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**| RESEARCH ARTICLE**

## **The Influence of Infrastructure, User Knowledge, and Behavior to Cashless Acceptance in Small and Medium Food Industry in the National Capital Region**

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**| ABSTRACT**

Cashless effectiveness has been established as numerous, and its success has been argued to depend partly on the quality of the banking services but more especially on customer preferences and satisfaction. This study focuses on understanding the success of cashless acceptance in the Small and Medium Enterprises (SMEs) of Millennials within NCR. This research examines factors influencing users' acceptance of the overall national Infrastructure, user knowledge, and user behavior and are processed through Linear Regression analysis and ANOVA to establish variable relationships. There were 304 respondents for this study in the targeted locale. Results reject the null hypotheses of the study having a significance toward cashless acceptance Infrastructure, User Knowledge, and User Behavior greatly towards cashless Acceptance, and User Behavior's success toward cashless Acceptance depends on Performance Expectancy.

**| KEYWORDS**

Cashless, Cashless adoption, Infrastructure, User Knowledge, User Behavior, Cashless acceptance

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### **1. Introduction**

The advantages of a cashless society cascade in actual currency in displacement into a virtual currency for financial transactions within the community. Cashless payment's boundless potential enhances financial services for consumers and enterprises by enabling them to get the information necessary to meet their demands. E-wallet providers have consistently developed their functionality to meet the demands of every Filipino. Hence, every Filipino is free to transact whenever and wherever they desire. With QR codes, the merchant may quickly receive money, and the customer can complete the payment transaction. However, the alleviation from the cashless system also undeniably has another side of the coin. Even while the Philippines has made tremendous progress in accepting digital payments, and more Filipinos are expected to join the digital revolution, there is still substantial space for growth and expansion in digital payments across the country. This study aims to thoroughly explore cashless acceptance by producing a cashless acceptance framework that will catalyze in embodying it, specifically in the Medium and Small Enterprise of the Food industry in NCR. With the knowledge provided by this research, the transition to a cashless society will deliver the most advantages while thoroughly analyzing how it will be executed and resolving the country's long-standing financial exclusivity issue.

### **2. Literature Review**

#### **2.1. An Overview of Cashless Acceptance**

The convenience and security of cashless payments have boosted its popularity. Businesses are adapting to this digital payment landscape. Offering a variety of payment choices accelerates payment collection by allowing customers to use their preferred method. (Rodrigues et al., 2021). Based on Mahfuzur et al. (2020), cashless payments are financial transactions in which customers conduct financial transactions without using real currency. Cashless payment methods are utilized considerably more extensively in certain nations, such as the Netherlands, Germany, and Scandinavian countries. While cashless payment methods are rapidly

evolving, they also bring uncertainty and risk. Consumers may be reluctant to embrace cashless payment systems since the perceived risk is high compared to traditional payment methods. Consumers' ability to smoothly integrate mobile payments into their regular activities may be more convenient than traditional payment methods because of the compatibility and consistency between Innovation and potential users' goals, values, and experiences. (Abhipsa's, 2021)

### **2.1.1. On Innovation**

The technical, organizational, and environmental circumstances are likely to impact how and to what degree an organization accepts and assimilates technological advancements. Moreover, Innovation must be valuable to the receiver to be taken for adoption. Increase security by entering passenger information and details into smart cards; the receiver or beneficiary should have experience dealing with a comparable product and not be difficult to adopt or use (Misango, 2018). Meanwhile, based on the study entitled Financial Innovation: Modern Method of Payment in China by Rattanawalee, P. (2021), One of the most crucial talents for every individual is the ability to innovate. It aids in the development or manufacturing of an industry, but it also aids in the ease of people's everyday lives. Spending money without using banknotes or utilizing an e-payment mechanism is clear proof. This payment is becoming more popular in several nations, notably, China, considered a "cashless society."

### **2.1.2. On Transaction Repeatability**

Transactional Repeat is quite essential when it comes to variables affecting the acceptance of electronic tickets. Previous research has shown the significant importance of beliefs, attitudes, prior experiences, and, as a result, trust in implementing this cashless technology in the real world. Meanwhile, Le (2021) coined Transactional Repeat in her study entitled Examining Factors that boost intention and loyalty to use Fintech post-COVID-19 lockdown as a new normal behavior, as the term used to describe Repeated visits, as well as the purchase of things or use of services in the future. Using apps or online services following a good user experience, as seen by repeat purchase intents and activities at the same bank and positive word of mouth, Customers may quickly establish their views regarding a service's overall quality and convenience after spending time with it.

### **2.1.3. On Conversion**

Consumers convert due to their experiences with service providers at various interaction points with them. Individuals' future behaviors are more likely to be influenced by their past experiences, resulting in their becoming loyal consumers. Although discount offers may initially entice consumers, other elements are more important in long-term behavior. Another intriguing market aspect worth noting is that most. Payment app providers only give price savings to new users, i.e., the offer is only applicable for the first one or a few usages. This might have influenced early acceptance, like how low-cost features of banking technology have influenced initial adoption in the past (Pal & Rao, 2020)

## **2.2. An Understanding of User Behavior with Cashless Adaption**

In many businesses, user behavior is critical for creating long-term client connections. User behavior varies according to the service or product and the consumer's unique qualities. User Behavior is a consumer's overall appraisal of the usefulness of a product based on their opinion of what they are willing to pay in return for what they obtain. User Behavior encapsulates the advantages that consumers seek, anticipate, and experience. The most often used User Behavior scales are functional, social, and emotional value. They assert that practical value encompasses two distinct facets: cost-effectiveness and performance/quality. Understanding User Behavior effectively analyzes new technology uptake and develops a suitable strategy for maximizing user experiences. In terms of perceived e-cash security, it is critical to ensure that perceived security risk and risk management are in sync with reality. (Tran & Hien, 2021)

### **2.2.1. On Performance Expectancy**

Performance expectations or anticipated advantages may considerably affect the propensity to use mobile banking-related services. Performance Expectancy is an influential element influencing customer adoption of cashless payment. Cashless payment is simple to use and understand. It also offers a variety of payment methods to help with the online purchasing experience and a straightforward and intuitive cashless payment system (Mohamed et al., 2020). In addition, Consumers' confidence in new payment methods is critical to the success of mobile payments before delivering mobile payment services building a trustworthy brand for service providers (Humbani & Wiese, 2018).

