

Securing Trust: Examining The Interplay Between E-Payment System Security And Customer Trust In Digital Transactions

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Abstract: *Technological advancements have paved the way for the banking and financial sectors to introduce electronic payment systems, offering customers convenient online transaction capabilities and e-money management. Despite these benefits, trust in electronic payment systems remains hindered by security concerns such as fraud, scams, and identity theft. The intent of this paper is to explore the interplay between e-payment security and customer trust in electronic payment systems, employing a correlational research design as the most suitable methodology for this investigation. Data was collected from 398 respondents in Sta. Ana, Pampanga, using an adapted survey instrument. Regression was used to analyze the impact of e-payment security determinants (technical safeguard, transaction process, and security statement) on customer trust pillars (ability, integrity, and benevolence). The results indicate a significant effect of e-payment security on customer trust. The study recommends regular system updates and data encryption to mitigate cyber threats and enhance electronic payment system security.*

Keywords: *E-payment System and Security, Customer Trust, Digital Transaction*

1. INTRODUCTION

The Internet has provided numerous benefits, including making lives less difficult and easier, lowering expenses for communication, bringing entertainment, offering easy access to news and information from anywhere on the planet, and presenting limitless potential opportunities to become successful and earn money. With the advent of the Internet, numerous organizations have begun to use it as a platform for marketing and business, giving rise to e-commerce. It has been more than two years since the pandemic outbreak, and since then, it has been one of the primary causes of the rapid expansion of e-commerce in recent years, resulting in an increased need for electronic payments. Electronic payments, including credit cards and debit cards, have risen rapidly. Mobile wallets and app payment services are among the most expanding and rapidly growing e- payment options. E-payments are not only exclusively for online transactions; they can also be used in physical stores. In the Philippines, GCash is becoming increasingly popular as an app or mobile wallet. One of the advantages of using the Gcash app is that it lets customers transmit e-money and also makes it easier and more convenient to pay bills online. Furthermore, this also served as a method of payment in such physical stores as 7-Eleven, Mercury Drug, and other small and medium-sized companies.

Currency, new assets opened doors to cyberattacks that many people suffered from and fell victim to, resulting in a multitude of people being hesitant to totally trust the

electronic payment system. People avoid using electronic payment systems for a variety of reasons, including identity theft. Many people are concerned about security. E- payments offer various security risks, and without adequate controls, fraudsters can easily infiltrate the system. People will trust an electronic payment system if it has good security. Customers' or users' perceptions of the security of the e-payment system may assist the service provider in determining areas for improvement.

It all began in 1871, when the Telegraph Communication Company, namely Western Union, launched electronic fund transfers. Then, in the late 1990s, Stanford Credit Union was known to be the first bank to offer online banking. The advancement of technology then created the rise of online stores like Amazon, created in 1994. On the other hand, PayPal was the first online payment service provider to navigate the market in the 1990s. Asians then followed the trend and created their own, namely Alibaba, Tenpay, or WeChat Pay. Since then, electronic payments have continued to grow.

Technology in general brought a significant change in business settings. From the usual norm to electronic base transactions. The e-payment system commences as an alternative to the usual norm and is described as a system that does not involve physical money. Accordingly, e-payment serves as a medium for online transactions, which indicates its importance.

The electronic payment system facilitates electronic transactions, requiring users to share personal information like names and card details. This data exchange signifies

user consent to the transaction and entails a level of trust in the service provider or system. Security is paramount in electronic systems due to the rising concern of identity theft, which impacts both customers and service providers. argue that robust security enhances customer satisfaction and fosters trust, ultimately boosting e-commerce usage. Moreover, customer perception of security within the electronic system plays a pivotal role in the advancement of e-commerce.

Customers hesitate to share sensitive data online due to fear of hackers stealing their information, posing a significant challenge for organizations striving to promote online payments. Trust is crucial in business transactions, as successful relationships rely heavily on it. Without trust, transactions are unlikely to occur, according to. The study findings highlight customer trust as a key factor in online payment adoption while emphasizing the pivotal role of security measures in fostering customer trust.

Since electronic payment systems will soon be the standard in business settings, security is the most important improvement to be made. This study will investigate the impact or interplay of e-payment security on the trust of customers. This study will also provide data about the perceptions of customers towards the security of electronic payment systems that can be useful in enhancing the systems of the said platforms.

REVIEW OF RELATED LITERATURE

Electronic Payment System Security

Bogdan-Alexandru (2016) defines an e-payment system as a method of exchanging goods or services and transferring money electronically. These systems encompass various forms, including card-based systems utilizing plastic cards with embedded chips, such as credit, debit, and prepaid cards. Mobile phone-based systems enable transactions through mobile devices, while online payment systems operate via internet banking platforms. These methods often involve the use of credit, debit, or prepaid cards. Additionally, electronic wallet payment systems, like PayPal and GCash, are software applications allowing users to store money electronically.

According to Yomas and Kiran (2018), the surge in electronic payment systems is driven by the rapid expansion of the internet and information technology. These systems streamline financial transactions online, offering speed and convenience while eliminating the necessity for cash or checks. Nonetheless, the proliferation of cyberattacks parallels the rise of e-payment systems. A key challenge lies in the inadequacy of network administration in ensuring security. Moreover, hackers can exploit various methods to steal and manipulate transaction data, which may then be utilized in diverse online transactions.

Bansal (2020) suggests that technological advancements lead to a rise in cybercrime, posing various cybersecurity risks for organizations, including malware, phishing attacks, ransomware, and cryptojacking. Consequently, there's an increasing demand for cybersecurity strategies to tackle these cyber-related challenges. According to

a website article by Samaniego (2023), cyber threats have become pervasive in digital transactions, with GCash experiencing issues primarily related to phishing scams rather than hacking. Scammers utilized fake websites to deceive users into logging into their GCash accounts, enabling them to steal sensitive information. Factors affecting trust is devised and categorized into three primary groups: technical and transactional protocols, availability of security measures, and usability.

Tannagan, C. S., Yabut, T. D., & Magno, C. D. (2018) explore the effects of locality According to Pooja Gupta and Dr. Rahul Hakhu (2021), security and privacy are paramount considerations in the acceptance of internet-based services, particularly concerning the security and reliability of digital payment adoption. Ensuring only authorized access to customers' personal data is essential through technical safeguards and transaction methods, including thorough transaction verification steps. Customers should be aware of the security measures necessary when engaging in digital transactions.

Barkhordari et al. (2017) assert that the capacity of internet technology to enhance the efficiency of financial operations has influenced banking systems. Ensuring clients' confidence and trust is a pivotal aspect of Internet banking systems. This research presents an experimental evaluation of critical factors impacting Iranians' confidence in e-payment systems. A compilation of potentially significant and individual characteristics on the usage of electronic payments. Utilizing data from the 2016 E-Peso Individual Payments Baseline Survey, the research analyzes 1,175 observations. Through logistic regression analysis, it reveals that factors such as infrastructure, income level, educational

attainment, internet connectivity, gender, and employment status play a role in electronic payment adoption. The study underscores the importance of addressing education, internet accessibility, and employment opportunities, as well as improving infrastructure, to foster electronic payment adoption in the Philippines, thereby enhancing economic efficiency and sustainability.

In the digital age, systems that used electronic technology transformed various deals, including tax, making procedures more straightforward for payers and enhancing revenue collection, as stated by Aguilar, L. E. (2023). This study seeks to identify the determinants affecting the uptake of electronic payment channels for people who pay tax in the Philippines, aiming to support authorities that facilitate tax. The paper identifies perceived usefulness, benefits, influence, and costs as components that inspire the use of BIR payment methods for tax payment among people who pay tax in Davao City.

