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Research Article

Level of Effectiveness of Electronic Payment and Collection System for Real Property Tax in the Local Government Unit of Ajuy

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Abstract: This study assessed the level of effectiveness of the Electronic Payment and Collection System (EPCS) for Real Property Tax (RPT) implemented by the Local Government Unit (LGU) of Ajuy, Iloilo. Guided by the Technology Acceptance Model (TAM), the research employed a descriptive survey method to evaluate the system's efficiency, accessibility, reliability, transparency, and user satisfaction. Three hundred (300) respondents, composed of taxpayers, LGU personnel, IT staff, and local officials, participated in the study. Data were collected through a validated and reliable questionnaire and analyzed using descriptive statistics such as mean, standard deviation, frequency, and percentage. Results revealed that the EPCS was rated very effective across all five dimensions, with transparency obtaining the highest mean rating, indicating strong public trust and accountability in financial transactions. Efficiency and reliability were also rated highly, suggesting that the system enhanced convenience and accuracy in tax collection. Accessibility received the lowest rating, mainly due to limited internet access and digital literacy among some users. Demographic factors showed that middle-aged and more frequent users perceived the system as more effective. Overall, findings indicate that the EPCS significantly improved Ajuy's tax administration in terms of efficiency, transparency, and user satisfaction. It is recommended that the LGU enhance internet infrastructure in the LGU, conduct regular digital literacy training sessions for taxpayers and LGU employees, expand public awareness campaigns, provide alternative access points to establish kiosks or mobile service centers, and also expand payment channels by integrating mobile wallets like GCash, PayMaya, and other accessible platforms.

Keywords: electronic payment; Real Property Tax; tax collection; Local Government Unit; system effectiveness

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1. Introduction

Taxation has long served as the lifeblood of the nation, underpinning the capacity of governments to deliver essential services, maintain infrastructure, and promote public welfare (Capuno, 2011; Ott & Tatom, 2024). In the Philippine context, the collection of taxes – particularly at the local level – has undergone continuous reform to improve efficiency and compliance. Among these local levies, the Real Property Tax (RPT) remains one of the most vital sources of revenue for Local Government Units (LGUs), enabling them to finance education, urban development, and other essential programs (National Tax Research Center, 2024; Orijola, 2024).

Pursuant to Section 27 of R.A. 8792, otherwise known as the "Electronic Commerce Act of 2000" and Section 37 of its Implementing Rules and Regulations, this Joint Department Administrative Order is issued to prescribe policies and guidelines in the adoption of the Electronic Payment and Collection System (EPCS) in government transactions. The guidelines are expected to bring about more efficient and effective payment and collection services for the transacting clients and amongst the government offices through any authorized EPCS, allowing the government to better manage its financial resources, thereby improving its revenue generation capability. The EPCS should be able to accommodate various modes and channels of electronic payment, such as, but not limited to, credit cards, ATMs, debit cards, stored-value cards, mobile wallet payments, and kiosks

(Department of the Trade and Industry, 2006; Khando et al., 2023).

LGUs, and subsequent to the devolution of functions, local governments were allotted an automatic share of national tax revenues. To encourage self-reliance, the Local Government Code defines the revenue-raising prerogatives of LGUs (Pescador & Caelian, 2022). Provinces, municipalities, cities, and barangays are granted the power to levy taxes with specified maximum rates as well as to impose fees and charges for various services (Cruz et al., 2018; Cater et al., 2023). Thus, LGUs are empowered to create their own sources of revenues and to levy taxes, fees, and charges, one of which is the RPT. Section 233 of the Local Government Code of 1991 states that the following rates of basic RPT are prescribed based on assessed values of real properties in the Philippines: 1% for the province and 2% for the city or municipality within the Metro Manila area (Department of Interior and Local Government, 2016). Aside from the basic RPT, the following may likewise be imposed under real property taxation in the Philippines, special education fund (SEF) of 1% of the assessed value of a real property, ad valorem tax on idle lands of 5% of the assessed value of RPT, special assessment to recover at least 60% of public improvement benefiting the real property (Belen et al., 2024). The Local Assessor shall take charge of the discovery, classification, appraisal, assessment, and valuation of all real properties within his territorial jurisdiction, which shall be used as the basis for taxation (Bureau of Local Government Finance, 2015).

