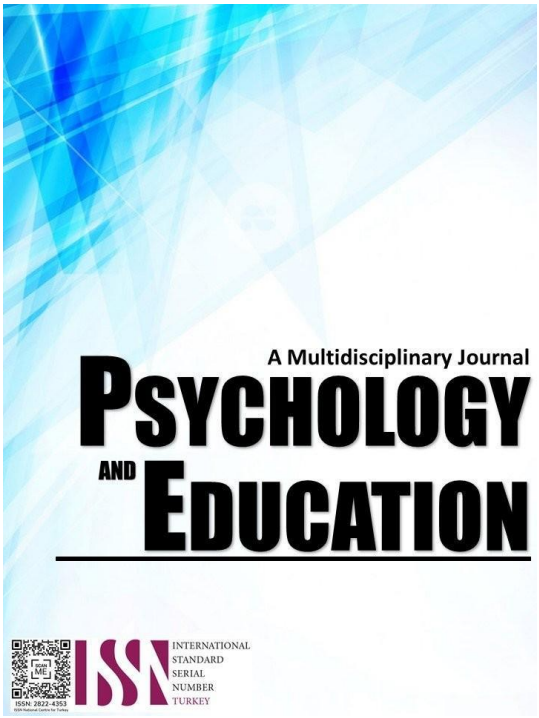
# RMSColCred: EVALUATING THE EFFICACY OF A WEB AND MOBILE-BASED REQUESTS AND MONITORING SYSTEM WITH SMS NOTIFICATIONS FOR COLLEGE CREDENTIALS




**PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL**

Volume: 38
Issue 4
Pages: 393-402
Document ID: 2025PEMJ3673
DOI: 10.70838/pemj.380407
Manuscript Accepted: 05-10-2025

*Psych Educ*, 2025, **38**(4): 393-402, Document ID:2025PEMJ3673, doi:10.70838/pemj.380407, ISSN 2822-4353



Research Article

# RMSColCred: Evaluating the Efficacy of a Web and Mobile-Based Requests and Monitoring System with SMS Notifications for College Credentials

Sheryl Mae B. Roda,* Elbren O. Antonio
For affiliations and correspondence, see the last page.

## Abstract

The RMSColCred: Evaluating the Efficacy of a Web and Mobile-Based Requests and Monitoring System with SMS Notifications for College Credentials addressed the need for automated credential management, prompted by the continuous advancement of technology and the challenges intensified by the COVID–19 pandemic. The system was built using HTML, CSS, PHP, and JavaScript, with MySQL for database management. The Agile development methodology was employed to ensure flexibility and iterative improvements throughout the project lifecycle. A quantitative approach was used to assess the system's efficacy among its users, including college students, program heads, the registrar, and the cashier in terms of perceived usefulness, ease of use, and economic benefits. The research applied the Analysis of Variance (ANOVA) test, Post-Hoc Analysis, and Slovin's formula, determining the appropriate sample size. The results indicated that the system significantly improved the speed of processing credential requests, enhanced user accessibility, and reduced administrative workload. Findings revealed that RMSColCred significantly improved request processing times, enhanced accessibility for users, and reduced the administrative workload. The study concludes that the system effectively enhances operational efficiency, streamlines credential-related tasks, and provides cost-saving benefits, making it a valuable tool for modern academic institutions in managing credentials through web and mobile platforms integrated with SMS notifications.

**Keywords:** *online request, college credentials, SMS notifications, monitoring system, web*

## Introduction

As technology advances, businesses continue to enhance their daily operations. Automated transactions are important in facilitating quicker and more effective operations that enable businesses to satisfy their clients' demands.

Many businesses heavily rely on advanced information systems (IS). As a result, they have become increasingly dependent on information technology (IT) to carry out their daily operational tasks (Farooq, 2018). As mentioned by Clarin (2020), mobile communications now allow for anytime, anywhere communication; they have developed and grown in popularity over the past few years. It also enables more flexible time management for individuals. People are increasingly choosing to use mobile devices for all their work due to the rise in wireless personal communications and the abundance of electronic services offered by the internet.

Recent technological advancements have made it possible to complete many processes online (Chan & Lizhen, 2019). The COVID-19 pandemic has altered the nature of education both domestically and internationally, particularly regarding instruction delivery, as most universities have shifted to online platforms (Ahmat et al. 2021).

To fulfill the rising demand for technical and professional labor, colleges are progressively incorporating technology into their instructional strategies (Li, 2023). Institutions must have an online credentials request system in place to effectively manage the process of obtaining student credentials, particularly during a worldwide pandemic (Abang et al., 2022).

Monitoring online activity can be achieved with cookies to track client device access to different resources, ensuring comprehensive tracking of online interactions (Keyi, 2019). By combining online request features with SMS notifications, customers can quickly submit requests, receive timely updates, and stay updated about essential information, leading to greater productivity and customer satisfaction across diverse sectors (Batitis et al., 2019).

The study of Bhumichitr and Channarukul (2020) stated that Academic Credentials such as transcripts, and certificates are essential documents for school enrollment, job applications, immigration processes, and various other purposes. The study addressed the enhancement of academic credentials to minimize both time and human effort, as well as to prevent fraudulent academic credentials. Today, academic credentials can be stored in either traditional paper format or as digital files.

