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DIGITALS TOOLS: EFFICIENT PAYMENT MANAGEMENT IN NON-SECTARIAN UNIVERSITY

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ABSTRACT: *The study explores the application of digital tools for efficient payment management at the University of Cagayan Valley, a non-sectarian institution. The research focuses on how integrating modern digital systems can streamline the university's financial processes, particularly in collecting and tracking student payments. A mixed-methods approach was utilized, combining surveys, interviews, and observations to explore conditions and participant profiles, with a focus on students at the University of Cagayan Valley. Participants, totaling 411 from various colleges, were randomly selected from current enrollees, excluding students from the College of Law, Graduate School, and Basic Education. Data gathering involved semi-structured questionnaires based on Lopez's (2021) study on e-payments, with Part 1 addressing participant profiles and Part 2 evaluating payment management efficiency. The procedure included obtaining approvals, ethical clearance, and a structured process to distribute and retrieve questionnaires. Findings indicated most participants were male, from the College of Criminology, in their third year, using e-wallets and online banking. Recommendations for UCV include clear terms for digital payments, addressing discrepancies, integrating budget-friendly features, improving payment systems, and enhancing user security through educational initiatives. Additionally, UCV should pursue accreditation for mobile payments to ensure secure, reliable services.*

Keywords: *Digital Tools, Efficient Payment Management, Accessibility, Automation, Cost-Effectiveness, Security, Speed, Accuracy, Transparency*

INTRODUCTION

Effective payment management was crucial for organizations in the recent era, particularly for students who faced financial challenges like educational expenses, living expenses, and part-time work. Digital options like Gcash, which were quicker than traditional payment methods, rapidly took their place. Tailored digital solutions could address specific financial needs and preferences of students, particularly in the context of educational expenses. The COVID-19 pandemic brought to light the significance of digital payments in reducing costs and highlighting the benefits of these newer forms of payment.

The University of Cagayan Valley was both managing over-the-counter and digital payments, and both options were available, but it was noticed that the first option was more frequently utilized by the students. From an observation, there were still few users due to the fact that digital payment had not yet been properly introduced or used by students, although executing these methods of digital payments would have been a more convenient option for paying educational expenses and reducing costs.

The work of Aini et al. (2023) addressed the Coronavirus pandemic with regards to advanced installments. The authors noticed the rising dependence on digital payment options in our internet-driven economy, particularly during the pandemic. The article highlighted the difficulties and preferences of consumers in adopting e-payment methods during the COVID-19 pandemic and discussed how traditional payment methods were being replaced by digital ones. According to the findings of a study that was carried out at the University of Zambia, 67.6% of students made use of an electronic payment system. The ZANACO bill muster system was the one that was utilized the most frequently. Most clients (81.7%) found the framework supportive and secure. However, a free t-test showed that while the electronic payment system was moderately effective, it did not completely meet the set functional targets. The study also highlighted that, according to the Memorandum of Understanding (MOU) between UNZA and ZANACO in 2009, the bank believed the system to be working as agreed. Furthermore, findings from ZAMREN indicated the system's effectiveness based on key performance indicators, such as downtime, which determined the system's availability (Mwewa, 2018).

The research gap in efficient payment management within university settings, especially regarding online banks or e-payments for educational expenses, was the notable absence of comprehensive cost-benefit analyses related to the adoption of digital payment tools. While colleges progressively shifted towards digital platforms, there was an absence of strong comprehension regarding the financial implications and possible advantages of coordinating these tools into existing systems. Furthermore, the investigation of how these digital tools seamlessly integrated with the colleges' existing financial systems was underexplored. The productivity and viability of the convergence between digital payment tools and established financial systems within university structures remained inadequately examined.