The RPT is the most important tax revenue of local governments. In the 1980s, it accounted for 23 percent of the total revenues of local governments (Guevarra, 2015). Its relative importance started to decline in 1990 to 18 percent and dropped in 1994 to 11.0 percent. Thereafter, it picked up strength and now accounts for 13.36 percent of the total revenues of LGUs.

Many LGUs, including the municipality of Ajuy in Iloilo, a first-class municipality in the Philippines, have traditionally used manual and paper-based procedures for the assessment, billing, and collection of RPT (Commission on Audit, 2020). These conventional approaches are frequently vulnerable to corruption, delays, inefficiencies, and human error (Raon et al., 2021; Espiritu et al., 2023). Additionally, taxpayers find the manual system challenging, especially those who live or work outside the municipality, which results in late payments, decreased compliance, and poorer collection rates (Canares, 2016).

LGUs have begun using technology-driven solutions to enhance transparency, efficiency, and ease in tax collecting in response to these issues and in line with the Philippine government's push for digital transformation and e-governance (Pareja, 2025). Ajuy's strategic initiative to modernize public finance administration is the installation of an EPCS. Residents will be able to view their tax information online, pay their taxes using digital platforms, and obtain real-time confirmations and receipts thanks to the EPCS's goal of automating and streamlining the entire tax payment and collection process (Commission on Audit, 2020).

The purpose of this study was to evaluate the level of effectiveness of the EPCS for the RPT in the LGU Ajuy. It had specifically assessed the effectiveness, efficiency, accessibility, reliability, transparency, and user satisfaction of the system to offer evidence-based suggestions for maintaining and improving digital governance in the municipality.

With the increasing need for modernization and efficiency in public service delivery, the LGU of Ajuy has implemented the EPCS to facilitate RPT transactions. This digital system intends to streamline tax collection processes, reduce transaction time, improve accessibility, ensure data reliability, promote transparency, and enhance user satisfaction. However, the actual effectiveness of this system as experienced by its users – comprising taxpayers, LGU personnel, IT support staff, and local officials – remains largely undocumented.

This study was conducted to assess the level of effectiveness of the EPCS in the collection of RPTs in the LGU of Ajuy. Specifically, the study aims to answer the following research questions:

1. What is the demographic profile, frequency of usage, and internet access of the EPCS users in the LGU of Ajuy?
2. What is the level of effectiveness of the EPCS efficiency based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access?
3. What is the level of effectiveness of the EPCS accessibility based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access?
4. What is the level of effectiveness of the EPCS reliability based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access?
5. What is the level of effectiveness of the EPCS transparency based on users'

experience as an entire group and when classified by age, sex, frequency of usage, and internet access?

6. What is the level of effectiveness of the EPCS through users' satisfaction as an entire group and when classified by age, sex, frequency of usage, and internet access?

The purpose of the study was to determine areas for improvement and evaluate the overall efficacy of the EPCS for the collection of RPTs in the LGU of Ajuy. The foundation of this study was the idea that the EPCS, which was implemented using the Technology Acceptance Model (TAM), can assess the effectiveness of the system as judged by its users within the Ajuy LGU.

2. Materials and Methods

In this study, the researcher used the descriptive survey method to assess the level of effectiveness of the EPCS for RPT in the LGU of Ajuy. The descriptive survey method is appropriate for studies that aim to collect quantitative information about prevailing conditions, practices, or opinions from a selected group of individuals (Calderon & Gonzales, 2018). It enabled the researcher to describe, quantify, and interpret the perceptions and experiences of respondents related to the use of the EPCS. In this study, the descriptive survey method was employed to gather data from different groups of respondents, such as taxpayers, LGU personnel, IT support staff, and local officials.

The study was conducted at the LGU of Ajuy and focused on determining the level of effectiveness of the EPCS for RPT in the LGU of Ajuy. The respondents of this study were the three hundred (300) purposely selected taxpayers, LGU personnel, IT support staff, and local officials sampled from an unknown population size. The researcher was not included in the survey.

