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Customer Feedback Management System for the Quality Assurance Office of the Pangasinan State University – Alaminos City Campus

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ABSTRACT

Quality assurance serves as the foundation for educational excellence, empowering institutions to adapt and grow alongside the needs of their communities. By fostering a culture of continuous improvement, quality assurance ensures that educational services not only meet but anticipate the evolving expectations of students, faculty, and stakeholders. This study focuses on developing a Customer Feedback Management System (CFMS) to enhance quality assurance at Pangasinan State University Alaminos City Campus (PSU-ACC). To address inefficiencies in the university's manual feedback processes, the developed system offers a centralized and automated solution designed to improve responsiveness and service quality. Located in Alaminos City, PSU-ACC implemented this system to streamline feedback collection from students, faculty, and stakeholders. The study examined current feedback practices and identified critical areas for improvement, guiding the design of targeted system features to address these needs. Developed through an iterative Agile process, the system integrates multi-channel feedback collection, real-time data analysis, and intuitive dashboards to streamline data handling. Results show that the system significantly enhances feedback processing efficiency, minimizing delays and improving data accuracy.

By fostering a culture of continuous improvement and supporting data-driven decision-making, the developed system demonstrates the potential for quality-focused feedback systems to strengthen educational service delivery and stakeholder satisfaction.

Keywords: Customer Feedback Management System, Quality Assurance, Digital Platform, Web-based, G-forms

INTRODUCTION

Quality assurance (QA) is essential for maintaining high academic and administrative standards in educational institutions like Pangasinan State University - Alaminos City Campus (PSU-ACC). It serves as a structured process that evaluates and improves teaching methods, student services, and institutional operations to ensure compliance with established educational standards [1]. However, many traditional QA practices, particularly in collecting feedback, still rely on manual processes that are inefficient, time-consuming, and prone to errors [2]. These challenges make it difficult for universities to respond quickly to concerns, allocate resources effectively, and implement continuous improvements in both academic and administrative functions [3].

At PSU-ACC, the current system for gathering feedback remains largely dependent on paper-based forms and scattered digital submissions. This fragmented approach often results in slow response times, disorganized data, and missed opportunities to address critical issues that could enhance educational quality [4].

As a result, key stakeholders—students, faculty, staff, alumni, and external partners—face challenges in providing timely input, limiting the university's ability to adapt to evolving educational needs [5]. Without a well-organized system for gathering and analyzing feedback, important insights may be lost or disregarded, limiting the university's ability to make informed improvements in teaching quality, student support services, and overall institutional management [6].

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To address these challenges, PSU-ACC aims to implement a Customer Feedback Management System (CFMS)—a digital platform that streamlines the collection, categorization, and analysis of stakeholder feedback [7]. The system will provide students and faculty with an accessible platform to voice their concerns, ensuring that their feedback is recorded and addressed in a timely manner. At the same time, the Quality Assurance Office (QAO) will be able to track trends, generate insightful reports, and respond more effectively to key issues. By moving to a centralized and automated feedback system, PSU-ACC aims to improve data accuracy, enhance decision-making, and strengthen its quality assurance processes [8].

In addition to streamlining operations, a CFMS brings several other advantages. By reducing the need for paper-based processes, it supports the university's sustainability initiatives while ensuring compliance with accreditation standards [9]. The system's real-time analytics will allow administrators to quickly identify pressing concerns, making PSU-ACC's quality assurance efforts more proactive and transparent [10]. With a more efficient approach to feedback management, the university can implement targeted enhancements in curriculum design, faculty development, and student services, ultimately creating a more engaging and student-focused learning environment [11].

The implementation of a CFMS marks a major step in PSU-ACC's commitment to modernizing its quality assurance processes. By integrating digital tools, the university can establish a more transparent, data-driven, and efficient framework for institutional development [12]. This study aims to design and assess the effectiveness of the system, ensuring that it addresses the needs of students, faculty, and administrators while strengthening PSU-ACC's dedication to academic excellence and continuous institutional growth [13].

