Divine Word International Journal of Management and Humanities 5(1)(2026) 3110-3138

Research in Management and Humanities

DWIJMH VOL. 5 NO. 1 (2026) ISSN: 2980-4817

Available online at www.dwijmh.org
Journal homepage: http://www.dwijmh.org
ORCID ID: https://orcid.org/0000-0001-6884-3504

E-payment adoption and financial performance of local food establishments: A correlational study

Alexandra L. Nacino, Derick O. Aceret, Jenny-Lyn A. Basug, Jolina A. Luna, Nethaneel M. Manangbao, and Gwyneth E. Pagdilao: School of Business and Accountancy, Divine Word College of Laoag, Laoag City, Philippines.

A R T I C L E I N F O

Article history:

Received: January 05, 2026

Received in rev. form. January 28, 2026

Accepted: February 17, 2026

Published: March 17, 2026

Keywords: ***Electronic payments (e-payments), business profile, adoption, challenges encountered, financial performance, local food establishments***

A B S T R A C T

Generally, this study determined the adoption of e-payments (e-payments) and its effect on the financial performance of local food establishments in Laoag City, Ilocos Norte, Philippines.

Using a descriptive-correlational research design, data were collected from 22 local food establishments through a structured survey questionnaire and analyzed using statistical tools such as frequency and percentage, weighted mean, Mann–Whitney U test, Spearman's rho, and Pearson's r.

Findings revealed that most local food establishments in Laoag City are sole proprietorships, relatively young, and operate with varying levels of capitalization and sales. Credit and debit cards were the most commonly used e-payment channels, followed by GCash and bank transfers. The extent of e-payment effects was rated high, with perceived usefulness emerging as the strongest dimension, followed by ease of use and revenue effects. Challenges were found to be moderately serious, primarily involving unstable internet connections and system errors. The level of financial performance was also rated high, indicating that e-payment adoption contributes positively to sales, profitability, and return on investment. The correlation results showed no significant relationship between the business profile and the effects of e-payments. However, a significant negative relationship was found between e-payment effects and challenges. Likewise, the business profile showed no significant relationship with challenges. The extent of e-payment effects demonstrated a significant positive relationship with financial performance, whereas challenges were negatively related to it.

The study concluded that the adoption of e-payments among local food establishments in Laoag City is effective and yields high financial performance. It underscores the importance of improving internet stability, system reliability, and digital literacy to further enhance operational efficiency and customer satisfaction.

It is recommended that food establishment owners strengthen e-payment implementation, e-payment providers improve system support, and government agencies promote the development of digital infrastructure. Future researchers may explore e-payment adoption in other sectors and investigate its long-term effects on business growth and customer loyalty.

JEL Classification: M11

Introduction

Technology continues to evolve at an unprecedented pace, reshaping economies and transforming everyday life. One of the most significant developments in this digital era is the rise of electronic and digital technologies, particularly in e-commerce

* *Corresponding author. ORCID ID: 0000-0001-6884-3504*

and digital payments. As people become increasingly familiar with these technologies, they are increasingly turning to online financial services, such as financial technology (fintech), and digital entertainment platforms (Feyen, 2021). In today's rapidly evolving digital economy, e-payment (e-payment) systems have become an indispensable component of financial transactions across the globe.

The rapid adoption of digital payment methods—including mobile wallets, debit and credit cards, and QR code payments—has transformed the way businesses operate, particularly in the food service industry. In Laoag City, Ilocos Norte, food establishments have begun integrating e-payment solutions to enhance customer convenience, streamline financial transactions, and improve operational efficiency (Catacutan, 2023). These digital payment systems offer numerous benefits, including faster, more secure transactions, better financial tracking, and increased customer trust. Pettinger (2020) emphasized that businesses that adopt e-payment technologies experience greater efficiency, lower operational costs, and improved customer satisfaction. Furthermore, the COVID-19 pandemic catalyzed digital transformation, prompting businesses and consumers to adopt safer, contactless payment methods.

Despite these advantages, several challenges continue to hinder widespread adoption of e-payments, including security issues, infrastructure limitations, and user resistance (Le & Lim, 2019). While e-payment systems offer faster access to capital resources (Khan et al., 2017), improved transparency, and increased customer satisfaction (Yang et al., 2018; Ugwueze & Nwezeaku, 2016), barriers remain, particularly in areas of technical, physical, economic, and social accessibility. The dependence of e-payments on stable internet connections, compatible devices, and digital literacy presents difficulties for users in less-connected or lower-income communities. Addressing these barriers requires interventions such as developing user-friendly digital interfaces, expanding infrastructure, implementing economic support mechanisms, and promoting financial literacy programs to foster inclusive participation in the digital economy.

From a management accounting perspective, it is vital to understand how digital technologies—especially e-payments—affect key financial indicators, including revenue growth, operational efficiency, cost control, and profitability. E-payment systems can enhance internal control, reduce transaction errors, and strengthen financial transparency, all of which are essential to sound financial management. Evaluating their impact helps determine the return on investment (ROI) and supports evidence-based recommendations for strategic decision- making.

While extensive studies on e-payment adoption have been conducted both locally and internationally, there remains a notable research gap in understanding its adoption and effects among local food establishments in Laoag City, Ilocos Norte. Existing studies often focus on banking institutions, the retail sector, or national-level adoption trends, leaving a lack of empirical data specific to small- and medium-sized food establishment enterprises in provincial contexts.

Hence, this study was conducted to examine the effect of e-payment adoption on the financial performance of food establishments in Laoag City, Ilocos Norte. The findings are expected to contribute to the literature on digital finance, assist food establishment owners in making informed financial and operational decisions, and provide valuable insights for policymakers and stakeholders to foster a more inclusive, technology-driven business environment in the region.

Literature review

This section reviews the literature and related studies, providing a more detailed and comprehensive account of the study's theoretical framework.

Food establishment business

The food establishment industry plays a vital role in the global economy, contributing significantly to employment generation, tourism development, and local business growth. According to the World Tourism Organization (2022), food establishments are among the key drivers of the service economy, serving as essential components of both domestic and international tourism. Beyond their economic impact, food establishments also reflect cultural identity and social interaction by providing spaces for people to share experiences and culinary traditions (Bharucha, 2021).

In the Philippine context, the food service industry continues to expand due to urbanization, rising disposable income, and the growing influence of digital technology. The Department of Trade and Industry (DTI, 2023) reported that food service establishments, including local restaurants and cafés, have seen a steady increase in number, reflecting strong consumer demand and entrepreneurial activity. Food establishments today are no longer viewed merely as providers of food and beverages but as dynamic enterprises that integrate technology, service innovation, and customer engagement to stay competitive in a rapidly changing marketplace (Goh & Jie, 2020).

Type of Ownership. Food establishments can be categorized into two ownership types: chain and independent. A chain is a multi-unit business with multiple locations operating under the same name, whereas an independent unit is a business that is not part of a chain (Canziani et al., 2016). When selecting the business's ownership structure, the owner must determine which ownership structure is most suitable for their enterprise. Small, family-operated businesses tend to have a lower failure rate because of strong family pride and a focus on the long term, which provides resilience during others' downturns and enables more stable income from profits (Amankwah Amoah, 2016; Fitzgerald & Muske, 2016). Independent food establishments are typically family-run and managed, and are not part of a national franchise. The typical consumer allocates roughly 50% of their disposable income to restaurant meals (Martin, 2018). Because of their structure and organizational culture, family-run food establishments are distinct small businesses (Koutroumanis et al., 2015).

Capitalization. Both big and small businesses have long benefited from business strategies, which are essential to gaining a competitive edge. Porter's generic strategies include cost leadership, among many others. Both practitioners and academics continue to use distinction and emphasis extensively. According to Knezović and Hamur (2022), among well-known frameworks for competitive strategy, the general competitive strategy model developed by Michael Porter, including focus, differentiation, and cost leadership, remains a commonly accepted strategy. (Ali and others, 2021). Businesses that use these tactics frequently outperform those that don't, underscoring their importance in achieving a competitive advantage, a phenomenon widely recognized in marketing and strategic management literature (Kadenyeka, 2023; Li et al., 2023).

Monthly Sales. Food establishments require substantial income to cover their operating expenses. Without income, food establishments will run at a loss, rendering their operations unsustainable. This results in heightened risks of business shutdown and failure to sustainably meet customer demand. Elements influencing revenue generation for food businesses include, but are not limited to, capital, the availability and quantity of stored ingredients, ingredient costs, customer demand, and food sales. This research used Integer Linear Programming (ILP) to simulate monthly sales revenue for a food establishment. The primary goal of the ILP model was to maximize revenue effectively. Conversely, factors to consider when developing the model's constraint equations include ingredient usage for each menu item, the budget allocated to ingredient acquisition, and the distribution of monthly sales demand across menu items. The ILP model was simulated in MATLAB. The simulation results yielded the optimal ingredient inventory levels and the required sales quantities for each menu item. (Jerahmeel K Coching, 2022)

Concept of e-payment

Adopting digital payments is more practical and cost-effective than relying on cash transactions. Holding large amounts of cash incurs higher costs for both businesses and banks. Additionally, significant advantages can be realized for both the private and public sectors if they collaborate to embrace the latest technology and fully harness the benefits of a cashless society. Wang (2020) notes that eliminating cash payments will remove the costs associated with handling and transporting cash. Given the fixed costs associated with cash acceptance, it may be more economical for some businesses to forgo cash transactions altogether.

A digital wallet is a payment solution that uses technology to streamline and accelerate transactions without requiring direct interaction with others. Digital wallets are similar to traditional wallets, enabling users to keep funds in a mobile wallet account established via a digital wallet service provider (Saragih & Prayitta, 2023)

Money can be loaded into the mobile wallet account using debit and credit cards. The shift from traditional payment methods to electronic systems has been driven by the need for speed, security, and efficiency. Odia and Mamudu (2017) highlight that

global payment systems are transitioning from cash-based transactions to digital methods, offering convenience and security for both individuals and organizations. These advancements have reduced dependence on physical cash and checks, allowing customers to transfer funds, pay bills, and make purchases electronically (Odusina & Onakoya, 2017).