The researcher used a questionnaire to find answers to the posed problems. The survey questionnaire comprises two major components: the first part is the respondent profile, which collects demographic and background information from the participants. It includes age, sex, role, frequency of EPCS usage, and internet access. The second part, which is the core section of the instrument, is a series of statements measuring the level of effectiveness of the EPCS system on efficiency, accessibility, reliability, transparency, and user satisfaction dimensions, rated by the respondents based on their experience.

The researcher of this study submitted a survey questionnaire for validation to three (3) professionals and experts, who were formally asked to check the items in the survey, whether they were relevant, irrelevant, or needed improvement. After the validation, the researcher made the necessary changes to the items according to the comments and suggestions of the validators.

Questionnaires are part of the measurement process. As a result, this measuring approach should produce an accurate representation of the construct, which can be termed stable or constant. A questionnaire's reliability is a measure of the quality of the data collection technique. A result can only be considered valid if the measurement process is dependable (Amirian et al., 2023).

The researcher employed Cronbach's alpha for testing the reliability of the questionnaire, with the threshold set at 0.70 and above. Cronbach's alpha calculates the internal consistency, or average correlation, of items in a survey instrument to assess the questionnaire's reliability. Thus, Cronbach's alpha is a reliability metric related to the variance explained by the real score of the underlying construct. The alpha coefficient's value varies from 0 to 1 (Santos, 1999).

In this study, the questionnaire was considered highly reliable with a Cronbach's alpha coefficient of 0.96 based on the responses of fifty (50) respondents.

After the questionnaire was found valid and reliable, the researcher sought permission and approval from the Ajuy Municipal Mayor and Municipal Administrator to administer the research instruments to the taxpayers, LGU personnel, IT support staff, and local officials. The re-searcher distributed the survey questionnaires to the target respondents. After the data were collected, Statistical Package for Social Science (SPSS) software was utilized for data analysis, including descriptive statistics and ANOVA procedures commonly applied in social science research (Abbasnasab Sardareh et al., 2025).

After the respondents answered the questionnaires, the researcher collected, gathered, and compiled all the data that were provided. For faster and more efficient data processing, data were prepared for statistical treatment by recoding all categorical information on demographic profiles and EPCS features into quantitative data.

Moving forward, the encoded data were forwarded to a statistician for the data analysis.

This was to ensure the validity and reliability of the data processing, analysis, results, and interpretation. Based on the SPSS outputs provided, the appropriate table of results per objective was prepared and discussed, as well as the implications and conclusions.

3. Results and Discussion

This presents the findings of the study on the level of effectiveness of the EPCS for RPT in the LGU of Ajuy. The results are discussed according to the general perception of respondents and are further analyzed based on demographic variables such as age and sex, frequency of usage, and internet access.

Understanding the demographic characteristics of respondents provides valuable context for interpreting their perceptions and experiences with the EPCS. Variables such as age, sex, frequency of usage, and internet access can influence users' familiarity, accessibility, and satisfaction with digital services. Table 1 shows the demographic profile, frequency of usage, and internet access of EPCS users in the LGU of Ajuy.

Table 1. The profile of EPCS users in the LGU of Ajuy.

Category	Frequency	Percentage
Age		
< 31	10	3.3%
31 – 40	95	31.7%
41 – 50	102	34.0%
51 – 60	65	21.7%
> 60	28	9.3%
Total	300	100%
Sex		
Male	174	58.0%
Female	126	42.0%
Total	300	100.0%
Frequency of Usage		
1-2 times a year	240	80.0%
3-5 times a year	45	15.3%
> 5 times a year	14	4.7%
Total	300	100.0%
Internet Access		
Yes	126	42.0%
No	174	58.0%

Out of 300 EPCS users included in the study, the largest proportion belonged to the 41-50 age group (34.0%), followed by those aged 31–40 (31.7%). A smaller share was observed among respondents aged 51-60 (21.7%), while 9.3% were above 60, and only 3.3% were 31 years old and below. These findings suggest that the majority of EPCS users fall within the economically active population and are those most likely to own taxable property. Conversely, the relatively low percentage of younger and elderly users may indicate limited involvement in property ownership or difficulties in engaging with digital platforms.