According to Mishra et al. (2021), students' credentials like transcripts, letter of recommendation and all kinds of certificates (like diploma, degree, internship, training, migration, and character certificates) are important documents that stay with an individual for the entire lifetime. Without exception, all these credentials must be meticulously made, given to students, and the pertinent information must be kept safe for use by educational institutions in the future.

A college credential request is a process in which a student requests their Transcript of Records, Good Moral, Grade Certification, and other credentials. According to Al-Khafaji (2020), one of the major challenges faced by universities and colleges today is the difficulty of locating files promptly, which is often a complicated process. The manual process leads to inaccurate reports regarding the status and location of documents. It is a time-consuming approach where clerks often shift blame onto one another. As a result, documents

can easily be misplaced or lost in the process.

The current manual process and paper-based approach of Holy Child Central College Inc. (HCCCI) for requesting such as Transcript of Records, Good Moral, and other credentials are causing inaccurate reports, difficulty of files location and time consuming. Furthermore, using the automated request and monitoring with SMS notification can help fix the problem.

The system will let students request credentials online and receive SMS notifications on their request status. This will reduce the time and effort required by students to apply for credentials and improve the quality of data associated with these requests. Additionally, the system will provide real-time updates to the administration and make the monitoring process more efficient.

**Research Objectives**

The proposed study aimed to develop and evaluate the efficacy of a Web and Mobile-Based Requests and Monitoring System with SMS Notifications for College Credentials. This study aimed to achieve the following specific objectives:

1. To determine the speed of online processing per transaction to the following:
    1.1. certificate of enrollment;
    1.2. certificate of grades;
    1.3. honorable dismissal /certificate of transfer credentials;
    1.4. transcript of records photocopy; and
    1.5. good moral
2. To determine the perceived effectiveness of the system developed through the assessment by the respondents in terms of:
    2.1. usefulness;
    2.2. ease of use; and
    2.3. economic benefits
3. To determine the significant difference of the means scores of the speed online transaction among different locations.
4. To determine the significant difference of the means scores of perceived usefulness, perceived ease and perceived economic benefits of use ratings among the different programs.

## Methodology

**Research Design**

The researcher utilized the quantitative research to gather and analyze the numerical data in order to assess the efficacy of the system. The study employed a descriptive-evaluative research design to evaluate the efficacy of a web and mobile-based requests and monitoring system with SMS notification for college credentials. The purpose of this design is to describe the system's performance in terms of speed processing online of transaction and to evaluate the efficacy based on the perceived usefulness, ease of use and economic benefits.

According to Stanat (2024), quantitative research provide numerical insights that guide businesses to make well-informed decisions based on facts rather than conjecture or gut feeling by gathering and analyzing data about consumer preferences, market trends, and industry dynamics.

**Respondents**

The respondents for this study were carefully selected to provide a comprehensive understanding on the use of the system.

The 300 college students were selected as they were the primary user of many academic system as they were a representation of a user needs. The College Students from different programs such Bachelor of Science in Criminology, Bachelor of Science in Business Administration, Bachelor in Technical Vocational Education, Bachelor in Early Childhood Education, Bachelor of Science in Information Technology, Bachelor of Science in Information Systems, Bachelor of Science in Pharmacy, Bachelor of Science in Office Administration, Bachelor of Science in Accountancy, and Associate in Computer Technology.

The participation of the Program Heads were from Business, Computer Studies, Criminal Justice, Education and Pharmacy Department further enriched the data, as they had important insights into the operational and academic requirements. They provided knowledge on how the system support student records and departmental administration.

In addition, the school registrar and cashier were selected to represent the administrative role of the student's records. The registrar and cashier provided insights on how the system facilitated processes.

As Al-Emran et al. (2018) also point out the use of technology in education by evaluating the effects of digital literacy and user confidence among administrative personnel and college students. Since they are the main consumers of educational technology systems, these two categories make the best responses.

**Instrument**

The researcher based the modified questionnaire from (TAM) the Technology Acceptance Model that produced overall score since this helped to determined to measure users' satisfaction of the website, software, or product at the end of the study. Professionals evaluated the modified questionnaire. Questionnaire pointed out the speed of online processing, perceived usefulness (PU), perceived ease of use (PEOU) and perceived of economic benefits.

**Procedure**

The researcher formally collaborated with the HCCCI management by writing a letter to request approval and support for system implementation after finishing the study's plan. Following acceptance, relevant personnel—including office staff who would utilize the system—met to discuss its features and capabilities. In order to familiarize students with the system and show them how to obtain and monitor their credentials via the web and mobile platforms, a room-by-room orientation was also held.

Following the system's use by both staff and students, the researcher employed a questionnaire to gather input on the system's efficacy in terms of perceived usefulness, ease of use and economic benefits. A modified version of the Technology Acceptance Model-based questionnaire was employed.

After obtaining the necessary authorizations and making sure that participants had enough system experience to offer insightful input, the study got underway. This method provided a more thorough assessment of the system's performance while reducing selection bias. A statistician was then consulted for a thorough quantitative examination of the collected data. Strict protocols were followed throughout the study to protect participant privacy, guarantee their safety, and preserve the study's scientific integrity.