In the Philippines, the livelihoods of many families depend on the sacrifices of Overseas Filipino Workers (OFWs) who send remittances home, underscoring the significance of enhancing economic opportunities.

However, despite this, only 42% of Filipinos have access to banking services, highlighting the necessity for more efficient

money transfer methods such as cashless payments. Despite government initiatives to modernize, the country still heavily relies on cash and check transactions, despite the growth of e-commerce facilitated by the internet. This research investigates the factors influencing the adoption of electronic payment systems, with a focus on usability, privacy, security, and trust perceptions. Through an

analysis of data from an online survey of 33 participants using linear regression, the study reveals that the convenience of online transactions, supported by available technologies and various payment options, motivates individuals to engage in e-commerce based on their preferences and perceptions (Ching, M. R., 2017).

Technical Safeguard

Business owners must prioritize implementing top-tier security measures to safeguard both their company and their customers from the risks associated with receiving online payments. It is the responsibility of merchants to maintain customer trust and ensure a secure and seamless shopping experience when consumers entrust their money and personal details to an online retailer for a transaction ("What is payment security?"). Discover methods to enhance the security of your payments (for merchants, 2020). In the early stages of e-commerce in India, individuals were hesitant to provide merchants with their card details and often avoided online transactions. The acceptance of e-commerce by consumers plays a pivotal role in determining the success or failure of any innovative technology (Bhatt and Prajapati, 2018).

Oney et al. (2017) emphasized the significance of examining how factors influencing perceived security and trust impact electronic payment systems. Moreover, technical safeguards and user experience are identified as the key factors influencing perceived security and trust. Payments that revolve electronically have enhanced the quality of life of individuals by simplifying transactions through the internet and making payments more convenient.

As global advancement continues, the internet has become an essential tool in daily activities. Businesses, including financial institutions, are leveraging this opportunity to expand their services to a broader audience and optimize their functionalities. To improve e-banking services, recommendations include introducing more e-banking channels for enhanced accessibility, providing continuous technical training and support to relevant departments, implementing promotional tactics to spread awareness, updating security measures regularly to enhance vigilance, and conducting periodic assessments to ensure.

In Pancho's study in 2022, financial technology (FinTech) is defined as the automated delivery of financial services intended to improve the functions and offerings of financial intermediaries. This research considers FinTech to include a range of applications that offer various financial services to clients, such as payment systems, advisory services,

financing, and regulatory compliance, particularly within the commercial banking sector. Additionally, FinTech applications play a role in bolstering investor protection efforts, enhancing banking experiences, fostering informed economic growth, and facilitating significant transactions.

Transaction Process

According to Alaeddin et al. (2018), as referenced in Alshurideh et al. (2021), consumers worldwide have adjusted their behaviors in various situations, transitioning from physical transactions to digital payment methods when acquiring goods and services. It's crucial to recognize that these shifts entail the exchange of personal and financial information through electronic transactions, as highlighted in reports by Hassan

et al. (2021), cited in Alshurideh et al. (2021). Consequently, some scholars have emphasized the heightened importance of focusing on consumer protection, privacy, security, and trust issues associated with e-payment transactions (Bahshir et al., 2021; Yang et al., 2021, cited in Alshurideh et al., 2021).

Barkhordari et al. (2017) discovered that technical and transactional procedures play a significant role in shaping customers' trust perceptions. However, Oney et al. (2017) concluded that transaction procedures do not notably impact a user's trust. This suggests that transaction procedures might not be a decisive factor for the security and reliability of electronic payment systems and are sometimes viewed as unnecessary measures. Consequently, the transaction process may occasionally frustrate users and lead them to perceive less security and trust in the electronic payment system.

The study revealed that an effective electronic payment platform is characterized by its user-friendly interface, ease of access, and enhanced security features for financial transactions. Moreover, the research found that electronic payment platforms can contribute to increased sales, enhanced convenience in collections, and simplified salary payments. However, technical challenges were identified as the most common hurdles faced when using electronic payment platforms. This study offers valuable insights for policymakers, financial service providers, and small-scale entrepreneurs to improve guidelines for electronic payment processes related to collection and disbursement. It also adds to the existing literature on the impacts of electronic payment systems (Pueblos & Timoteo, 2023). Espelata (2022) defines electronic payment systems as methods of transferring funds electronically or digitally. Various types of payment are available, such

as internet wallets, cards, and digital banking. They are known for their fast and effective nature, facilitating capital transfers.

Security Statement

According to Haddad et al. (2018), individuals utilizing online payment methods are required to provide their personal and financial details through the website to finalize their purchase and proceed with payment for selected goods or services. This

process may trigger concerns for users due to perceived risks associated with potential financial loss or privacy breaches during online transactions. The study underscores the importance of various elements on the seller's website, such as usability, security features, and the provision of reliable information, and their impact on customers' trust perceptions and financial concerns.

Mashatan et al. (2022) contend that the widespread adoption of cryptocurrencies has expanded their potential applications beyond mere investment. One significant application with the capacity to significantly transform financial transactions across various industries, particularly e-commerce and online retail, is cryptocurrency payments. However, certain characteristics of the technology, such as transaction disintermediation, the absence of centralized authority, and limited regulations, may lead consumers to have additional concerns about privacy and security. This aligns with a broader trend: growing apprehensions among individuals regarding information privacy and security in online transactions. The study's findings underscore the importance of enhancing consumer awareness regarding data confidentiality, crypto-payments that involve security risks, and measures that are implemented to alleviate concerns.

Oney et al. (2017) found that security statements on the platform significantly influenced the trust of consumers in electronic transmission systems. Perceived trust, known as customer confidence, is the belief that electronic transmissions proceed in line with expectations. The security statements posted will heavily influence consumers' decisions to use an electronic payment system because these statements can increase consumers' perceived security and trust in electronic payment systems

Omorog and Medina (2020) suggest that Filipinos' perception of Internet security highlights the necessity for the government to instill a culture of cybersecurity among its citizens.

Chiu and Chiu (2016) aim to understand the factors influencing initial trust in using online banking in developing countries like the Philippines. Despite facing advanced cyber threats, slow internet speeds, and relatively high internet costs compared to global standards, the study investigates whether these factors affect the establishment of initial trust among 454 customers of local banks in the Philippines who currently do not use internet banking services. Factors such as perceived costs, infrastructure quality, privacy, security, and trust inclination emerge as barriers to non-users' willingness to engage in online financial transactions.

Customers' Trust

Kumra et al. (2018) said that the advancement of information technology has

opened a new door for internet banking and allows banks to perform their tasks efficiently. It is believed that the success of internet banking depends on customers' trust

in accepting its use. This will allow banks to bring profound changes to the banking sector

Stewart and Jürjens (2018) said that the uptake of electronic devices and consumption open a path for innovation in financial technology. In their study, they analyze the key elements that trigger the implementation of technology in Germany. The results confirm that customer trust affects the adoption of financial technology. Similarly, indicate that trust is a key factor in decision-making that enables consumers to accept and continue using the system.

Lee et al. (2016) said that the usability of mobile phone services is the primary concern of mobile companies. In their study, they examine the key elements that affect the implementation of smart phones through satisfaction of customers, brand loyalty and customer trust. The results show that simplicity and interactivity of the user interface are important aspects of digital phone usefulness. Brand loyalty through customer satisfaction and trust were also significant mediators in the usability and adoption of mobile phones.