Furthermore, e-payment systems have reshaped customer interactions with financial institutions. Omodele and Onyeiwu (2019) note that banks worldwide have transitioned from manual operations to digital infrastructure due to developments in information and communication technologies. This digital transformation has enhanced the accessibility and efficiency of financial services, enabling transactions to be completed with minimal human intervention while maintaining security and reliability. The effectiveness of e-payment systems is influenced by various factors, including technological advancements, regulatory frameworks, and user adoption. As digital transactions continue to gain prominence, understanding the underlying mechanisms and implications of e-payment systems becomes essential for businesses, financial institutions, and consumers alike.

E-payments

E-Payments in the Philippines have been significantly influenced by various political, economic, and international factors. The political landscape, shaped by government institutions such as the Bangko Sentral ng Pilipinas (BSP), the Department of Trade and Industry (DTI), and the Bureau of Internal Revenue (BIR), has seen a push towards digitalization of transactions (BSP, 2021). However, the potential for fragmentation among agencies due to changing administrations poses a threat to the development of e-payment systems (Doe, 2020). This is compounded by existing challenges, including trust issues, technology aversion, and inadequate infrastructure (Smith, 2019).

The initiatives implemented, while not flawless, were essential for facilitating contactless payments during the pandemic (Garcia, 2020). Without ongoing advancements, the e-payment landscape in the Philippines risks stagnation, prolonging its existing challenges (Lee, 2021).

From an economic perspective, the management of the free market poses a major issue (Tan, 2018). The growth of online enterprises has prompted both public and private sectors to investigate different e-payment systems and structures (Chan, 2019). Nonetheless, uncertainty persists about the suitable degree of regulation, as abrupt shifts may affect the nation's economic productivity (Gomez, 2020). For instance, issues within the system may cause payment delays, especially for significant transactions, underscoring the necessity for ongoing enhancements to reduce these risks and foster confidence in digital payments (Rodriguez, 2021)

Factors influencing e-payment adoption

Chaveesuk et al. (2021) explored the relationship between e-payment adoption and sales growth in the UAE banking sector, emphasizing the mediating role of online shopping. Their findings suggest that businesses that integrate digital payment systems experience a significant increase in sales due to the ease of transactions and improved customer convenience.

Perceived Usefulness. A system's perceived usefulness is determined by its overall productivity, effectiveness, and ability to assist users in performing their duties. Perceived utility is considered an incentive for the use of information systems (Ozturk, 2016). Perceived usefulness, on the other hand, might be characterized as people using certain software to increase their productivity. For example, the utility of an e-payment system is assessed by the extent to which it improves the customer service experience during the required task (Oladejo & Oluwaseun, 2015). Meanwhile, Tounekti et al. (2017) found that consumers' opinions of a system's utility may be used to forecast the degree of adoption of an e-payment system.

Perceived usefulness has consistently been identified as a pivotal factor influencing users' behavioral intentions and actual usage of e-payment platforms. According to Kelly and Palaniappan (2023), the perception that e-payment systems can significantly enhance the user experience significantly influences their adoption. Similarly, Lai (2017) emphasizes that users are more likely to adopt e-payment platforms when they believe these systems will enhance transaction efficiency and their overall experience. Wulandari and Sumadi (2020) further corroborate this notion, asserting that perceived usefulness is directly correlated with behavioral intentions to use e-payment platforms.

Perceived Ease of Use. It is common knowledge that a complex application might deter customers. Customer experience analysis may be used to improve the usability of new technology. Oladejo and Oluwaseun (2015) assert that the usability of an e-payment system can significantly impact consumer acceptance. Individual preparedness refers to a person's readiness to adopt and use new technologies without hesitation. Information technology preparedness is especially evident in the technology itself and among clients who will use it, according to Tahar et al. (2020). Accessibility and registration are two aspects of e-payment system usability. This suggests that the activities and procedures required to complete an e-payment should be clear and straightforward (Tounekti et al., 2017).

Alalwan et al. (2017) found that consumers' perceptions of the ease of use of mobile payment systems significantly influenced their intention to use these services. Al-Gahtani (2020) emphasizes that the perceived ease of use significantly affects users' willingness to adopt technology, especially in the financial technology industry. This discovery highlights the essential role of simplicity and usability in shaping user perceptions and boosting adoption rates for digital payment systems. The intention to utilize technology is defined as the degree to which a person intends to adopt a specific technology (Alwabel et al., 2020).

Effects of e-payment on revenues

Mohsen and Habaz (2019) examined the effects and roles of e-payment systems, as well as the number of electronic cards, in advancing and expanding banking operations. Their analysis highlighted how these technological developments enable commercial banks to operate more effectively. Additionally, they emphasized the return on equity and the favorable correlation between the quantity of electronic cards and electronic money transfers, both of which are essential for increasing financial leverage.

Torki et al. (2019) examine the effects of e-payment systems on the banking sector's performance in a few selected Islamic nations between 2011 and 2017. Among these nations are Senegal, Malaysia, Kuwait, Jordan, Indonesia, and Iran. The study found that the performance of the banking industry is positively and significantly influenced by e-payment indicators, including bank cards, online banking, mobile phones, and automated teller machines. This result demonstrated that population and economic expansion significantly improve financial sector performance.

Perceived risks and service quality in e-payment adoption

Lang (2018) examined consumer attitudes toward mobile payment systems in Thailand and identified perceived risk and service quality as major determinants of adoption. Customers often hesitate to use digital payment methods due to concerns about security, fraud, and transaction errors. To mitigate these risks, food establishments must ensure robust security measures, reliable payment platforms, and efficient customer service. Providing seamless and trustworthy payment experiences can enhance consumer confidence, leading to increased e- payment transactions and improved financial performance.

Alzoubi et al. (2022) analyzed factors influencing the sustained use of mobile payment systems in India, highlighting the importance of service quality and risk perception. Their study indicates that user-friendly, secure payment platforms encourage repeat use, ultimately benefiting businesses that integrate such technologies.

Challenges encountered in the adoption of e-payments. The adoption of e-payment systems has been widely recognized as a key driver of operational efficiency and financial convenience for businesses. However, several studies have highlighted the challenges that organizations encounter during implementation, which can affect the overall effectiveness and acceptance of such systems.

One of the most commonly cited barriers is technical and network-related issues. Poor internet connectivity, system downtime, and server failures can delay transaction processing, leading to customer dissatisfaction and operational inefficiencies (Le & Lim, 2019; Wang, 2020). These challenges are particularly significant for small and medium-sized enterprises (SMEs) in developing regions, where infrastructure limitations are more prevalent. Transaction-related constraints also pose challenges. Customers may face issues such as transaction limits, failed payments, or delays in fund transfers.

According to Tafakegn (2019), these problems can erode consumer confidence and slow adoption rates, as businesses struggle to ensure smooth, reliable payment experiences.

Another critical challenge is the risk of security and fraud. Despite the convenience of digital payments, incidents of fraudulent transactions or unauthorized access can affect both businesses and customers (Fatonah et al., 2018).

Lack of clear communication and support from service providers further complicates adoption. Delays in refunds, insufficient guidance on system functionalities, and inadequate customer support can create operational bottlenecks and frustration for food establishment operators (Tafakegn, 2019).

Lastly, resistance to change and limited technical skills among staff and management can hinder successful e-payment integration. Even when systems are technically efficient, employees' unfamiliarity with digital tools can reduce their effectiveness, requiring additional training and adaptation time (Le & Lim, 2019; Pettinger, 2020).

Effect of e-payments on financial performance

Increase in Sales and Revenue Growth. Sales revenue is influenced by various factors; increasing it is a goal for every business owner. By accepting online payments, even relatively small businesses can expand their customer base beyond their immediate region. This increased accessibility enables businesses to reach a wider market, leading to higher sales and revenue growth and benefiting the local economy. The ability to process transactions electronically reduces geographic limitations and enables businesses to serve customers more efficiently (Snap, 2020).

Convenience is another significant advantage of online payment methods. Historically, individuals often feared carrying large amounts of cash due to the risk of theft or loss. However, with the development of secure online payment methods and encryption technology, the risks associated with handling actual currency have been significantly reduced. These advancements have increased consumer confidence in digital transactions, thereby increasing willingness to make purchases via e-payments (Snap, 2020).

Consumer and Contactless Mobile Payment. Consumer behavior, as defined by Stankevich (2017), is the study of how consumers make purchasing decisions. Gannamaneni et al. (2015) define contactless mobile payment as a rapid transaction in which a customer's mobile device connects to a merchant's point-of-sale (POS) equipment. The use of contactless mobile payments in food establishments has increased over the last ten years. Contactless mobile payments have been rapidly adopted by U.S. food establishments; since 2013, the average annual growth rate has been 74% (EuroMonitor, 2018; Del Chiappa et al., 2021). Multinational food establishments and café chains such as Starbucks, KFC, and Chili's accept Apple Pay, a mobile payment system available to iPhone users (Benner, 2015). Contactless mobile payments are also widely accepted in the UK food and beverage industry, with 90% of catering companies and 79% of pubs and food establishments using them (Gerrard, 2016). In early 2018, mainland Chinese consumers used Alipay and WeChat to purchase everything from gourmet dining to street food (Shen, 2018), surpassing the United States in mobile payment transactions (Nielsen, 2018).

Unsurprisingly, consumer perceptions of the security of this payment method have received significant scholarly attention (Wang et al., 2016). For both users and businesses, the heightened risk of security breaches and payment fraud in mobile devices and applications heightens concern and undermines confidence in these payment systems (Hampshire, 2017). As a result, a lack of information and training on mobile payment security may eventually prevent this payment method from becoming extensively used (Stiakakis et al., 2016). In contrast, studies on the application of CMP in the hotel and tourism industries following COVID-19 have been done (e.g., Rahimizhian and Irani, 2021; Gursoy & Chi, 2020).

Profitability. The profitability of a business venture reflects how effectively a company generates income over a given period through inventory, assets, and sales revenue. (Farah and Nina, 2016) indicated that the level of productivity and the size of the firm are significant factors influencing profitability. Profitability is often regarded as a crucial factor in business success, yet many thriving companies do not exhibit the trade-offs predicted by theory (Aron & Andrew, 2015). It has been observed that credit, cash, and debtor management positively affect profitability (Nzitunga, 2019).