**Data Analysis**

The data gathered were tallied, and the responses were computed, and the highest rating will be emphasized in the presentation of findings. Likert Scale was used as basis for rating. The system will be rated with the following: Likert Scale to determine the speed of online processing and the perceived effectiveness of the system in terms of usefulness, ease of use, and economic benefits. Based on Opuni (2024), a Likert scale, a well-established and widely utilized rating scale, provides a nuanced and structured approach to measure individuals' opinions, attitudes, or behaviors. Each item was given a score from 1 to 7. The researcher utilized the mean and standard deviation method for determining the efficacy of a web and mobile-based requests monitoring system with SMS notification for college credential. Mean was used to determine the system's efficacy. The calculation involved summing up all series values and dividing the result by the number of values. Standard Deviation provided a sense of how near the average value the complete set of data was. ANOVA was used to test if there is any significant difference between the means of two or more groups.

**Ethical Considerations**

The research adhered to key ethical considerations to ensure the protection and rights of all respondents. A consent form was obtained from all the respondents including the students, program heads and administrative personnel such as registrar and cashier. The confidentiality was strictly maintained; all responses were used solely for research purposes. The system handled sensitive information, appropriate measure was taken in compliance with Data Privacy Act of 2012, ensuring access of data to authorized personnel only. The research process care was taken to ensure that no harm, physical, psychological or reputational would be caused to any respondents or institution. These ethical considerations were essential in maintaining the integrity and credibility of the study.

## Results and Discussion

***Result to the speed of online processing per transaction***

According to Conrad (2023), online processing is an automation method to process data or reports as use as the source documents are accessible. It describes how quickly to respond to the information.

Table 1. *Speed (hours) of online processing of RMSColCred*

| | *Surallah* | | *Banga* | | *DAS* | | *Lake Sebu* | | *Far Places* | | *Sto Nino* | | *T'boli* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Document Type | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD |
| Enrollment | 55.6 | 20.62 | 62.2 | 27.68 | 88.5 | 23.61 | 65.8 | 27.13 | 92.7 | 4.25 | 89.5 | 18.37 | 49.3 | 37.90 |
| Grades | 49.9 | 22.28 | 60.2 | 29.41 | 46.3 | 40.43 | 59.6 | 22.39 | 79.4 | 19.04 | 60.4 | 50.12 | 56.3 | 33.01 |
| Honorable Dismissal | 56.9 | 20.31 | 69.8 | 23.41 | 66.3 | 25.62 | 59.7 | 43.41 | 83.0 | 29.07 | 51.5 | 35.45 | 41.3 | 29.16 |
| TOR Photocopy | 56.9 | 20.54 | 54.4 | 26.07 | 64.6 | 47.17 | 32.8 | 24.51 | 72.4 | 31.57 | 45.8 | 45.89 | 41.6 | 18.62 |
| Good Moral | 61.7 | 11.41 | 53.9 | 16.19 | 52.3 | 33.53 | 57.0 | 10.04 | 71.3 | 41.04 | 85.7 | 14.74 | 55.3 | 23.06 |

Table 1 presents the speed of online processing in RMSColCred across different document types and locations, measured in hours. It included the mean processing time (M) and standard deviation (S.D.) for each document type, such as Certificate of Enrollment, Certificate of Grades, Good Moral Certificate, Honorable Dismissal/Certificate of Transfer Credentials, and Transcript of Records

(Photocopy). The data was categorized based on locations, including Surallah, Banga, DAS, Lake Sebu, Others, Sto. Niño, and T'boli. The table highlights variations in processing times, indicating potential inconsistencies in service efficiency across different areas.

The speed of online processing in RMSColCred varies significantly across different document types and locations, as shown in Table 1. The Certificate of Enrollment exhibits the highest variability in processing times, with "Others" taking the longest with the mean=92.7, S.D. =4.25, followed by Sto. Niño with the Mean of 89.5, S.D. of 18.37. In contrast, T'boli has the shortest processing time with the mean of 49.3, S.D. of 37.90. Similarly, the Certificate of Grades is processed the fastest in DAS with the Mean of 46.3, S.D. of 40.43, while "Others" take the longest with the mean of 79.4, S.D. of 19.04. The Good Moral Certificate follows a similar trend, with Sto. Niño with the mean of 85.7, S.D. of 14.74, while DAS takes significantly less time with the mean of 52.3, S.D. of 33.53, though the high standard deviation suggests variability in service efficiency.

For more complex documents, the Honorable Dismissal/Certificate of Transfer Credentials takes the longest in "Others" with the mean of 83.0, S.D. of 29.07, whereas T'boli has the shortest processing time with the mean of 41.3, S.D. of 29.16). Meanwhile, the Transcript of Records (Photocopy) is processed in the shortest time in Lake Sebu with the mean of 32.8, S.D. of 24.51, while "Others" again experience the longest processing time with the mean of 72.4, S.D. of 31.57. These findings suggest a lack of consistency in document processing across different locations. The high standard deviations for several document types further indicate significant fluctuations in processing times, which may be due to varying workloads, technical inefficiencies, or inconsistency in local office capacities.