In terms of sex distribution, 58.0% of the respondents were male and 42.0% were female. This imbalance may reflect prevailing socio-economic structures in Ajuy, where property ownership and financial responsibilities are often associated with male household heads.

The data show that the majority of respondents (80.0%) reported using the EPCS only 1-2 times per year, which aligns with the annual or semi-annual schedule of property tax payments. Meanwhile, 15.3% used the system 3-5 times per year, and only 4.7% engaged with it more than five times annually. These results highlight the low frequency of use, suggesting that the system is primarily utilized for fulfilling mandatory obligations rather than being integrated into taxpayers' broader financial practices.

One of the most striking findings concerns internet accessibility. While the EPCS relies on digital connectivity, only 42.0% of respondents reported having access to the internet, while the majority (58.0%) did not. This limited connectivity significantly constrains the reach and convenience of the system, compelling many taxpayers to rely on alternative channels such as municipal offices or intermediaries to complete their transactions.

The demographic and usage profiles collectively suggest that the effectiveness of the EPCS is shaped not only by the system's technical design but also by broader socio-economic and infrastructural factors. The predominance of middle-aged taxpayers as primary users indicates that digital adoption is strongest among those with active financial responsibilities, while older groups may face barriers due to digital literacy gaps. Moreover, the limited internet access among the majority of respondents undermines the potential of the EPCS to fully deliver on its promises of efficiency, convenience, and transparency.

Thus, while the EPCS is functional and has been adopted by taxpayers in Ajuy, its effectiveness is constrained by structural limitations such as digital infrastructure, accessibility, and user readiness. For the system to achieve its intended impact, the LGU may need to widen internet access and strengthen internet connectivity, expand public awareness campaigns, and provide support to less digitally adept taxpayers.

These findings mirror national data from the Philippine Institute for Development Studies (Philippine Institute for Development Studies, 2023), which reported that only 46% of rural households had reliable broadband access, and that connectivity remains highly uneven across regions. Similar patterns have been observed in other local e-government initiatives where limited infrastructure and digital literacy constrained usage despite high awareness and willingness to adopt (Jou et al., 2024; Espiel, 2024).

This structural barrier aligns with the conclusions of David et al. (2023), who emphasize that local governments' digitalization strategies often succeed only when paired with parallel investments in connectivity, training, and outreach. Consequently, while Ajuy's EPCS demonstrates strong technical performance, digital exclusion continues to limit universal participation. Addressing this gap is critical to achieving equitable access to e-government services.

Efficiency is a crucial indicator in assessing how effectively the EPCS facilitates timely and accurate transactions. It reflects users' perceptions of the system's speed, responsiveness, and reliability in processing payments for RPTs. Table 2 shows the level of effectiveness of the EPCS in terms of efficiency based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access.

Table 2. The level of effectiveness of the EPCS.

Category	Mean ± SD	Interpretation
Entire Group	4.68 ± .414	Very effective
Age		
< 31	4.54 ± .542	Very effective
31 – 40	4.69 ± .415	Very effective
41 – 50	4.72 ± .416	Very effective
51 – 60	4.69 ± .384	Very effective
> 60	4.65 ± .410	Very effective
Sex		
Male	4.74 ± .391	Very effective
Female	4.61 ± .433	Very effective
Frequency of Usage		
Sex		
Male	4.74 ± .391	Very effective
Female	4.61 ± .433	Very effective
Frequency of Usage		
1-2 times a year	4.66 ± .424	Very effective
3-5 times a year	4.79 ± .349	Very effective
> 5 times a year	4.81 ± .363	Very effective
Internet Access		
Yes	4.58 ± .455	Very effective
No	4.76 ± .365	Very effective

Note: Scale and interpretation: 1.00-1.80 (Not effective); 1.81-2.60 (Less effective); 2.61-3.40 (Moderately effective); 3.41-4.20 (Fairly effective); 4.21-5.00 (Very effective)

