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Effectiveness and Satisfaction of Clients on the E-Payment System: Basis for Enhancement

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Abstract*— This study examined the effectiveness of the e-payment system and the level of client satisfaction among students and parents/guardians of one private higher education institution in the Negros Island Region during the academic year 2026–2027. It described the respondents' profile in terms of age, sex, and type of user, and assessed the effectiveness of the e-payment system alongside client satisfaction. A quantitative descriptive research design was employed involving 336 respondents, consisting of 169 students and 167 parents/guardians. Data were gathered using a researcher-made questionnaire that underwent validity and reliability testing to ensure accuracy and consistency. Findings showed that the respondents were mostly female and aged 31 years old and above, with nearly equal representation of students and parents/guardians. The e-payment system was rated highly effective, while clients were very satisfied with the system. Results revealed no significant differences in the effectiveness of the e-payment system when respondents were grouped according to age and type of user. However, a significant difference was found according to sex. Client satisfaction showed no significant differences according to age and sex but significantly differed according to type of user, with parents/guardians reporting a higher level of satisfaction than students. The study concludes that the e-payment system provides an effective and satisfactory means of completing school-related financial transactions, highlighting the importance of continuously enhancing the system to improve digital financial services and user experiences.

***Index Terms*— client satisfaction, digital payments, e-payment system, higher education, system effectiveness**

I. INTRODUCTION

The rapid advancement of digital technology has transformed financial transactions across organizations, including educational institutions. Electronic payment systems support faster and more convenient transactions, improve access to financial services, and can reduce manual processing and transaction errors. In higher education, these systems have become an important part of school fee collection and digital service delivery [1]–[4].

Despite these advantages, e-payment implementation continues to raise concerns involving accessibility, reliability, security, transaction accuracy, technical issues, and user satisfaction. These concerns make regular evaluation necessary to determine whether a system meets users' expectations and institutional objectives [5], [6].

This study examined an e-payment system used by a private higher education institution in the Negros Island Region. It determined the respondents' demographic profile; assessed the system's effectiveness and clients' satisfaction when grouped by age, sex, and type of user; and tested whether significant group differences existed. The study was anchored on the Technology Acceptance Model, which emphasizes perceived usefulness and perceived ease of use as important factors in technology acceptance [7]. In the context of digital payments, convenience, reliability, security, efficiency, and accuracy are closely related to favorable user evaluations and continued use [8]–[10].

II. RESEARCH ELABORATIONS

A. Research Design and Respondents

The study used a quantitative descriptive survey design. The population consisted of 2,069 students and parents/guardians who used the institution's e-payment system during academic year 2026–2027. Using Yamane's formula with a 5% margin of error, a sample of 336 respondents was obtained. The final sample consisted of 169 students and 167 parents/guardians. A non-probability quota sampling technique with a convenience sampling approach was used.

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B. Research Instrument

A 22-item researcher-made questionnaire served as the primary data-gathering instrument. It contained sections on demographic profile, e-payment system effectiveness, and client satisfaction. Effectiveness was measured using a five-point scale from Highly Ineffective to Highly Effective, while satisfaction was measured from Very Dissatisfied to Very Satisfied. Five experts in research and business administration evaluated the instrument for content validity, producing an average rating of 4.60. A pilot test involving 30 e-payment users yielded a Cronbach's alpha of 0.934, indicating very high reliability.

C. Data Collection and Analysis

Institutional and ethical approvals were secured before data collection. The questionnaire was administered online and included instructions, a data privacy agreement, and a screening question. Collection continued until the required sample of 336 qualified respondents was reached. Frequency and percentage described the respondent profile; mean and standard deviation summarized effectiveness and satisfaction; Kruskal–Wallis H tested differences across age groups; and Mann–Whitney U tested differences by sex and type of user. Statistical decisions were made at the 0.05 level of significance.

III. RESULTS AND FINDINGS

A. Demographic Profile

Table I. Demographic Profile of Respondents

Profile	Category	f	%
Age	15 years old	28	8.33
	16–20 years old	91	27.08
	21–25 years old	44	13.10
	26–30 years old	72	21.43
	31 years and above	101	30.06
Sex	Male	122	36.31
	Female	214	63.69
User Type	Student	169	50.30
	Parent/Guardian	167	49.70

The largest age group was 31 years and above (30.06%), followed by respondents aged 16–20 years (27.08%). Females comprised 63.69% of the sample. Students and parents/guardians were almost evenly represented, at 50.30% and 49.70%, respectively.