Overall, the assessment of RMSColCred's online processing efficiency highlighted the need for standardization and service improvements. The notable delays in some locations could negatively affect students who required timely access to their academic records. The high standard deviations further emphasized inconsistencies in processing speed, particularly for essential documents such as Certificates of Enrollment and Transfer Credentials. To address this inconsistency, targeted interventions such as streamlining digital workflows, enhancing system infrastructure, and allocating additional resources to underperforming areas could help improve the overall efficiency and reliability of the system.

This aligned with research highlighting the destructive effect of 'administrative burden' in educational settings, where complexity and time-consuming disproportionately affect student success, particularly among vulnerable populations (Herd, P., & Moynihan, D. P. (2018). Accessing the necessary information is made simple by the quick advancement of information technology. User can easily find all of this information online (View of Online Reservation Management System to Increase Transaction Efficiency at MOMENKITA Photo Studio, n.d.).

***Result of Perceived Usefulness***

From the study of Musa et al.(2023) Perceived usefulness of TAM model is when the implementation of technology the people will raise the quality of their work. The more beneficial it is, the more willing they are to apply it in their work.

Table 2.1 *Summary of scores on perceived effectiveness of RMSColCred according to Perceived Usefulness*

| *Indicators* | *Mean* | *SD* | *Interpretation* |
|---|---|---|---|
| Q1 | 6.6 | 0.83 | Very High |
| Q2 | 6.5 | 0.74 | Very High |
| Q3 | 6.6 | 0.80 | Very High |
| Q4 | 6.6 | 0.77 | Very High |
| Q5 | 6.7 | 0.71 | Very High |
| Q6 | 6.7 | 0.73 | Very High |

The table above shows the summary of mean scores on the usefulness of RMSColCred under each item in the survey labeled as 1, 2, 3, 4, 5, and 6. It also shows the mean scores under each item in the survey.

The data in the table reveals that the perceived usefulness of RMSColCred, across six indicators the Q1-Q6, consistently received high ratings. The mean scores range from 6.5 to 6.7, all of which fall within the "Very High" category according to the interpretation scale. With scores in this range, the tool is considered to have an extremely positive impact on its usefulness. Additionally, the standard deviations ranging from 0.71 to 0.83 are low, indicating that respondents were consistent in their perceptions of the tool's effectiveness.

This consistency in ratings suggests that participants overwhelmingly view RMSColCred as highly useful. The very high mean scores and low variability imply strong agreement among respondents, reinforcing the positive reception of the program. This evaluation highlights the potential of RMSColCred as a highly effective tool for its intended purpose.

Based on the study of Venkatesh et al.2023, the ability of the tools consistently meet user expectations, as evidenced by the high mean scrores and low variability, it suggests a continue implementation and potential expansion.

Luo et al. (2024) mentioned that technology's impact on task performance time, effort and cost reduction, and overall usefulness are key measures of its PU.

***Result of Perceived Ease of Use***

Maharani and Wicaksono (2020), stated that perceived ease of use defined as the individual or organization belief in a system can help them free from a job. The dimension such as ease of navigation, fast response, having a intuitive user interface and quick processing time.

Table 2.2. *Summary of scores on perceived effectiveness of RMSColCred according to Perceived Ease of Use*

| *Indicators* | *Mean* | *SD* | *Interpretation* |
|---|---|---|---|
| Q1 | 6.6 | 0.80 | Very High |
| Q2 | 6.5 | 0.80 | Very High |
| Q3 | 6.5 | 0.87 | Very High |
| Q4 | 6.6 | 0.75 | Very High |
| Q5 | 6.6 | 0.73 | Very High |
| Q6 | 6.6 | 0.78 | Very High |

The table above presents the mean scores for the perceived ease of use of RMSColCred. It provides the overall mean scores, as well as the individual mean scores for each specific survey item labeled 1 through 6. This summary allows for a comparison of how different programs assess the ease of use of the system.

The data in Table 2.2 presents the perceived ease of use of RMSColCred across six indicators from Q1-Q6, with mean scores ranging from 6.5 to 6.6. All indicators fall within the 6.20 - 7.00 range, which is classified as "Very High" on the interpretation scale. This suggests that participants rated the ease of use of RMSColCred as very high. The standard deviations, ranging from 0.73 to 0.87, are relatively low, indicating that the responses are consistent with little variation, which reinforces the reliability of the positive feedback.

Overall, the results indicate strong agreement among participants regarding the ease of use of RMSColCred. With all indicators rated in the "Very High" category and low variability in responses, the tool is perceived as both highly effective and user-friendly. These findings suggest that RMSColCred is not only valuable in terms of effectiveness but also accessible and easy to use, which contributes to its potential for successful implementation and widespread adoption.

Perceived ease of use directly influence the user satisfaction and continued usage, as users are more likely to engage with tools that require minimal effort (Venkatesh et al., 2003). In educational settings, user-friendly platforms and tools can significantly improve the administrative efficiency and workflows, contributing to improved overall productivity.

***Result of Perceived Economic Benefits***

The economic activities that emerge the digital technology, individual, companies, devices and operation. It includes also the online transactions or interaction that take place many industries, online platforms, mobile, and internet technologies (Yasar & Pratt, 2023).