In the study of Mahmood et al. (2022), they investigate the relationship between trustworthiness and the adoption of mobile banking applications in Pakistan. 660 people gathered data from the distributed survey questionnaire using a convenient sampling method. The findings evidently show that mobile banking apps have a direct impact on the three pillars of trustworthiness, namely, ability, integrity, and benevolence. It indicates that a higher degree of trust in mobile banking apps has a high potential for app usage.

In a study conducted in Nueva Ecija by Santos (2020), it was observed that contemporary consumers increasingly seek convenient avenues for purchasing brands and merchandise. The advent of the Internet has significantly reshaped consumers' perceptions regarding ease, fastness, amount, goods, and service knowledge. Furthermore, within the online business landscape of the Province of Nueva Ecija, online retailers should prioritize various factors influencing customer loyalty as part of their strategic objectives. However, some consumers remain skeptical about online shopping, citing concerns about trustworthiness and security. Internet security, particularly regarding theft, privacy breaches, and hacking, emerges as a major apprehension among consumers.

Ability

As per Sharma (2021), customer trust in a website is contingent upon the consumer's belief that the site possesses the necessary capabilities and resources to fulfill its commitments, including handling purchase transactions, delivery, and returns as advertised. Hasche et al. (2020) define ability-based trust as relying on the trustee's skills, competencies, and attributes, ensuring they can meet their promises and responsibilities. The trustee's expertise may be specialized in particular domains, enhancing their suitability for tasks within those areas.

The capacity aspect has emerged as pivotal in shaping the viability of a sharing

economy platform. On such platforms, both participants are exposed to vulnerabilities from each other. By sharing reviews, uncertainties and risks can be mitigated for both

parties involved. Previous customers' online feedback serves as crucial indicators of trust online, offering informational cues for prospective customers (Xu, 2018).

PC Lai (2016) investigates the factors influencing consumers' acceptance of a unified payment system incorporating card, internet, and mobile technologies in the ASEAN region. Unlike previous research that concentrated on the adoption factors of these technologies individually, this study uniquely explores design and security aspects comprehensively. It adopts a novel approach by examining these areas in an integrated manner, offering insights distinct from existing studies.

Integrity

Esterik-Plasmeijer and Raaij (2017) characterize integrity as the credibility and reliability demonstrated by banking institutions in providing their offerings. Meanwhile, as noted by Lu et al. (2010) and referenced in Hendrawan and Zorigoo (2019), integrity refers to the confidence in an individual's reliability based on their adherence to societal norms or standards in their actions.

According to Svare et al. (2019), this encompasses factors such as consistency in past actions, credible endorsements from other parties, belief in the trustee's sense of justice, and the alignment of actions with words. On the other hand, Dowell, Morrison, and Heffernan (2016), as cited in Hendrawan and Zorigoo (2019), characterize integrity as the fulfillment of promises and contracts in accordance with ethical standards. These contrasting perspectives portray integrity as loyalty to universal moral values rather than

individual, organizational, or societal principles, with commitment serving as an implicit or explicit assurance.

Connelly et al. (2018) found that trust based on integrity is more efficient than trust based on competence in reducing transaction expenses among organizations. Meanwhile, Özdemir and Sonmezay (2020) suggest that enhancing integrity and competence is essential for e-commerce firms to enhance consumers' perceived trust. These factors, serving as antecedents to trust, are crucial in driving significant increases in both consumer purchases and attitudinal loyalty as perceived trust rises.

Establishing trust is a formidable task, especially in a country facing numerous contextual, technological, and societal obstacles (E. Capistrano, 2020). Key factors shaping the initial formation of bank trust in the Philippines include considerations such as information availability, security concerns, privacy issues, and cost factors in internet banking. . Chiu and J. Chiu (2016) underscore the impact of these factors on customers' behavioral intentions regarding the adoption of internet banking or e-payment systems.

As outlined by Amoroso, Roman, and Morco (2016), corporate social responsibility (CSR) has become integral to businesses. In contemporary settings, consumers are well-informed about various social concerns, making transparency crucial. They argue that CSR significantly impacts consumer decision-making by directly and indirectly influencing their trust in a business, as evidenced by studies conducted by Singh, Sanchez, and Del Bosque (2008).

Benevolence

According to Mal et al. (2018), benevolence is attributed to the company behind the brand rather than the product itself. Customers' ongoing positive encounters with a company's products can gradually foster trust in the company. Beyond a self-serving profit motive, benevolence is the degree to which the person who should trust is perceived to have the intention of benefiting the trustor (Firmansyah et al., 2019).

Individuals who exhibit benevolence will utilize their abilities and skills to the fullest extent in order to assist others. Benevolence forms the basis of social networking services aimed at fostering positive interactions among individuals (Firmansyah et al., 2019).

The benevolence aspect of a customer trust website originates from the consumer's belief that the site prioritizes the consumer's welfare and is not solely driven by profit motives. This suggests that the firm's pricing is fair and offers sufficient value for the money spent (Sharma, 2021).

It has been established that trust based on benevolence is especially important at both individual and organizational levels, as it promotes transparent communication and sharing of knowledge, facilitates more productive collaboration overall, and fosters greater innovation in particular (Svare et al., 2019).

As per Wu et al. (2017), an enhanced security system enhances benevolent trust, diminishing uncertainties and anxiety while boosting feelings of optimism, symbolic advantages, and perceived value for money when utilizing eco-friendly products

regularly. Meanwhile, assert that in financial dealings, benevolence and trust, demonstrated through care and safeguarding against harm by bank personnel, positively impact customer engagement within a bank.

Online wallets have revolutionized the shopping experience for customers by offering convenient money transfer options. Moreno et al. (2022) highlight the importance of benevolence in the context of the mobile banking system, emphasizing its positive impact on consumers' perceptions of e-wallets. Alongside factors such as trust, security, and ease of use, consumers consider benevolence a crucial aspect. Albuero-Cañete (2022) defines benevolence as prioritizing the well-being of users and ensuring accessibility and security on the platform.

Synthesis

The existing literature provides valuable insights into the research topic, offering support for the study's assertions. Previous research indicates that e-payment security plays a significant role in shaping customers' trust perceptions. Specifically, the study focuses on three key determinants of e-payment security: technical protection, transaction procedure, and security statement, which are directly relevant to the current investigation.

Moreover, prior studies have identified three fundamental pillars that contribute to building trust: ability, integrity, and benevolence. These pillars are intricately linked to the objectives of the present study. Therefore, the study examines how the determinants of e-payment security impact these pillars of customer trust in electronic payment systems (EPS).

SIGNIFICANCE OF THE STUDY

This research examines how the security of e-payments influences the trust customers have in electronic payment systems. Additionally, the results of this study could offer significant advantages to the following:

Financial Institution

Organizations offering electronic payment services can utilize the results of this research to enhance the security of their systems, pinpoint areas for enhancement, and foster customer trust.

Consumers/Customers

Consumers, or customers, are crucial to e-payment security because their trust and confidence in the system directly impact its success. Without customer trust, electronic payment systems may suffer from reduced usage, increased fraud, and reputational damage for the service provider.

E-Commerce Merchants

Businesses utilizing online transactions and fully embracing electronic payment methods stand to benefit from the insights provided in this study. It offers valuable insights into the security of their e-payment systems, enabling them to enhance transaction processes and overall business operations.

Government

Electronic payment security systems are essential for governments to ensure the confidentiality, integrity, and availability of their financial transactions while enhancing

service delivery, transparency, and trust among citizens.

