



REVIEW ARTICLE

ADOPTION OF ELECTRONIC PAYMENT MODE AMONG CONSUMERS OF SELECTED MEDIUM ENTERPRISES IN THE THIRD DISTRICT OF LAGUNA

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ABSTRACT

The study was carried out to ascertain the parameters influencing the use of electronic payment mechanisms to selected medium enterprises in Laguna. Descriptive – survey research method was employed in the study. A researcher-made questionnaire was used to collect the data and information needed for this investigation. The study's participants include 374 consumers of selected medium enterprises who previously used electronic payment methods. Frequency, percentage, mean, Kruskal Wallis t-test, and effect size were the statistical methods employed. According to the findings of the study, the majority of the respondents were young and highly educated. Surprisingly, consumers were enthusiastic about utilising electronic payment methods. Consumers, on the other hand, perceived technological impediments to using electronic payment systems. Furthermore, there is a significant test of difference in perceptions of electronic payment acceptance based on age and educational attainment among medium-sized business consumers in the third district of Laguna. Similarly, the study discovered that age is a significant factor that determines customers' perceptions of barriers to adopting electronic payment in terms of technology in the third district of Laguna. Based on the findings, the researcher recommended that medium-sized businesses may conduct additional research, improve the platform's usefulness and accessibility, and consider the age factor when promoting electronic payment modes in the third district of Laguna.

KEYWORDS

Adoption, electronic payment, demographics, level of acceptance, level of barriers

1. INTRODUCTION

Individuals are progressively using electronic payment methods to pay for goods and services (Moncada et al., 2022). Despite the numerous benefits, adoption of these methods by medium-sized business consumers remains limited (Ligon et al., 2019). Due to the increasing demand for e-commerce, electronic payment methods such as credit and debit cards, mobile payment applications, and online payment platforms offer faster and more efficient payment options. The exponential expansion of e-commerce has altered consumer behavior, resulting in an increase in demand for secure and efficient payment systems. Therefore, the Department of Commerce and Industry has promoted the use of electronic payment mechanisms in the region (Department of Commerce and Industry, 2022). However, medium enterprises that specialize in tangible goods and intangible services have been slow to implement digital payment methods and still rely on traditional methods such as cash and checks (Statistica, 2021).

The gap in the research was the absence of specific information on the factors that influence the use of electronic payment modes, particularly among consumers of selected medium-sized businesses in the third district of Laguna. Due to a lack of comprehension, trust, and access to electronic payment systems, consumers in the region continue to prefer traditional payment methods (Nguyen and Nguyen, 2020). Medium-sized businesses may struggle to implement electronic payment systems due to a lack of resources or expertise (Apasrawirote and Yawised, 2021).

2. LITERATURE REVIEW

2.1 Level of Perceived Acceptance

Note that the widespread adoption of computers, smartphones, and the internet has led to a steady rise in the acceptance of technology in recent years (Alkhwaja et al., 2022; Moslehpour et al., 2018; Zaidan and Raju, 2021; Pham et al., 2022). Several factors, including perceived usefulness, simplicity of use, enhanced security, and enhanced efficiency, have contributed to technological advancement (Davis, 1989). Researchers have extensively examined the impact of these elements on the acceptance of technology. The concept of usefulness has a significant impact on the usability of technology and the intent of users to employ it (Davis, 1989). Davis (1989) defines usefulness as the extent to which new technology can enhance individuals' performance and help them achieve their objectives. In addition, the acceptance of technology depends on whether users perceive it as a solution to extant problems or a way to improve their performance (Rana et al., 2021). When users recognize the advantages and utility of a technology, they are more likely to implement it. For instance, consumers are more likely to implement electronic payment systems when they recognize its necessity for enhancing the efficiency of payment transactions (Jin et al., 2020). The consumers' belief in the utility and benefits of electronic payment has a positive effect on their adoption of this technology, resulting in an increase in the frequency of its use in payment transactions (Jin et al., 2020). However, Altounjy et al. (2020) discovered that perceived ease of use has little impact on a merchant's decision to offer a new payment method that is incompatible with the technological acceptance paradigm in mobile payment acceptance. Thus, the relationship between usability and acceptance has been intensively

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researched in recent years. The findings indicate that the perceived simplicity of use of a system influences user adoption and technology utilization (Wicaksono and Maharani, 2020; Alaeddin et al., 2018; Janteng and Dino, 2022; Witts and Kassey, 2021; Altounjy et al., 2020).