Moreover, based on Humbani, M. (2018)'s article entitled Consumers' adoption and continuance intention to use mobile payment services, convenience and compatibility identified as key drivers of mobile payment app usage. This suggests that customers' perceptions of comfort and suitability with their lifestyles increase their willingness to acquire and utilize mobile payment applications. The ease of using mobile payment applications at any time and in any scenario and the implementation of mobile payment services that correspond to customers' purchasing habits are critical concerns.

### **2.2.2. On Perceived Risk**

Cashless-ready do not inevitably imply acceptance of digital payment systems, as seen by the negligible correlation between these two variables. Perceived preparedness does not transfer into service acceptance, with perceived risks most likely a barrier. As a result, service providers may collaborate with appropriate government entities to implement educational-based programs to enhance participation. This will increase users' awareness of the risks of using digital payment systems, particularly among the elderly, who may be reluctant to adopt digital technology. Based on Go (2018) in his article, Determinants of Mobile Money Adoption: Evidence from Urban Philippines, the Perceived Risk was identified as a barrier to using any system and was predicted to negatively influence the desire to use mobile money. The six perceived risk forms are financial, privacy, physical, performance, social, and time-loss. Furthermore, perceived risk dimensions may differ depending on the class of the product (or service).

### **2.2.3. On Perceived Security**

It is crucial first to understand the risk exposure users face while using mobile payment. Consumers may diminish their reliance on mobile payments if they are dissatisfied with the payment method's transaction security and privacy protection capabilities. Security and privacy concerns are significant reasons for the slow rise of consumer adoption of mobile commerce. Prior research has defined privacy risk as the possibility that personal information may be harmed. (Wang, 2020)

The mobile wallet system should enhance how it establishes consumer connections in the future. Then, any country that uses mobile wallets as a payment mechanism must put guidelines to prevent loopholes from being abused and ensure that the system is safe to use. M-payment helps both consumers and businesses because of its convenience, security, ease of transaction management and monitoring, and customer experience enhancement. Consequently, m-payment should be a potent instrument for both consumers and businesses. (Nguyen & Pham 2020).

### **2.2.4. On Trust**

Because online transactions involve a reciprocal engagement with customers via trust-based collaborative procedures with Jordan's financial sectors, the importance of Trust in banking transactions is critical (Badi et al., 2012). Concerns about a lack of confidence in e-banking services have arisen due to the potential danger to customer pleasure (Siam, 2006). However, in a high-risk transaction, Trust is particularly crucial to prevent sensitive information from being exploited (Sulieman et al., 2011). Trust is commonly related to risk because it reduces the likelihood of becoming a victim of unfavorable conduct or action. In the context of e-banking, Trust has been found as situational. The importance of confidence in e-banking transactions is crucial to addressing the demands of users (Crumlish and Malone, 2009).

These trust difficulties would have a significant negative impact on e-banking consumer satisfaction. According to Khanh et al. (2020), in their study titled Examining customers' continuance intentions towards e-wallet usage: The emergence of mobile payment acceptance in Vietnam, customer trust is becoming an important issue to consider in mobile commerce.

### **2.2.5. On Habit**

Cashless payments have either established a consumer's payment habit or been used as a temporary solution during a pandemic. Accordingly, variables associated with previously acquired information and culturally formed behaviors substantially impact even in extreme pandemic situations. This may be explained by the fact that more experienced persons are already operating within this environment, while young people are now joining the area of sophisticated finance, where electronic payments play a crucial part. The elderly are the most difficult to convince to modify their payment habits and make greater use of digital payment methods. They should maintain and boost mobile payment usage in m-commerce based on the increased confidence and Trust by Cavite users in digital transactions. Furthermore, it demonstrated the benefits and advantages of this trading system since transactions may be conducted at any time and from any location. Again, the continued use of mobile payment in m-commerce perfectly suits the respondents' contemporary lifestyle, giving way to buying and service delivery in nearly every living circumstance (Pelegriin, 2021).

## **2.3. Assessment of User Knowledge in Cashless Acceptance**

User knowledge is a critical factor in determining their payment options. Insights about consumer payment behavior might also influence policy development and strategic decision-making by central banks and other stakeholders, helping to enhance the payment system's efficiency. Based on the study by Sedigheh et al., "Drivers and challenges of mobile payment adoption: Malaysian retailers' viewpoint" (2021), The customer's cognitive Ability, fees, perceived trust, experience, risk, and efficiency, as well as lack of critical mass, platforms, and knowledge about how-to-use (financial literacy) to properly integrate payment technologies' features and capabilities, as well as to comprehend client expectations, are the primary factors influencing the adoption of cashless systems.

