as a highly effective support tool in various industries (Tien et al., 2019). There are two main types of CRM definitions: one related to IT, and the other focused on strategy and management (Buttle & Maklan, 2019).

Modern CRM platforms integrate multiple functions, such as sales, marketing, customer service, and analytics, into a unified system, fostering a holistic approach to customer relationship management. A multitude of CRM solutions have been developed to cater to various industries, organizational sizes, and specific business needs. In the previous study, research has been conducted to investigate the effect of CRM on various aspects of the

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company's performance. Previous studies show that CRM positively and significantly impacts organizational performance. These findings indicate that it is essential to adopt CRM, especially among medium-sized enterprises in the telecommunication industry in Indonesia (Nasution & Rafiki, 2018). More reasons for adopting CRM have been proven in previous research, such as improved customer relationships (Baashar et al., 2020; Guerola-Navarro et al., 2021), increased retention and loyalty (Adly et al., 2020; Anees et al., 2020; Eltahir et al., 2021), increase customer satisfaction (Adly et al., 2020; Ferreira et al., 2023), increase cross-selling and upselling (Adlina et al., 2023; Fadillah & Ibrahim, 2023) and data-driven decision making (Zhang et al., 2020).

The influence of CRM has extended beyond its original boundaries within the business and industrial sectors and has now permeated into the education domain. Its adoption has gone beyond conventional industries, and even universities increasingly embrace CRM for their operations. The literature reviewed in the past indicates that policymakers in the higher education sector are advised to embrace investment in CRM (Deif et al., 2019). CRM can positively influence student satisfaction and significantly impact their inclination to recommend their universities to others. CRM has been extensively developed for universities to enhance educational services (Lenawati, 2019) and support promotional efforts (Ruslan, 2018; Syaputra & Sembiring, 2020).

The COVID-19 pandemic has significantly changed the game for everyone, forcing people to quickly transition into a digital era (Parekh, 2021). It has also brought about significant shifts in the education landscape (Jain, 2020). In the post-COVID-19 era, the role of CRM has become increasingly crucial for private universities aiming to enhance their enrollment efforts. CRM systems can be pivotal in streamlining communication and building personalized interactions with potential applicants. The present situation at the University of National entails manual management of new prospective students. This process includes the labor-intensive task of individually sending email reminders for scheduled interviews and enrollments, one by one. Additionally, the marketing staff needed to effectively track previous interactions with applicants, making it challenging for others to determine the extent of marketing efforts that have been presented to the applicants.

This paper aims to explore the design and development of a customized CRM application using Rapid Application Development (RAD), highlighting its potential to revolutionize promotion strategies at the University of National. By leveraging a CRM system, universities can save significant time by automating administrative tasks and monitoring applicants' progress. Additionally, they can send personalized emails to applicants based on their progress, making the process much smoother and more efficient.

2 Literature Review

2.1 Reason for adopting CRM in Education

CRM in higher education involves the application of CRM strategies, technologies, and practices within educational institutions, particularly universities and colleges. The use of CRM can play a crucial role in automating tasks such as manual email communications, which can enhance efficiency and free up time for educators and staff to focus on more complex and high-value activities.

2.2 Conceptual Framework

In this study, we adopt a research model specifically tailored for software development, which is illustrated in Figure 1.

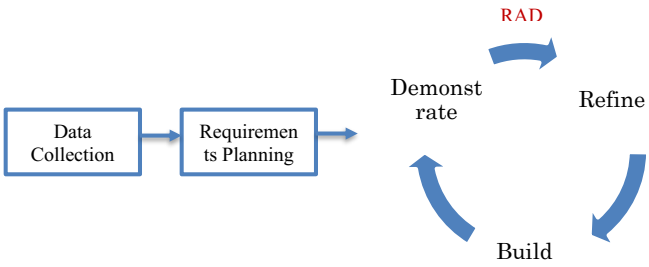

Fig 1. Research Model

3 Data and Methodology

3.1 Sample and Data Collection

Data collection methods can vary widely depending on the nature of the research, the research question, and the resources available. For this study, two categories of data have been employed:

- Quantitative Data: Enrollment data, demographic information, and interaction history.
- Qualitative Data: Qualitative data will be gathered through structured interviews with university staff, including admission officers and marketing personnel.