LITERATURE SURVEY

Several studies have highlighted the importance of feedback systems in higher education. For instance, Akhtar et al. (2023) emphasized the role of digital platforms in improving quality assurance processes [1]. Similarly, Arain et al. (2021) discussed the challenges of manual feedback systems and the need for automation [2]. Other studies have explored the use of real-time analytics and multi-channel feedback collection to enhance responsiveness and decision-making in educational institutions [3], [4]. However, many existing systems lack the integration of advanced features such as real-time analytics and multi-channel feedback collection, which are critical for proactive quality assurance. Our CFMS builds on these findings by offering a centralized, real-time feedback management system tailored to the specific needs of PSU-ACC.

METHODOLOGY

The Customer Feedback Management System (CFMS) at the Alaminos City Campus of Pangasinan State University (PSU) employed a combination of descriptive and developmental research approaches. Descriptive methods such as surveys, interviews, and observations were used to evaluate the current feedback management system and to pinpoint issues encountered by stakeholders, including the QA Coordinator, educators, students, and outside supporters. This methodology allowed for an in-depth analysis of the strengths and weaknesses inherent in the system, thus aiding in the creation of a more effective feedback management tool.

The development process used an Agile framework that was modified to adhere to the Software Development Life Cycle (SDLC) principles, emphasizing flexibility and ongoing improvement. A responsive approach to the evolving needs of stakeholders was made possible by this strategy's ability to enable structured phases for planning, design, implementation, and testing. Planning, requirement gathering, design, development, unit testing, and deployment were all phases of the development cycle, and each one was essential to the system's advancement.

Planning was the first stage, during which time goals, scope, duration, and resource allocation were determined. To guide system design, information gathered from stakeholder discussions was organized into a use case diagram. The presentation layer, which facilitates user interaction, the logic layer, which handles feedback and generates reports, and the data layer, which safely stores user data and feedback, comprised the three-tiered system architecture.

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Figure 1: Modified Agile Methodology for CFMS Development

(Flowchart illustrating the Agile process used in the development of the CFMS.)

Iterative cycles of development ensured system efficacy and flexibility by embracing continuous feedback and thorough unit testing. The system was released with documentation and user training to guarantee correct implementation after tests were completed successfully. Efficacy and flexibility by embracing continuous feedback and thorough unit testing. The system was released with documentation and user training to guarantee correct implementation after tests were completed successfully. Figure 1 above shows the modified Agile methodology used to create the CFMS.

After successful testing, the system was deployed, with documentation and user training ensuring effective implementation. The adapted Agile model used for CFMS development is illustrated in Figure 1 above.

To completely understand the current customer feedback management process at Pangasinan State University (PSU) Alaminos City Campus, a number of data collection techniques were employed. Surveys of students, teachers, and outside supporters exposed user experiences and challenges, and interviews with important staff members, such as the QA Coordinator, offered in-depth perspectives on current feedback procedures. Through participatory observation, the researchers were also able to directly evaluate system flaws and pinpoint potential areas for improvement.

By synthesizing insights from interviews, surveys, and observations, the research effectively captured both the advantages and drawbacks of the current system. An updated Customer Feedback Management System (CFMS) was developed using this data as the foundation, making sure the new features met operational and stakeholder needs.

To support primary data, secondary sources were consulted, including online resources, journal publications, and related research. Printed and digital resources such as books, unpublished theses, and academic writings furnished additional context, aiding in the formulation of an effective and user-focused feedback management system.

This research study was carried out at the Alaminos City Campus of Pangasinan State University. The researchers identified key individuals whose participation was crucial to the study. Purposive sampling methods were used to select participants, which included students, QA staff, and certain college advisers, as shown in Table 1 below.

Table 1. Respondents of the Study

Respondents	Number of Respondents
Student	50
It Professionals	5
Faculty	5

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Guests	20
Total Respondents	80

Statistical treatment was utilized to analyze the respondents' validation of the system during the usability test. This study employed a 4-point Likert Scale, where 4 indicated Excellent and 1 indicated Poor, as illustrated in Table 2. Responses were tabulated and analyzed using a weighted mean. This method ensured a thorough assessment of the system's usability and acceptance.