Table 2.3. *Summary of scores on perceived effectiveness of RMSColCred according to perceived economic benefits.*

| *Indicators* | *Mean* | *SD* | *Interpretation* |
|---|---|---|---|
| Q1 | 6.5 | 0.98 | Very High |
| Q2 | 6.5 | 0.85 | Very High |
| Q3 | 6.7 | 0.71 | Very High |
| Q4 | 6.7 | 0.65 | Very High |
| Q5 | 6.7 | 0.74 | Very High |
| Q6 | 6.6 | 0.74 | Very High |

The table above provides the summary of mean scores for the perceived economic benefits of RMSColCred and includes individual mean scores for each survey item, numbered 1 through 6. The table allows for a comparison of the economic benefits as perceived by different groups in the study.

The data in Table 2.3 presents the perceived economic benefits of RMSColCred across six indicators (Q1-Q6). The mean scores for all indicators range from 6.5 to 6.7, falling within the 6.20 - 7.00 range, which is classified as "Very High" on the interpretation scale. This suggests that participants strongly perceived RMSColCred as providing significant economic benefits. The standard deviations are relatively low, ranging from 0.65 to 0.98, indicating a high level of agreement among respondents regarding the economic advantages of using the tool.

Overall, the results indicate that participants unanimously view RMSColCred as offering considerable economic benefits. The consistent high ratings, along with the low variability in responses, further emphasize the tool's perceived value in terms of economic impact. This positive perception could be a key factor in its continued use and wider adoption, as participants see it as both a valuable and economically beneficial resource.

This aligned with cost-benefit analysis frameworks, which emphasize the importance of quantifiable returns in evaluating technological

solutions (Boardman et al., 2017). The consistent 'Very High' ratings suggest that RMSColCred is perceived as a valuable investment, contributing to the institution's financial and operational effectiveness.

The technical expenditures should be evaluated for both their long-term economic impact and usefulness, which is in line with the larger framework of cost-benefit analysis. The broad acceptability and perceived sustainability of a system demonstrate that an efficient cost-benefit analysis takes into account both direct and indirect financial gains, as noted by Boardman et al. (2018).

***Result of Speed Online Transaction***

Clark (2024) mentioned that online transaction speed has a big influence on user retention and happiness. Increased engagement and loyalty result from improved user experience brought forth by faster transaction. It was highlighted also from the study of Grepon et al. (2021) that the admissions, data processing, and report generating processes at the school are comparable to those in business or industry. A centralized system for data and information processing, retrieval, and storage makes those procedures possible.

Table 3. *Difference in the mean scores of the speed online transaction*

| *Indicator* | *Source of Variation* | *Sum of Squares* | *df* | *Mean Square* | *F* | *Sig.* | *Decision* | *Interpretation* |
|---|---|---|---|---|---|---|---|---|
| Locations | Between Groups | 28579.76 | 10 | 4763.293 | 7.05 | 0.00 | Reject the null hypothesis. | There is a significant difference. |
| | Within Groups | 202061.30 | 121 | 675.790 | | | | |
| | Total | 230641.06 | 131 | | | | | |

*α=0.05*

A One-way ANOVA was conducted to determine whether there was a statistically significant difference in processing times across the different municipalities. The results indicate that there were significant difference, F (10, 121) = 7.048, p < .001, in the processing times of requested documents among the different municipalities. This finding aligns with the broader understanding that variations in administrative efficiency can significantly affect services in organizations (Moynihan & Pandey, 2010).

The table shows the computed F-value is 7.048, while the corresponding p-value of 4.95 x 10-7 is less than the significance level of α = 0.05. Since the p-value is below the threshold, the null hypothesis is rejected, indicating that differences in processing times among municipalities are statistically significant.

This suggests that the processing times for requested documents vary significantly across different location, implying that certain location may have more efficient systems, while others may experience delays. These variations could stem from a multitude of factors, including differences in administrative procedures, resource availability, staff efficiency, technological infrastructure, and local governance practices. Implementing the system successfully depend on number of variables, such as staff training, technology infrastructure which can differ from place to place (Alshibly, 2017) .

***Result on Perceived Effectiveness according to Usefulness, Ease of Use and Economic Benefits***

According to Harris et al. (2019), the use of a one-way ANOVA was suitable for comparing means across several groups in order to identify any significant differences.

Table 4. *Difference of the mean scores on perceived effectiveness of RMSColCred according to Usefulness, Ease of Use and Economic Benefits*

| *Indicator* | | *Sum of Squares* | *df* | *Mean Square* | *F* | *Sig.* | *Decision* | *Interpretation* |
|---|---|---|---|---|---|---|---|---|
| Perceived Usefulness | Between Groups | 9.456 | 8 | 1.182 | 3.045 | .003 | Reject null hypothesis. | There is a significant difference. |
| | Within Groups | 111.812 | 288 | 0.388 | | | | |
| | Total | 121.268 | 296 | | | | | |
| Perceived Ease-of-Use | Between Groups | 8.610 | 8 | 1.076 | 2.541 | 0.011 | Reject null hypothesis. | There is a significant difference. |
| | Within Groups | 122.005 | 288 | 0.424 | | | | |
| | Total | 130.615 | 296 | | | | | |
| Perceived Economic Benefits | Between Groups | 9.595 | 8 | 1.199 | 2.979 | 0.003 | Reject null hypothesis. | There is a significant difference. |
| | Within Groups | 115.952 | 288 | 0.403 | | | | |
| | Total | 125.548 | 296 | | | | | |

*α=0.05, 0.01*

The table above presents the analysis of variance (ANOVA) results for the perceived effectiveness of RMSColCred across different indicators.