This study aimed to bridge the research gap in efficient payment management within university settings, specifically focusing on online banks or e-payments for tuition fees. The primary objectives were to conduct a comprehensive cost-benefit analysis related to the adoption of digital payment tools in universities, elucidating the financial implications and potential benefits. Additionally, the research aimed to explore and understand how these digital tools seamlessly integrated with existing financial systems within university structures, evaluating the efficiency and effectiveness of this convergence. The ultimate goal was to provide valuable insights for informed decision-making, enhance cost-effectiveness, and optimize the integration of digital tools, thereby improving payment management within university environments.

STATEMENT OF THE PROBLEM

This study aimed to assess the efficiency of the digital payment system at the University of Cagayan Valley for the academic year 2023-2024. Particularly it sought to answer the following questions:

1. What was the profile of the participants in terms of:
    1.1. Sex
    1.2. Year Level
    1.3. Department

1.4. Digital Tools Used

2. What was the assessment of the participants on the efficiency of payment system of University of Cagayan Valley in terms of:
   2.1. Accessibility
   2.2. Accuracy
   2.3. Automation
   2.4. Cost-effectiveness
   2.5. Security
   2.6. Speed
   2.7. Transparency

3. Was there a difference on the assessment of the Participants on the Level of efficiency of the digital payment system of the University of Cagayan Valley when grouped according to their digital tools used?

HYPOTHESIS

This study was guided by the lone hypothesis that affects efficiency among business students.
H1: There was no significant relationship on the assessment of the participants on the efficiency of the digital payment system of the University of Cagayan Valley when grouped according to their profile variables.

RESEARCH METHODOLOGY

The study employed a mixed-methods approach combining quantitative and qualitative data collection through surveys, observations, and interviews to investigate conditions and participant profiles among students at the University of Cagayan Valley. This approach involved surveys and systematic recording of events to support data-driven conclusions and deeper insights into participants' perspectives. Participants, totaling 411 students from various colleges (excluding the College of Law, Graduate School, and Basic Education), were randomly selected from those enrolled in the second semester of S.Y. 2023-2024, with each assigned a unique number for randomization. Data collection tools included semi-structured questionnaires inspired by Lopez's (2021) study on e-payments, with Part 1 focusing on participant profiles and Part 2 on the efficiency of payment management at the University. Statistical analysis included the Weighted Mean to evaluate digital payment management efficiency on a 4-point Likert scale and the T-test to determine relationships between payment efficiency and participant profiles.

Numerical scale	Descriptive Interpretation
3.25 – 4.00	Very Efficient
2.50 – 3.24	Efficient
1.75 – 2.49	Somewhat Efficient
1.00 – 1.74	Not Efficient

RESULTS AND DISCUSSION

The data provided information about the demographic profile of the survey participants and the digital payment tools they used. The results showed that most of the participants were male, and a majority were from the College of Criminology, with the fewest from the College of Technology. It also showed that most participants were in their third year. Furthermore, the data provided insights into the types of digital payments used by the participants, including e-wallets and online banking.

Table 1a: Frequency and Percentage Distribution of Profile of Participants when grouped to Gender

Gender	**Frequency**	**Percentage**
Male	255	62
Female	156	38
Total	**411**	**100**

Table 1a showed that the highest rated item was male having a frequency of 255 with a percentage of 62. While the item rated lowest was female with a frequency of 156 and a percentage of 38. This implies that most if the participants were male.

Table 1b: Frequency and Percentage Distribution of Profile of Participants when grouped to Year Level

Year Level	**Frequency**	**Percentage**
First Year	105	25
Second Year	107	26
Third Year	111	27
Fourth Year	88	22
Total	**411**	**100**

Based on table 1b, it showed that the third-year level participants got the highest frequency of 111 with a percentage of 27, next is the Second Year with 107 participants and the first Year with 105. The fourth year level participants got the lowest frequency of 88 with 22 percentages and that indicates that third year have the most participants.