Table 2. 4-point Likert scale

Point Score	Statistical Range	Descriptive Equivalent	Descriptive Interpretation
4	3.26-4.00	Excellent	Accepted
3	2.51-3.25	Very Good	Accepted
2	1.76-2.50	Good	Accepted
1	1.00-1.80	Strongly Disagree	Accepted

RESULTS AND DISCUSSION

The customer feedback management system for Pangasinan State University Alaminos City Campus simplifies the process of how data is gathered and analyzed, making the process seamless for both respondents and administrators. Customers can quickly share their feedback, rate services, and recommend changes. Administrators can easily manage responses, track reports, and reduce manual work.

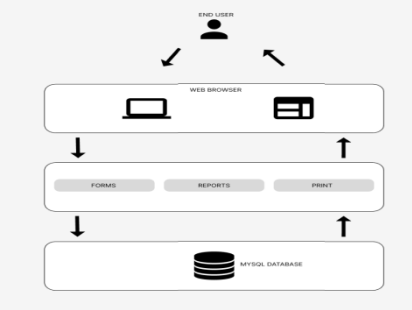

Figure 2: Three-Tier Architecture of the CFMS

(Diagram illustrating the three-tier architecture of the system.)

The proposed system follows a three-tier architecture. The presentation tier serves as the interface of the proposed system, providing users the ability to fill out forms and view reports quarterly, bi-quarterly, and annually. The logic tier is responsible for processing and managing core operations, including validating and categorizing feedback, generating reports, and managing user roles and permissions. The data tier securely stores essential feedback and user data, ensuring data integrity, accessibility, and reliability. This supports the efficient management and retrieval of feedback information, enabling the system to generate and view reports on a quarterly, bi-quarterly, and annual basis.

The proponents issued a letter of intent to gather data and validate the developed application. The system validation was conducted with the participation of five (5) faculty members from PSU-ACC, five (5) IT experts, fifty (50) students from various departments, and twenty (20) external guests. This diverse group of respondents evaluated the application based on its functionality, reliability, usability, efficiency, maintainability, and portability to ensure its effectiveness and adaptability for broader use. To assess the

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usability and effectiveness of the Customer Feedback Management System (CFMS), a 4-point Likert scale was employed, where 4 = Excellent, 3 = Very Good, 2 = Good, and 1 = Poor. The system was evaluated across six key criteria: Functionality, Reliability, Usability, Efficiency, Maintainability, and Portability. The results of this evaluation provide insights into the system's performance and user satisfaction, highlighting its strengths and areas for potential improvement. The overall weighted mean score of 3.69 reflects an Excellent rating, indicating that the CFMS is well-received and effectively meets the needs of its users.

Table 3: System Usability Test Results (4-point Likert Scale)

1. Functionality	3.74	Excellent
2. Reliability	3.60	Excellent
3. Usability	3.7	Excellent
4. Efficiency	3.76	Excellent
5. Maintainability	3.65	Excellent
6. Portability	3.70	Excellent
Overall Weighted Mean:	3.69	Excellent

CONCLUSION

Implementing a Customer Feedback Management System (CFMS) at Pangasinan State University Alaminos City Campus is crucial for enhancing quality and efficiency. By gathering and utilizing feedback from stakeholders, including students, faculty, staff, and alumni, the CFMS allows for the proactive identification of areas for improvement and informed decision-making to enhance the overall educational experience. Through the implementation of a quality assurance system facilitated by the CFMS, the institution can align its services with established standards and learning outcomes, promoting a culture of improvement and accountability. Despite obstacles, leveraging technology to centralize feedback collection and analysis offers benefits such as resource optimization, operational efficiency improvements, and increased stakeholder satisfaction. Looking forward, further research will explore additional functionalities of the CFMS and their impact on long-term educational outcomes, providing valuable insights for ongoing enhancement and growth within the institution.

Future Work

Future research could explore the integration of machine learning algorithms to analyze feedback trends and predict areas for improvement. Additionally, the system could be expanded to include mobile app support for easier access by students and faculty. Further studies could also assess the long-term impact of the CFMS on student satisfaction, academic performance, and overall institutional quality.

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