Future Researcher

This research will act as a foundational resource for those interested in further exploring the same subject, offering insights into potential variables for enhancement. Additionally, it can serve as a valuable point of reference for future studies with similar themes. Are still a lot of questions to be asked about consumer behaviour and all its aspects.

Instead of skincare, they may tackle food or other different products.

THEORETICAL FRAMEWORK

There are different concepts of trust depending on the episodes of life, and every concept has its own definition. Trusts exist in all facets of life. Trust is very powerful, and gaining it could help organizations or businesses reach their long-term goals.

The loyalty-trust theory by Morgan and Hunt (1994) According to their theory, a successful marketing relationship requires loyalty and trust. They defined loyalty as the desire to continuously maintain the value of a relationship. Having said that, loyalty won't be used as a variable in this study; instead, this study will focus on trust. Morgan and Hunt (1994) said that trust is at the core of relationship marketing. Relationship marketing emphasizes the significance of communication between buyer and seller to form long-term relationships; it acts as a mediating factor between the two. Furthermore, this theory shows that when one party has confidence and believes in the reliability and integrity of the other party, trust will emerge. When the trustee believes that the trustor is reliable and that its integrity, which is associated with

competency, honesty, helpfulness, fairness, and responsibility, results in trustors' high confidence in the trustee. According to Mayer, Davis, and Schoorman (1995), the trustee must have the ability, integrity, and benevolence. Ability is defined as the expertise and competency of the trustee. Integrity is defined as the honesty of the trustee in a transaction. And benevolence is defined as the extent of the trustors' belief that the trustee wishes them good in accordance with their desires. This model will help the study define the level of trust customers have in the e-payment system.

CONCEPTUAL FRAMEWORK

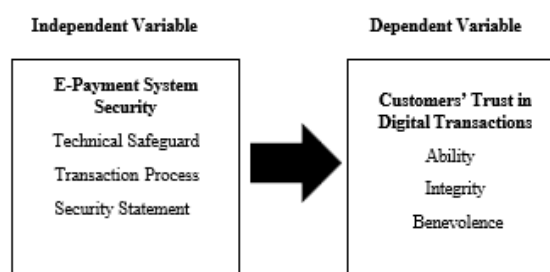


Figure 1. Conceptual Framework

The first frame contains the independent variables about the customer's perception of electronic payment system security in terms of technical safeguards, transaction process, and security statement. The second frame contains the dependent variables about customer trust in the electronic payment system, namely: ability, integrity, and benevolence.

STATEMENT OF THE PROBLEM

The purpose of this study is to determine how E-Payment Security affects the trust of Customers. Specifically, study seeks to answer the following questions:

1. How may the electronic payment security be described in terms of;
 - 1.1. Technical Safeguard;
 - 1.2. Transaction Process; and
 - 1.3. Security Statement?
2. How may customers trust in electronic payment system be described in terms of;
 - 2.1 Ability;
 - 2.2. Integrity; and
 - 2.3 Benevolence?
3. Does Electronic Payment Security affect the Customers Trust in Electronic Payment System?

HYPOTHESIS OF THE STUDY

Ho: There is no significant effect on Electronic Payment System Security when it comes to Customer Trust in terms of Ability.

Ho1: There is no significant effect on Electronic Payment System when it comes to Customer Trust in terms of Integrity.

Ho2: There is no significant effect on Electronic Payment System when it comes to Customer Trust in terms of Benevolence.

DEFINITION OF TERMS

Ability refers to the knowledge and skills of the e-payment service provider that influence the trust of a customer.

Benevolence refers to the extent to which a customer believes that the e-payment service provider wants to do well to them, aside from profit.

Customers trust refers to the degree of customers' confidence that the e-payment provider can manage their financial transactions securely, reliably, and efficiently, demonstrating ability, integrity, and benevolence.

Electronic Payment System is a process of making financial transactions electronically, without the need for physical currency or checks.

Electronic payment security refers to the measures and technologies used to protect electronic payment systems.

Integrity refers to the reliability and honesty of the e-payment system in handling transactions and protecting customer information.

Security Statement refers to a formal declaration made by the e-payment service provider or organization running the system regarding the security measures they have implemented to protect the system, data, and transactions.

Technical Safeguard refers to the technical measures taken to protect the system, data, and transactions from unauthorized access, modification, or disclosure.

Transaction Process refers to the steps involved in processing electronic payments.

SCOPE AND DELIMITATIONS

This study seeks to learn about the security of an electronic provider's system and to find out the customer's trust perception regarding the electronic payment system. Furthermore, this study is being done to determine the impact of electronic payment security on customers' trust in electronic payment systems based on the degree of agreement. Residents in the municipality of Sta. Ana Pampanga who used or will use the electronic payment systems served as the respondents. The electronic payment system's security and customer trust are the study's variables, and they are evaluated using a questionnaire that also collects information on respondents' responses to questions about how e-payment security can be described in terms of technical safeguard, transaction process, and a security statement, and how customer trust in an electronic payment system can be described in terms of ability, integrity, and benevolence.

CHAPTER 2 METHODOLOGY OF THE STUDY

This chapter outlines the methods and techniques utilized in the study, including details about the study's population, the research instruments employed, the procedures for data collection, and the necessary data processing and statistical analysis methods.

METHODS AND TECHNIQUE OF THE STUDY

The research study was quantitative in nature, meaning that all data represented in this study was reflected in numbers and mathematical figures. Quantitative research is one type of research wherein all data is interpreted numerically through the use of certain statistical tools.

The researchers utilized correlational research design, deeming it the most appropriate research methodology for investigating the interplay between e-payment system security and customers' trust. As per Joe Eckel (2023), correlational research design entails examining the relationship between two or more variables. A correlational study evaluates the connection between two or more variables without altering or controlling any of them.

In connection with the goal of the research, a survey questionnaire was utilized to collect data.

RESPONDENTS OF THE STUDY

The respondents in this study were selected from the municipality of Santa Ana, located in the province of Pampanga. Eligible participants were individuals who have prior experience using an e-payment system. The municipality is projected to have 61,537 residences in 2020, with an annual growth rate of 2.32%. According to Phil Atlas, the 2020 population of Santa Ana, Pampanga, will be 61,537. In 2021 ($61,537 \times 1.0232$) = 62,965

In 2022, ($62,965 \times 1.0232$) = 64,425

In 2023, ($64,425 \times 1.0232$) = 65,920

In 2024, ($65,920 \times 1.0232$) = 67,449

By 2024, the population of Santa Ana is projected to increase to 67,449 individuals. Utilizing the Slovin formula, the researchers determined that 398 respondents were required for this study. To reach this target, purposeful sampling, otherwise referred to as selective sampling, is a non-random sampling technique through which the researchers purposefully selected a participant or case based on certain traits or criteria related to the purpose of the research. This approach is frequently employed when researchers aim to target specific groups or individuals with unique insights, experiences, or expertise pertinent to the study's focus. It was advantageous for exploring nuanced perspectives, unique cases, or diverse viewpoints within a limited sample size. Purposive sampling enabled researchers to focus on individuals who offer valuable information, enhancing the depth of qualitative analyses (Creswell & Creswell, 2017).

INSTRUCTIONS OF THE STUDY

To establish its validity and reliability, the research tool was modified from earlier studies. The questionnaire assessing the factors influencing e-payment systems' security was adapted from Oney, Guven, and Rizvi's (2017) research, while the questionnaire evaluating the foundations of customer trust was derived from Usman's (2015) study.

The survey questionnaire comprised two sections. The initial segment focused on the determinants of e-payment security as perceived by consumers, covering aspects such as technical safeguards, transaction processes, and security statements. The subsequent section addressed the fundamental components of customer trust: ability, integrity, and benevolence.