Return on Investment. Return on investment (ROI) has been widely recognized as a fundamental tool for decision-making on capital expenditures and for comparing rival operational budget items. Recently, the concept of resiliency return on investment (RROI) has been established to address investments specifically in redundancy and additional strategies aimed at improving the resiliency of operations and facilities (Hall et al., 2017).

ROI is essential in digital marketing, as it provides small and medium-sized enterprises (SMEs) with critical insights to shape their marketing campaigns effectively. Numerous innovative digital marketing strategies can significantly impact SMEs.

Miklosik et al. (2019) emphasized integrating machine learning tools into digital marketing strategies to enhance return on investment. Their study indicates that machine learning can analyze large volumes of collected data to forecast outcomes and inform future growth and decision-making. Consequently, machine learning analytical tools can play a significant role in this research. Conversely, Bala and Verma (2018) highlighted the importance of promotion and recommended it as an effective strategy for SMEs to reach a global audience at a low cost, thereby increasing ROI.

Relationship between the adoption of e-payment and financial performance

According to Rahyuni et al. (2022), the adoption of e-payment technologies has a significant positive effect on financial performance. In their study of Indonesian banks, the authors found that e-payment use improved financial outcomes by increasing transaction efficiency, generating fee-based income, and enhancing customer satisfaction. The researchers emphasized that this relationship is driven by e-payment systems' ability to streamline operations and reduce manual processes, ultimately leading to cost savings and higher profitability.

The positive impact of e-payment adoption on financial performance is supported by various empirical studies across sectors. For instance, Kumar (2017) observed that the implementation of e-payment systems enhanced bank services and financial results in India. Similarly, Jenevive and Anyanwaokoro (2017) found a significant positive relationship between e-payment adoption and profitability among Nigerian banks. These studies suggest that e-payment systems not only improve service quality but also generate additional revenue through transaction fees and enhanced cash-flow management.

Financial performance metrics further underscore the benefits of e-payment adoption. Studies have demonstrated positive correlations between e-payment usage and key financial ratios, such as ROA and ROE, reflecting enhanced asset utilization and equity efficiency (Njoroge & Mugambi, 2018). These indicators reveal that microfinance banks that leverage e-payment technologies are better positioned to maximize profitability and shareholder value.

According to Rahadi and Xena (2019), non-cash transactions enable firms to track transactions more quickly and can also increase business productivity. Gupta and Yadav (2017) assert that the use of e-payment methods in the retail industry has grown recently, supporting the need for proactive promotion of these methods. Banks are taking steps to improve the settlement of advances through checks and other cost-effective alternatives, as well as through technology-based solutions (Goswami & Sinha, 2019).

Conceptual framework

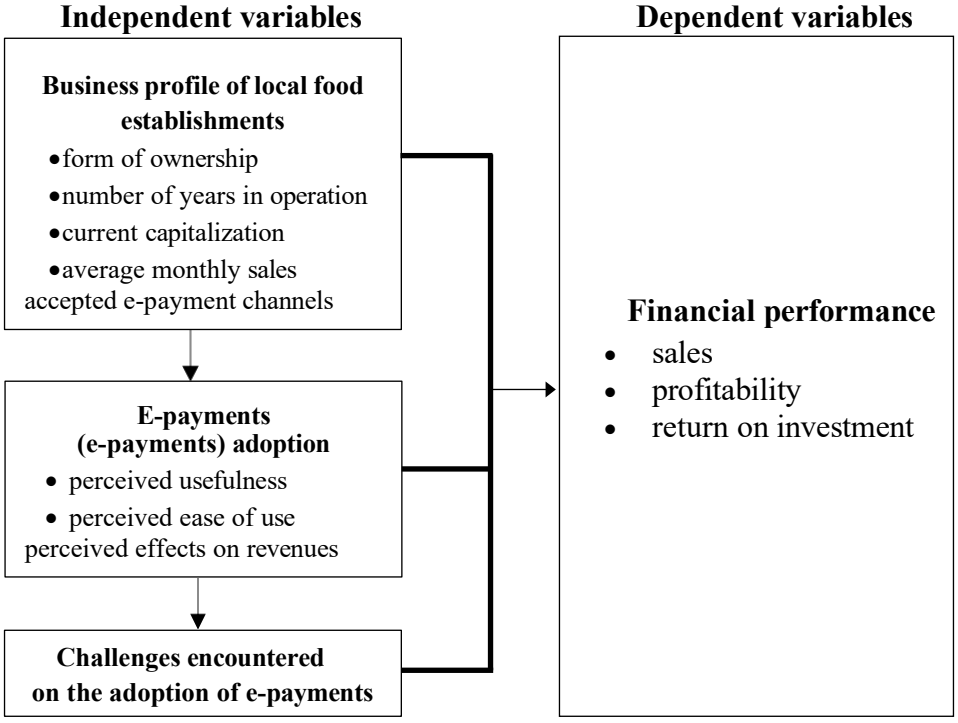

Figure 1. Research paradigm

Source: Pueblos and Timoteo (n.d.), Tafakegn (2019), and De Vinci (2021).

The conceptual framework of the study is illustrated in Figure 1 and adopts the Independent Variable–Dependent Variable (IV-DV) approach. The independent variables include the business profile of local food establishments, the adoption of e-payments (e- payments), and the challenges encountered in adopting e-payments. The dependent variable in the study is the level of financial performance, measured by sales, profitability, and return on investment (ROI).

The study established the relationship between the business profile of local food establishments and the extent of the effects of adopting e-payments (e-payments). Likewise, it examined the relationship between the extent of the effects of adopting e-payments and the challenges encountered in their adoption. Moreover, it sought to determine the relationship between the business profiles of local food establishments and their financial performance. Furthermore, tests of relationships were conducted between the extent of the effects of adopting e-payments and financial performance. Lastly, the study investigated the relationship between the degree of challenge in adopting e-payments and financial performance.

Statement of the problem

This study determined the adoption of e-payments (e-payments) and its effects on the financial performance of food establishments in Laoag City, Ilocos Norte, Philippines. Specifically, it sought to answer the following questions:

1. What is the business profile of the local food establishments in terms of:
1.1. form of ownership;
1.2. number of years in operation;
1.3. current capitalization;
1.4. average monthly sales; and
1.5. accepted e-payment channels?

2. What is the extent of the effect of the adoption of e-payments (e-payments) on local food establishments in terms of:
2.1. perceived usefulness;

2.2. perceived ease of use; and
2.3. perceived effects on revenues?

3. What is the degree of seriousness of the challenges encountered by the local food establishments in the adoption of e-payments?

4. What is the level of financial performance of food establishments in terms of:
4.1. sales;
4.2. profitability; and
4.3. return on investment?

5. Is there a significant relationship between the business profile of local food establishments and the extent of effects of adopting e-payments (e-payments) in terms of:
5.1. perceived usefulness;
5.2. perceived ease of use; and
5.3. perceived effects on revenues?

6. Is there a significant relationship between the extent of effects of adopting e- payments (e-payments) and the degree of seriousness of challenges encountered by local food establishments?

7. Is there a significant relationship between the business profile of local food establishments and their level of financial performance in terms of:
7.1. sales;
7.2. profitability; and
7.3. return on investment?
8. Is there a significant relationship between the extent of effects of adopting e- payments (e-payments) and the level of financial performance of local food establishments in terms of:
8.1. sales;
8.2. profitability; and
8.3. return on investment?

9. Is there a significant relationship between the degree of seriousness of challenges encountered by local food establishments in adopting e-payments and their financial performance in terms of:
9.1. sales;
9.2. profitability; and
9.3. return on investment?

Hypothesis

H_a1. There is a significant relationship between the business profile of local food establishments and the extent of effects of adopting e-payments (e-payments) in terms of:

a. perceived usefulness;
b. perceived ease of use; and
c. perceived effects on revenues.

H_a2. There is a significant relationship between the extent of the effects of adopting e-payments (e-payments) and the severity of challenges faced by local food establishments.

H_a3. There is a significant relationship between the business profile of local food establishments and their level of financial performance in terms of:

a. sales;

b. profitability; and
c. return on investment.

H_a4. There is a significant relationship between the extent of effects of adopting e- payments (e-payments) and the level of financial performance of local food establishments in terms of:

a. sales;
b. profitability; and
c. return on investment.

H_a5. There is a significant relationship between the degree of seriousness of challenges encountered by local food establishments in adopting e-payments and their financial performance in terms of:

a. sales;
b. profitability; and
c. return on investment.

Scope and delimitation of the study

This study examined the variables in local food establishments that affect financial performance: business profile, e-payment adoption, and e-payment problems.

Specifically, it examined the business profiles of local food establishments, including type of ownership, years in operation, current capitalization, average monthly sales, and the e-payment channels they accept.

The study also assessed the extent to which e-payment adoption affects food establishments, including perceived usefulness, perceived ease of use, and perceived effects on revenues.

Additionally, it examined the severity of the challenges faced by food establishments in adopting e-payment systems.

Moreover, the study evaluated their financial performance in terms of sales, profitability, and return on investment.

The research further explored the relationships among the business profiles of food establishments, e-payment adoption, the challenges encountered, and financial performance.

This study was delimited to local food establishments in Laoag City that have been in operation for at least three years and have adopted e-payment systems.

Data collection was conducted from July to August 2025.

Research methodology

Research design

The study utilized a descriptive-correlational research design to thoroughly examine the adoption of e-payments (e-payments) and their effects on the financial performance of local food establishments in Laoag City. Descriptive research, as explained by Siedlecki (2020), provides a detailed and accurate representation of a population or phenomenon, allowing researchers to identify patterns, trends, and relationships. It offers valuable insights into businesses' adoption behaviors and their outcomes (Calderon & Gonzales, 2018). Complementing this, the correlational aspect of the study examined relationships among variables, emphasizing the strength and direction of these associations, as noted by Miksza et al. (2023). By combining these approaches, the study described the extent of e-payment adoption among local food establishments and examined its relationship with their financial performance.

Locale of the study

The study is conducted in Laoag City, Ilocos Norte, Philippines, a key urban center in the Ilocos Region known for its vibrant commercial activities and a growing food service industry. As the provincial capital, Laoag City serves as a hub for tourism, trade, and local entrepreneurship, hosting a wide variety of food establishments ranging from small family-owned eateries to larger commercial establishments (Philippine Statistics Authority [PSA], 2022). The city's strategic location and increasing urbanization have contributed to the growing adoption of digital technologies, including e-payment systems, within its business community (Catacutan, 2023). Laoag City thus provides a suitable setting for examining the adoption of e- payments and their impact on the financial performance of local food establishments, particularly given the varying levels of technological awareness and infrastructure accessibility among business operators.