It is interesting to note a favorable correlation between financial knowledge connected to payments and the use of cashless payments. The level of financial literacy possessed by the user is a crucial aspect that plays a role in the selection of the method of

payment. The user's degree of knowledge is inversely proportional to the likelihood that they would make cashless payments. It is worthwhile to engage in consumer education to encourage the use of cashless payment methods, which will ultimately lead to increased banking penetration and progression (Świecka et al., 2021).

### **2.3.1 On Cognitive Ability**

It was discovered that the payment method influences price only when customers' attention is directed toward the coming financing gain rather than the omitted utilized items. As such, mental imagery is a cognitive activity that necessitates the use of cognitive resources. According to Bärtsch et al. (2020), in their study *Nothing but Cash? Mobile Payment Acceptance in Germany* is critical to allow unskilled consumers to experiment with Mobile Payment. This elevates individuals to the stage between potential adopters and experienced users, allowing them to explore the benefits of Mobile Payment. Otherwise, novice users would rely on second-hand information and may overestimate the relative benefits of Mobile Payment over other payment methods. Customers who prefer cash payments are less vulnerable to objective benefits but more vulnerable to perceived risks.

### **2.3.2. On Financial Literacy**

Consumers must open a deposit account, a transactional account, or a credit line associated with a credit card through a financial intermediary to pay digitally (via debit cards, credit cards, and mobile/Internet banking). Unbanked or financially excluded people lack such accounts, and their payment options are limited to cash, prepaid cards, e-money, and bank drafts. As part of its financial education campaign, the BSP developed a Digital Literacy Program in 2020. The program aims to boost public trust and confidence in the digital finance ecosystem and stimulate the widespread use of digital payments and financial services by consumers from all sectors - people, companies, enterprises, and even government entities. (Peru et al., 2021)

Furthermore, misconceptions or a lack of awareness regarding digital money obstruct increased coverage, particularly among the underserved and unbanked in rural regions. Trust concerns likewise plague this sector of the economy. More substantial and more thorough financial literacy programs become especially important in this context (Llanto et al., 2018)

### **2.3.3. On Fees**

Customers are used to responding to price discounts, even if the possibility of balancing perceived payment preferences with relative prices does not appeal to them since their payment consumption has historically been considered complementary. On the other hand, companies pay for payment services directly through direct transaction fees or charging balances. Consumers have traditionally paid for payment services indirectly through little or no interest on transaction accounts; companies, on the other hand, pay for payment services directly through direct transaction fees or charging balances. According to consumer surveys, various implicit prices (such as affordability, convenience of use, and security) might impact payment choices. Models have been built to differentiate between financial and behavioral causes for credit card vs. debit card usage. Since per-transaction pricing of consumer payments is no longer common in Europe and the United States, these analyses cannot examine the impact of overt pricing. Banks are terrified of losing market share if they are the first (and only) to apply such pricing because they are the first (and only) to do so. Antitrust authorities, on the other hand, will be suspicious of efforts by the sector to negotiate the imposition of per-transaction charges to restrict gains in relative market shares (Reyes et al., 2021).

### **2.3.4. On Platform**

Platforms act as a virtual and physical marketplace or a gathering place for diverse groups of individuals to trade commodities or services. A platform business model adds value by facilitating interactions between two interdependent groups, often consumers and providers. Platforms make these exchanges possible by leveraging and developing large, scalable networks of people and resources that can be accessed on-demand. By creating communities and markets with network effects, platforms allow users to connect and trade.

## **2.4. Examination of the Factors Affecting Infrastructure for Cashless System**

National infrastructure serves as an operationally identifiable foundation, or pillar, for evaluating global competitiveness since it is a critical facilitator of Innovation and efficiency. The availability of cost-effective and dependable energy and communication networks, on the other hand, does not ensure economic progress. Instead, they make it possible for new technologies to improve productivity and economic growth. Energy and telecommunications are vital in payments since payment systems often depend on power and telephone networks. Advanced payment systems (such as those using mobile phones) need a reliable and broad mobile network with relay towers covering a country's populated areas. In proactive central bank regulations and civil and financial legislation, soft infrastructure is also essential for payment innovations. Thus, infrastructure affects how well cashless payment options function. (Dennis et al., 2021)

Digital infrastructures support Front-facing digital platforms. Mobile payment systems currently operate in highly complex and multidimensional networks with widely shared infrastructures, competing for the generation and delivery of value to customers

based on these infrastructures (Palmer et al., 2022). Infrastructure in a cashless economy is a platform designed for conducting virtual online economic activity. Infrastructure plays a crucial part in a cashless economy because it provides a distinct location for individuals to conduct their everyday economic operations. The infrastructure of a cashless economy is now entirely centered on internet operation. Areas of the nation with high internet speeds have an efficient cashless economy infrastructure.

#### **2.4.1 On Merchant**

Merchants are cautious about using mobile payments, and that penetration is limited. Merchants will accept m-payment if they believe it is advantageous, easy to use, understandable, and affordable and if they can effectively implement it. (Abebe & Lessa, 2020). When retailer advantages are paired with the benefits of cardholders and other participants, the amount of equilibrium interchange fees may be calculated, balancing the costs and benefits of the two sides of the retail payments system. Retailers, unlike customers, must choose whether to accept credit cards. (Krivosheya & Korolev', 2018)

#### **2.4.2. On Readiness of Banks**

Banks perceive digital technology as a method to enhance core competencies, create service differentiation, and achieve a competitive advantage, according to their readiness and desire to employ it. A close connection between operations, core functions, and technology units enables institutional-level exploration and deployment of technologies. Most banks have ample evidence of structural change. The structural modifications revealed by narratives show a renewed emphasis on using new technology and innovations. These structural alignments are intended to foster an innovation culture inside organizations by exploiting the capabilities of cross-functional teams. The stories show how banks get new ideas from both inside the organization and the outside ecosystem. Banks are creating significant collaborations and partnerships with digital technology providers, including fintech and established technology firms. Several narratives show how banks use various efforts to communicate their focus on digital technologies to a larger audience. This may be done to distinguish the company's position as a leader in digital technology and foster a culture of Trust (Himadri, 2019).