The research instrument underwent pre-testing to test its reliability. The researchers applied Cronbach's alpha with the aid of a hired statistician. A researcher must consider the instrument's applicability to a particular area of research and the quality of its questions when choosing or creating a new one for a study (National Committee on Scientific Principles for Educational Research, 2002, as cited in Taber, 2011).

According to Bujang, Omar, and Baharum (2018), Cronbach's alpha is a statistical index that measures the internal consistency or reliability of a set of items, ratings, or measures. Simply put, this measure computes the reliability of responses to a questionnaire, the instrumentation that people evaluate, and consequently the stability of the instruments.

Table 1: Reliability Test Results

Variables	Cronbach Alpha	Number of Items	Interpretation
E-Payment Systems' Security			
Technical Safeguard	0.891	6	Good
Transaction Process	0.889	6	Good
Security Statement	0.891	6	Good
Customers' Trust in Electronic Payment System			
Ability	0.816	4	Good
Integrity	0.851	4	Good
Benevolence	0.894	4	Good

Legend: $\alpha \geq 0.90$: Excellent, $0.90 > \alpha \geq 0.80$: Good, $0.80 > \alpha \geq 0.70$: Acceptable, $0.70 > \alpha \geq 0.60$: Questionable, $0.60 > \alpha \geq 0.50$: Poor, $0.50 \geq \alpha$: Unacceptable.

Based on the results calculated using Cronbach alpha, all sub-variables obtained an alpha greater than 0.7, which indicates that all items consistently measure the sub-variables and implies that the items are accepted and reliable.

DATA GATHERING PROCEDURE

Initially, the researchers sought approval to conduct the study beyond the school premises. The letter outlined the methods and procedures for data collection. Subsequently, a pilot test was conducted involving thirty (30) participants who responded to the research questionnaire. Following data collection, with assistance from a hired statistician, the data underwent reliability testing using Cronbach's alpha.

This study utilized Google Form as the primary tool for data collection. The initial page of the Google Form included a participation request letter for respondents to engage in the study by completing the research questionnaire. Additionally, respondents were given the opportunity to indicate their willingness to participate on the same page.

Throughout the data collection period, an online survey via Messenger chat was also be conducted. Leveraging online surveys through Google Forms facilitated efficient data collection from the residents of Santa Ana, Pampanga.

Finally, within a two-week period, the researchers obtained sufficient data. The collected information was then compiled and subsequently forwarded to the hired statistician for the application of diverse statistical analyses.

DATA PROCESSING AND STATISTICAL TREATMENT

The sub-indicators for e-payment systems' security and customer trust were assessed using a Liker scale. This scale facilitated the analysis of the e-payment system's impact based on respondents' perceptions of its security and the level of trustworthiness attributed to the e-payment service provider. Both the variables of E-Payment Security and Customers' Trust were measured using a Liker scale, which

provided descriptive ratings, values, and ranges for the collected data.

Scale Value	Range	Description
4	3:26-4:00	Strongly Agree
3	2:51-3:25	Agree
2	1:76-2:50	Disagree
1	1:00-1:75	Strongly Disagree

Table 2. Scoring Range of Likert Scale

To establish the averages for e-payment security across technical safeguard, transaction process, and security statement, as well as for the pillars of customers' trust encompassing ability, integrity, and benevolence, a weighted mean was employed. A weighted mean involves calculating an average by assigning different weights to individual values (Vedantu, 2023).

The standard deviation was employed to assess the spread of data for both e-payment security and customer trust. This statistical measure quantified the extent of dispersion within a dataset and typically evaluated in relation to the mean value of the variables (Omda and Sergent, 2021).

Multiple linear regression analyses were utilized to assess whether e-payment security influences customer trust. This analytical method examined the interplay of the independent variable and the dependent variable in the study (Ali and Younas, 2021).

ETHICAL CONSIDERATION

The researchers emphasized the importance of voluntary participation by the respondents, respecting their decision not to participate if they choose not to. The information collected was strictly designated for academic purposes.

In adherence to the Republic Act of 10173, the Data Privacy Act of 2012, the researchers ensure the protection of respondents' information, guaranteeing anonymity and confidentiality. Participants were provided with a notice on the initial page of the Google Form distributed via Messenger prior to completing the survey. On the same page, respondents were given the option to continue or opt out of participating.

Moreover, the researchers maintained transparency by informing respondents about their involvement in the study.

CHAPTER 3

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presents the collected data and its interpretation in tabulated format in an organized sequence according to the problem of the study. The results formed the foundation, and alongside conclusions, recommendations were formulated.

The paper intends to investigate the impact of e-payment security on customer trust.

Table 3. E-payment Security in terms of Technical Safeguard.

Table 3 presents the respondents' perceptions regarding electronic payment security, particularly focusing on Technical Safeguard. Upon analysis of the collected data, it was determined that technical safeguard attained a weighted mean of 3.54 and an overall standard deviation of 0.34 and stated strongly agree. This shows that the majority of respondents strongly concur that technical safeguards significantly influence a customer's decision to utilize an electronic payment system. Notably, item 1 garnered the highest mean of 3.66 and a standard deviation of 0.49 and is interpreted as strongly agreeing. In contrast, item 6 recorded the lowest mean of 3.49 and standard deviations of 0.50, interpreted as strongly agreeing.

The findings show that customers generally have a positive experience when using electronic payment systems. The system demonstrates effective measures to safeguard customer data and information, instilling confidence among users that their

information remains securely protected and has not been compromised. These conclusions align with the study conducted by Oney et al. (2017), which highlights technical safeguards and user experience as pivotal factors influencing perceived security and trust in electronic payment systems.

No	Indicators	Weighted Mean	Standard Deviation	Verbal
1	Your personal information, including contact or payment details, has never been compromised due to using the E-Payment System.	3.66	0.49	Strongly Agree
2	Your personal data has not been shared with third parties by e-payment service providers for any other reasons.	3.51	0.50	Strongly Agree
3	The displayed payment amount or transaction data on E-Payment Systems is consistently accurate.	3.55	0.50	Strongly Agree
4	You believe that the E-Payment System transaction data transferred over the internet is securely safeguarded.	3.53	0.50	Strongly Agree
5	Payment services are reliably accessible at all times throughout the day.	3.53	0.51	Strongly Agree
6	Temporary or unexpected errors are not common during transactions.	3.49	0.50	Strongly Agree
	TECHNICAL SAFEGUARD	3.54	0.34	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Table 4. E-payment Security in terms of Transaction Process.

No	Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
7	The E-Payment system consistently requires users to input their name and password upon logging in.	3.60	0.51	Strongly Agree
8	E-Payment Systems offer various measures to authenticate users.	3.51	0.50	Strongly Agree
9	The website presents an opportunity to modify any payment information before completing the final stage of the payment process.	3.57	0.51	Strongly Agree
10	The website includes a verification step for payments before finalizing the actual payment.	3.55	0.51	Strongly Agree
11	The website usually shows a summary of payment details (such as cost and payee) and the final payment amount.	3.57	0.50	Strongly Agree
12	A confirmation is sent to users through one of several available methods (online, email, etc.) to confirm that the payment has been received.	3.59	0.51	Strongly Agree
	TRANSACTION PROCESS	3.56	0.34	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Table 4 shows respondents' views on electronic payment security regarding the transaction process. The weighted mean for the transaction process was 3.56 and the overall standard deviation was 0.34, indicating strong agreement among respondents. The indicated results show that most respondents strongly agree that the transaction process significantly influences the decision to use electronic payment systems. Notably, item 7 scored the highest mean of 3.60 and a standard deviation of 0.51, while item 8 scored the lowest mean of 3.51 and a standard deviation of 0.50, both indicating strong agreement or strongly agreeing.