Efficiency plays a crucial role in the adoption of technology, encompassing the ability to execute tasks with minimal time, effort, and resources. When technology streamlines process and facilitates faster and easier task completion, it becomes more appealing to consumers and businesses. Numerous previous studies have consistently highlighted the importance of efficiency in technology adoption. For instance, conducted research demonstrating the significant role of efficiency in driving the adoption of breakthrough technologies such as augmented reality, robots, and the internet of things within companies (Gore, 2022).

2.2 Level of Perceived Barriers

The process of adopting new technologies, especially electronic payment systems, is fraught with obstacles that can impede the pervasive incorporation of these technologies into the daily lives of individuals, organizations, and societies. These obstacles include technological obstacles, perceived lack of utility, cost implications, limited awareness and comprehension, and compatibility concerns (Rahiem, 2020). Significant obstacles to the adoption of electronic payment systems include technical obstacles such as device difficulties, limited internet access, high technology costs, and insufficient technology skills (Rahiem, 2020). (Rahiem, 2020) Addressing these challenges necessitates novel approaches intended at enhancing skills and preparedness. Nevertheless, despite the opportunities presented by electronic payment technologies, several obstacles must be surmounted. The cited security, scalability, and adaptability as significant technological obstacles to the adoption of electronic payment systems (Batubara et al., 2018). Moreover, technology-related concerns, such as a perceived lack of skills and competence in utilizing electronic payment systems, can function as significant barriers to their adoption (Jason, 2018). In recent years, the adoption of new technologies has been hindered by security concerns, particularly related to the privacy and protection of personal information. These concerns have grown alongside technological advancements in our daily lives, leading to individuals' hesitancy in embracing new technologies. Various studies have been conducted to explore the connection between security concerns and the adoption of technology. For instance, To conducted a study on the adoption of blockchain technology and identified significant challenges and barriers, including usability and security concerns, legal issues, clashes in values (Mohammad and Vargas, 2022).

This study's theoretical framework was built on three theories: Theory of Planned Behaviour (Ajzen, 1991), Technology Acceptance Model (Davis, 1989; Dimitrakopoulos, 2021), and System Theory (Bertalanffy, 1972; Maxwell et al., 2022). The Theory of Planned Behavior proposes that an individual's behavior is influenced by their attitudes towards it, societal conventions around it, and their projected abilities to carry it out. The Technology Acceptance Model states that the perceived usefulness and simplicity of use of a technology determine its acceptance. Perceived usefulness is the degree to which a technology is thought to improve performance, whereas perceived ease of use is the degree to which a technology is thought to be simple to use. TAM can assist explain why customers choose to use or reject electronic payment mechanisms in the context of this study. System theory proposes that a system is made up of interrelated and interdependent components that work together to achieve a common goal. In the context of this study, electronic payment mode adoption can be viewed as a system comprised of customers, medium-sized businesses, and the technological infrastructure required for electronic payments. As a result, according to system theory, the use of electronic payment mechanisms involves the harmonization of these interconnected components in order to achieve a common goal. Thus, by integrating the Theory of Planned Behavior, the Technology Acceptance Model, and System Theory, the researcher aimed to capture various individual, social, technological, and contextual factors affecting the adoption of electronic payment modes among consumers of selected medium enterprises in the third district of Laguna. These theoretical frameworks provided a comprehensive foundation for understanding and explaining consumer behavior in relation to electronic payment adoption.

3. METHODOLOGY

Research Design

The study's research strategy was described as a descriptive research design that used quantitative data analysis methodologies. Descriptive research design is appropriate for studying the characteristics of a population or a phenomenon under investigation, as it aims to describe,

explain, and predict behavior, attitudes, or trends (Creswell & Creswell 2018).

Respondents of the Study

The research was carried out in the Third District of Laguna. The study's respondents are typically consumers who use or have used electronic payment modes to make purchases or transactions such as paying bills, saving, borrowing, transferring funds, and many others.