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3.2 Requirements Planning

Requirement planning in software development pertains to the initial stage, where the software project's requirements are defined, analyzed, and structured before commencing development. This essential phase entails comprehending the needs and expectations of various stakeholders, such as clients, end-users, and other relevant parties.

An interview is used to gather requirements in this research. Interviews provide an opportunity to interact directly with stakeholders and gain valuable insights into their needs, expectations, and preferences for the software project. They allow for open discussions and clarify any ambiguities or uncertainties regarding the requirements. An interview is conducted with key stakeholders and individuals involved in the CRM project to gather analysis for building a CRM system.

The interviewees include CRM Users, and Management and Decision Makers. The interview with the end-users of the CRM system, such as sales representatives, customer support agents, and marketing teams, will provide insights into their specific needs, pain points, and desired features to enhance their efficiency and effectiveness in customer interactions. Management and Decision Makers: Interviewing managers and decision-makers, such as the head of the new student admissions committee and head of marketing, helps understand the strategic goals and objectives of implementing the CRM system. The insights guide the selection of features and functionalities that align with the overall business strategy.

The data gathered from these interviews will be the foundation for analyzing the requirements and designing a CRM system that meets the university's specific needs and objectives. It will help identify the key features, integration points, and customization requirements that are essential for a successful CRM implementation.

3.3 CRM Development Using RAD

CRM is developed using the Rapid Analogy Design (RAD) methodology. RAD combines project management methodologies, development techniques, user involvement, and appropriate tools to create high-quality application systems within a predetermined timeframe, delivering tangible business value. By doing so, RAD overcomes time constraints and enables faster system development. Many CRM systems are developed using the Rapid Application

Development (RAD) methodology (Rosalina et al., 2019; Syabania & Rosmawani, 2021; Tristianto, 2022).

4 Result and Findings

4.1 Use Case Design

In the context of CRM development, the use case design emerges as a critical component that shapes the functionality and user interactions of the CRM system.

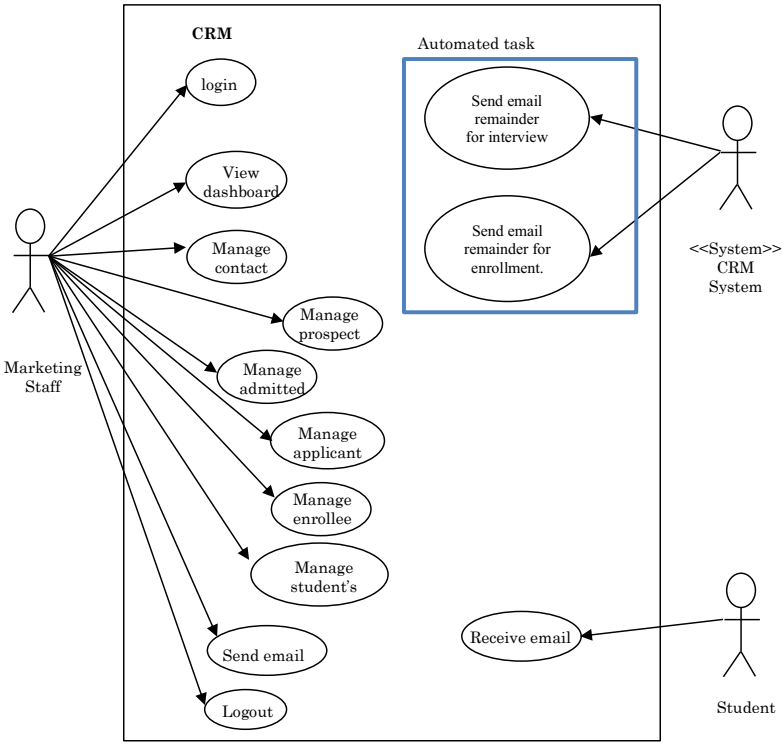

Fig 2. Use Case Diagram

Figure 3 illustrates a Use Case scenario wherein three distinct participants engage in CRM procedure. These participants are as follows:

1. Marketing Personnel: These individuals can log in, access the dashboard, handle contacts, manage potential clients, oversee those who have been accepted, control applicants, supervise enrollment processes, maintain student profiles, dispatch emails, and perform logout actions.
2. CRM System: The CRM system is equipped to automatically dispatch emails to remind individuals about scheduled interview dates and facilitate enrollment procedures.
3. Student: Students are recipients of emails that are sent by the CRM system.