A One-way ANOVA was conducted to determine a statistically difference in the perceived usefulness. Result shows that there is a significant difference, $F (8, 288) = 3.045$, $p < .01$). Performing post-hoc analysis (Games-Howell) shows that all program pairings are comparable except for BSP (M=6.7, SD=0.43) and BSOA (M=6.5, SD=0.76), and BSP and BSIT (M=6.4, SD=0.71).

A One-way ANOVA was conducted to determine a statistically difference in the perceived ease-of-use. Result shows that there is a significant difference, $F(8, 288) = 1.076$, $p < .05$). Performing post-hoc analysis (Games-Howell) shows that all program pairings are comparable except for BSBA (M=6.9, SD=0.21) and BSOA (M=6.5, SD=0.76), and BSIT (M=6.4, SD=0.64).

A One-way ANOVA was conducted to determine a statistically significant difference in the perceived economic benefits. The results showed that there was a significant difference, $F(8, 288) = 2.979$, $p < .01$. This means that the perceived economic benefits of the system differ significantly between the groups. Post-hoc analysis using the Games-Howell test revealed significant differences between BSIT (M = 6.39, SD = 0.64) and BSBA (M = 6.87, SD = 0.17), BSP (M = 6.86, SD = 0.17) and BSIT (M = 6.39, SD = 0.64), BSCRIM (M = 6.79, SD = 0.25) and BSIT (M = 6.39, SD = 0.64), BSOA (M = 6.55, SD = 0.78) and BSBA (M = 6.87, SD = 0.17), BSOA (M = 6.55, SD = 0.78) and BSP (M = 6.86, SD = 0.17), and BECED (M = 6.74, SD = 0.35) and BSIT (M = 6.39, SD = 0.64). These results indicate notable differences in how students from different programs perceive the economic benefits of the system.

According to a survey on academic institutions' information management, 90% of business executives stressed the necessity of using information more effectively in order to improve operational efficiency. This entails streamlining task planning, decreasing costs, and enhancing internal reviews of the academic process (Campbell & Fogarty, 2021). Based to the results of the current study, RMSColCred is thought to be beneficial in enhancing academic institutions' administrative performance and resource usage.

## Conclusions

This section presents the key findings of the study along with their implications. The analysis of online processing efficiency revealed significant variations in processing times across different document types and locations. Additionally, the findings show that the perceived effectiveness of the system—measured in terms of perceived usefulness, ease of use, and economic benefits—was rated very high. This indicates that users found the system accessible, valuable, and economically advantageous. Furthermore, the results on the speed of online transactions showed significant differences across various locations. In terms of perceived effectiveness, Post-hoc analysis revealed that perceptions of usefulness, ease of use, and economic benefits significantly varied among different academic programs.

## References

Abang, K. I. R., Gatmaitan, D. L. V., Manalo, F. R., Torcelino, M. R., Rodriguez, R. L., & Serrano, E. A. (2022). CCT Online Request of Students Credentials: A Document Management System for Private HIEs in the Philippines. Scispace. https://doi.org/10.1109/icore58172.2022.00024

Afiifah, K., Azzahra, Z. F., & Anggoro, A. D. (2022). Analisis Teknik Entity-Relationship Diagram dalam Perancangan Database Sebuah Literature Review. INTECH, 3(1), 8–11. https://doi.org/10.54895/intech.v3i1.1261

Aguilar-Correa, J., Meneses-Leal, R., Pasillas-Banda, D. G., Domínguez-García, R. O., Aguilar-Molina, Y., & González-Dueñas, M. (2023). Mobile-Web system for public emergency medical services request and management in urban and rural areas.

Ahmat, N. H. C., Bashir, M. A. A., Razali, A. R., & Kasolang, S. (2021). Micro-Credentials in Higher Education Institutions: Challenges and Opportunities. Asian Journal of University Education, 17(3), 281–290. https://doi.org/10.24191/ajue.v17i3.14505

Alshibly, H. (2017). Investigating the critical success factors for implementing electronic document management systems in governments: Evidence from Jordan. Al-balqa. https://www.academia.edu/34795550/

Al-khafaji, N. J. (2019). Evaluating the tracking e-files prototype project based on the task technology fit model. Indonesian Journal of Electrical Engineering and Computer Science. http://ijeecs.iaescore.com

Al-Emran, M., Mezhuyev, V., & Kamaludin, A. (2018). "Technology acceptance model in M-learning context: A systematic review." Computers & Education, 125, 389–412.