Sampling Technique

Stratified random sampling was used to choose respondents in this study. The population was divided into strata or sub-groups based on where they dwell using this technique. A random sample was chosen to ensure that it was geographically representative of the population.

Research Instrument

The major research instrument utilized by the researcher to gather data in this study was a survey type questionnaire. A survey type questionnaire is a series of questions asked of respondents in order to gather information on a certain subject of interest.

Data Collection and Analysis

The study will be conducted by passing through the phase of conceptualization. Upon the modification of the instrument, the procedure for conducting this study will include the following:

Implementation. The questionnaire will be prepared by the researcher and distributed to the respondents. A total of 30 respondents were needed to complete the pilot testing. The indicated instrument was then be acquired for data collection and tabulation, and to examine the questionnaire's dependability and validity, the statistician employed Cronbach's alpha to calculate whether the instrument was reliable or valid. Once, the questionnaire was said to be reliable and valid, the researcher deployed the instrument to the target population.

Data Analysis. The researcher will compile all of the instruments and collect all of the necessary data. The information will be forwarded to a statistician for analysis. After receiving the study's findings, the researcher will create and evaluate tables to learn more about the study's primary objective.

Ethical Consideration. The researcher was keeping the respondent's data and information private. The survey questionnaire data will be available only to the researcher and thesis adviser. The identity of the respondent will be kept totally confidential.

Statistical treatment of Data. Statistical treatment was used in computing, analyzing, and interpreting data provided by the responses. First, frequency and percentage were used to describe the demographic characteristics of the consumers of the selected medium enterprises in the third district of Laguna. This would help to identify which groups are more likely to adopt electronic payment mode. Next, the mean was used to determine the consumers' perceived level of acceptance and perceived barriers on the adoption of electronic payment mode in the third district of Laguna's medium enterprises. Finally, in response to the hypotheses set in the study, whether consumers' perceived acceptance has a test of significant difference with respondent age and educational attainment and whether consumers perceived barriers has also test of significance difference with respondent age and educational attainment, Kruskal-Wallis H-Test was used since the data are not normally distributed. Additionally, effect size (Field, 2013) was also used to the magnitude of a difference between groups. Effect size measures provide a way to quantify the size of an effect in a standardized way that can be compared across studies.

3. FINDINGS AND DISCUSSION

The aggregate mean score of 3.46 in Table 1 indicates a high level of perceived acceptability of electronic payment for financial transactions among respondents. The maximum score of 3.63 indicates that the use of electronic payment to access various payment services and conduct quick transactions is highly acceptable, indicating that respondents find electronic payment to be a convenient and efficient method for conducting financial transactions. Three-point-five and three-point-fourty-five indicate that respondents view electronic payment as a means to save money and a beneficial payment method, respectively. Respondents view electronic payment as a time-saving option, as indicated by the score of 3.47, which is regarded as highly acceptable. The highly satisfactory score of 3.54 for

the indicator "In my experience, paying for goods and services via electronic payment is a useful and practical option" indicates that respondents view electronic payment as a useful payment method in general. These findings align with previous studies that have shown the increasing prevalence of electronic payment methods, such as mobile payments, among consumers due to their convenience and efficiency (Endo, 2019). Furthermore, the COVID-19 pandemic has accelerated the spread of digital payment methods as consumers seek contactless and

secure payment solutions (Zhao and Bacao, 2021). The findings indicate that consumers of a subset of medium-sized businesses in the third district of Laguna view electronic payment as highly permissible and advantageous for financial transactions. Therefore, businesses in the region can consider incorporating electronic payment into their payment methods to accommodate consumers' shifting preferences for digital payments.