4.2 Activity Diagram

Figure 3 to 6 represent some of the functions within a CRM system. Figure 3 shows the process of sending emails and showcases the sequential steps and interactions involved in composing, addressing, and delivering electronic messages to send a promotional email to the student. In the current situation, student data was typically gathered during university demos and campus fair booths, with promotional materials sent out just once. However, with the

implementation of CRM, university marketing staff can now efficiently send promotional emails through the CRM system.

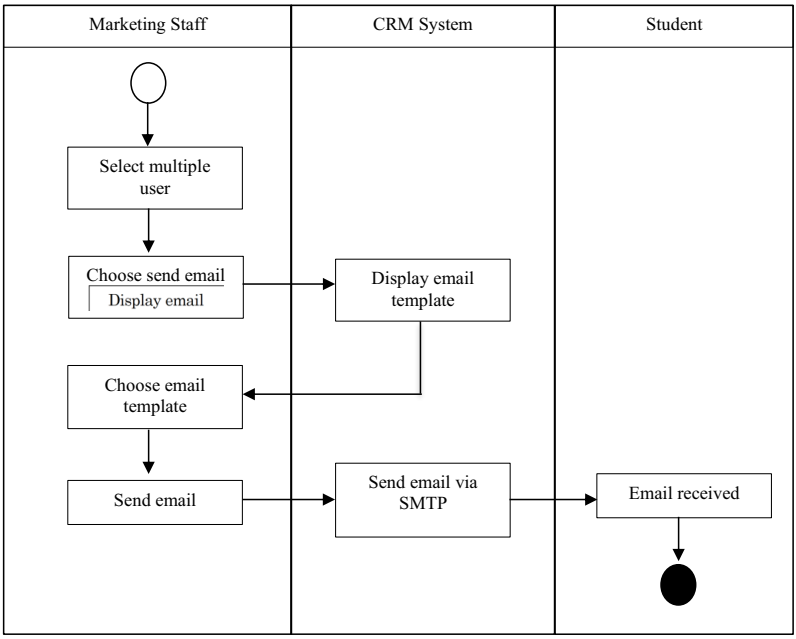

Fig 3. Activity diagram for sending email to the potential student

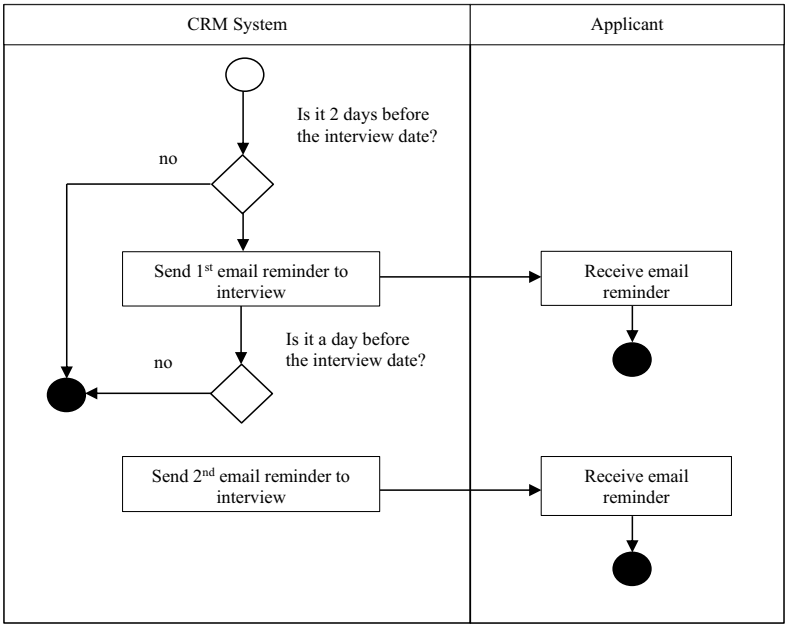

Fig 4. Activity diagram for email reminder to attend the interview

Figure 4, illustrating the workflow for sending email reminders to attend interviews, visually outlines the steps and interactions. Effectively, all these activities are required to generate, schedule, and dispatch reminder emails. Figure 6 shows an activity diagram outlining the process of sending email reminders for enrollment and highlights the sequential actions and interactions necessary to efficiently schedule and send enrollment-related reminder emails.