Amadin, F., Ejiofor, C., & Obienu A, C. (2017). ResearchGate. Transcript Request Processing System: A Multi-tenant Framework. https://www.cisdijournal.org

Bakhri, F., & Ekhsan, H. M. (2020). Students' Attendance Monitoring System with SMS Notification. Journal of Computing Research and Innovation, 5. https://doi.org/10.24191/jcrinn.v5i1.159

Batitis, C. a. B. (2019). Sms Notification Implementing Internet Of Thingsfor Barangay Labas, City Of Santa Rosa, Laguna. International Journal of Advanced Research in Computer Science. https://doi.org/10.26483/ijarcs.v10i1.6356

Boardman, A. E., Greenberg, D. H., Vining, A. R., & Weimer, D. L. (2018). Cost-Benefit analysis: Concepts and Practice. Cambridge University Press.

Bhumichitr, K., & Channarukul, S. (2020). AcaChain: Academic Credential Attestation https://doi.org/10.1145/3406601.3406614

Buchanan, A., Cole, T., & Keohane, R. O. (2015). Justice in the diffusion of innovation. Political theory without borders, 133-161.

Campbell, C. A., & Fogarty, T. J. (2021). Understanding the factors that influence information system effectiveness in higher education. Journal of Governmental & Nonprofit Accounting, 10(1), 86–109. https://doi.org/10.2308/jogna-19-015

Chan, Lizhen (2019). Student Request Service System (SRSS). NTU Singapore. https://hdl.handle.net/10356/77679

Clarin, J. A. (2019). Web-Based Information System Portal with SMS Support for Aklan State University-Kalibo Campus. In International Journal of Recent Technology and Engineering (IJRTE) (Issue 8).

CLIQUE: a Web-Based queue management system with Real-Time queue tracking and notification of units for Angeles University Foundation Office of the University Registrar. (2022). IEOM Society Internationa. https://ieomsociety.org/proceedings/2022istanbul/359.pdf

C, O. A., Amadin, F., & Ejiofor, C. (2017). Transcript Request Processing System: A Multi-tenant Framework. In Information Systems & Development Informatics Journal (Vol. 8, Issue 4).

Conrad, S., CPA. (2023, March 28). What is Online Processing? https://www.myaccountingcourse.com/accounting-dictionary/online-processing

Constantino, J., John Agustin, R., & Tecson, R. G. (2020). User Acceptance on the E-Docs: Electronic Documents Location Tracking System. https://www.ijstr.org

Danlog, K. P., Rebujio, E., De Guzman, P., Arrieta, K. I., & Carranza, B. D. (2017, August 18). Computerized Record Management System of one National High School in the Philippines. https://sajst.org/online/index.php/sajst/article/view/130

DE LA CRUZ, J. A., & DIAZ, R. A. (2020). Web-based Student Monitoring System with Short Message Service (SMS). www.academia.edu. https://www.academia.edu/44232595/Web_based_Student_Monitoring_System_with_Short_Message_Service_SMS_

Ellen, S. (2022, March 24). Slovin's formula sampling techniques. Sciencing. https://www.sciencing.com/slovins-formula-sampling-techniques-5475547/

Firmansyah, F., Razak, M. R. R., & Sofyan, W. (2024). Online Reservation Management System to increase transaction efficiency at MOMENKITA Photo Studio. Journal of Accounting and Finance Management,608–610.

Farooq, M. S. (2018). Modelling the Significance of Social Support and Entrepreneurial Skills for Determining Entrepreneurial Behaviour of Individuals: A Structural Equation Modelling Approach. World Journal of Entrepreneurship, Management and Sustainable Development. https://doi.org/10.1108/WJEMSD-12-2017-0096

George, C., & Creately. (2023, December 12). What is a Context Diagram and How to Create One? Creately. https://creately.com/guides/context-diagram-tutorial/

Grepon, B. G., Baran, N., Gumonan, K. M. V., Martinez, A. L., & Lacsa, M. L. (2021). Designing and Implementing e-School Systems: An information systems approach to school management of a community college in northern Mindanao, Philippines. International Journal of Computing Sciences Research, 6, 792–808. https://doi.org/10.25147/ijcsr.2017.001.1.74

Herd, P., & Moynihan, D. P. (2019). Administrative burden. https://doi.org/10.7758/9781610448789

Kaminski, J. (2011). Diffusion of Innovation Theory. cjni.net/journal/ Theory in Nursing Informatics Column.

Keyi, W. (2019). Online monitoring system. SciSpace - Paper. https://typeset.io/papers/online-monitoring-system-19ogyoh8bm

Langefors, B. (1977). INFORMATION SYSTEMS THEORY. In Inform. Swrrms (Vol. 2). Pergamon Press.

Li, J. (2023). Development of applied technology courses in colleges and universities oriented by Professional Needs——Taking C programming as an example. Curriculum and Teaching Methodology. https://doi.org/10.23977/curtm.2023.060112

Luo, J., Ahmad, S. F., Alyaemeni, A., Ou, Y., Irshad, M., Alyafi-Alzahri, R., Alsanie, G., & Unnisa, S. T. (2024). Role of perceived ease of use, usefulness, and financial strength on the adoption of health information systems: the moderating role of hospital size. Humanities and Social Sciences Communications, 11(1). https://doi.org/10.1057/s41599-024-02976-9

Mackenzie, R. (2024, January 24). One-Way vs Two-Way ANOVA: Differences, Assumptions and Hypotheses. Informatics From Technology Networks. https://www.technologynetworks.com/informatics/articles/one-way-vs-two-way-anova-definition-differences-assumptions-and-hypotheses-306553

Maharani, A. & Wicaksono, A. (2020). The Effect of Perceived Usefulness and Perceived Ease of Use on the Technology Acceptance Model to Use Online Travel Agency. Journal of Business and Management Review, 1(5), 313-328.