Population

The population for this study comprised local food establishments in Laoag City, Ilocos Norte, that have adopted e-payment (e-payment) systems. The research focused on owners and managers with direct experience implementing and managing e-payment systems in their establishments, as they are most knowledgeable about the operational and financial aspects of such technology. To ensure comprehensive coverage, total enumeration was employed, including all eligible food establishments within the city. The official list of local food establishments was obtained from the Business Processing and Licensing Office (BPLO) of the City Government of Laoag. This approach enabled the study to obtain a complete and accurate representation of the target population, ensuring that the findings reflect the experiences and perspectives of all food establishments that actively use e-payment systems in the locale. Of the identified establishments, 22 local food establishments participated in the study, while 14 declined to participate due to unwillingness to complete the survey questionnaire.

Data gathering instruments

The primary data-gathering instrument for this study was a structured survey questionnaire, designed to examine the adoption of e-payment (e-payment) systems and their effects on the financial performance of local food establishments in Laoag City. The questionnaire comprised four parts.

Part I gathered information on the business profile of local food establishments.

Part II assessed the effects on the adoption of e-payment systems, focusing on perceived usefulness, perceived ease of use, and the perceived effects on revenues; the items were adapted from Pueblos and Timoteo (n.d.).

Part III identified the challenges encountered by food establishments in implementing or using e-payment systems, based on Tafakegn's (2019) study.

Part IV measured the perceived financial performance of food establishments in terms of sales, profitability, and return on investment (ROI), following the framework of De Vinci (2021).

This design allowed the study to capture comprehensive data on adoption behavior, operational challenges, and the financial outcomes associated with e-payment use.

Data gathering procedure

Before collecting the data, the researchers submitted a request letter to the City Mayor's Office of the City Government of Laoag through the Business Processing and Licensing Office to obtain an official list of food establishments. Upon approval, letters of invitation were sent to the selected owners and managers of food establishments to participate in the study. After obtaining consent, the researchers administered the structured questionnaire using printed copies, which was specifically designed to assess the adoption of e-payment (e-payment) systems, the challenges encountered, and their effects on financial performance.

Before data collection, the researchers ensured that informed consent was obtained from all respondents, guaranteeing voluntary participation and the confidentiality of all information provided. This procedure allowed the study to systematically gather comprehensive and reliable data from the target population of local food establishments in Laoag City.

Ethical considerations

In researching the adoption of e-payments and their effects on the financial performance of food establishments in Laoag City, ethical considerations were prioritized. Informed consent was obtained from all participants, ensuring they were fully aware of the study's objectives, methodologies, and potential risks, and that their participation was voluntary with the option to withdraw at any time.

Privacy and data security were paramount; personal data was anonymized and securely stored to ensure compliance with applicable data protection regulations.

Tools for data analysis

The collected data were carefully analyzed using appropriate statistical methods to ensure accurate interpretation of the results. Quantitative responses were examined through both descriptive and inferential statistics. Descriptive statistics, including frequency and Percentages were used to present the business profile of local food establishments. The weighted mean was used to assess e-payment adoption, perceived usefulness, perceived ease of use, challenges encountered, and perceived impact on financial performance among food establishments in Laoag City. The following were used to analyze the mean ratings.

For the extent of the effect of the adoption of e-payments:

Scale	*Range of Values*	*Descriptor*	*Descriptive Interpretation*
5	4.51 - 5.00	Strongly Agree	Very great extent (VHE)
4	3.51 - 4.50	Agree	High extent (HE)
3	2.51 - 3.50	Somewhat Agree	Moderate extent (ME)
2	1.51 - 2.50	Disagree	Low extent (LE)
1	1.00 - 1.50	Strongly Disagree	Very low extent (VLE)

For the degree of seriousness of the challenges encountered in the adoption of the e-payment system:

Scale	*Range of Values*	*Descriptor*	*Descriptive Interpretation*
5	4.51 - 5.00	Strongly Agree	Very serious (VS)
4	3.51 - 4.50	Agree	Serious (S)
3	2.51 - 3.50	Somewhat Agree	Moderately Serious (MS)
2	1.51 - 2.50	Disagree	Slightly serious (SS)
1	1.00 - 1.50	Strongly Disagree	Not a problem(NAP)

For the level of financial performance:

Scale	*Range of Values*	*Descriptor*	*Descriptive Interpretation*
5	4.51 - 5.00	Strongly Agree	Very high (VH)
4	3.51 - 4.50	Agree	High (H)
3	2.51 - 3.50	Somewhat Agree	Moderate (M)
2	1.51 - 2.50	Disagree	Low (L)
1	1.00 - 1.50	Disagree	Very Low (VL)

Furthermore, the Mann–Whitney U test, Spearman’s rho, and Pearson's correlation were used to assess the relationships among the study variables.

The Statistical Package for the Social Sciences (SPSS) version 20 was used to analyze and interpret the data. The interpretation level will be set to 0.05.

Data presentation and analysis

1. **What is the business profile of the local food establishments in terms of:**
   1.1. form of ownership;
   1.2. number of years in operation;
   1.3. current capitalization;
   1.4. monthly sales; and
   1.5. accepted e-payment channels?

Table 1. Business profile of local food establishments in Laoag City, Ilocos Norte. (n=22)

	Frequency (f)	**Percentage (%)**
Form of ownership		
Sole Proprietorship	15	68.18
Partnership	0	0.00
Corporation	7	31.82
Cooperative	0	0.00
Total	**22**	**100.00**
Number of years in operation		
3-5 years	13	59.09
6-8 years	6	27.27
9-11 years	0	0.00
12-14 years	0	0.00
More than 15 years	3	13.64
Total	**22**	**100.00**
Current capitalization		
Below Php 200,000	9	40.91
Php 200,001 - Php 400,000	2	9.09
Php 400,001 - Php 600,000	0	0.00
Php 600,001 -Php 800,000	0	0.00
Php 800, 001 - above	11	50.00
Total	**22**	**100.00**
Average monthly sales		
Below Php 100,000	7	31.82
Php 100,001 - Php 200,000	5	22.72
Php 200,001 - Php 300,000	4	18.18
Php 300,001 -Php 400,000	3	13.64
Php 400, 0001 - above	3	13.64
Total	**2**	**100.00**
Accepted e-payment channels*		
GCash	19	22.09
MayaPh	7	8.14
Bank Transfer (BPI, BDO, etc.)	13	15.12
Credit/Debit Cards	37	43.02
QR Code Payments	10	11.63
Total	**86**	**100.00**

*multiple response
Source: Authors' own table (2025)

The profile of local food establishments was described in terms of ownership structure, years in operation, current capitalization, average monthly sales, and accepted e-payment channels. The result is presented in Table 1.

Form of ownership. Showed that the predominant form of ownership among the food establishments is sole proprietorship, constituting 68.18%. This indicates that the majority of businesses are family-run or individually owned, which may affect decision-making agility and access to financial resources. This aligns with findings that family-owned small businesses tend to experience lower failure rates, thereby promoting greater income stability (Amankwah Amoah, 2016; Fitzgerald & Muske, 2016).

Number of years in operation. The majority of food establishments (59.09%) have operated for 3-5 years, indicating they are relatively new businesses that may still be in the growth or establishment phase. This distribution suggests a dynamic market with new entrants seeking to establish themselves alongside experienced competitors. In relation to Lee (2021) 's rise in e-payment usage in the Philippines, the majority of newly established food establishments that use e-payments are driving ongoing advancements in the e-payment landscape.

Current capitalization. Shows that capitalization levels vary significantly, with half of the food establishments operating with capital above Php 800,001. This group includes the corporate-owned establishments or high-performing sole proprietorships. The diversity in capitalization highlights a wide range of business scales and investment capabilities within the food establishment sector that use e-payment methods, thereby increasing financial leverage and return on equity. (Mohsen and Habaz, 2019)

Monthly Sales. The monthly sales figures further showed variability, with nearly one-third of food establishments generating less than Php 100,000.00 in sales, suggesting either a limited customer base or part-time operations. This sales range aligns with the capitalization spectrum and suggests significant differences in market reach and customer patronage among the food establishments. This result supports Coching's (2022) study, which found increased revenue-generating risks in its simulation.

Accepted Payment Channels. Shows that adoption of e-payment channels varies but is dominated by credit/debit cards, with 43.02% acceptance, underscoring their popularity and accessibility in the local context. The adoption patterns indicate that digital payment methods are becoming integral to transactions at food establishments in Laoag City, reflecting evolving consumer payment preferences, as they are more practical and cost-effective (Wang, 2020).

Overall, local food establishments in Laoag City are predominantly sole proprietorships and relatively young, with an average age of 3-5 years. They show varied capitalization and sales, reflecting diverse business scales. Credit and debit cards lead e-payment adoption, signaling a shift toward digital transactions. These patterns indicate that even small, independently owned food establishments are embracing technology to enhance efficiency, meet consumer preferences, and strengthen financial performance.

2. What is the extent of the effect of the adoption of e-payments (e-payments) on local food establishments in terms of:
2.1. perceived usefulness;
2.2. perceived ease of use; and
2.3. perceived effects on revenues?

Table 2. Extent of effect of the adoption of e-payments (e-payments) on local food establishments in Laoag City, Ilocos Norte (n=22).