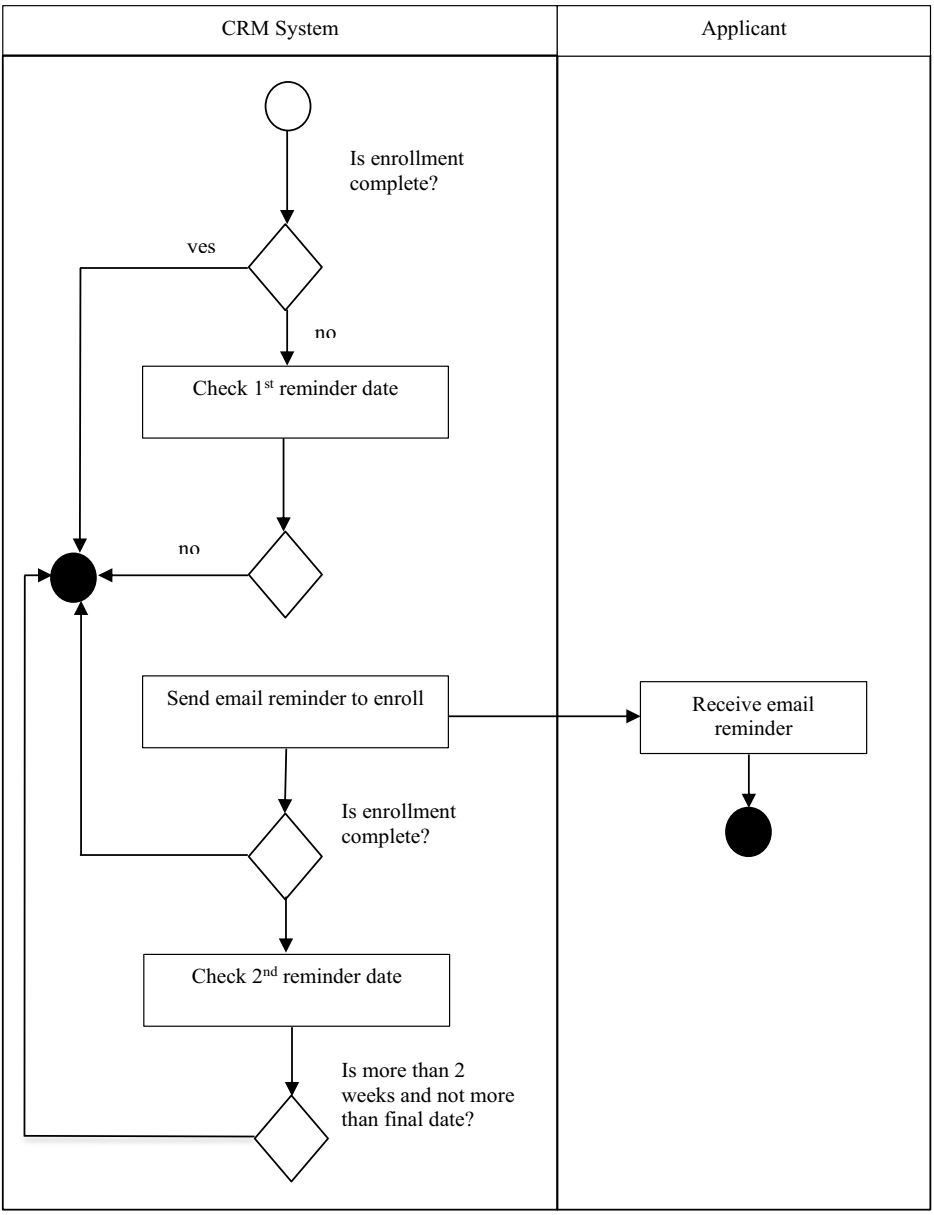

Fig 5. Activity diagram for email reminder to enroll

4.3 CRM Application

In the context of customer relationship management (CRM), a dashboard serves as a visual interface that provides an overview of key metrics such as total applicants, total enrollees, and more. The CRM dashboard can be seen in Figure 6.

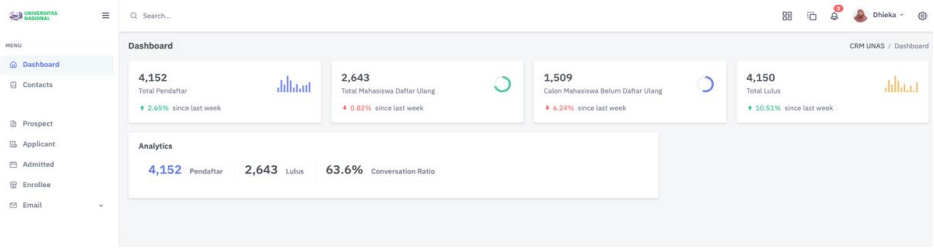

Fig 6. CRM Dashboard

CRM system stores and manages customer data, including contact information, student's journey, and interactions. Marketing staff use the CRM to create, edit, read, and delete the data. Figure 7 shows the data management for prospective students.

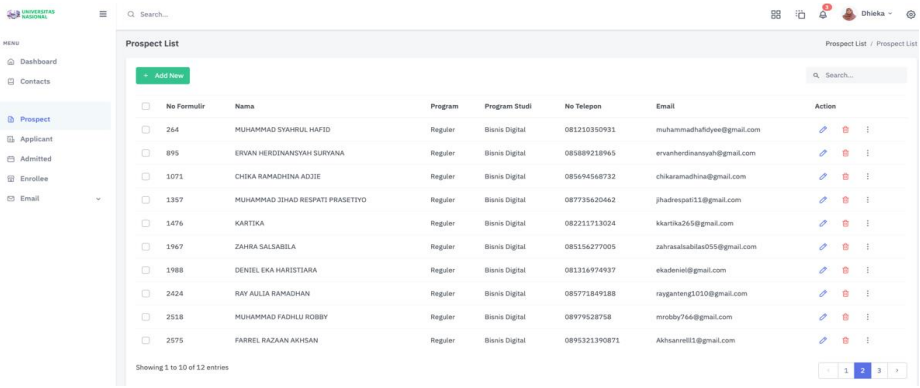