Table 1c: Frequency and Percentage Distribution of Profile of Participants when grouped to Department

Department	**Frequency**	**Percentage**
School of Criminology	196	48
School of Business Administration and Governance	14	3
College of Engineering	16	4
College of Technology	5	1
College of Information Technology	13	3
College of Maritime Education	83	21
College of Hotel and Restaurant Management	21	5
College of Health	38	9
School of Liberal Arts and Teacher Education	25	6
Total	411	100

The gathered data on table 1c showed that the department of School of Criminology got the highest frequency with 196 and percentage of 48, next is College of Maritime Education having the frequency of 83 and percentage of 21. It follows with the College of Health with the frequency of 38 and 9 of percentage, the School of Liberal Arts and Teacher Education with 25 frequencies and 6 percentage, the College of Hotel and Restaurant Management with 21 frequency and percentage of 5, College of Engineering with the count of 16 frequency and having a percentage of 4, the School of Business Administration and Governance with frequency of 14 and percentage of 3, College of Information Technology with frequency of 13 and percentage of 3, last but not the least is the College of Technology which has only 5 frequency and 1 in percentage. That means that the highest of frequency and percentage is the College of Criminology and the lowest having a frequency and percentage is the College of Technology.

Table 1d: Frequency and Percentage Distribution of Profile of Participants when grouped to Digital Payment Tools

Year Level	**Frequency**	**Percentage**
Mobile Wallet/ Mobile Payments	325	81
Online Banking	86	19
Total	411	100

Table 1d showed that mobile wallet or mobile payments got the highest frequency and percentage of 325 and 81 respectively while online banking got the 86 frequency and 19 percentages. It means that mobile wallet or mobile payment was more used by students of digital payment tools that using of online banking. This finding is supported by a study by Gonzales & Cruz (2021), which highlighted that mobile wallet usage among students has surged due to its convenience, accessibility, and compatibility with everyday transactions, such as buying goods or transferring money. The study also noted that younger users tend to prefer mobile payment systems like Gcash and PayMaya over traditional banking due to simpler user interfaces and fewer requirements.

Table 2a: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Accessibility

Accessibility	**Mean**	**Descriptive Interpretation**
1. It is simple to use the digital payment platform that is provided by UCV.	2.51	Efficient
2. The digital payment options at UCV are open to clients with varying degrees of technological skill.	2.46	Efficient
3. The accessibility of digital payment services during top use times is adequate.	2.60	Efficient
4. I experience difficulties while attempting to access the UCV's digital payment systems.	2.57	Efficient

5. The digital payment options given by UCV address the issues, everything being equal, no matter what their area or conditions.	2.42	Somewhat Efficient
Category Mean	2.51	Efficient

Accessibility overall mean 2.51. Users generally found UCV's digital payment platform simple to use and suitable for clients with varying levels of technological skill. Access during peak times was adequate, although some users experienced difficulties. Overall, the payment options were somewhat efficient in addressing diverse user issues.

Table 2b: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Accuracy

Accuracy	**Mean**	**Descriptive Interpretation**
1. The transaction records and receipts provided by UCV's digital payment systems are accurate.	2.47	Efficient
2. I have experienced discrepancies in the amount charged or credited through UCV's digital payment methods.	2.48	Somewhat Efficient
3. I am confident in the precision of UCV's digital payment systems in processing various types of transactions.	2.57	Efficient
4. It is easy to reconcile my payments and transactions when using UCV's digital payment services.	2.70	Efficient
5. UCV addresses and rectifies inaccuracies or discrepancies in digital payment transactions effectively.	2.67	Efficient
Category Mean	2.58	Efficient

Accuracy overall mean 2.58. Transaction records and receipts provided by UCV's digital payment systems were generally accurate. Users had confidence in the system's precision, although some experienced discrepancies. However, reconciling payments was relatively easy, and UCV effectively addressed and rectified any inaccuracies.