#### **2.4.3. On Government**

Numerous people (including governments) anticipate a future society in which physical cash is obsolete. Numerous governments have made significant advances in their attempts to eliminate currency. Simultaneously, individuals are becoming more conscious of the diminishing level of privacy in their lives, according to a study by Chavolla (2018). The Digital Transformation Strategy details how the Government is 'transforming our sourcing arrangements' and mitigating risk via acquiring technology and services to 'save costs and improve value for money.' (Tilley, 2020). On the other hand, Despite the challenges of adopting a Cashless Payment System among Jordanians, the Jordanian Government continues to prioritize expanding the use and acceptability of online payment systems. (Alqudah et al., 2022).

#### **2.4.4. On Security**

The security of a bank is identical to its solvency, which happens when the market value of its assets exceeds the value of its obligations. The degree of coverage of the risk carried by the bank with its own money may determine the bank's solvency. The compliance function has started to acquire significance to ensure that the bank's operations are under relevant legislation, internal rules, and standards of behavior imposed by the bank to protect the financial system's security (Chaikovska, 2019). It is also necessary to identify the individuals using online banking. It might lead to actual bank results on what items they should focus more on changing the perceived security of online banking. Going cashless may provide better security than using cash in several respects. Malefactors may be able to circumvent or tamper with such security mechanisms (Feng et al., 2021).

#### **2.5. On Examining Food Industry in the Cashless Ecosphere**

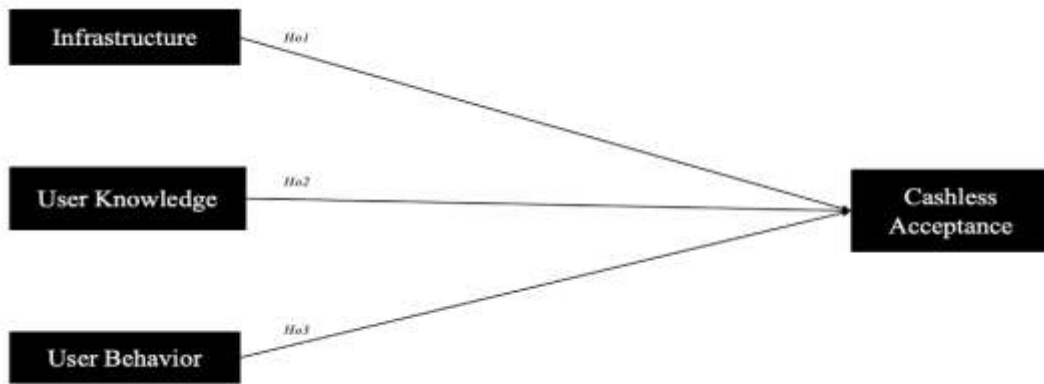
Although most employees realize the ease of digital payments, the vast majority still pay for expenditures in cash, most especially in Food, a necessity of living. MSMEs are critical to the economic recovery after COVID-19. MSMEs (micro, small, and medium companies) account for more than 99 percent of the over 1.4 million registered firms in the Philippines, accounting for 63 percent of employment and 36 percent of GDP. The rise of e-commerce in the Philippines creates a potential for expansion in a predominantly consumption-driven economy. Local businesses that depended on physical shop sales suffered huge losses due to the outbreak and the accompanying lockdowns. The apparent pivot for organizations whose business strategies and nature permitted them to do so was to migrate online to e-commerce. The Philippines has one of the highest rates of internet penetration in the area and the most prominent food consumption (Alcantara, 2021).

#### **2.6. On the Importance of the Role Millennials or Generation Y in the Cashless Acceptance**

Individuals born between 1981 and 1996 are considered members of Generation Y. They are known as millennials and have grown up in a technologically advanced culture. Generation Y is a mobile enthusiast, an early adopter, and a heavy consumer of technology and mobile services. According to reports, four out of every ten millennials globally are likely to send and receive

money from other people through mobile. They are also more likely to make purchases in pubs, restaurants, and retail outlets via mobile apps (Bautista, 2021).

In addition to the same article, It will not be challenging to persuade Generation Y to adopt new technologies. Aside from creating technological safety nets, we also propose considering this generation as sophisticated users. As a result, new features may be tested on them, and they can be encouraged to utilize them more as part of their daily lives. Gender did not influence the associations between attitude, subjective norms, perceived behavioral control, and Generation Y's desire to use mobile payments. Generation Y is regarded as the early adopters and mobile enthusiasts in technology adoption.



**Figure 1.** Conceptual Framework of the Influence of Infrastructure, User Knowledge, and Behavior of Cashless Acceptance in Small and Medium Food Industry in the National Capital Region

The Technology Acceptance Model was utilized to create the Conceptual Framework in the study. The Technology Acceptance Model is a conceptual framework for predicting and explaining consumer technology uptake. It is a paradigm for projecting and explaining consumer adoption of new technologies (Osuagwu et al., 2021). The study's framework has four variables, three of which are Independent Variables one of which is a Dependent Variable. Infrastructure comprises four sub-variables: Merchant, Bank Readiness, Security and Government. However, five measurement variables are necessary to fully understand User Behavior: Performance Expectancy, Perceived Risk, Perceived Security, Trust, and Habit. User Knowledge is the last Independent Variable. User Knowledge is assessed using four underlying variables: Cognitive Ability, Financial Literacy, Fees, and Platform. The Conceptual Framework refers to the dependent variable as Cashless Acceptance. Three measuring factors must be considered for the Cashless Acceptance Variable: Innovation, Transaction Repeatability, and Conversion.