Fig 7. Data Management for Prospect Student

The CRM system can also streamline marketing activities by automating tasks like sending automatic emails as reminders for attending interviews and enrolling in the university. Figure 8 depicts an email template that the administrator can modify before sending it to the applicant as a reminder to attend the interview.

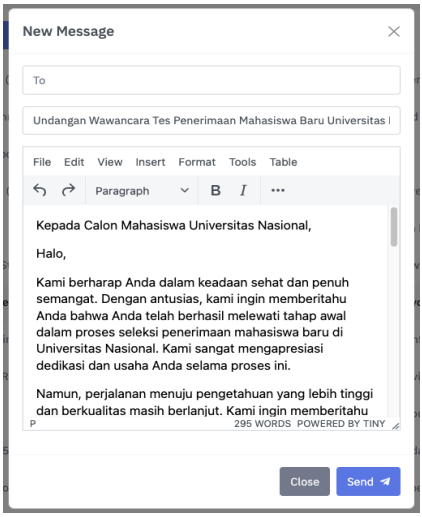

Fig 8. Email Template

Additionally, marketing staff can monitor customer interactions, including email and phone calls, as depicted in Figure 9. This data is instrumental in assessing marketing campaigns' effectiveness, enabling marketing personnel to stay informed about their teammates' ongoing efforts.