Table 2c: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Automation

Automation	**Mean**	**Descriptive Interpretation**
1. UCV's digital payment systems effectively automate routine processes, reducing the need for manual intervention.	2.86	Efficient
2. I am satisfied with the level of automation in	2.41	Somewhat Efficient

UCV's digital payment systems for tasks like recurring payments or installment plans.		
3. I am satisfied with the level of automation in UCV's digital payment systems for tasks like recurring payments or installment plans.	2.55	Efficient
4. Increased automation in specific areas of the payment process could be beneficial.	2.51	Somewhat Efficient
5. UCV communicates changes or updates to its automated payment systems effectively.	2.52	Efficient
Category Mean	2.57	Efficient

Automation overall mean 2.57. Routine processes in UCV's digital payment systems were effectively automated, reducing the need for manual intervention. Although satisfaction with automation for tasks like recurring payments varied, increased automation was generally seen as beneficial. UCV also effectively communicated updates to its automated payment systems.

Table 2d: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Cost-Effectiveness

Cost Effectiveness	**Mean**	**Descriptive Interpretation**
1. Using digital payment methods at UCV is cost-effective compared to traditional payment methods.	2.58	Efficient
2. Additional fees or charges associated with UCV's digital payment systems are unreasonable or unexpected.	2.72	Efficient
3. The benefits of using digital payment methods at UCV justify any associated costs or fees.	3.04	Efficient
4. UCV is transparent in providing information about the costs and fees associated with digital payments.	2.88	Efficient
5. UCV offers enough options for digital payments that cater to a variety of financial circumstances.	3.02	Efficient
Category Mean	2.85	Efficient

Cost-Effectiveness overall mean 2.85. UCV's digital payment methods were perceived as cost-effective compared to traditional payment methods. Users found additional fees reasonable and transparent, with the benefits justifying the associated costs. Moreover, UCV offered a variety of payment options catering to different financial circumstances.

Table 2e: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Security

Security	**Mean**	**Descriptive Interpretation**
1. I am confident in the security measures	2.80	Efficient

implemented by UCV to protect my financial information during digital transactions.		
2. I have experienced security issues or concerns while using UCV's digital payment systems.	2.78	Efficient
3. UCV effectively educates users about best practices for maintaining security when using digital payment methods.	2.63	Efficient
4. UCV prioritizes the security of digital payment transactions over user convenience.	2.71	Efficient
5. Specific security features or measures should be implemented or improved in UCV's digital payment systems.	2.83	Efficient
Category Mean	2.75	Efficient

Security overall mean 2.75. Users expressed confidence in the security measures implemented by UCV to protect their financial information during transactions. While some users experienced security issues, UCV was perceived to effectively educate users on security best practices and prioritize security over user convenience.

Table 2f: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Speed

Speed	**Mean**	**Descriptive Interpretation**
1. The speed at which UCV's digital payment systems process transactions is satisfactory.	2.54	Efficient
2. I have experienced delays in the processing of payments when using UCV's digital payment methods.	2.65	Efficient
3. UCV handles rush periods well in terms of processing payments quickly and efficiently.	2.66	Efficient
4. The speed of UCV's digital payment systems contributes positively to my overall experience with the university's financial transactions.	2.63	Efficient
5. UCV provides sufficient information to users about the expected processing times for different types of digital payments.	2.85	Efficient
Category Mean	2.66	Efficient

Speed overall mean 2.66. The speed of UCV's digital payment systems was generally satisfactory, with users finding transaction processing satisfactory. However, some users experienced delays, although UCV handled rush periods well. Additionally, users felt they received sufficient information about expected processing times.

Table 2g: Mean and Descriptive Interpretation on Level of Efficiency of Digital Payment of Tools in Non-Sectarian University to their Responses on Transparency

Transparency	**Mean**	**Descriptive Interpretation**
1. UCV is transparent in providing information about the terms and conditions associated with its digital payment services.	2.63	Efficient
2. I feel adequately informed about any changes or updates to UCV's digital payment policies and procedures.	2.74	Efficient
3. The information provided by UCV about service fees or additional charges related to digital payments is transparent.	2.77	Efficient
4. UCV provides enough information about the consequences of failed or delayed digital payments.	2.84	Efficient
5. UCV actively seeks and incorporates user feedback regarding the transparency of its digital payment processes.	2.74	Efficient
Category Mean	2.74	Efficient

Transparency overall mean 2.74. UCV was perceived as transparent in providing information about the terms and conditions associated with its digital payment services. Users felt adequately informed about changes or updates to UCV's digital payment policies and procedures, and they found the charges transparent. Moreover, UCV actively sought and incorporated user feedback regarding transparency.