Generally, the findings indicate that the efficiency of the EPCS is very effective for the entire group of users (M=4.68 ± .414). In terms of age, all age groups rated the system very effective. The highest mean score came from users aged 41-50 (M=4.72 ± .416), followed closely by those aged 31-40 (M=4.69 ± .415) and 51-60 (M=4.69 ± .384). The youngest group,

under 31, gave the lowest rating (M=4.54 ± .542), though it's still interpreted as very effective. In terms of sex, male users rated the system slightly higher (M=4.74 ± .391) than females (M=4.61 ± .433), but both mean ratings were interpreted as very effective. Looking at the frequency of usage, the effectiveness rating increased with more frequent use, although all mean ratings fall within the range of very effective. Those who used the system more than 5 times a year gave the highest rating (M=4.81 ± .363), followed by those who used it 3-5 times a year (M=4.79 ± .349), and 1-2 times a year (M=4.66 ± .424). This suggests that while the system is broadly effective, older taxpayers may face challenges in adapting to electronic platforms, possibly due to digital literacy gaps. Finally, as to internet access, users without internet access gave a slightly higher rating (M=4.76 ± .365) than those with internet access (M=4.58 ± .455), though both are within the very effective category. Overall, the data indicate that the EPCS efficiency is perceived to be very effective across all user demographics and usage patterns, with only slight variations in mean scores.

This is consistent with previous research showing that perceived efficiency is a primary determinant of satisfaction and continued use in TAMs (Aguilar, 2023; Belmonte et al., 2024). Local studies on LGU digital payments, such as those by Rey et al. (2024) and Espiel (2024), also report that electronic platforms substantially reduce waiting times and manual processing errors (Espiel, 2024; Rey et al., 2024). However, as Jimenez et al. (2024) found, efficiency perceptions can be undermined by intermittent connectivity or unclear user interfaces – factors that still require attention in smaller municipalities.

The positive evaluation of efficiency in this study therefore supports the literature's assertion that usability and process streamlining directly influence public trust in digital government systems. It also suggests that Ajuy's system design effectively addressed the basic operational needs of its users.

Accessibility is a vital component in evaluating the effectiveness of the EPCS, as it determines how easily users can access and utilize the platform regardless of age, gender, frequency of usage, or internet connectivity. An accessible system ensures that all users, including those with limited digital experience or unstable internet connections, can conveniently perform their transactions. Table 3 shows the level of effectiveness of the EPCS in terms of accessibility based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access.

Table 3. The level of effectiveness of the EPCS (based on its accessibility).

Category	Mean ± SD	Interpretation
Entire Group	4.22 ± .301	Very effective
Age		
< 31	4.10 ± .293	Fairly effective
31 – 40	4.22 ± .300	Very effective
41 – 50	4.22 ± .304	Very effective
51 – 60	4.27 ± .304	Very effective
> 60	4.09 ± .267	Fairly effective
Sex		
Male	4.23 ± .296	Very effective
Female	4.19 ± .308	Fairly effective
Frequency of Usage		
1-2 times a year	4.19 ± .294	Fairly effective
3-5 times a year	4.32 ± .296	Very effective
> 5 times a year	4.38 ± .336	Very effective
Internet Access		
Yes	4.21 ± .315	Very effective
No	4.22 ± .291	Very effective

Note: Scale and interpretation: 1.00-1.80 (Not effective); 1.81-2.60 (Less effective); 2.61-3.40 (Moderately effective); 3.41-4.20 (Fairly effective); 4.21-5.00 (Very effective)

In general, the accessibility of the EPCS was rated as very effective by the entire group (M=4.22 ± .301). When analyzed by age, users between 31 and 60 years old rated the system as very effective (means ranging from 4.22 to 4.27), while the youngest (<31) and oldest (>60) age groups perceived it as only fairly effective, with means of 4.10 and 4.09, respectively. In terms of sex, male users gave a slightly higher rating (M=4.23) than female users (M=4.19), suggesting a small gender-based difference in perception, with males viewing the system as

very effective and females as fairly effective. As to frequency of usage, a clear trend emerged such that users who accessed the EPCS more often rated it more positively. Those who used the system 1-2 times a year rated it fairly effective (M=4.19), whereas those who used it 3-5 times (M=4.21) and more than 5 times a year (M=4.22) rated it very effective. Interestingly, both users with internet access (M=4.21) and without internet access (M=4.22) rated the system similarly as very effective. Overall, the findings suggest that while the system is generally well-regarded by the users, greater familiarity through more frequent use enhances user experience, and targeted improvements could be made for younger and older users, as well as with female users.