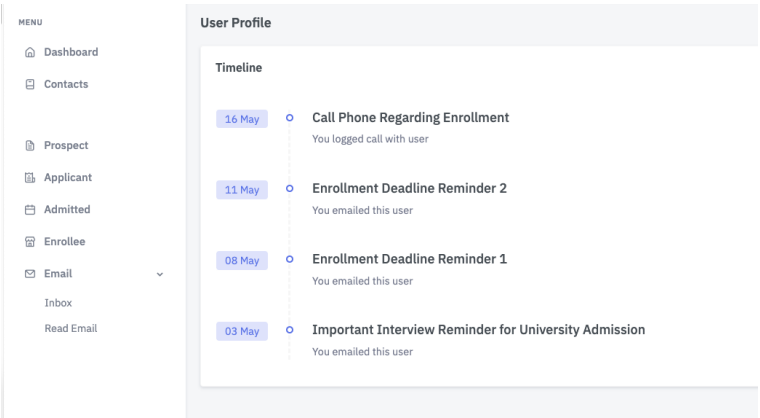

Fig 9. Customer Interaction History

4.4 Discussion

The endeavor to design and implement a CRM application tailored to enhance promotional efforts for new prospective students at the University of National has yielded valuable insights and potential avenues for advancement. Through an in-depth exploration of the literature and a meticulous examination of the specific requirements and challenges faced by the university, this research has illuminated the significance of leveraging CRM technology to engage and attract potential students effectively.

In the ever-evolving landscape of higher education, where competition for top-tier students is fierce, the proactive utilization of CRM technology can be a transformative force. By embracing the insights garnered from this research, the University of National can embark on a journey of strategic innovation, strengthening its position as a leader in higher education and offering prospective students a seamless and personalized experience throughout their enrollment journey.

Eliminates manual work

Several manual tasks can be dismissed or significantly reduced by using CRM. Some of the manual work that can be eliminated with CRM include:

- Promotional Email: With CRM, universities can send bulk promotional emails to groups of prospective students or targeted segments. Manual one-by-one messaging becomes unnecessary, as CRM allows for personalized mass communication.
- Autosending email: CRM allows for automated email campaigns, including personalized emails based on customer data and behavior. It efficiently schedules and sends emails without the need for manual intervention.
- Progress Tracking: CRM tracks prospective student interactions and engagements. It eliminates the need for paper-based systems, ensuring a more organized approach to lead management.
- By leveraging a CRM system, universities can save time, improve accuracy, and enhance communication with prospective students, ultimately leading to a more efficient enrolment process and better overall student experience.

5 Conclusion

5.1 Conclusion

In conclusion, the CRM application designed to aid the University of National marketing staff in tracking, sending promotional emails, and automating follow-up and reminder emails has been successfully developed. This system enhances efficiency and empowers marketing teams to effectively engage with customers, ultimately contributing to improved outreach and

relationship management. By utilizing this CRM application, the marketing staff can shift their focus away from administrative tasks and redirect their efforts toward strategic initiatives to boost enrollment.

5.2 Research implication

The successful development of the CRM application implies that the University of National's marketing processes can be executed more efficiently. It could lead to time and resource savings for the marketing team. By reducing administrative tasks through CRM automation, marketing staff can allocate more time and energy to strategic endeavors. It implies that the university can now concentrate on activities geared toward boosting enrollment numbers and achieving its growth objectives. Overall, the research implies that the CRM application has the potential to contribute to enrollment growth by optimizing marketing efforts, enhancing customer engagement, and allowing staff to focus on strategic initiatives.

5.3 Limitations of Research and Suggestions

While this study lays a strong foundation for integrating technology into a promotion for student enrollment, further research and practical implementation are warranted to realize the potential of the designed CRM application fully. Continuous evaluation, adaptation, and collaboration among stakeholders will be essential to ensure its successful deployment and ongoing enhancement.

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