Table 1: Perceived Level of Acceptance of using electronic payment modes for Financial Transactions in terms of Usefulness

Indicators	\bar{x}	Verbal Interpretation
1. By using electronic payment, I am able to reduce my expenses and save money.	3.05	Moderately Acceptable
2. Electronic payment is a time-saving option for financial transactions.	3.47	Highly Acceptable
3. Electronic payment provides me with access to a diverse range of payment services.	3.63	Highly Acceptable
4. The adoption of electronic payment methods offers numerous benefits for my financial transactions.	3.45	Moderately Acceptable
5. Electronic payment enables me to complete transactions quickly and efficiently.	3.63	Highly Acceptable
6. In my experience, paying for goods and services through electronic payment is a useful and practical option.	3.54	Highly Acceptable
Overall Mean	3.46	Highly Acceptable

Legend: 1.00 – 1.75 (Strongly Not Acceptable) 1.76 – 2.50 (Slightly Not Acceptable) 2.51 – 3.25 (Moderately Acceptable) 3.26 – 4.00 (Highly Acceptable)

Table 2: Perceived Level of Acceptance of using electronic payment for Financial Transactions in terms of Ease of Use

Indicators	\bar{x}	Verbal Interpretation
1. Learning to pay through electronic payment was effortless for me.	3.47	Highly Acceptable
2. The process of paying via electronic payment is straightforward and easy to understand.	3.53	Highly Acceptable
3. Becoming proficient in using electronic payment is simple for me.	3.45	Highly Acceptable
4. I am confident that electronic payment is a user-friendly option.	3.53	Highly Acceptable
5. The use of electronic payment is uncomplicated and easy to navigate.	3.49	Highly Acceptable
6. The minimal effort required to make payments through electronic payment is one of its appealing aspects for me.	3.47	Highly Acceptable
Overall Mean	3.49	Highly Acceptable

Legend: 1.00 – 1.75 (Strongly Not Acceptable) 1.76 – 2.50 (Slightly Not Acceptable) 2.51 – 3.25 (Moderately Acceptable) 3.26 – 4.00 (Highly Acceptable)

Table 2 revealed that the overall mean of the perceived level of acceptance of using electronic payment for financial transactions in terms of ease of use is 3.49, which is interpreted as highly acceptable. This suggests that electronic payment is easy to use, clear and intelligible, uncomplicated, and requires little effort for consumers in the third district of Laguna. This high level of acceptance is consistent with the trend of increasing adoption of digital payment modes in the Philippines, as reported by the Bangko Sentral ng Pilipinas (BSP, 2021). The BSP's report states that the COVID-19 epidemic has increased demand for contactless and cashless payments, hastening the development of digital payment options in the Philippines. The number of registered digital payment accounts in the Philippines surged from 63 million in 2019 to 138.8 million in 2020 (BSP,2021). Moreover, previous research has revealed that ease of use is a major

element in the adoption of digital payment modalities (Alaeddin et al., 2018; Alswaigh and Aloud, 2021). Therefore, efforts to improve the ease of use of electronic payment could further increase its adoption among consumers in the third district of Laguna and other areas in the Philippines. Thus, the results support the interpretation that the widespread acceptance of electronic payments in terms of ease of use among consumers of selected medium enterprises in the third district of Laguna is consistent with the trend of increasing adoption of digital payment modes in the Philippines and previous research has revealed that ease of use is a crucial factor in adoption. Further efforts to improve the ease of use of electronic payment could increase its adoption among consumers in the third district of Laguna and other areas in the Philippines.

Table 3: Perceived Level of Acceptance of using electronic payment for Financial Transactions in terms of Efficiency

Indicators	\bar{x}	Verbal Interpretation
1. It provides a more streamlined and efficient payment process.	3.59	Highly Acceptable
2. When compared to traditional payment methods, it may result in fewer delays and hassles.	3.33	Highly Acceptable
3. It may reduce the likelihood of errors.	3.20	Moderately Acceptable
4. The ability to make payments via cellphone, laptop and desktop allows for flexibility.	3.47	Highly Acceptable
5. It could help me complete transactions more quickly and efficiently.	3.63	Highly Acceptable
Overall Mean	3.44	Highly Acceptable

Legend: 1.00 – 1.75 (Strongly Not Acceptable) 1.76 – 2.50 (Slightly Not Acceptable) 2.51 – 3.25 (Moderately Acceptable) 3.26 – 4.00 (Highly Acceptable)