Marikyan, D. & Papagiannidis, S. (2023) Technology Acceptance Model: A review.https://open.ncl.ac.uk

Mallari, M. L., Guintu, J., Magalong, Y., & Yap, D. (2022). CLIQUE: A Web-Based Queue Management System with Real-Time Queue Tracking and Notification of Units for Angeles University Foundation Office of the University Registrar. IEOM Society International. https://ieomsociety.org/proceedings/2022istanbul/359.pdf

Mishra, R. A., Kalla, A., Braeken, A., & Liyanage, M. (2021). Privacy Protected Blockchain Based Architecture and Implementation for Sharing of Students' Credentials. Information Processing and Management. https://doi.org/10.1016/j.ipm.2021.102512

Musa, H. G., Rakotoarizaka, N. L. P., & Nuryakin. (2022). The Effect of Perceived Usefulness and Perceived Easy to Use on Student Satisfaction The Mediating Role of Attitude to Use Online Learning. Researchgate. https://doi.org/10.21776/ub.apmba.2023.011.03.5

Nagrama, N. D., Lingating, M. L., Calleno, J., Rato, R. K., Catungal, M. L. P., & Encarnacion, P. (2024). Web-based Document Management System. International Journal of Science and Applied Information Technology, 13. https://doi.org/10.30534/ijsait/2024/031332024

N. J. Al-Khafaji, R. M. Abdullah, and M. A. Kashmoola (2020). Evaluating the tracking e-files prototype project based on the task technology fit model, ‖ Indones. J. Electr. Eng. Comput. Sci.

Ong, J., Piangco, F. M., & Lorence, M. (2020.). PUP PARANAQUE ONLINE DOCUMENT REQUEST SYSTEM.

Opuni, F. (2024). The Likert Scale: Exploring The Unknowns And Their Potential To Mislead The World. Accra-Gh. Https://Www.Academia.Edu/99218498/The_Likert_Scale_Exploring_The_Unknowns_And_Their_Potential_To_Mislead_The_World

Rellon, S.J, Diolata, A.J, & Sobejana, N.P, (2021). Web-Based Document Tracking System Using Barcode Technology with SMS Notification.

Rassameeroj, I., Jomkhamsri, P., & Thaithaweewattana, N. (2022). Student Request System prototype using Low-Code development platform. IEEE Explore. https://doi.org/10.1109/admit57209.2022.00038

Salerno, B. (1977). An Automated Work Request Tracking System.

Shahzad, F. (2017). Modern and responsive mobile-enabled web applications. ScienceDirect. Retrieved March 11, 2025, from https://www.sciencedirect.com/science/article/pii/S187705091731284X

Simamora, B. (2015). The Impact of Request Tracker Application as Knowledge Management System on Employee Performance. Journal of Theoretical and Applied Information Technology. https://www.jatit.org/volumes/Vol76No2/9Vol76No2.pdf

Stanat, R. (2024, June 24). What is Quantitative Research? | SIS International Research. SIS International Research. https://www.sisinternational.com/what-is-quantitative-research/

Taruc, F. S., Martin, T. a. S., Olipas, C. N. P., & Alegado, R. T. (2023). Docu-GO: The development and assessment of a Web-Based Barangay Document Requesting System. International Journal of Information Technology and Computer Engineering

Vartak, A., Madkaikar, H., Narkar, R., Rajam, B., & Rane, P. (2023). Student Performance Monitoring System. https://doi.org/10.56726/IRJMETS36510

Vendramin, N., Nardelli, G., & Ipsen, C. (2021). Task-Technology Fit Theory: An Approach for Mitigating Technostress. In A Handbook of Theories on Designing Alignment Between People and the Office Environment (pp. 39–53). CRC Press. https://doi.org/10.1201/9781003128830-4

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly

Yasar, K., & Pratt, M. K. (2023, October 13). digital economy. Search CIO. https://www.techtarget.com/searchcio/definition/digital-economy

Yuqian, S., & Wenchi, W. (2016). Monitoring system and monitoring method for correcting falsified external network web page and sending SMS message notification. SciSpace - Paper. https://typeset.io/papers/monitoring-system-and-monitoring-method-for-correcting-3iniow9ys3

Zhao, Z., & Hu, Q. (2022). The application of a computer monitoring system using IoT technology. Computational Intelligence and Neuroscience, 2022, 1–11. https://doi.org/10.1155/2022/4033886

## Affiliations and Corresponding Information

**Sheryl Mae B. Roda, LPT**
Santo Nino College Foundation Inc.– Philippines

**Elbren O. Antonio, DIT**
Sultan Kudarat State University – Philippines