The independent variables identified were utilized to examine the association between Cashless Acceptance. As a result of applying the variables, this research generates seven hypotheses. (Ho1) quantifies the link between Cashless Acceptance and Infrastructure. (Ho2) was designed to examine the relationships between User Knowledge and Cashless Acceptance. On the other hand, (Ho3) unravels the relationship between user behavior and Cashless Acceptance.

### **3. Methodology**

This research used a quantitative method. The quantitative method approach aims to test theories by investigating the relationship between variables, which can be measured using a statistical strategy. Data collection and analysis methods are used in descriptive statistics to report central tendency, variance, and correlation measures. When examining descriptive research, one must keep in mind its two distinguishing characteristics: it gathers certain statistical data on certain research concepts and methods, while the other is that it's focused on describing specific research questions, procedures, and outcomes. The main reasons for descriptive research for this study are to explain findings, describe them, and provide validation. To answer the hypotheses of this study, Linear regression and ANOVA were used. The independent variables were tested against the dependent variable and will be done in the SPSS software.

#### **3.1 Subjects and Study Sites**

The samples for this study were determined using the Power Analysis Sampling computation. This study was consistent with the use of power analysis in determining the sample size and the effect size of the statistics determined at the end of this study. A minimum of 120 respondents was calculated. However, 304 respondents were used in this study for larger effect size. The research was conducted in the Philippines' National Capital Region (NCR), which consists of 16 cities and one municipality: Quezon City,

Makati, Manila City, Taguig, Pasay, Mandaluyong, Caloocan, Las Piñas, Malabon, Marikina, Muntinlupa, Navotas, Parañaque, Pasig, San Juan, Valenzuela, and the municipality of Pateros.

In the context of this research, the researcher will use strata such as geographical location, gender, education level, and age. The National Capital Region (NCR) currently has 14,158,573 population as per the World Population View of 2021. The below table shows the strata and the number of respondents that will be gathered independently. In total, this study will require 304 respondents.

**Table 1.**

<i>Strata</i>	
Strata	Number of Respondents
<b>City</b>	304

The strata were further divided into strata to ensure that there were representations for each stratum. The table below shows the summary and the number of respondents required from each stratum:

**Table 2.**

*Stratum Respondent Distribution*

City	Number of Respondents
Caloocan	19
Malabon	19
Navotas	19
Valenzuela	19
Quezon City	19
Marikina	19
Pasig	19
Taguig	19
Makati	19
Manila	19
Mandaluyong	19
San Juan	19
Pasay	19
Parañaque	19
Las Pinas	19
Muntinlupa	19

### **3.2 Data Analysis**

In this study, after Data Collection, the gathered information was statistically processed in SPSS for significance testing and Correlation with the help of a qualified Statistician. Descriptive Statistics were employed in the essential data findings, and tabulations and graphs were created to show the data to the readers of this research.

Statistical Significance tests were used to evaluate the researcher's Hypothesis. In statistical hypothesis testing, statistical significance is critical. It is utilized to determine whether the null hypothesis should be rejected or kept. The null hypothesis assumes that nothing has occurred or has changed. The null hypothesis must be rejected if an observed result is statistically significant, that is, if the observed p-value is less than the pre-specified significance threshold, which is 5%.

ANOVA calculates whether the means of the treatment levels vary from the overall mean of the dependent variable to determine if the groups formed by the levels of the independent variable are statistically distinct.

Simple linear regression is expanded into multiple regression. When researchers seek to forecast the value of one variable based on the values of two or more other variables, they employ this method. The dependent variable is the variable we wish to forecast

(or, sometimes, the outcome, target, or criterion variable). The independent variables are the factors we use to predict the value of the dependent variable (or sometimes, the predictor, explanatory, or regressor variables). For the demographics, the presentation of data will be shown through a frequency table. The below table will summarize the statistical tools that will be employed in the study:

**Table 3.**  
*Summary of Statistical Tools per Data*

<b>Data</b>	<b>Statistical Tool</b>
Demographics	Frequency Table
Hypotheses Testing	Linear Regression and ANOVA

This study used a 95% confidence interval, which means that the p-value should be <0.05 in order to confirm acceptance or rejection of the hypothesis if the value is greater than 0.05.

The researcher used a survey questionnaire as the primary data collection instrument for the survey method. The questionnaire was divided according to the variables of the study. Questionnaire items are adapted from the existing literature, which is already validated and tested. These items were designed to determine the respondents' perspectives on each variable of the study. The 4-point scale was used to determine the respondents' outlook.