The aggregate mean of 3.44 in Table 3 indicates that the perceived acceptability of using electronic payment for financial transactions is high in terms of efficiency. It provides a more streamlined and efficient payment process" (x = 3.59), "it could help me complete transactions more quickly and efficiently" (x = 3.63) and "the ability to make payments via cell phone, laptop and desktop allows for flexibility" (x = 3.47). These results indicate that consumers in the third district of Laguna view electronic payment as an effective and convenient mode of payment. According to previous research, electronic payment systems are more efficient and convenient than conventional payment methods (Camillere and Agius, 2021). Nevertheless, the indicator "it may reduce the likelihood

of errors" (x = 3.20) received a moderately acceptable score, indicating that consumers are not completely persuaded that electronic payment can reduce the likelihood of errors. This may be due to security and dependability concerns, which have been cited as impediments to the adoption of electronic payment modes (Qu et al., 2022; Sahi et al., 2022). This lends credence to the notion that consumers in the third district of Laguna have a favorable opinion of electronic payment methods, particularly regarding their efficacy. Medium-sized businesses in the region that are contemplating the adoption of electronic payment could gain valuable insights from the study's findings.

Table 4: Perceived Level of Barriers of using electronic payment in terms of Technology

Indicators	\bar{x}	Verbal Interpretation
1. It requires using cellphone, laptop, desktop and internet, which may not be available or affordable in all areas.	3.47	Strongly Agree
2. It involves the handling of sensitive personal and financial information, which increases the risk of fraud.	3.41	Strongly Agree
3. The reliability is dependent on the stability and security of technology and infrastructure.	3.39	Strongly Agree
4. Failures in electronic payment technology can cause significant disruption like delays to payment transactions.	3.40	Strongly Agree
5. I have experienced technical problems while using electronic payment such as slow processing time or errors.	3.13	Moderately Agree
Overall Mean	3.36	Strongly Agree

Legend: 1.00 – 1.75 (Strongly Not Agree) 1.76 – 2.50 (Slightly Not Agree) 2.51 – 3.25 (Moderately Agree) 3.26 – 4.00 (Strongly Agree)

Table 4 indicated that the consumers in the third district of Laguna perceive significant barriers in using electronic payment in terms of technology. The overall mean of 3.36 suggests that the respondents strongly agree that there are several technological challenges associated with using electronic payment. This finding is consistent with earlier research that has identified technology as one of the key impediments to electronic payment system adoption (Aduba, 2021; Assielou and Bourgault, 2022). This supports the interpretation that technological

hurdles are impeding the use of electronic payment among consumers of selected medium firms in the third district of Laguna. The findings highlight the need for electronic payment providers to address these technological challenges to improve the adoption and usage of their system among consumers. Electronic payment providers must focus on improving their system's reliability, security, and technical aspects to enhance the user experience and increase consumer trust and confidence.

Table 5: Perceived Level of Barriers of using electronic payment in terms of Security

Indicators	\bar{x}	Verbal Interpretation
1. I am concerned about the safety and security of my personal and financial information.	3.29	Strongly Agree
2. It discourages me from using it due to the perceived risk of fraud and identity theft.	2.96	Moderately Agree
3. Because of potential technical issues, I am concerned about the dependability of electronic payments.	3.10	Moderately Agree
4. I am uncertain about the security measures in place to protect my information and payment transaction.	3.00	Moderately Agree
5. I'm hesitant to use electronic payment because of the possibility of scams and losing money.	2.92	Moderately Agree
Overall Mean	3.05	Moderately Agree

Legend: 1.00 – 1.75 (Strongly Not Agree) 1.76 – 2.50 (Slightly Not Agree) 2.51 – 3.25 (Moderately Agree) 3.26 – 4.00 (Strongly Agree)

Table 5 showed that the respondents strongly agreed ($\bar{x} = 3.29$) that they were concerned about the safety and security of their personal and financial information. This finding was consistent with prior research that identified security and privacy issues as important impediments to electronic payment system adoption (Denaputri and Usman, 2020). Furthermore, the respondents moderately agreed that they were discouraged from using electronic payment due to the perceived risk of fraud and identity theft ($\bar{x} = 2.96$), concerns about the dependability of electronic payments ($\bar{x} = 3.10$), and uncertainty about the security measures in place to protect their information and payment transaction ($\bar{x} = 3.00$). Respondents also agreed that they were cautious to make electronic payments due to the risk of frauds and losing money ($\bar{x} = 2.92$). These results were consistent with previous studies that reported similar concerns among consumers regarding the security and reliability of electronic payment systems (Hassan, 2020; Iacurci, 2020; Bala, 2021). Overall, the mean perceived level of barriers to using electronic payment