Younger and older users rated accessibility somewhat less positively, reflecting age-related differences in digital familiarity. Studies of e-government adoption among Filipinos found similar generational disparities, with middle-aged groups more likely to engage with online platforms due to workplace exposure to digital tools. Importantly, respondents without personal internet access still rated accessibility relatively high, implying that alternative channels such as LGU-assisted payment desks or mobile kiosks may be effectively compensating for connectivity gaps (Jou et al., 2024; Alcain et al., 2024).

This mixed result aligns with international findings that multi-channel access – combining online portals with in-person or mobile service options – is essential for inclusive e-government (David et al., 2023). It also validates policy recommendations by Philippine Institute for Development Studies (2023) to adopt "hybrid digital" strategies for municipalities with limited broadband coverage. While Ajuy's current measures appear to mitigate access inequities, scaling up user support and connectivity infrastructure will be necessary to sustain long-term participation.

Reliability is a critical factor in determining the overall effectiveness of the EPCS. It measures the system's consistency, accuracy, and dependability in processing transactions without errors or interruptions. A reliable system fosters user confidence and encourages continued use, especially in financial transactions such as RPT payments. Table 4 shows the level of effectiveness of the EPCS in terms of reliability based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access

Table 4. The level of effectiveness of the EPCS in terms of reliability.

Category	Mean ± SD	Interpretation
Entire Group	4.50 ± .274	Very effective
Age		
< 31	4.36 ± .398	Very effective
31 – 40	4.52 ± .278	Very effective
41 – 50	4.52 ± .259	Very effective
51 – 60	4.51 ± .240	Very effective
> 60	4.39 ± .315	Very effective
Sex		
Male	4.51 ± .288	Very effective
Female	4.49 ± .258	Very effective
Frequency of Usage		
1-2 times a year	4.48 ± .294	Very effective
3-5 times a year	4.58 ± .255	Very effective
> 5 times a year	4.71 ± .245	Very effective
Internet Access		
Yes	4.46 ± .292	Very effective
No	4.53 ± .256	Very effective

Note: Scale and interpretation: 1.00-1.80 (Not effective); 1.81-2.60 (Less effective); 2.61-3.40 (Moderately effective); 3.41-4.20 (Fairly effective); 4.21-5.00 (Very effective)

The effectiveness of the EPCS reliability in general was rated very effective by the users as an entire group (M=4.50 ± .274), and when analyzed by age, sex, frequency of usage, and internet access based on the scale provided. Higher ratings were observed among age groups 31-40, 41-50, and 51-60, with means ranging from 4.51-4.52, while age groups <31 and >60 gave lower ratings of 4.36 and 4.39, respectively. In terms of sex, male users gave a slightly higher rating (M=4.51 ± .288) than female users (M=4.49 ± .258), suggesting a very small gender-based difference, with both groups viewing the system as very effective. As to frequency of usage, a consistent trend is observed such that users who accessed the EPCS

more often rated it higher. Though mean scores of all categories fall in a very effective range, such as those who used the system 1-2 times a year (M=4.48 ± .294), those who used it 3-5 times (M=4.58 ± .233), and those who used it more than 5 times a year (M=4.71 ± .245). Notably, both users with internet access (M=4.46 ± .292) and without internet access (M=4.53 ± .256) similarly rated the system's reliability as very effective, but with the latter having a higher mean rating.

This aligns closely with prior findings from e-government and fintech adoption studies where reliability and system stability were critical to user trust (Jin & Wang, 2025; Rey et al., 2024). According to Alcain et al. (2024), perceived system reliability has one of the strongest effects on behavioral intention to use digital payment systems among Filipino users (Alcain et al., 2024). Similarly, Aguilar (2023) observed that consistency in transaction confirmation and receipt generation reinforced public confidence in online tax payment platforms (Aguilar, 2023).