Indicators	Mean	Interpretation
A. Perceived usefulness		

1. The e-payment system is more effective in terms of the security of financial transactions.	3.91	HE
2. The E-payment system is very fast and effective in paying financial obligations and receiving payments from clients promptly.	3.91	HE
3. Using an E-payment system is stress-free, accessible, and very convenient	3.77	HE
4. Using an e-payment system is more effective in identifying the transaction and payment details.	3.86	HE
5. Using an E-payment system is effective to easily trace financial transactions	3.73	HE
Composite Mean	**3.84**	**HE**
B. Perceived ease of use		
1. Easy to learn, control, and navigate.	4.09	HE
2. Clear and easy to understand.	4.27	HE
3. Easy to adapt and flexible.	4.09	HE
4. Easy to transfer funds/ pay financial obligations.	3.91	HE
5. The e-payment system makes work simple and easy	4.05	HE
Composite Mean	**4.08**	**HE**
C. Perceived effects on revenues		
1. E-payment gives the customers/clients more options on how to settle obligations.	4.14	HE
2. E-payment increases the number of potential customers/ clients.	3.73	HE
3. E-payment helps the business to increase its sales.	3.59	HE
4. E-payment increases the business's profitability.	3.55	HE
5. Overall, the e-payment system helps to increase revenue.	3.59	HE
6. The e-payment system is the most secure mode of collection.	3.82	HE
7. E-payment is adaptable and inflexible.	3.82	HE
8. The use of e-payment will make the collection process more efficiently and effectively.	4.09	HE
9. Overall, the e-payment system is an easy means of collection.	4.00	HE
Composite Mean	**3.81**	**HE**
Overall Mean	**3.91**	**HE**

Source: Pueblos y Timoteo (n.d.).

Legend:

Range of Mean Values	***Descriptive Interpretation***
4.51 – 5.00	*Very high extent (VHE)*
3.51 – 4.50	*High extent (HE)*
2.51 – 3.50	*Moderate extent (ME)*
1.51 – 2.50	*Low extent (LE)*
1.00 – 1.50	*Very low extent (VLE)*

Table 2 presents the extent of the effect of the adoption of e-payments on local food establishments in Laoag City, Ilocos Norte.

The overall mean for the adoption of e-payment systems among local food establishments is 3.91, indicating *a high extent (HE)*. This indicates that the food establishments generally perceive e-payment adoption as highly effective in improving operational efficiency, transaction security, convenience, and financial management. The high overall adoption rate suggests that e-payment systems are widely recognized by food establishment owners and managers as beneficial. This can encourage further integration of digital payment methods, contributing to faster transactions, better record-keeping, and enhanced customer satisfaction.

The highest composite mean is 4.08 for *Perceived ease of use*, interpreted as *High extent (HE).* This indicates that respondents strongly agree that e-payment systems are easy to learn, navigate, and use in their daily operations. The high ease of use implies that the technical simplicity of e-payment systems reduces resistance to adoption. Food establishments are more likely to continue using e-payments because the system requires minimal training and seamlessly integrates with their existing processes.

The lowest composite mean is 3.81 for *Perceived effects on revenues*. Although still interpreted as *High Extent,* this suggests that food establishments perceive the effect of e-payments on financial outcomes, such as sales and profitability, as slightly lower than other benefits. While e-payments improve operational convenience and transaction efficiency, their direct impact on revenue generation may be moderate, possibly due to factors such as market size, customer adoption, or pricing strategies.

According to Lai (2017), users are more likely to adopt e-payment platforms when they believe these systems will improve transaction efficiency and their overall experience. Moreover, Tounekti et al. (2017) argued that accessibility and registration processes also contribute to usability, implying that the steps required to complete an e-payment are clear and straightforward.

Similarly, Torki et al. (2019) noted that the performance of the financial sector is positively influenced by various forms of e-payment systems, such as bank cards, online banking, mobile phones, and automated teller machines, highlighting the broader economic benefits of expanding digital transactions.

3. What is the degree of seriousness of the challenges encountered by the local food establishments in the adoption of e-payments?

Table 3. Degree of seriousness of the challenges encountered by the local food establishments in the adoption of e-payments (n=22).

Indicators	**Mean**	**Interpretation**
1. Network problems cause delays in serving customers efficiently.	3.55	S
2. Customers often complain about not being able to pay due to transaction limits.	3.27	MS
3. Delayed fund transfers.	3.32	MS
4. There is a lack of clear communication from banks or service providers regarding refund processing times.	3.41	S
5. Technical difficulties with payment providers	3.09	MS
6. Experienced fraudulent transactions	3.09	MS
Overall Mean	**3.29**	**MS**

Source: Tafakegn (2019)

Legend:

Range of Mean Values	***Descriptive Interpretation***
4.51 – 5.00	*Very serious (VS)*
3.51 – 4.50	*Serious (S)*
2.51 – 3.50	*Moderately serious (MS)*
1.51 – 2.50	*Slightly serious (SS)*

1.00 – 1.50 Not a problem(NAP)

Table 3 shows the degree of seriousness of challenges encountered by local food establishments in adopting e-payments (e-payments) in Laoag City.

The overall mean for the challenges encountered is 3.29, indicating *a Moderately Serious (MS) level*. This indicates that, although food establishments face some difficulties in adopting e-payment systems, these challenges are generally manageable and do not severely impede operations. Food establishments are adapting to e-payment adoption despite encountering moderate challenges. Management needs to address technical issues and improve communication with service providers to further reduce obstacles and enhance system efficiency.

Among all indicators, the highest mean is 3.55, pertaining to "Network problems cause delays in serving customers efficiently," which is interpreted as *Serious (S)*. This implies that network connectivity is the most critical barrier to e-payment adoption, underscoring the need for reliable internet infrastructure. Food establishments need to invest in stable connections or backup solutions to ensure smooth transactions and maintain customer satisfaction.

On the other hand, the least challenging indicators for local food establishments in adopting e-payment are "Technical difficulties with payment providers," interpreted as Moderately Serious (MS), and "Experienced fraudulent transactions," also interpreted as *Moderately Serious (MS)*. This means that although technical glitches and security concerns exist, their moderate severity suggests that food establishments are managing these issues adequately, possibly through staff training, careful transaction monitoring, or the use of trusted payment providers. Continued attention to these areas can further reduce risk and improve confidence in e-payment systems.

Studies have highlighted that network connectivity issues, technical glitches, and security risks are common barriers to e-payment adoption, particularly for SMEs in developing regions (Le & Lim, 2019; Wang, 2020; Fatonah et al., 2018). The highest-rated challenge in this study underscores the importance of reliable internet infrastructure, while the moderate severity of technical difficulties and fraudulent transactions suggests that food establishments are effectively managing these risks through staff training, careful monitoring, and the use of trusted providers (Tafakegn, 2019; Torki et al., 2019).

4. What is the level of financial performance of food establishments in terms of:
4.1. Sales;
4.2. profitability; and
4.3. return on investment?

Table 4. Level of financial performance of local food establishments in Laoag City, Ilocos Norte (n=22).

Indicators	Mean	Interpretation
Sales		
1. Limited access to financial services affects your food establishment's sales.	2.91	M
2. Investing in e-payment systems led to increased sales in your food establishment.	3.36	M
3. Customers prefer food establishments that offer e-payment.	3.64	H
4. Accepting e-payment helps in keeping financial history.	3.68	H
5. Financial Innovation (e-payment) influences financial performance.	3.68	H
Composite Mean	**3.45**	**M**
Profitability		
1. Improving Cash management by using e-payments helped in reducing financial losses in your food establishment.	3.45	M
2. Lower transaction costs in e-payment will increase profitability.	3.23	M
3. There has been a reduction in cash-handling errors since implementing e-payment system.	3.32	M

4. Adoption of e-payment led to a more efficient handling of financial transactions in your food establishment.	3.73	H
5. Implementing e-payment can reduce cash handling costs.	3.64	H
Composite Mean	**3.47**	**M**
C. Return on Investment		
1. The benefits of using e-payment systems outweigh the costs associated with maintaining service fees.	3.59	H
2. E-payment systems have contributed to a higher return on investment by attracting more customers.	3.68	H
3. The cost of implementing e-payments has been recovered within the expected timeframe.	3.41	M
4. The ability to track and analyze digital transactions has helped optimize financial decision-making and return on investment.	3.73	H
5. The use of e-payments has minimized financial risks, such as fraud and theft, contributing to a positive ROI.	3.64	H
Composite Mean	**3.61**	**H**
Overall Mean	**3.51**	**H**

Source: De Vinci (2021)

Legend:

Range of Mean Values	*Descriptive Interpretation*
4.51 – 5.00	*Very high (VH)*
3.51 – 4.50	*High (H)*
2.51 – 3.50	*Moderate (M)*
1.51 – 2.50	*Low (L)*
1.00 – 1.50	*Very low (VL)*

Table 4 presents the financial performance levels of local food establishments in Laoag City.

Results showed an overall mean of 3.51, indicating *a High Level*. This indicates that the adoption and utilization of e-payment systems have positively contributed to the financial performance of local food establishments in the city. It implies that food establishment owners perceive e-payment adoption as beneficial for enhancing sales, profitability, and returns on investment by improving customer convenience, transaction efficiency, and financial tracking.

Among the three dimensions, return on investment (ROI) had the highest composite mean of 3.61, indicating *a High Level.* This suggests that food establishment owners consider e-payment systems as financially rewarding investments, as they help attract more customers, minimize financial risks, and optimize decision-making through digital transaction data. The implication is that the long-term financial gains from E-payment adoption outweigh the associated costs, strengthening the business's overall financial sustainability.

On the other hand, Sales registered the lowest composite mean of 3.45, interpreted as *Moderate*. This implies that, although e-payment systems have improved certain aspects of sales—such as attracting customers who prefer cashless transactions and maintaining financial records—their impact on sales performance remains incomplete. This is due to limited access to financial services, partial customer adoption of E-payment methods, or technical constraints in smaller establishments.

According to Rahyuni et al. (2022), e-payment usage improved financial outcomes by increasing transaction efficiency, generating fee-based income, and enhancing customer satisfaction. E-payment systems to streamline operations and reduce manual processes, ultimately leading to cost savings and higher profitability. Furthermore, Miklosik et al. (2019) emphasized integrating machine learning tools into digital marketing strategies to enhance return on investment. Machine learning can analyze large volumes of data to forecast outcomes and inform future growth and decision-making.

5. **Is there a significant relationship between the business profile of local food establishments and the extent of effects of adopting e-payments (e-payments) in terms of:**
   5.1. perceived usefulness;
   5.2. perceived ease of use; and
   5.3. perceived effects on revenues?