in terms of security was 3.05, which indicates a moderate level of agreement among the respondents. The findings indicate that consumers are hesitant to use electronic payments due to security concerns, which may impede the adoption of electronic payment systems among consumers in the third district of Laguna. To address these issues, electronic payment providers must establish adequate security measures and educate users on the safety and dependability of their systems. This supports the interpretation that the study sheds light on the impediments to the implementation of electronic payment systems among medium-sized business consumers in the third district of Laguna, notably in terms of security. The findings emphasize the need of electronic payment providers addressing consumers' security concerns in order to enhance the use of electronic payment systems. Other factors that influence the adoption of electronic payment systems, such as convenience, accessibility, and familiarity, can be studied further.

Table 6: Test of Difference on the Perceptions of the Respondents on the Level of Acceptance of using electronic payment when grouped according to their Age

Variables	Kruskal-Wallis H Test	p-value	Verbal Interpretation	ϵ^2	Effect size
Usefulness	15.34	0.004	significant	0.041	small
Ease of Use	12.76	0.013	significant	0.034	small
Efficiency	9.73	0.045	significant	0.026	small

Legend: $p < 0.05$ significant

Legend: less than 0.01 (Very Small) 0.01-0.059 (Small) 0.06-0.139 (Medium) 0.14 and above (Large)

According to previous research age is a significant factor in the adoption of electronic payment modes, as demonstrated in Table 6 (Al-Dmour et al., 2021). Due to factors such as lack of familiarity with technology, concerns about security and privacy, and predilection for traditional payment methods, older consumers may be less likely to adopt electronic payment modes (Vaportzis et al., 2017). However, the small effect size indicates that other variables, such as age, gender, marital status, income, education, and

occupation, may also influence customer perceptions of electronic payment modalities (Lohan and Roy, 2021). For instance, consumers with higher incomes and levels of education may be more likely to use electronic payment methods due to their greater familiarity with technology and trust in the safety of electronic payment systems. This supports the notion that age influences the adoption of electronic payment methods among consumers of medium-sized businesses in the third

district of Laguna. Other factors, including income, education, and occupation, may also play a role in the differences in respondents' perceptions. The implications of these findings for firms and regulators

seeking to increase consumer adoption of electronic payment mechanisms are substantial.

Table 7: Test of Difference on the Perceptions of the Respondents on the Level of Acceptance of using electronic payment when grouped according to their Educational Attainment

Variables	Kruskal-Wallis H Test	p-value	Verbal Interpretation	ϵ^2	Effect size
Usefulness	11.41	0.044	significant	0.031	small
Ease of Use	5.88	0.318	not significant	0.016	small
Efficiency	2.08	0.838	not significant	0.006	very small

Legend: $p < 0.05$ significant

Legend: less than 0.01 (Very Small) 0.01-0.059 (Small) 0.06-0.139 (Medium) 0.14 and above (Large)

Table 7 results for the variable of usefulness, the Kruskal-Wallis H Test yielded a significant result with a p-value of 0.044 and an ϵ^2 of 0.031, which indicates a small effect size. This implies that there is a considerable variance in respondents' perceptions of the usefulness of electronic payment across educational attainment categories. Respondents with varying levels of education may have varied viewpoints on the use of electronic payment modes. This finding is corroborated by a study conducted which discovered that education is a significant factor influencing mobile payment system acceptance by (Oyelami et al., 2020; Lohana and Roy, 2021; Al-Dmour et al., 2021). The Kruskal-Wallis H Test results for the variables of ease of use and efficiency, on the other hand, were not significant, with p-values of 0.318 and 0.838, respectively. This

suggests that there are no significant differences in respondents' assessments of the ease of use and efficiency of electronic payment across educational attainment categories. This outcome is similar with the findings of a study conducted which found that education has no significant impact on mobile payment system adoption by (K M, Siby, 2021; Qu et al, 2022). The interpretation that educational attainment is a crucial factor influencing perceptions of the utility of electronic payment modes. However, educational attainment has no effect on perceptions of the ease of use and efficiency of electronic payment. These findings can help medium-sized businesses in the third district of Laguna customize their electronic payment marketing tactics to different educational attainment groups.