Ajuy's EPCS performance in this area underscores the importance of robust back-end systems and transparent reporting mechanisms. Maintaining this reliability is particularly vital for LGUs, where early system failures can erode community trust and slow digital transformation.

Transparency is a key indicator of good governance and user trust in any digital payment system. It ensures that all transactions are clear, traceable, and accessible to users, thereby minimizing opportunities for errors or corruption. In the context of the EPCS, transparency refers to how openly the system presents payment details, receipts, and transaction histories to users. Table 5 shows the level of effectiveness of the EPCS in terms of transparency based on users' experience as an entire group and when classified by age, sex, frequency of usage, and internet access.

Table 5. The level of effectiveness of the EPCS in terms of transparency.

Category	Mean ± SD	Interpretation
Entire Group	4.73 ± .351	Very effective
Age		
< 31	4.50 ± .474	Very effective
31 – 40	4.75 ± .325	Very effective
41 – 50	4.75 ± .352	Very effective
51 – 60	4.75 ± .343	Very effective
> 60	4.62 ± .382	Very effective
Sex		
Male	4.74 ± .351	Very effective
Female	4.72 ± .352	Very effective
Frequency of Usage		
1-2 times a year	4.72 ± .363	Very effective
3-5 times a year	4.79 ± .302	Very effective
> 5 times a year	4.77 ± .281	Very effective
Internet Access		
Yes	4.69 ± .338	Very effective
No	4.76 ± .359	Very effective

Note: Scale and interpretation: 1.00-1.80 (Not effective); 1.81-2.60 (Less effective); 2.61-3.40 (Moderately effective); 3.41-4.20 (Fairly effective); 4.21-5.00 (Very effective)

The effectiveness of the EPCS transparency in general was rated very effective by the users as an entire group (M=4.73 ± .351), and when analyzed by age, all groups rated the system as very effective, with means ranging from 4.50 to 4.75. The users between 31 and 60 years old (M=4.75) gave the highest ratings, implying that users in their middle adulthood are highly satisfied with the system's performance. In terms of sex, male users gave a slightly higher rating (M=4.74 ± .351) than female users (M=4.72 ± .352), suggesting a very small gender-based difference, with both groups viewing the system as very effective. As to frequency of usage, users who accessed the system 3-5 times a year (M=4.79 ± .302) rated it slightly higher than those who used it less 1-2 times a year (M=4.72 ± .363) or > 5 times a year (M=4.77 ± .281). Notably, both users with internet access (M=4.69 ± .338) and without internet access (M=4.76 ± .359) similarly rated very effective the system's transparency, though the latter had a higher mean rating. This indicates that even those with limited or no personal internet access can still effectively engage with the EPCS system.

This finding reinforces the broader literature on digital governance, which demonstrates that electronic transaction systems can significantly reduce opportunities for corruption and increase public oversight (Jin & Wang, 2025). In local contexts, digital payment receipts and online record-keeping strengthen both administrative efficiency and citizen confidence (Espiel, 2024; David et al., 2023).

Moreover, the observed perception of transparency supports the "digital governance" model proposed by Jin and Wang (2025), which links open transaction data to improved fiscal supervision. By ensuring auditable trails and automated records, Ajuy's EPCS con-tributes directly to good governance and public accountability – core objectives of e-government initiatives (Jin & Wang, 2025).

User satisfaction serves as an essential indicator of the overall success and sustainability of the EPCS. It reflects users' perceptions of the system's efficiency, accessibility, reliability, and transparency – factors that influence their willingness to continue using the platform for future transactions. High levels of satisfaction indicate that the EPCS effectively meets user needs and expectations. Table 6 shows the level of effectiveness of the EPCS in terms of users' satisfaction, based on their experiences as an entire group and when classified by age, sex, frequency of usage, and internet access

Table 6. The level of effectiveness of the EPCS in terms of users' satisfaction.