B. Level of E-Payment System Effectiveness

Table II. Effectiveness of the E-Payment System by Respondent Profile

Profile	Category	Mean	SD	Interpretation
Age	15	4.35	0.42	Highly Effective
	16–20	4.40	0.45	Highly Effective
	21–25	4.27	0.59	Highly Effective
	26–30	4.50	0.43	Highly Effective
	31+	4.46	0.36	Highly Effective
Sex	Male	4.52	0.41	Highly Effective
	Female	4.36	0.45	Highly Effective
User Type	Student	4.37	0.45	Highly Effective
	Parent/Guardian	4.46	0.43	Highly Effective

All demographic groups rated the e-payment system as highly effective. The highest age-group mean was recorded among respondents aged 26–30 years (M = 4.50, SD = 0.43), while the lowest was among those aged 21–25 years (M = 4.27, SD = 0.59). Males reported a higher mean effectiveness score (M = 4.52) than females (M = 4.36). Parents/guardians also reported a slightly higher mean (M = 4.46) than students (M = 4.37). These consistently high ratings indicate favorable perceptions of the system's convenience, accessibility, reliability, and support for school-related financial transactions.

C. Level of Client Satisfaction

Table III. Client Satisfaction by Respondent Profile

Profile	Category	Mean	SD	Interpretation
Age	15	4.40	0.44	Very Satisfied
	16–20	4.36	0.44	Very Satisfied
	21–25	4.38	0.54	Very Satisfied
	26–30	4.51	0.46	Very Satisfied
	31+	4.49	0.41	Very Satisfied
Sex	Male	4.49	0.44	Very Satisfied
	Female	4.41	0.46	Very Satisfied
User Type	Student	4.37	0.47	Very Satisfied
	Parent/Guardian	4.50	0.42	Very Satisfied

Respondents across all groups were very satisfied with the e-payment system. Among age groups, respondents aged 26–30 years had the highest mean satisfaction score (M = 4.51, SD = 0.46). Males reported M = 4.49 compared with M = 4.41 for females. Parents/guardians recorded M = 4.50, while students recorded M = 4.37. The close range of mean scores shows that favorable experiences were broadly shared across the system's primary users.

D. Significant Differences in Effectiveness and Satisfaction

Table IV. Tests of Significant Differences

Outcome	Grouping	Statistic	p-value	Decision
Effectiveness	Age	H = 6.653	0.155	Not Significant
	Sex	U = 10221.500	<0.001	Significant
	User Type	U = 12492.500	0.068	Not Significant
Satisfaction	Age	H = 7.015	0.135	Not Significant
	Sex	U = 11543.500	0.074	Not Significant
	User Type	U = 11991.000	0.016	Significant

Effectiveness did not significantly differ by age (H = 6.653, p = 0.155) or type of user (U = 12492.500, p = 0.068). A significant difference was found by sex (U = 10221.500, p < 0.001), although both male and female respondents still rated the system as highly effective. Client satisfaction did not significantly differ by age (H = 7.015, p = 0.135) or sex (U = 11543.500, p = 0.074). However, satisfaction differed significantly by type of user (U = 11991.000, p = 0.016); parents/guardians reported a higher descriptive mean than students. These results suggest that user role and demographic characteristics may shape some aspects of system evaluation even when overall perceptions remain favorable [11], [12].

IV. DISCUSSION

The findings indicate that the e-payment system generally met users' needs for practical and reliable school-fee transactions. The consistently high effectiveness ratings are compatible with prior work emphasizing ease of use, usefulness, security, and efficiency as important considerations in digital payment adoption and evaluation [3], [8], [9]. Likewise, the very high satisfaction ratings support evidence that system quality, service quality, convenience, and perceived usefulness contribute to positive experiences with mobile and electronic payment services [10], [13].

The significant difference in effectiveness assessments by sex indicates that male and female respondents did not evaluate system effectiveness in exactly the same way, despite both groups assigning high ratings. The study did not establish a causal explanation for this

difference. The significant difference in satisfaction by user type similarly suggests that students and parents/guardians may experience or evaluate the payment process differently. Parents/guardians had a higher mean satisfaction score, while students remained within the very satisfied category. These findings reinforce the value of collecting feedback separately from major user groups rather than relying only on an overall satisfaction measure [11], [12].

From a management perspective, maintaining a highly rated system requires continued monitoring rather than assuming that favorable ratings eliminate the need for improvement. Transaction verification and reconciliation, system maintenance, security controls, usability improvements, and responsive user assistance remain important areas for sustaining service quality.

V. CONCLUSION

The respondents were predominantly 31 years old and above and female, while students and parents/guardians were nearly equally represented. The e-payment system was perceived as highly effective across all demographic groups and clients were very satisfied with the service. Effectiveness did not significantly differ by age or user type but differed significantly by sex. Satisfaction did not significantly differ by age or sex but differed significantly by user type, with parents/guardians reporting a higher mean satisfaction score than students.

The institution should continue regular evaluation of the e-payment system and use user feedback to guide improvements. The Accounting and Finance Office may strengthen monitoring, verification, and reconciliation of electronic transactions, while IT personnel and system developers may continue improving functionality, usability, security, and reliability. Particular attention may be given to student feedback because students reported a slightly lower level of satisfaction than parents/guardians. Future studies may examine additional variables, broaden the respondent population, or compare e-payment platforms across institutions.

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