The findings show that customers' experiences with the transaction process have been seamless and straightforward. This process typically involves verification to confirm that the payment has been successfully sent. These conclusions align with the research conducted by Barkhordari et al. (2017), which underscores transactional processes and procedures as the most influential factors shaping customers' perceptions of trust.

Table 5. E-payment Security in terms of Security Statement.

Table 5 presents respondents' perceptions of e-payment security regarding the security statement. Upon analysis of the computed data, the security statement yielded a weighted mean of 3.58 and standard deviations of 0.34 and stated strong agreement. The indicated data shows that the majority of respondents strongly agreed that a security statement

influences a customer's decision to use an electronic payment system. Item number 13 achieved the highest mean of 3.63 and standard deviation of 0.49, interpreted

as strongly agreeing. Conversely, items 17 and 18 received the lowest mean of 3.55 each and standard deviations of 0.50, respectively.

No	Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
13	The website offers detailed instructions on how to review, cancel, modify, or document a payment.	3.63	0.49	Strongly Agree
14	The website furnishes security statements encompassing security policies, emergency contact information, technical descriptions, and functionalities of the E-Payment System.	3.58	0.49	Strongly Agree
15	No special or exceptional efforts are required to locate security-related statements.	3.58	0.49	Strongly Agree
16	Your security concerns can be readily addressed through frequently asked questions or a help section.	3.58	0.49	Strongly Agree
17	Security-related statements are formulated in a comprehensible manner and largely devoid of technical terminology.	3.55	0.50	Strongly Agree
18	The wording of security-related statements is designed to capture your attention.	3.55	0.50	Strongly Agree
	SECURITY STATEMENT	3.58	0.34	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

The findings indicate that the system offers clear, concise, and easily comprehensible security statements, aiding customers in understanding the system's terms, conditions, policies, and security measures effectively. These results align with the research conducted by Oney et al. (2017), which emphasizes the substantial impact of security statements on consumers' perceived trust in electronic payment systems. This underscores the critical role of security statements in influencing consumers' decisions to use an electronic payment system, as they contribute significantly to enhancing perceived security and trust among consumers.

Table 6. Grand Mean Summary of E-payment Security

Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
ELECTRONIC PAYMENT SECURITY	3.56	0.28	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Table 6 displays the level of respondents' perceptions of electronic payment security. From the gathered data, the calculated grand mean stood at 3.56 and the standard deviation was 0.28, showing a pronounced consensus among respondents. This implies that most respondents strongly

endorse the importance of the three factors influencing electronic payment security.

The findings show that the determinants of e-payment security significantly influence customer perceptions, with the majority strongly concurring. These results align with the research conducted by Pooja Gupta and Dr. Rahul Hakhu (2021), emphasizing the paramount importance of security and privacy in digital payments. Ensuring only authorized access to customers' personal information is crucial, achieved through technical protection and transaction methods that include step-by-step verification. Customers should be aware of the security measures necessary when conducting digital transactions.

Table 7. Customer trust in terms of Ability.

No.	Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
19	I believe that Electronic Payment System have a very good performance.	3.67	0.47	Strongly Agree
20	I believe that electronic payment system <u>are</u> able to compete in the banking sector.	3.55	0.50	Strongly Agree
21	I believe that electronic payment system provider <u>have</u> enough experience to provide quality services.	3.56	0.50	Strongly Agree
22	I believe the electronic payment system is able to provide services as required by customers.	3.56	0.50	Strongly Agree
	ABILITY	3.58	0.36	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Table 7 outlines how respondents view customer trust regarding ability. The data shows that ability received a weighted mean of 3.58 and a standard deviation of 0.36, with a strong agreement among respondents. Specifically, item 19 scored highest at 3.67

with a standard deviation of 0.47. While item 20 scored lowest at 3.55 weighted mean with 0.50 standard deviation, both were interpreted as strongly agreeing.

These results show that customers strongly believe in the capability of electronic payment system providers, aligning with Xu's (2018) study, which highlights the importance of ability in the sharing economy platform's success.

Table 8. Customer trust in terms of Integrity

Table 8 illustrates how respondents perceive customer trust regarding integrity. The data analysis reveals that integrity, with a weighted mean of 3.54 and a standard deviation of 0.37, shows strong agreement. These show that most respondents strongly believe integrity is crucial for customer trust in electronic payment systems. Notably, item 23 receives the highest mean of 3.62 and standard deviation of 0.49 and states strongly agree, while item 24 scores the lowest mean of

3.51 and standard deviation of 0.50 and also states strongly agree.

Based on the results, customers highly endorse the electronic payment system's honesty in transactions and their dedication to safeguarding their information. This aligns with Özdemir and Sonmezay's (2020) research, suggesting that enhancing integrity is crucial for e-commerce companies to boost consumer trust, leading to increased purchases and loyalty.

No.	Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
23	I believe the Electronic Payment System provider always has a commitment.	3.62	0.49	Strongly Agree
24	I believe that electronic payment system providers are always honest in transactions.	3.51	0.50	Strongly Agree
25	I believe that electronic payment system providers have lawful sources of funds.	3.53	0.50	Strongly Agree
26	I believe that electronic payment system providers have always acted with full responsibilities.	3.52	0.50	Strongly Agree
	INTEGRITY	3.54	0.37	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Table 9. Customer trust in terms of Benevolence

Table 9 illustrates how respondents perceive customer trust in terms of benevolence. As per the findings, benevolence received a weighted mean of 3.52 and a standard deviation of 0.39, with strong agreement. These show that the majority of respondents strongly believe that integrity is crucial for customer trust in electronic payment systems. Additionally, item 27 scored the highest mean of 3.58 and a standard deviation of 0.49, while item 29 scored the lowest mean of 3.49 and a standard deviation of 0.49, both indicating strong agreement.

No.	Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
27	I believe that Electronic Payment System providers have always acted in the interests of customers.	3.58	0.49	Strongly Agree
28	I believe the electronic payment system provider will help customers to make favorable decisions.	3.50	0.50	Strongly Agree
29	I believe that electronic payment system providers will not let customers get lost.	3.49	0.49	Strongly Agree
30	I believe that EPS provider is based on a sense of justice.	3.50	0.49	Strongly Agree
	BENEVOLENCE	3.52	0.39	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Based on the findings, customers overwhelmingly supported the idea that the EPS prioritized customer needs, provided guidance, and didn't solely focus on monetary gain. This aligns with Bada and Karupiah's (2021) research, which highlights the positive impact of benevolence and trust on customer-bank interactions.

Table 10. Grand Mean Summary of Customer trust in E-Payment System.

Indicators	Weighted Mean	Standard Deviation	Verbal Interpretation
CUSTOMERS TRUST	3.55	0.32	Strongly Agree

Legend: 1.00 – 1.75: Strongly Disagree, 1.76 – 2.50: Disagree, 2.51 – 3.25: Agree, 3.26 – 4.00: Strongly Agree.

Table 10 presents the respondent's perception of customer trust. Based on the collected data, it shows that the overall customer's trust weighted mean received was 3.55, and a standard deviation of 0.32 implies strong agreement.