Category	Mean ± SD	Interpretation
Entire Group	4.58 ± .352	Very effective
Age		
< 31	4.52 ± .368	Very effective
31 – 40	4.56 ± .373	Very effective
41 – 50	4.63 ± .353	Very effective
51 – 60	4.56 ± .321	Very effective
> 60	4.56 ± .345	Very effective
Sex		
Male	4.59 ± .333	Very effective
Female	4.58 ± .379	Very effective
Frequency of Usage		
1-2 times a year	4.56 ± .361	Very effective
3-5 times a year	4.67 ± .290	Very effective
> 5 times a year	4.73 ± .320	Very effective
Internet Access		
Yes	4.56 ± .384	Very effective
No	4.60 ± .328	Very effective

In general, the user satisfaction of the EPCS was rated very effective by the entire group (M=4.58 ± .352), and when analyzed by age, with means ranging from 4.52 to 4.63. The highest mean rating was recorded among respondents aged 41-50 years (M=4.63 ± .353), while age groups <31 gave lower ratings of (M=4.52 ± .368). In terms of sex, male users gave a slightly higher rating (M=4.59 ± .333) than female users (M=4.58 ± .379), though both respondents perceived the system as very effective. As to frequency of usage, respondents who used the EPCS more frequently rated it higher in effectiveness. Those who used it > 5 times a year gave the highest rating (M=4.73 ± .320), followed by those who used it 3-5 times a year (M=4.67 ± .290). The lowest, though still very effective rating came from users who accessed the system 1-2 times a year (M=4.56 ± .361). As to internet access, both respondents with and without access evaluated the EPCS as very effective, with mean ratings (M=4.56 ± .384) and (M=4.60 ± .328), respectively. The minimal difference in ratings indicates that the system is accessible and functional regardless of internet connectivity status. This may imply that the EPCS provides means of access, like online and offline, by ensuring inclusivity for all users regardless of connectivity conditions.

Consistent with the TAM and Unified Theory of Acceptance and Use of Technology, satisfaction in this context reflects positive evaluations of perceived usefulness, ease of use, and trust (Alcain et al., 2024; Belmonte et al., 2024). Studies of e-wallet and e-tax adoption in the Philippines have similarly found that users' confidence in transaction safety, combined with visible efficiency benefits, drives both satisfaction and continued usage (Aguilar, 2023; Pulvera, 2025). The present study's results affirm these theoretical expectations and highlight the strong correlation between user satisfaction and the overall perceived effectiveness of the

system.

4. Conclusions

The findings of the study revealed that the EPCS implemented by the LGU of Ajuy is highly effective in enhancing the collection of RPT. Across the five dimensions – efficiency, accessibility, reliability, transparency, and user satisfaction – the system consistently received very effective ratings from respondents. Transparency attained the highest mean, indicating that users perceive the EPCS as a credible and trustworthy platform that ensures accountability in local financial transactions. Similarly, high ratings for reliability and efficiency suggest that the system performs its functions consistently and simplifies tax collection procedures. However, accessibility recorded the lowest mean rating among the dimensions, implying that limited internet connectivity and varying levels of digital literacy among users remain barriers to full utilization of the system. Demographic results further indicate that middle-aged and more frequent users rated the system higher, highlighting that digital familiarity and consistent exposure contribute to better user experiences. Overall, the study concludes that the EPCS has improved the LGU's transparency, efficiency, and reliability in tax administration. Nevertheless, its success is partially constrained by technological and infrastructural challenges that require continuous policy and capacity-building interventions.

Based on the findings and conclusions, the following recommendations are proposed:

Enhance internet infrastructure in the LGU, in collaboration with national agencies and private providers, to strengthen internet connectivity in Ajuy for better accessibility and encourage greater use of the EPCS, especially in remote barangays.

Conduct or organize regular digital literacy training sessions for taxpayers and LGU employees to improve their digital competence and confidence in using the system.

Expand public awareness campaign to the LGU to promote the benefits of the EPCS through information drives and local media to increase participation and trust in digital payment systems.

Provide alternative access points to establish kiosks or mobile service centers within the municipality to accommodate users with limited or no internet access.

Expand payment channels by integrating mobile wallets like GCash, PayMaya, and other accessible platforms.

These recommendations aim to sustain and enhance the gains of digital transformation in local taxation, ensuring that Ajuy's EPCS becomes a model of transparent, efficient, and inclusive governance

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