**4. Results and Discussion**

**4.1 Profile Distribuion**

**Table 4**  
*General Profile Distribution*

<b>Age</b>	Frequency	Percentage
26 – 30	199	65.46%
31 – 35	75	24.67%
36 – 41	30	9.87%
<b>Sex</b>	Frequency	Percentage
Male	199	65.46%
Female	105	34.45%
<b>Civil Status</b>	Frequency	Percentage
Single	252	82.89%
Married	52	17.11%
<b>Educational Attainment</b>	Frequency	Percentage
High School Graduate	10	3.29%
Senior High School Graduate	69	22.70%
College Level	199	65.46%
Master's Degree Level	23	7.57%
Professional Degree Level	3	0.99%
<b>Cashless Proficiency</b>	Frequency	Percentage
Business Marketing	206	67.76%
Family, Relatives & Friends (Word of Mouth)	82	26.97%
Education	16	5.26%



According to the result presented in table 4, the following are the distribution of the profile. In line with the stratum distribution, cities were distributed equally. For age 26-30, 199 respondents or 65.46%. Consequently, 199 were Male and 105 were female, or 65.46% and 34.45% respectively. Furthermore, regarding Civil Status, 252 respondents are single, with a total of 82.89% of the total respondents, while 17.11% only are married, with 52 respondents. For Education Attainment, 10 or 3.29 are High School Graduate, and 69 comes from Senior High School or 22.70% of the respondents. 199, or 65.46%, are at the college level, 23, or 7.57%, are in Master's Degree, and 3 have a Professional Degree Level or 0.99%. Lastly, business marketing has the highest source of cashless proficiency among the respondents, gaining 206 or 67.76% of the respondents. On the other hand, cashless proficiency from Family, Relatives and friends only gained 26.97% of the respondents or 82 respondents, while 16 of the respondents' source of cashless proficiency is from their education.

#### 4.1.1 Extent of Independent Variables

**Table 5**  
*Descriptive Table of the Independent Variables*

Indicator	Mean	SD	Rank	Interpretation
Infrastructure	3.13	0.798	3	Good
User Knowledge	3.32	0.705	1	Good
User Behavior	3.14	0.737	2	Good
<b>Overall Extent of Independent Variables</b>	<b>3.19</b>	<b>0.747</b>		<b>Good</b>

As shown in table 5, which gives the descriptive result of the independent variables, it was evident that User Knowledge has the highest Mean value of 3.32 and a standard deviation of 0.705. This posits a good extent of User Knowledge in the Cashless Acceptance. Secondly is the User Behavior with a 3.14 mean and a standard deviation of 0.737, which is also a good extent for Cashless Acceptance. Lastly, but also imposes a good extent, is the Infrastructure, which shows a 3.13 mean and 0.798 standard deviations. The overall extent of the independent variable resulted as good, with a 3.19 weighted mean and 0.747 standard deviations.

#### 4.1.2 Extent of Infrastructure Readiness

**Table 6**  
*Descriptive Table of Infrastructure*

Indicator	Mean	SD	Rank	Interpretation
Merchant Readiness	3.47	0.500	1	Good
Bank Readiness	3.18	0.757	2	Good
Government Readiness	2.88	0.901	4	Good
Security	2.97	0.844	3	Good

This table presents the descriptive result in showing the Infrastructure readiness of the Philippines towards cashless acceptance. It was evident that Merchant readiness has the highest mean with 3.47 and a standard deviation of 0.500. Bank Readiness became the second most important sub-variable for infrastructure readiness, with a mean of 3.18 and a standard deviation of 0.757. The next rank is security, which revealed a 2.97 mean and a 0.844 standard deviation. The respondents' last sub-variable for the Infrastructure readiness in the Philippines is the Government readiness, with a mean score of 2.88 and a standard deviation of 0.901. On a special note, all of the sub-variables impose a good extent on the infrastructure readiness.

**4.1.3 Level of User Behavior**

**Table 7**  
*Descriptive Table of User Behavior*

<b>Indicator</b>	<b>Mean</b>	<b>SD</b>	<b>Rank</b>	<b>Interpretation</b>
Performance Expectancy	3.32	0.703	2	Good
Perceived Risk	3.33	0.715	1	Good
Perceived Security	3.14	0.644	4	Good
Trust	3.16	0.649	3	Good
Habit	2.72	0.802	5	Good

Based on the shown table 7 this table presents the descriptive results of the sub-variable in unraveling the level of User Behavior in Cashless Acceptance in the country. It was revealed that the perceived risk is the highest mean, with 3.33 and a standard deviation of 0.715. It was followed by Performance Expectancy with a mean of 3.32 and 0.703 standard deviations. The third rank of sub-variable was the Trust, with 3.16 mean and 0.649 standard deviations. The fourth was the Perceived Security, with a mean score of 3.14 and a standard deviation of 0.644. The last rank in the sub-variable of the User Behavior is the Habit. It only showed a mean of 2.72 and a standard deviation of 0.802, placing it in the last rank. In good light, the table presented shows that all indicators have a good level of User Behavior.

**4.1.4 Level of User Knowledge**

**Table 8**  
*Descriptive Table of User Knowledge*

<b>Indicator</b>	<b>Mean</b>	<b>SD</b>	<b>Rank</b>	<b>Interpretation</b>
Cognitive Ability	3.32	0.630	3	Good
Financial Literacy	3.46	0.688	1	Good
Fees	3.17	0.741	4	Good
Platform Use	3.33	0.728	2	Good

Table 8 reveals the level of User Knowledge of the respondents in the cashless acceptance in the Philippines. It was revealed that financial literacy was the highest level of User Knowledge, with a 3.46 mean and a standard deviation of 0.688. next is the platform use with a mean score of 3.33 and 0.728 standard deviations. The third rank is the respondents' Cognitive Ability, with a mean of 3.32 and a standard deviation of 0.630. lastly is the Fees, which only have a mean score of 3.17 and 0.741 standard deviations. Even though of its ranking, the indicators are all interpreted as a Good level of User knowledge.