Table 5.1. Mann–Whitney U test results on the difference in the extent of effects of adopting e-payments (e-payments) when grouped according to form of ownership (n=22)

E-payments (e-payments) adoption	Form of ownership with higher mean rank	Mean Rank (Sole Proprietorship)	Mean Rank (Corpo- ration)	Mann–Whitney U	Z	p-value
Perceived usefulness	Sole proprietorship	12.03	10.36	44.500	-.568	.570
Perceived ease of use	Sole proprietorship	12.47	9.43	38.000	-1.030	0.303
Perceived effects on revenues	Sole proprietorship	12.23	9.93	41.500	-0.777	0.437

Source: Authors owns table (2025)

Table 5.1 presents the Mann–Whitney U test results for the difference in the extent of the effects of adopting e-payments (e-payments) across ownership types (sole proprietorship vs. corporation).

Across all indicators—perceived usefulness, perceived ease of use, and perceived effects on revenues—the p-values (.570, .303, and .437, respectively) are all greater than 0.05. This indicates that there are no statistically significant differences in the magnitude of perceived effects of e-payment adoption between sole proprietorships and corporations. Although sole proprietorships have slightly higher mean ranks, these differences are not large enough to be considered statistically significant.

This result implies that both sole proprietorships and corporations experience similar benefits and perceptions from adopting e-payment systems. Regardless of ownership form, business owners view e-payments as equally useful, easy to use, and effective in improving revenue performance. In practice, this suggests that the advantages of e-payment adoption are universal—they are not dependent on business structure.

Table 5.2. Spearman rho correlation coefficients obtained on the test of relationships between the business profile in terms of number of years in operations, current capitalization, and average monthly sales, and accepted e-payment channels, and the extent of effects of adopting e-payments (e-payments) (n=22)

E-payments (e-payments) adoption

Business profile	Perceived usefulness		Perceived ease of use	Perceived effects on revenues
Number of years in operation	ρ	.198	.382	.392
	(Sig. 2-tailed)	.377	.079	.071
Current capitalization	ρ	-.011	.229	.014
	(Sig. 2-tailed)	.962	.306	.951
Average monthly sales	ρ	.384	**.545****	**.569****
	(Sig. 2-tailed)	.078	.009	.006
Accepted e-payment channels	ρ	.271	.294	.267
	(Sig. 2-tailed)	.222	.184	.230

****. Correlation is significant at the 0.01 level (2-tailed).**

Source: Authors' own table (2025)

Table 5.2 presents the results of the Spearman rho correlation analysis conducted to examine the relationships between the business profile of small essential retailers—specifically the number of years in operation, current capitalization, average monthly sales, and accepted e-payment channels—and the extent of the effects of adopting e-payments (e-payments) in terms of perceived usefulness, perceived ease of use, and perceived effects on revenues.

The findings reveal that the number of years in operation shows a weak positive correlation with perceived usefulness ($\rho = .198$, $p = .377$), perceived ease of use ($\rho = .382$, $p = .079$), and perceived effects on revenues ($\rho = .392$, $p = .071$). Although the relationships are not statistically significant, the positive direction suggests that businesses operating longer tend to have slightly more favorable perceptions of e-payments' usefulness and revenue benefits.

Similarly, current capitalization shows negligible and non-significant relationships with perceived usefulness ($\rho = -.011$, $p = .962$), perceived ease of use ($\rho = .229$, $p = .306$), and perceived effects on revenues ($\rho = .014$, $p = .951$). This indicates that the amount of financial capital invested in the business does not meaningfully affect owners' perceptions of the usefulness or revenue effects of adopting e-payments.In contrast, average monthly sales display moderate and statistically significant positive correlations with perceived ease of use ($\rho = .545$, $p = .009$) and perceived effects on revenues ($\rho = .569$, $p = .006$), while the relationship with perceived usefulness ($\rho = .384$, $p = .078$) is positive but not significant. This implies that businesses with higher sales tend to find e-payments easier to use and more beneficial to their revenue, possibly due to increased exposure to digital transactions and customer demand for cashless options.

Lastly, the number of accepted e-payment channels shows weak, non-significant positive correlations with perceived usefulness ($\rho = .271$, $p = .222$), perceived ease of use ($\rho = .294$, $p = .184$), and perceived effects on revenues ($\rho = .267$, $p = .230$). This suggests that while adopting additional e-payment options, such as GCash, Maya, or bank transfers, may slightly improve perceptions of e-payment advantages, the relationship is not statistically significant.

The results imply that the perceived benefits of e-payment adoption among small essential retailers are more closely associated with their sales performance rather than their years in operation, capitalization, or the number of e-payment channels they accept. Businesses with higher sales volumes are more likely to recognize the convenience and revenue-generating potential of e-payments. On the other hand, simply adopting more e-payment channels does not necessarily translate to greater perceived usefulness or financial impact, possibly because smaller retailers still face barriers such as limited digital literacy or customer preference for cash transactions.

The results of the study differ from those of Rahyuni et al. (2022) and Kumar (2017), who emphasized that e-payment adoption improves operational efficiency. Efficiency enhances customer convenience and positively affects financial performance regardless of a business's size or structure.

Accordingly, H_a1 is rejected. There is no significant relationship between the business profiles of local food establishments and the extent to which adopting e-payments affects perceived usefulness, perceived ease of use, and perceived revenue effects.

6. Is there a significant relationship between the extent of effects of adopting e- payments (e-payments) and the degree of seriousness of challenges encountered by local food establishments?

Table 6. Pearson-r correlation results on the relationship between the extent of effects of adopting e-payments (e-payments) and the degree of seriousness of challenges encountered by local food establishments (n=22)

E-payments (e-payments) adoption		**Challenges encountered in the use of e-payments**
Perceived usefulness	R	**-.610****
	(Sig. 2-tailed)	.003
Perceived ease of use	R	**-.518***
	(Sig. 2-tailed)	.014
Perceived effects on revenues	R	**-.470***

	(Sig. 2-tailed)	.027

*** Correlation is significant at the 0.05 level (2-tailed).**

**** Correlation is significant at the 0.01 level (2-tailed).**

Source: Authors' own table (2025)

Table 6 presents Pearson correlation analysis examining the relationship between the extent of effects of adopting e-payments (e-payments) and the severity of challenges faced by local food establishments.

The results show a significant negative correlation across all three dimensions of e-payment adoption and the challenges encountered. Specifically, perceived usefulness is strongly negatively correlated with challenges ($r = –.610$, $p = .003$), indicating that food establishments that perceive e-payments as more useful tend to encounter fewer or less severe challenges when using them. Perceived ease of use also exhibits a moderate negative correlation ($r = –.518$, $p = .014$), suggesting that food establishments that find e-payments easier to use experience fewer difficulties when implementing them. Similarly, perceived effects on revenues show a moderate negative correlation with challenges ($r = –.470$, $p = .027$), suggesting that food establishments that perceive a positive impact of e-payments on their revenues are less likely to report serious challenges in adopting e-payments.

These findings imply that the perceived benefits and usability of e-payments are inversely related to the challenges faced by local food establishments. When food establishment owners recognize the usefulness, ease of use, and positive revenue impact of e- payments, they are better able to overcome operational or technical barriers, resulting in fewer implementation challenges.

According to Alalwan et al. (2017) and Al-Gahtani (2020), users who perceive digital payment systems as easy to use are more likely to adopt them successfully and encounter fewer implementation difficulties. Similarly, the Technology Acceptance Model (TAM) posits that perceived usefulness is a key determinant of system adoption and ease of integration (Ozturk, 2016; Kelly & Palaniappan, 2023). When users recognize that a system improves efficiency and supports revenue generation, they are more motivated to engage with it and can more effectively navigate potential obstacles.

Additionally, studies on e-payment adoption in SMEs highlight that technical and operational challenges—such as network issues, system downtime, or staff unfamiliarity—can be mitigated when business owners and employees understand and value the system's benefits (Le & Lim, 2019; Pettinger, 2020).

Therefore, H_a2 is accepted. Hence, there is a significant relationship between the extent of effects of adopting e-payments (e-payments) and the degree of seriousness of challenges encountered by local food establishments.

7. **Is there a significant relationship between the business profile of local food establishments and their level of financial performance in terms of:**

7.1. sales;

7.2. profitability; and

7.3. return on investment?

Table 7.1. Mann–Whitney U test results on the difference in the level of financial performance of local food establishments when grouped according to form of ownership (n=22)

Financial performance	Form of Ownership with Higher Mean Rank	Mean Rank (Sole Proprietorship)	Mean Rank (Corporation)	Mann–Whitney U	Z	p-value
Sales	Sole proprietorship	11.73	11.00	49.000	-.249	.803

Profitability	Corporation	11.20	12.14	48.000	-.320	.749
Return on investment	Corporation	10.93	12.71	44.000	-.606	.544

Source: Authors' own table (2025)

Table 7.1 presents the Mann–Whitney U test results examining whether the financial performance of local food establishments differs by ownership type—sole proprietorship versus corporation. The financial performance indicators considered include sales, profitability, and return on investment (ROI).

The results show no statistically significant differences between the two groups across all indicators. Specifically, sole proprietorships have a slightly higher mean rank in sales (11.73) compared to corporations (11.00), but this difference is not significant (U = 49.000, Z = –.249, p = .803). In terms of profitability, corporations have a marginally higher mean rank (12.14) than sole proprietorships (11.20), yet the difference is also not significant (U = 48.000, Z = –.320, p = .749). Similarly, corporations show a higher mean rank for ROI (12.71) than sole proprietorships (10.93), but this difference is not significant (U = 44.000, Z = –.606, p = .544).

These findings suggest that the form of ownership does not substantially influence the financial performance of local food establishments. Whether a business operates as a sole proprietorship or a corporation, its sales, profitability, and return on investment appear comparable.

Amankwah Amoah (2016) and Fitzgerald & Muske (2016) emphasize that family-owned or independently operated businesses, which are common among sole proprietorships, often maintain stable income and long-term persistence due to family involvement and commitment, enabling them to achieve financial performance comparable to that of corporations. Similarly, Koutroumanis et al. (2015) highlight that independent food establishments can operate effectively and profitably despite differences in scale or formal corporate structure, particularly when they leverage efficient business practices and local market knowledge.