Table 8: Test of Difference on the Perceptions of the Respondents on the Level of Barriers of using electronic payment when grouped according to their Age

Variables	Kruskal-Wallis H Test	p-value	Verbal Interpretation	ϵ^2	Effect size
Technology	10.08	0.039	significant	0.027	small
Security	9.39	0.052	not significant	0.025	small

Legend: $p < 0.05$ significant

Legend: less than 0.01 (Very Small) 0.01-0.059 (Small) 0.06-0.139 (Medium) 0.14 and above (Large)

Table 8 provided the Kruskal-Wallis H Test yielded the following results for the variables "Technology" and "Security": for "Technology," the H statistic is 10.08, and the p-value is 0.039, indicating that the result is significant at the 0.05 level. The H statistic is 9.39 for "Security," and the p-value is 0.052, indicating that the result is not significant at the 0.05 level. Therefore, based on the results, there is a significant test of difference in the perceptions of the respondents on the level of barriers of using electronic payment when grouped according to their age for the "Technology" variable, but not for the "Security" variable. This suggests

that age has a considerable impact on respondents' perceptions of the extent of hurdles to adopting electronic payment in terms of technology, but not security. It is worth noting that the effect size for the "Technology" variable is small, with a ϵ^2 value of 0.027. This suggests that age only explains a small percentage of the variance in respondents' assessments of the extent of technological barriers to adopting electronic payments. This study's findings are similar with prior research that indicated age to be a key predictor of consumer adoption of electronic payment modalities (Al-Dmour et al, 2021; Lohana and Roy, 2021).

Table 9: Test of Difference on the Perceptions of the Respondents on the Level of Barriers of using electronic payment when grouped according to their Educational Attainment.

Variables	Kruskal-Wallis H Test	p-value	Verbal Interpretation	ϵ^2	Effect size
Technology	9.33	0.097	not significant	0.025	small
Security	4.54	0.474	not significant	0.012	small

Legend: $p < 0.05$ significant

Legend: less than 0.01 (Very Small) 0.01-0.059 (Small) 0.06-0.139 (Medium) 0.14 and above (Large)

The Kruskal-Wallis H Test yielded the following results for the variables "Technology" and "Security" as shown in Table 9: for "Technology," the H statistic is 9.33 and the p-value is 0.097, indicating that the result is not statistically significant at the 0.05 level. For "Security," the H statistic is 4.54 and the p-value is 0.474, indicating that the result is not statistically significant at the 0.05 level. Therefore, based on the results, there is no significant difference in respondents' opinions of the level of barriers to using electronic payment when classified by educational attainment for both the "Technology" and "Security" factors. This indicates that educational attainment has no bearing on respondents' perceptions of the technological and security barriers to adopting electronic payment. Notable are the tiny effect sizes for both variables, with 2 values of 0.025 and 0.012 for "Technology" and "Security," respectively. This indicates that the respondents' educational attainment only partially explains the variance in their perceptions of the technological and security barriers associated with electronic payment. K M, Siby, and Qu et al. (2002) and Qu et al. (2002) found no significant differences in consumer use of electronic payment modalities by educational attainment (K M, Siby, 2021; Qu et al.,

2022). Al-Dmour et al., 2021; Oyelami et al., 2020). These contradictory findings suggest that the relationship between educational attainment and the utilization of electronic payment mechanisms may vary across contexts and cultures. The interpretation of the Kruskal-Wallis H Test indicates that the respondents' educational attainment has no significant effect on their perceptions of the technological and security barriers to using electronic payment. Other factors that may influence the adoption of electronic payment modes among consumers of medium-sized enterprises in Laguna required further investigation.

4. CONCLUSION

Based on the results, the following conclusions are reached

1. The study found that the sample population was young, highly educated, and comfortable using electronic payment methods, which is consistent with previous studies on electronic payment adoption. This shows that electronic payment methods are expected to be widely used

among customers of medium enterprise businesses in the third district of Laguna. More research is needed, however, to confirm this hypothesis and investigate other influencing factors.