**4.1.5 Level of Cashless Acceptance**

**Table 9**  
*Descriptive Table of Cashless Acceptance*

<b>Indicator</b>	<b>Mean</b>	<b>SD</b>	<b>Rank</b>	<b>Interpretation</b>
Innovation	3.36	0.670	1	Good
Transaction Repeatability	3.21	0.729	2	Good
Conversion	2.99	0.796	3	Good

Table 9 shows the level of cashless acceptance in the Philippines. This will also answer specific question 6 on measuring cashless acceptance. Based on the result, all of the indicators are Good. Regarding the indicators ranking, it was revealed that Innovation was the highest indicator, with a mean of 3.36 and a standard deviation of 0.670. The second rank is transaction repeatability, with a 3.21 mean score and a 0.729 standard deviation. Lastly is the Conversion with only 2.99 mean and 0.796 standard deviation.

**H1: There is a significant relationship between Infrastructure and Cashless Acceptance.****Table 10***Linear Regression and ANOVA result of Infrastructure towards Cashless Acceptance*

Variable	Std. Error of the Estimate	R	R Square	Sig	Interpretation
Infrastructure	0.649	0.195	0.038	0.021	<b>Ho1</b> Rejected

*Note: R2 value of .10 is small, .15 medium, and .30 and above large*

Based on the result of Table 10, Infrastructure imposes a significance of 0.021. This results from rejecting the first null hypothesis of the study, stating that there is no significant relationship between Infrastructure and Cashless Acceptance. The overall result imposes a significant relationship between Infrastructure towards Cashless Acceptance.

As evident from the result, which was also similar and supported by the literature, Infrastructure has been a foundation of competence in this cashless economy. Inadequacy of a sufficient backup leads to declining profits for the businesses. Therefore, it supports the significance of infrastructure toward cashless acceptance because it ensures the transaction is safe and securely will operate regardless of the situation (Dennis et al., 2021; Palmer et al., 2022; Chondough, 2021)

**H2: There is a significant relationship between User Knowledge and Cashless Acceptance.****Table 11***Linear Regression and ANOVA result of User Knowledge towards Cashless Acceptance*

Variable	Std. Error of the Estimate	R	R Square	Sig	Interpretation
User Knowledge	0.412	0.783	0.613	<.001	<b>Ho2</b> Rejected

*Note: R2 value of .10 is small, .15 medium, and .30 and above large*

Using the data from table 11, User Knowledge assigns a significance of <.001. This is the result of rejecting the second null hypothesis of the research, which stated that there is no significant relationship between User Knowledge and Cashless Acceptance. The aggregate result establishes a significant relationship between User Knowledge towards Cashless Acceptance.

The literature was able to establish the significant relationship between User Knowledge and Cashless Acceptance. The adoption of a cashless economy was determined by how well users understood their payment alternatives. This is a critical phase in shaping the consumer's decision. As a result, cashless payments will be possible. Understanding the users will lead to banking penetration and advancement (Świecka et al., 2021; Beata et al., 2021; Cwynar et al., 2021)

**H3: There is a significant relationship between User Behavior and Cashless Acceptance.****Table 12***Linear Regression and ANOVA result of User Behavior towards Cashless Acceptance*

Variable	Std. Error of the Estimate	R	R Square	Sig	Interpretation
User Behavior	0.55	0.557	0.311	<.001	<b>Ho3</b> Rejected

*Note: R2 value of .10 is small, .15 medium, and .30 and above large*

Using the values found in table 12, User Behavior assigns a significance of <.001. This results in rejecting the study's third null hypothesis, which suggested that User Behavior and Cashless Acceptance had no significant relationship. The collective results indicate a significant relationship between User Behavior and Cashless Acceptance.

The findings were able to be supported by the literature since a significant relationship had already been established. Cashless payment users have been able to better articulate their experiences, expectations, and requirements due to changes in User Behavior. It successfully convinced users to adopt new forms of technology, allowing them to get the most out of their user experience and bringing it more in line with their actual lives (Srishti & Yadav, 2021; Tran & Hien, 2021).

## **4.2 Discussions**

### **4.2.1 Profile of the Cashless Users**

The imposition of Business Marketing as the highest source of cashless proficiency among the Millennials was supported by the literature in which millennials have a huge pool of technological consumption (Bautista, 2021). Marketing has transformed digital marketing among businesses as one of the calibers in allocating their business endeavors. As stated in the literature, the Millennials as early adopters of technology imbued with digital marketing was a key factor in having a great source of cashless proficiency within the millennials plus the adaptive advantage to technology due to the pandemic effect.

#### **4.2.2 To what extent do they assess the influence of the following to cashless acceptance:**

**Infrastructure.** The 3<sup>rd</sup> rank towards cashless acceptance is the Infrastructure with (WM = 3.13) and (SD = 0.798) or “Good”. Infrastructure causes the slow and non-adoption of digital payments due to digital evolution if not governed properly.

**User Knowledge.** It is the 1<sup>st</sup> rank towards cashless acceptance. User Knowledge has the Highest (WM = 3.32) and (SD = 0.705) or “Good”. Cashless culture and technology innovation have gained prominence worldwide. Cashless payments are caused by customer knowledge.

**User Behavior.** The 2<sup>nd</sup> rank towards cashless acceptance is the User Behavior with (WM = 3.14) and (SD = 0.737) or “Good”. Having this capacity will lead to frequent cashless payments and an improved user experience.

#### **4.2.3 To what extent is the infrastructure ready for cashless transactions in terms of:**

**Merchant readiness.** 1<sup>st</sup> rank in the infrastructure towards cashless acceptance with (WM = 3.47) and (SD = .500) or “Agree” in merchants using cashless payments in maximizing convenience to its user. Merchants engage with consumers; therefore, they're a route to a cashless society and user acceptability.