Table 7.2. Spearman rho correlation coefficients obtained on the test of relationships between the business profile in terms of number of years in operations, current capitalization, and average monthly sales, and accepted e-payment channels, and the level of financial performance (n=22)

E-payments (e-payments) adoption

Business profile		**Sales**	**Profitability**	**Return on Investment**
Number of years in operation	P	.208	.093	-.041
	(Sig. 2-tailed)	.354	.680	.856
Current capitalization	P	-.121	.062	-.093
	(Sig. 2-tailed)	.593	.783	.681
Average monthly sales	P	.387	.271	.169
	(Sig. 2-tailed)	.075	.223	.451
Accepted e-payment channels	P	**.471***	.307	.110
	(Sig. 2-tailed)	.027	.165	.627

*** Correlation is significant at the 0.05 level (2-tailed).**

Source: Authors' own table (2025)

Table 7.2 presents the Spearman rho correlation analysis examining the relationships between the business profile of local food establishments—including number of years in operation, current capitalization, average monthly sales, and accepted e-payment channels— and their financial performance, measured in terms of sales, profitability, and return on investment (ROI).

Results showed that the number of years in operation has a weak and non-significant correlation with sales (ρ = .208, p = .354), profitability (ρ = .093, p = .680), and ROI (ρ = –.041, p = .856), suggesting that business longevity does not meaningfully affect financial performance. Similarly, current capitalization shows negligible, non-significant correlations across all financial performance indicators, indicating that invested capital does not significantly influence sales, profitability, or ROI. Average monthly sales show a positive but non-significant correlation with profitability (ρ = .271, p = .223) and ROI (ρ =.169, p = .451), and a moderate positive correlation with sales (ρ = .387, p = .075), suggesting a trend where higher sales may relate to increased revenue, although this is not statistically significant.

Notably, the number of accepted e-payment channels shows a moderate, statistically significant positive correlation with sales (ρ = .471, p = .027), whereas its correlations with profitability (ρ = .307, p = .165) and ROI (ρ = .110, p = .627) are positive but not significant. This indicates that food establishments that adopt a wider range of e-payment channels tend to achieve higher sales, likely due to improved convenience and accessibility for customers, although this effect does not necessarily extend to profitability or ROI.

These findings suggest that although traditional business profile factors such as longevity and capitalization may not strongly influence financial performance, adopting multiple e-payment channels can positively affect sales. Encouraging local food establishments to diversify their e-payment options could enhance revenue generation by attracting more customers and facilitating smoother transactions. However, to translate higher sales into greater profitability or ROI, complementary strategies such as cost management, pricing optimization, and operational efficiency may also be necessary.

Importantly, the significant positive correlation between the number of accepted e-payment channels and sales supports the notion that digital payment adoption can directly enhance revenue. Studies by Rahyuni et al. (2022) and Kumar (2017) indicate that businesses that offer multiple e-payment options attract more customers, reduce transaction barriers, and facilitate smoother purchasing experiences, thereby increasing sales. This is consistent with the Technology Acceptance Model (TAM), which suggests that perceived usefulness and ease of use of digital systems encourage adoption and enhance business outcomes (Ozturk, 2016; Kelly & Palaniappan, 2023).

Thus, H_a3 is rejected. There is no significant relationship between the business profiles of local food establishments and their financial performance, measured by sales, profitability, and return on investment.

8. Is there a significant relationship between the extent of effects of adopting e- payments (e-payments) and the level of financial performance of local food establishments in terms of:

8.1. sales;

8.2. profitability; and

8.3. return on investment?

Table 8. Pearson-r correlation results on the relationship between the extent of effects of adopting e-payments (e-payments) and the level of financial performance of local food establishments (n=22)

E-payments (e-payments) adoption	Financial Performance	Sales	Profitability	Return on Investment
Perceived usefulness	r	**.876****	**.753****	**.759****
	(Sig. 2-tailed)	.000	.000	.000
Perceived ease of use	r	**.824****	**.661****	**.737****
	(Sig. 2-tailed)	.000	.001	.000
Perceived effects on revenues	r	**.780****	**.717****	**.686****
	(Sig. 2-tailed)	.000	.000	.000

**** Correlation is significant at the 0.01 level (2-tailed).**

Source: Authors' own table (2025)

Table 8 presents Pearson correlation analysis examining the relationship between the extent of the effects of adopting e-payments (e-payments) and the financial performance of local food establishments, measured by sales, profitability, and return on investment (ROI).

Results revealed strong and statistically significant positive correlations across all dimensions. Perceived usefulness of e-payments is highly correlated with sales ($r = .876$, $p < .001$), profitability ($r = .753$, $p < .001$), and ROI ($r = .759$, $p < .001$), indicating that food establishments that find e-payments highly useful tend to achieve higher financial performance in all aspects. Similarly, perceived ease of use shows strong positive correlations with sales ($r = .824$, $p < .001$), profitability ($r = .661$, $p = .001$), and ROI ($r = .737$, $p < .001$), suggesting that food establishments that consider e-payments easy to use also experience enhanced financial outcomes. Furthermore, perceived effects on revenues are significantly correlated with sales ($r = .780$, $p < .001$), profitability ($r = .717$, $p < .001$), and ROI ($r = .686$, $p < .001$), confirming that food establishments that perceive e-payments as positively impacting revenues enjoy better overall financial performance.

These findings highlight that the adoption and effective use of e-payments substantially improve the financial performance of local food establishments. When food establishment owners recognize the usefulness, ease of use, and revenue-enhancing potential of e-payments, they are likely to experience higher sales, improved profitability, and better returns on investment.

The strong positive correlations observed in Table 8 between the extent of e-payment adoption and financial performance are consistent with prior research emphasizing the benefits of digital payment systems for business outcomes. Rahyuni et al. (2022) found that e-payment adoption significantly enhances financial performance by streamlining transactions, increasing efficiency, and boosting revenue generation. Similarly, Kumar (2017) reported that businesses implementing e-payment systems experience improved sales and profitability due to reduced reliance on cash transactions, faster payment processing, and better customer convenience.

The significance of perceived usefulness aligns with the Technology Acceptance Model (TAM), which posits that when users find a technology valuable for achieving their objectives, they are more likely to adopt it and realize its benefits (Ozturk, 2016; Kelly & Palaniappan, 2023). Likewise, the strong positive association with perceived ease of use underscores that simplicity and user-friendliness are critical drivers of successful technology adoption (Alalwan et al., 2017; Al-Gahtani, 2020). Food establishments that find e-payments easy to use can integrate them more effectively into daily operations, reducing errors and enhancing customer satisfaction, which in turn translates into higher financial returns.

Therefore, H_a4 is accepted. There is a significant relationship between the extent of effects of adopting e-payments (e-payments) and the financial performance of local food establishments, measured by sales, profitability, and return on investment.

8. Is there a significant relationship between the degree of seriousness of challenges encountered by local food establishments in adopting e-payments and their financial performance in terms of:

8.1. sales;

8.2. profitability; and

8.3. return on investment?

Table 9. Pearson's correlation result on the relationship between the degree of seriousness of challenges encountered by local food establishments and the level of financial performance(n=22)

Financial performance		**Challenges encountered in the use of e-payments**
Sales	R	**-.649****
	(Sig. 2-tailed)	.001
Profitability	R	**-.590****
	(Sig. 2-tailed)	.004
Return on investment	R	**-.596****
	(Sig. 2-tailed)	.003

**** Correlation is significant at the 0.01 level (2-tailed).**
Source: Authors' own table (2025)

Table 9 presents Pearson correlation analysis examining the relationship between the severity of challenges local food establishments face when using e-payments and their financial performance, measured by sales, profitability, and return on investment (ROI).

Results indicated a strong and statistically significant negative correlation across all financial performance indicators. Specifically, the degree of challenges faced in using e- payments is negatively correlated with sales ($r = –.649$, $p = .001$), profitability ($r = –.590$, $p = .004$), and ROI ($r = –.596$, $p = .003$). This suggests that food establishments that encounter greater difficulties in implementing or using e-payments tend to experience lower sales, reduced profitability, and diminished returns on investment.

These findings highlight that operational and technical challenges in e-payment adoption can significantly hinder financial performance. Food establishments that face challenges such as system errors, limited digital literacy, or limited customer acceptance may not fully realize the benefits of digital payment systems, resulting in lower revenue and profitability.

The significant negative correlation between the degree of challenges encountered in e-payment adoption and financial performance is consistent with prior studies that emphasize the detrimental impact of operational and technical barriers on business outcomes. Le and Lim (2019) highlighted that issues such as poor internet connectivity, system downtime, and transaction failures can impede the effective use of digital payment systems, reducing efficiency and customer satisfaction. Similarly, Tafakegn (2019) noted that transaction-related constraints, including payment errors and delays, undermine consumer confidence and hinder revenue generation.

Security concerns and staff's lack of technical skills also contribute to these challenges, as reported by Fatonah et al. (2018) and Pettinger (2020). Food establishments that are unable to adequately address these barriers may struggle to implement e-payments effectively, limiting the positive financial impact of digital transactions. The findings align with the broader literature on technology adoption, which suggests that the successful realization of benefits from digital tools depends not only on system availability but also on the ability to overcome implementation challenges (Lang, 2018; Alzoubi et al., 2022).

Lastly, H_a5 is accepted. There is a significant relationship between the degree of challenge in adopting e-payments by local food establishments and their financial performance, measured by sales, profitability, and return on investment.

Results and discussion

The results revealed that most local food establishments in Laoag City are sole proprietorships, have operated for approximately 3 to 5 years, and have capitalization exceeding 800,000 pesos. A considerable number also earn less than 100,000 pesos in monthly sales, reflecting a mix of small- and medium-scale establishments. Credit and debit cards emerged as the most widely accepted e-payment channels, followed by GCash and bank transfers, indicating that digital transactions have become a key component of food establishment operations. These findings suggest that although most businesses are independently owned and relatively new, they are increasingly adopting e-payment systems to enhance convenience and efficiency.

The effects of e-payment adoption were substantial, indicating that food establishment owners perceive e-payments as highly useful, easy to use, and beneficial to their operations. The results indicate that e-payments are easy to learn and use, whereas the slightly lower perceived revenue impact suggests that financial gains, though positive, are moderate. This implies that e-payments enhance transaction efficiency and the customer experience more directly than they do immediate revenue growth.

Challenges in adopting e-payments were generally moderate in severity. The most common issue was network problems, which delayed transactions; technical difficulties and fraudulent activity were less severe. Despite these issues, most food establishments operate efficiently, underscoring the need for stable internet infrastructure and improved coordination with

payment providers. It aligns with the study by Masihuddin et al. (2023), which indicates that these challenges persist, indicating a positive step towards national economic development.