Table 3a: Test of Differences Analysis of Mean Differences Between Groups

Dimension	**Digital_Tools_Used**	**N**	**Mean**	**Std. Deviation**	**t**	**df**	**Sig. (2-tailed)**	**Decision**
ACCESSIBILITY	Mobile Wallet/ Mobile Payments	325	2.5100	.46600	-.342	405	.733	Accept Ho
	Online Banking	86	2.5280	.48950				
ACCURACY	Mobile Wallet/ Mobile Payments	325	2.5852	.49791	.907	405	.365	Accept Ho
	Online Banking	86	2.5387	.46263				
AUTOMATION	Mobile Wallet/ Mobile Payments	325	2.5749	.47330	1.859	405	.065	Accept Ho
	Online Banking	86	2.4800	.46847				
COST EFFECTIVENESS	Mobile Wallet/ Mobile Payments	325	2.8540	.36337	.969	405	.334	Accept Ho

	Online Banking	86	2.8160	.35982				
SECURITY	Mobile Wallet/ Mobile Payments	325	2.7325	.31756	-1.642	405	.102	Accept Ho
	Online Banking	86	2.7840	.27853				
SPEED	Mobile Wallet/ Mobile Payments	325	2.6489	.28634	.032	405	.975	Accept Ho
	Online Banking	86	2.6480	.25435				
TRANSPARENCY	Mobile Wallet/ Mobile Payments	325	2.7421	.35414	1.606	405	.110	Accept Ho
	Online Banking	86	2.6827	.33546				

The results indicated that there was no significant difference in the assessment of participants who used Mobile Wallet/Mobile Payments and those who used Online Banking regarding the level of efficiency of UCV's digital payment system in terms of all the digital payment categories.

CONCLUSIONS

Since participants from different departments evaluated all the dimensions related to the efficiency of digital tools for UCV's payment management system, the results still showed a generally efficient and positive assessment by the participants. When comparisons were made, there was no significant difference in the assessments of participants using Mobile Wallet/Mobile Payments and those using Online Banking regarding the level of efficiency of UCV's digital payment system across all the digital payment categories.

RECOMMENDATIONS

In the light of the above findings and conclusions, the researcher strongly recommends the following:

1. UCV should provide clear, concise terms and conditions for its digital payment services, highlighting key points, and offering interactive features. This will enhance user trust, satisfaction, transparency, and provide educational resources.
2. To resolve digital payment discrepancies, review transaction history, contact UCV's customer support, provide evidence, request investigation, follow up, and consider alternative payment methods or platforms.
3. UCV's digital payment systems are satisfactory, but further enhancements include personalized reminders, flexible scheduling, and seamless integration with budgeting apps, robust security measures, and easy customer support.
4. UCV can enhance the cost-effectiveness of digital payment by offering discounts, streamlining processes, integrating with campus services, promoting education, partnering with payment providers, implementing feedback mechanisms, and investing in robust security measures.

5. UCV should educate users on digital payment security through interactive guides, regular updates, simulations, tips, reminders, strong password practices, phishing awareness, account monitoring, and collaboration with cybersecurity experts.
6. Consider improving UCV digital payment systems' speed, security, compatibility, user interface, and rewards programs to enhance the overall user experience.
7. UCV should provide clear, concise terms and conditions for its digital payment services, highlighting key points, and offering interactive features. This will enhance user trust, satisfaction, transparency, and provide educational resources.
8. UCV should process the accreditation of mobile payments, ensuring that the regulatory body officially recognizes payment services or apps. They must meet specific standards for compliance, security, and user experience. This will guarantee that mobile payments are safe and reliable for students.

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