The analysis indicates that customers develop trust in electronic payment systems when they perceive the system to possess competence, honesty, and commitment in handling their transactions, as well as providing support and guidance throughout the process. This conclusion is in line with the research conducted by Mahmood et al. (2022), which underscores the significant influence of mobile banking apps on three fundamental aspects of trustworthiness: ability, integrity, and benevolence. These findings show that higher levels of trust in mobile banking apps correlate with increased potential for app usage.

Table 11. Significant effect of E-Payment Security to Customers' Trust in Electronic Payment System in terms of Ability.

Table 11 shows the significant effect of electronic payment security on customers trust in electronic payment systems in terms of ability. Based on the regression analysis results provided, there is a strong positive correlation (correlation coefficient = 0.650) between electronic payment security and ability in electronic payment systems. Furthermore, derived from the computed R², it was determined that Technical Safeguard, Transaction Process, and Security Statement collectively predict the quality of work at 0.423, or 42.30% (0.000), indicating significance. Moreover, based on the regression analysis results, it was discerned that Technical Safeguard (0.000), Transaction Process

(0.001), and Security Statement (0.000) exert a significant positive influence on customers' trust in electronic payment systems in terms of ability since their p-values were below the 0.05 level of significance.

Variables	Correlation Coefficient	Interpretation	R ²	P-value	Decision	Significance
Electronic Payment Security and Ability	0.650	Strong Positive Correlation	0.423	0.000*	Reject Null Hypothesis	Significant

Legend: 0.00 – 0.19: Very Weak Correlation, 0.20 – 0.39: Weak Correlation, 0.40 – 0.59: Moderate Correlation, 0.60 – 0.79: Strong Correlation, 0.80 – 0.99: Very Strong Correlation, 1.00: Perfect Correlation

Variables	P-value	Decision	Significance
Technical Safeguard	.000	Reject Null Hypothesis	Significant
Transaction Process	.001	Reject Null Hypothesis	Significant
Security Statement	.000	Reject Null Hypothesis	Significant

Based on the findings of the regression analysis, electronic payment security significantly affects customer trust in terms of ability. Therefore, we reject null hypothesis number 1. This shows that as the level of e-payment security increases, so does customers' trust in the system's ability to perform effectively. Sharma (2021) posited that customer trust in a website is contingent upon their perception of the site's capacity and resources to fulfill its promised functions. These findings align with Xu's (2018) research, which highlighted the crucial role of ability in determining sustained usage of a securely operated online platform.

Table 12. Significant effect of E-Payment Security to Customers' Trust in Electronic Payment System in terms of Integrity.

Variables	Correlation Coefficient	Interpretation	R ²	P-value	Decision	Significance
Electronic Payment Security and Integrity	0.565	Moderate Positive Correlation	0.319	0.000*	Reject Null Hypothesis	Significant

Legend: 0.00 – 0.19: Very Weak Correlation, 0.20 – 0.39: Weak Correlation, 0.40 – 0.59: Moderate Correlation, 0.60 – 0.79: Strong Correlation, 0.80 – 0.99: Very Strong Correlation, 1.00: Perfect Correlation

Variables	P-value	Decision	Significance
Technical Safeguard	.000	Reject Null Hypothesis	Significant
Transaction Process	.015	Reject Null Hypothesis	Significant
Security Statement	.000	Reject Null Hypothesis	Significant

Table 12 shows the significant effect of electronic payment security on customer trust in electronic payment systems in terms of integrity. Based on the regression analysis results provided, there is a moderately positive correlation (correlation coefficient = 0.565) between electronic payment security and integrity in electronic payment systems. Furthermore, derived from the computed R², it was determined that Technical Safeguard, Transaction Process, and Security Statement collectively predict the quality of work at 0.319, or 31.90% (0.000), indicating significance. Moreover, based on the regression analysis results, it was discerned that Technical Safeguard (0.000), Transaction Process (0.015), and Security Statement (0.000) exert a moderately positive influence on customers' trust in electronic payment systems in terms of integrity.

Based on the findings of the regression analysis, electronic payment security significantly affects customer trust in terms of integrity; therefore, we reject null hypothesis number 2. This indicates that as the level of e-payment security increases, so does customers' trust in the integrity of the system. Integrity refers to the credibility and consistency with which banking companies deliver products and services. Özdemir and Sonmezay (2020) assert that a secured system significantly impacts a user's perception of the integrity of the online service provider

Table 13. Significant effect of E-Payment Security to Customers' Trust in Electronic

Payment System in terms of Benevolence.

Variables	Correlation Coefficient	Interpretation	R ²	P-value	Decision	Significance
Electronic Payment Security and Benevolence	0.611	Strong Positive Correlation	0.373	0.000*	Reject Null Hypothesis	Significant

Legend: 0.00 – 0.19: Very Weak Correlation, 0.20 – 0.39: Weak Correlation, 0.40 – 0.59: Moderate Correlation, 0.60 – 0.79: Strong Correlation, 0.80 – 0.99: Very Strong Correlation, 1.00: Perfect Correlation

Variables	P – value	Decision	Significance
Technical Safeguard	.000	Reject Null Hypothesis	Significant
Transaction Process	.000	Reject Null Hypothesis	Significant
Security Statement	.000	Reject Null Hypothesis	Significant

Table 13 shows the significant effect of electronic payment security on customer trust in electronic payment systems in terms of benevolence. Based on the regression analysis results provided, there is a strong positive correlation (correlation coefficient = 0.611) between electronic payment security and the ability of electronic payment systems. Furthermore, derived from the computed R², it was determined that Technical Safeguard, Transaction Process, and Security Statement collectively predict the quality of work at 0.373, or 37.30% (0.000), indicating significance. Moreover, based on the regression analysis results, it was discerned that Technical Safeguard (0.000), Transaction Process (0.000), and Security Statement (0.000) exert a significant positive correlation on customers' trust in electronic payment systems in terms of ability since their p-values were below the 0.05 level of significance.

Based on the findings of the regression analysis, electronic payment security significantly affects customer trust in terms of benevolence; therefore, we reject null hypothesis number 3. This shows that as the level of e-payment security increases, so does customers' trust in the benevolence of the system. It has been determined that trust based on benevolence is particularly crucial at both levels for fostering open and honest communication, facilitating more productive collaboration overall, and fostering increased innovation (Svare et al., 2019). Additionally, it was found that enhanced security, benevolence, and trust levels increase, leading to reduced uncertainties and anxiety while simultaneously fostering feelings of optimism when using the system.

Table 14. Significant effect of E-Payment Security to Customers' Trust in Electronic

Payment System

Variables	Correlation Coefficient	Interpretation	rR ²	P-value	Decision	Significance
Electronic Payment Security and Customers Trust	0.718	Strong Positive Correlation	0.516	0.000*	Reject Null Hypothesis	Significant

Legend: 0.00 – 0.19: Very Weak Correlation, 0.20 – 0.39: Weak Correlation, 0.40 – 0.59: Moderate Correlation, 0.60 – 0.79: Strong Correlation, 0.80 – 0.99: Very Strong Correlation, 1.00: Perfect Correlation

Based on the regression analysis results provided, there is a strong positive correlation (correlation coefficient = 0.718) between electronic payment security and customers' trust in electronic payment systems. The R-squared is 0.516, which shows 51.6% of the

variation in customers' trust could be explained by variations in electronic payment security. Moreover, the value of p = 0.000 suggests that this interplay is important.

Interpreting these results in the context of SOP3, we can conclude that there is a substantial impact of electronic payment security on customers' trust. The strong positive correlation indicates that as electronic payment security increases, customers' trust in electronic payment systems also tends to increase significantly. The research conducted by Wang and Li (2018) as well as Huang et al. (2021) has shown that there exists a significant positive relationship between the security of electronic payments and customer trust. When customers perceive a high degree of security in electronic payment systems, they are more inclined to trust them, thereby boosting their confidence in engaging in online transactions.