- II. Consumers of medium enterprises in the third district of Laguna have a high level of acceptance towards using electronic payment modes for financial transactions, as evidenced by their perceived usefulness, ease of use, and efficiency. This suggests that consumers in the area are becoming more open to adopting digital payment platforms as an alternative to traditional payment methods.
- III. Consumers in the third district of Laguna perceive technology-related barriers to using electronic payment modes, but are also concerned about safety and security issues associated with the platform. Efforts should be made to address these barriers by improving the user-friendliness and accessibility of the platform, as well as enhancing its security features. This would encourage more consumers to adopt electronic payment as a payment mode, which could benefit medium enterprises in the area by offering a convenient and secure payment option to their customers.
- IV. The study's results indicate that age significantly influences the perceived usefulness, ease of use, and efficiency of electronic payment, with different age groups holding varying perceptions. Educational attainment, on the other hand, primarily impacts the perceived usefulness of electronic payment and has minimal effects on ease of use and efficiency. These findings have important implications for businesses and service providers. They suggest the need for tailored strategies and user interfaces based on the target age groups to enhance acceptance and user experience of electronic payment. Additionally, the study highlights the importance of targeted educational campaigns to emphasize the benefits of electronic payment among specific segments of the population based on their educational attainment. However, factors like ease of use and efficiency appear to be less influenced by educational background and may depend more on technological literacy and individual preferences.
- V. The study discovered that, age has a significant impact on perceptions of technological barriers to electronic payment, while it does not significantly affect perceptions of security barriers. Educational attainment, on the other hand, does not significantly influence perceptions of either technological or security barriers. These findings suggest that interventions aimed at addressing technological barriers should consider the differing perceptions among various age groups, but age and educational attainment may not be key factors in addressing security concerns. Understanding these variations can help in developing targeted strategies to overcome specific barriers and promote wider adoption of electronic payment systems.
- VI. The adoption of electronic payment modes in the third district of Laguna presents an opportunity for medium enterprise businesses. Incorporating electronic payment mode, improving their accessibility, and targeting older consumers can increase adoption rates, improve customer experience and loyalty, and increase sales. Additional research is necessary to make informed decisions about investing in these methods based on accurate data and insights.

RECOMMENDATIONS

The following suggestions may be made based on the findings:

- I. Medium enterprises may conduct additional research though the sample population studied demonstrated high adoption rates of electronic payment methods, it is critical to confirm this hypothesis and investigate other factors that may influence adoption rates in the third district of Laguna.
- II. Medium enterprise businesses in the area may be advised to incorporate electronic payment methods in order to meet the growing demand for digital payment methods. This can be accomplished by collaborating with electronic payment providers, establishing the necessary infrastructure, and promoting to customers the convenience and security of digital payment methods. Medium enterprise businesses can improve their competitiveness, improve customer experience, and align with their customers' changing needs by doing so.
- III. Medium enterprise businesses may be advised to improve the platform's usefulness and accessibility through clear instructions and guidance, enhancing its security features through partnerships with reputable providers, and educating consumers on safe digital payment practices. Furthermore, providing incentives to electronic payment

users, such as discounts, can increase adoption and lead to increased sales for the enterprises.

- IV. It may be recommended that medium enterprise businesses in the third district of Laguna improve the usefulness of electronic payment modes by providing incentives and improving convenience through staff training. To encourage more electronic payment adoption, medium enterprises should promote the benefits of electronic payment modes and consider partnering with providers for added value such as loyalty programs or integration with financial services.
- V. It may be recommended that medium enterprise businesses in the third district of Laguna consider the age factor when promoting the use of electronic payment to their consumers. To make older consumers feel more at ease with technology, targeted promotions and incentives, as well as clear instructions and personalized support, could be offered. Although the study found no significant differences in security and technology perceptions based on educational attainment, providing education and training on security features can still help alleviate concerns. Adopting electronic payment methods can benefit both businesses and consumers, and by taking age into account and providing support and education, adoption can be encouraged and customer experience improved.
- VI. The Medium enterprise businesses in the other district of Laguna may conduct a similar study to assess the adoption rates of the electronic payment mode as a basis for evaluation and improvement.

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