The financial performance of local food establishments was rated high, indicating that e-payment adoption positively affects sales, profitability, and return on investment. This supports the findings of Mustapha et al. (2025) that the use of electronic payment systems positively impacts SME performance across multiple dimensions. The highest performance was observed in return on investment, suggesting that e-payments are financially rewarding over time. However, sales performance was only moderate, implying that the benefits of e-payments on revenue generation are still developing as customer adoption grows.

Correlation analyses showed no significant differences in e-payment perceptions or financial performance across ownership type, years in operation, or capitalization. However, a significant positive correlation was found between the number of accepted e-payment channels and sales, indicating that offering more payment options increases revenue potential. This is consistent with findings that implementing E-Payment in MSMEs has a positive and significant impact on revenue. (Kolly et al. 2023)

There was also a strong positive relationship between the extent of e-payment adoption and financial performance, with food establishments that found e-payments more useful, easier to use, and revenue-enhancing reporting higher sales, profitability, and return on investment. Conversely, the degree of challenges encountered was negatively correlated with financial performance, indicating that greater technical or operational issues were associated with lower sales and profitability. This aligns with a study on the financial performance of e-payment adoption in India (Rahayu et al., 2022).

Overall, the findings show that adopting e-payments significantly improves the operational and financial outcomes of local food establishments in Laoag City. Despite moderate challenges, digital payment systems promote efficiency, customer convenience, and long-term financial sustainability, demonstrating their growing importance in modern food establishment management. The findings of this study supplement the theories on consumer behavior, technology acceptance, and the perceived value of e-payment systems (Furtado et al., 2020). Consistent with the practices studied by Prawirayudha et al. (2025), the perceived usefulness of e-payment systems was aligned with the study's outcomes.

Conclusion

This study examined the adoption of electronic payment (e-payment) systems and their effects on the financial performance of local food establishments in Laoag City, Ilocos Norte. The findings indicate that most establishments are sole proprietorships and relatively young businesses, having operated for three to five years. Variations in capitalization and sales levels reflect differences in business size and operational scale across establishments. Among the available digital payment options, credit and debit cards emerged as the most widely adopted, indicating a growing shift toward cashless transactions in the local food sector.

The overall effects of e-payment adoption were rated as high, with perceived usefulness identified as the most influential factor, followed by ease of use and perceived revenue effects. These results suggest that business owners recognize the operational and financial benefits of integrating e-payment systems into their daily transactions. However, challenges associated with e-payment adoption were assessed as moderately serious, with unstable internet connectivity and system-related errors identified as the most common concerns.

Statistical analyses revealed that business profile variables had no significant relationship with the extent of e-payment effects, leading to the rejection of the first alternative hypothesis (Ha1). A significant negative relationship was found between e-payment adoption and the challenges encountered, supporting Ha2. The absence of a significant relationship between business profile and e-payment challenges resulted in the rejection of Ha3. Notably, the extent of e-payment effects demonstrated a significant positive relationship with financial performance, supporting Ha4, while challenges showed a significant negative relationship with financial performance, confirming Ha5.

Overall, the study concludes that e-payment adoption among local food establishments in Laoag City is generally effective and contributes positively to financial performance. While challenges remain, particularly in infrastructure and system reliability, the

benefits of e-payments outweigh the limitations. These findings highlight the potential of digital payment systems to enhance business performance and support the continued modernization of local food enterprises.

Authors' contribution: Conceptualization, research methodology, data gathering, analysis, and editing were done by the authors.

Conflict of interest statement: The author declares no conflict of interest.

Ethical review statement: The study adhered to ethical research conduct. It has no human- sensitive issues.

Funding: The study is funded by the authors.

References

Abdulahi, R. & Demisse, A. (2009). Challenges of e-payment services in the Commercial Bank of Ethiopia. Proceedings - *International Conference on Management and Service Science, MASS 2009. 1–4*. https://doi.org/10.1109/ICMSS.2009.5304469.

Adesina, T. F., Adegboye, F. B., Isibor, A. A., Afolabi, J. K. (2025). Driving business growth through electronic payment systems: The role of e-payments in enhancing SMEs in Nigeria. *African Journal of Accounting and Financial Research 8*(1), 8999. https://doi.org/10.52589/AJAFRZUDV8XTB

Afthanorhan, A, Awang, Z, Rashid, N, Foziah, N. (2019). Assessing the effects of service quality on customer satisfaction. *Management Science Letters.* https://doi.og/10.5267/j.msl.2018.11.004

Alzoubi, H. M., & Ghazal, T. M. (2022). The effect of e-payment and online shopping on sales growth: Evidence from the banking industry. *International Journal of Data and Network Science, 6*(4), 1369–1380. https;/doi.org/10.5267/j.ijdns.2022.5.014.

Akhisar, İ., Tunay, K. B., & Tunay, N. (2015). The effects of innovations on bank performance: The case of electronic banking services. *Procedia-Social and Behavioral Sciences,195,* 369–375.

Alwabel, A., Suleman, A., Said, S. A., & Ahmed, T. (2020). Factors influencing the use of smartphones for programming: A structural equation modeling approach. *International Journal of Innovation and Technology Management 17*(05): 2050032

Arceo-Dumlao, T. (2019). In PH, cashless whispers. Retrieved from https://business.inquirer.net/279041/inph-cashless-whispers

Aranyossy, M. (2018). Citizen adoption of e-government services – Evidence from Hungary. *31st Bled eConference Digital Transformation – Meeting the Challenges*. https://doi.org/doi:10.18690/978-961-286-170-4.3 (find the journal)

Awwad, B., (2021). The role of e-payments in enhancing financial performance: A case study of the Bank of Palestine. *Banks and Bank System, 16*(4). https://doi.org/10.21511/BBS.16(4).2021.10

Balaji, K. C., & Balaji, K. (2017). A study on demonetization and its impact on cashless transactions. *International Journal of Advanced Scientific Research & Development, 4*(3), 58–64.

Bátiz-Lazo, B. (2018). *Epilogue: The cashless economy and the ATM*. Oxford Scholarship Online. h t t p s : / / doi.org/10.1093/oso/9780198782810.003.0010

Castillo, R. (2025, August 15). The rise of mobile wallets and cashless payments. Cashalo. https://cashalo.com/the-rise-of-mobile-wallets-and-cashless-payments/

Dui, R., Leon, M., & Raon, C. (2021). Adoption of e-payment systems in the Philippines. *Jurnal Ilmu Komunikasi, 18*(1),123–134. https://doi.org/10.24002/jik.v18i1.3197

Ching. M. R. (2017). Is The Philippines Ready to Go Cashless? Retrieved from https://www.imoney.ph/articles/cashless-payment-philippines/.

De Vinci, L. (2021). *Return on Investment on various digital marketing strategies: A qualitative assessment of small and medium enterprises operating across the world*. EMLV Business School De Vinci. https://doi.org/ 10.13140/RG.2.2.11278.69444

Francisco, R. J., Rañeses. M. R. Villar. M. (2020). How to be risk-free in using e-payment Systems. *International Journal of Advanced Research (IJAR), 8*(3). https://dx.doi.org/10.21474/IJAR01/10653

Furtado, N., Furtado, J., Vieira, L. & Silva, R. C. (2020). The influence of technology payment adoption on satisfaction: a study with restaurant consumers. *International Journal of Business Excellence. 21*. 209. https://doi.org/10.1504/IJBEX.2020.107580.

Gofe, T. & Tulu, D. (2019). Determinants of customers' e-payment utilization in the Commercial Bank of Ethiopia: the case of Nekemte Town. *International Journal of Economics, Business and Management Studies, 6*(2), 378–391. https://doi.org/10.20448/802.62.378.391

Hipolito, R., Jhun Michael, A., & Limos-Galay, J. A. (2023). Analyzing the impact of online payments on business performance in San Jose, Occidental Mindoro. *International Journal of Research*, *11*(10), 39–45.

Jumba, J., & Wepukhulu, J. M. (2019). Effect of cashless payments on the financial performance of supermarkets in Nairobi County, Kenya. *International Journal of Academic Research Business and Social Sciences, 9*(3), 1372–1397.

Kinasih, D. P., & Kussudyarsana, K. (2024). The influence of e-service quality, e-payment, and web design quality on customer satisfaction in purchasing Gacoan noodles through the ShopeeFood application. *Ekombis Review: Jurnal Ilmiah Ekonomi Dan Bisnis*, *12*(1), 159-178

MEAZA, S. (2016). Challenges and prospects of e-payment services: in the Commercial Bank of Ethiopia, Addis Ababa Area. http://repository.smuc.edu.et/handle/123456789/3879

Mohammadyari, Z. (2024). The impact of digital marketing competencies on sales force performance. *Knowledge Economy Studies,* 1(1), 135–149.

Nikhil. P. (2021). *Return on investment on various digital marketing strategies: A qualitative assessment of small and medium enterprises operating across the world*. EMLV. https://doi.org/10.13140/RG.2.2.11278.69444.

Prawirayudha, A., Syahputera, M., Adisaputra, R., & Rahim, R. (2025). The impact of QR codes on customer satisfaction for repurchase intention on the basis of perceived usefulness, perceived ease of use, and perceived flow in food and beverage restaurants. *Jurnal Impresi Indonesia. 4,* 3823–3835. https://doi.og/10.58344/jii.v4i10.7026.

Pueblos, K. J., & Emilio, T. J. (2023). Impact of e-payment platforms among selected micro-entrepreneurs in Taguig City: determinants for enhanced guidelines in the collection and disbursement process. *Indonesian Journal of Business Analytics*, *3*(4), 1401–1424.

Rahayu, R., Mariska, W., & Garantjang, M. F. (2022). E-payment innovation and its impact on Bank Indonesia's financial performance. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *6*(1), 381–386.

Sakanko, M. A., & David, J. (2019). The effect of e-payment systems on the financial performance of microfinance banks in Niger State. Esensi: *Jurnal Bisnis dan Manajemen, 9*(2), 143-154

Xena, P., & Rahadi, R. A. (2019). Adoption of e-payment to support small and medium enterprise payment system: A conceptualized model. *International Journal of Accounting, Finance and Business (IJAFB), 4*(18), 32–41.