CHAPTER 4

SUMMARY, CONCLUSION AND RECOMMENDATION

In this chapter, a summary of the findings is presented. Conclusions and recommendations were also presented based on the findings of the study.

SUMMARY OF FINDINGS

1. The security of electronic payment systems has a mean score of 3.54, a standard deviation of 0.34, and an interpretation of "strongly agree." In terms of transaction process, it has a mean score of 3.56, a standard deviation of 0.34, and an interpretation of "strongly agree." In terms of the security statement, it has a mean score of 3.58, a standard deviation of 0.34, and an interpretation of "strongly agree." The grand mean of all the factors affecting electronic payment systems' security is 3.56, with a standard deviation of 0.28 and an interpretation of "strongly agree." This indicates that the majority of the respondents strongly agree that technical safeguards, transaction processes, and security statements are important in an electronic payment system.

2. Electronic Payment System Ability: The respondents strongly agree to trust an electronic payment system based on ability, with a mean of 3.58 and a standard deviation of 0.36. Integrity: It has a mean score of 3.54 and a standard deviation of 0.37, which means they "strongly agree." Benevolence: It has a mean score of 3.52 and a standard deviation of 0.39, meaning the respondents "strongly agree." The grand mean of all the pillars of customer trust in electronic payment systems is 3.55, with a standard deviation

of 0.32 and an interpretation of "strongly agree." This means that the majority of the respondents strongly agreed that ability, integrity, and benevolence are very important qualities for an electronic payment system to have in order to earn their trust.

3. Using regression analysis, technical safeguards (0.000), transaction processes (0.001), and security statements (0.000) have a significant positive effect on customer trust in terms of ability. A general correlation coefficient of 0.650 with a R2 of 0.423 implies a positive effect on ability; hence, null hypothesis number 1 is rejected. Technical safeguards (0.000), transaction processes (0.015), and security statements (0.000) have a moderately positive effect on customer trust in terms of integrity. A general correlation coefficient of 0.565 with a R2 of 0.319 implies a moderate effect on integrity; hence, null hypothesis number 2 is rejected. Technical safeguards (0.000), transaction processes (0.000), and security statements (0.000) have a significant positive effect on customer trust in terms of benevolence. A general correlation coefficient of 0.611 with a R2 of 0.373 implies a positive effect on benevolence; hence, null hypothesis number 3 is rejected.

CONCLUSIONS

1. The results indicate a strong consensus among respondents regarding the significance of these elements for an electronic payment system. Ensuring robust security measures in e-payment systems is likely to enhance customer confidence and attract more users to engage in electronic transactions.

2. The study findings show that the core elements of customer trust in electronic payment systems—specifically, ability, integrity, and benevolence. There is a general consensus

among participants regarding the significance of these attributes for a provider of electronic payment services. A provider who exhibits expertise, dependability, honesty, and a sincere commitment to serving customers' best interests stands a good chance of gaining their trust.

3. The research outcomes unambiguously establish a direct link between the factors affecting the security of electronic payments and customer trust, thus rejecting all initially proposed hypotheses. These results strongly indicate a positive correlation between improved security measures and heightened levels of trust. An electronic payment platform that prioritizes superb security features, intuitive navigation, and transparent security disclosures is primed to instill confidence in customers, thereby facilitating widespread adoption of the system.

LIMITATION OF THE STUDY

The study specifically targeted individuals from Sta. Ana, Pampanga, thus narrowing its scope to this specific locality. Their viewpoints as both users and customers of an electronic payment system (EPS) were carefully examined to identify the factors influencing EPS security and customer trust.

Hence, it's crucial to acknowledge that the findings of this study may not be broadly applicable to other regions or communities with larger populations.

The study faced limitations in explaining the factors affecting the security of electronic payment systems, particularly emphasizing technical safeguards, transaction protocols, and security guarantees. Furthermore, it encountered challenges in defining the fundamental aspects of customer trust, such as ability, integrity, and benevolence.

Moreover, its objective was to determine whether electronic payment system security has established trust among customers.

RECOMMENDATIONS

1. The study reveals that the majority of the respondents strongly agreed that the determinants of electronic payment system security were important for electronic payment systems to have. However, among the 3 determinants, technical safeguards are found to be the least visible in an electronic payment system, based on the respondents' perceptions. The study then suggests that a system may implement the following: End-to-end encryption ensures that sensitive information, namely, personal data, is encrypted throughout the transaction, making it unreadable to unauthorized parties. Secure Authentication Methods like biometrics or multi-factor authentication to verify user identity before granting access to the payment system. This mitigates the risk of unauthorized access, even if login credentials are compromised. Regularly conduct software updates and security testing, including vulnerability assessments and penetration testing, to proactively identify and address potential security vulnerabilities in electronic payment systems, ensuring the effectiveness of security controls in mitigating risks. By implementing these recommendations, organizations can enhance the security of their electronic payment systems, improve the experience of their customers, and ensure the technical safeguard of the system.

2. The findings of this study indicate that the majority of respondents believe in the strong influence of pillars of customer trust on customer trust. However, the respondents view benevolence as the least influential pillar. The reason for this perception is that in an

electronic system environment, it will be very hard to realize that electronic payment systems are genuinely showing goodwill to customers since there is no face-to-face interaction. This calls for electronic payment system providers to seek other ways of demonstrating goodwill to their customers. Electronic payment system providers are encouraged to work on perceived benevolence with clear communication, user-oriented design, and proactive customer support. This includes providing clear and easily accessible information about security measures, user-friendly interfaces with customer convenience and safety in mind, and responsive customer service channels to address inquiries and

questions timely. Moreover, the incorporation of personalized recommendations or loyalty programs tends to increase goodwill and trust among the users.

3. The findings highlight the important link between the security of the electronic payment system and customer trust. A good security framework influences users' confidence. So, building a fortress of trust around your payment platform: the stronger the defenses, the safer customers will feel entrusting their transactions to it. But to take it a step further in ensuring the security of electronic payment systems, investing in cybersecurity measures is fundamental. That means continuing to upgrade the system so that it keeps up with new threats effectively. Add encryption to the sensitive data, and it becomes gibberish to invaders, making the security of user information much safer. So, as important as ensuring that users experience the ease of working through the transaction is, Simplify software or application navigation and make it easy for users to go through the process of a transaction in one smooth operation. And last but not least, let's talk

about the support system. Providing channels for customers to give their input and seek help not only enhances transparency and understanding of the electronic payment system among users but also shows that the company values them. In essence, by focusing on security, improving user experience, and allowing open communication, providers can lay the foundation for gaining long-term customer loyalty and trust, paving their future for growth and success in the ever-changing digital space.

DIRECTIONS FOR FUTURE RESEARCH

This study provides valuable insights into the relationship between electronic payment system security and customer trust. Future studies in this area should aim to delve deeper, perhaps increasing the sample size to include a more diverse and larger population, hence increasing the reliability of the findings. Secondly, researchers could have investigated additional variables not touched upon in this research, such as customer loyalty, satisfaction, and intention to use, to make the research more complete.

Furthermore, the studies, if conducted in different geographical locations or in various institutions, may result in stronger and more valid results since different contexts can influence the dynamics between electronic payment system security and customer trust. Besides, the analysis of profile characteristics such as gender, age, occupation, and income may provide deeper insight into the nuances of the relationship, leading to more nuanced and specific findings.

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