**Bank readiness.** 2<sup>nd</sup> rank in the infrastructure towards cashless acceptance with (WM = 3.18) and (SD = .757) or “Agree” in banks can keep pace with the digitization of the payment. Banks are crucial since they're the cornerstone of the economy, and their stability will hint at cashless acceptance and enable cashless payments for customers.

**Government readiness.** Last rank in the infrastructure towards the cashless acceptance with (WM = 2.88) and (SD = .901) or “Agree” in government monitors the financial activity and maintains the customer’s data privacy. Politics in the Philippines helps people promote cashless acceptance.

**Security.** 3<sup>rd</sup> rank in the infrastructure towards cashless acceptance with (WM = 2.97) and (SD = .844) or “Agree” in secure infrastructure platforms in banking systems in the Philippines. Lack of bank customer data security would hinder cashless acceptance.

#### **4.2.4 How do the respondents assess the User Behavior in terms of:**

**Performance Expectancy.** 2<sup>nd</sup> rank in the user behavior towards the cashless acceptance with (WM = 3.32) and (SD = .703) or “Agree” in payments can be successfully completed using digital payments. It makes payments easy. Users utilize cashless transactions to make online payments quickly.

**Perceived Risk.** 1<sup>st</sup> rank in the user behavior towards the cashless acceptance with (WM = 3.33) and (SD = .715) or “Agree” in concern about their online privacy. Perceived Risk influences consumers' purchase decisions by affecting online privacy.

**Perceived Security.** 4<sup>th</sup> rank in the user behavior towards the cashless acceptance with (WM = 3.14) and (SD = .644) or “Agree” in security risk has a significant influence on food transactions. It means consistently improving cashless apps' privacy and performance.

**Trust.** 3<sup>rd</sup> rank in the user behavior towards the cashless acceptance with (WM = 3.16) and (SD = .649) or “Agree” in trust that the other party in a transaction would be able to verify the transfer of payments right away. Online payment comfort increases their inclination to utilize cashless purchases.

**Habit.** The last rank in the user behavior towards the cashless acceptance with (WM = 2.72) and (SD = .802) or “Agree” in all their other bills/transactions are in digital payments. It became last as cash has been a long-lasting habit for consumers since they were young.

#### **4.2.5 What is the level of User Knowledge influence the cashless acceptance and actual market in terms of:**

**Cognitive Ability.** 3<sup>rd</sup> rank in the User Knowledge towards cashless acceptance with (WM = 3.32) and (SD = .630) or "Agree" in easily understanding the dynamics of cashless applications. Cognitive Ability will allow users to completely understand cashless transactions, leading to Cashless Acceptance.

**Financial Literacy.** 1<sup>st</sup> rank in the User Knowledge towards cashless acceptance with (WM = 3.46) and (SD = .688) or "Agree" in understanding cashless proficiently and understood cashless transactions. Having a bank account isn't enough to take cashless acceptance. Filipinos must utilize their knowledge in the platform to survive.

**Fees.** 4<sup>th</sup> rank in the User Knowledge towards cashless acceptance with (WM = 3.17) and (SD = .741) or "Agree" in cashless transactions are very justifiable compared to the convenience it offers. Users still have trouble justifying the prices. This hinders Cashless Acceptance.

**Platform use.** 2<sup>nd</sup> rank in the User Knowledge towards cashless acceptance with (WM = 3.33) and (SD = .728) or "Agree" in finding it easy to learn to use cashless because of the applications. Platform mastery indicates Cashless Acceptance.

#### **4.2.6 What is the measure of Cashless acceptance in terms of:**

**Innovation.** The 1<sup>st</sup> rank in the sub-variable of cashless acceptance with (WM = 3.36) and (SD = .670) or "Agree" in interested in using the latest digital payment applications. Innovation is creating a good business culture that makes people's lives easier.

**Transaction Repeatability.** The 2<sup>nd</sup> rank in the sub variable of cashless acceptance with (WM = 3.21) and (SD = .729) or "Agree" in intend to use cashless transactions more frequently going forward. Transaction Repeatability will permit a reassessment of cashless transactions shortly, but this will be facilitated by favorable word of mouth and perspectives on the overall quality and ease of cashless transactions.

**Conversion.** The 3<sup>rd</sup> rank in the sub variable of cashless acceptance with (WM = 2.99) and (SD = .796) or "Agree" in using cashless transactions in day-to-day life. However, Filipinos without banking access will reevaluate cashless transactions at this time.

#### **4.2.7 Is there a significant relationship between Infrastructure and Cashless Acceptance?**

Results show that there is a significant relationship between Infrastructure and cashless acceptance with (Sig = 0.021). This rejects the 1<sup>st</sup> Null Hypothesis. In this cashless economy, infrastructure is important. Inadequate backups reduce corporate profits. Therefore, infrastructure is important for cashless acceptance since it enables safe and secure transactions.

#### **4.2.8 Is there a significant relationship between User Knowledge and Cashless Acceptance?**

The findings indicate that there is a significant relationship between User Knowledge and cashless acceptance (Sig = <.001). The 2<sup>nd</sup> Null Hypothesis is therefore rejected. Users' knowledge of payment options affected the acceptance of a cashless economy. This is a key step in customer decision-making. So, cashless payments are feasible. Understanding users will promote banking penetration.

#### **4.2.9 Is there a significant relationship between User Behavior and Cashless Acceptance?**

The results demonstrate that there is a significant relationship between User Behavior and cashless acceptance (Sig = <.001). This rejects the 3<sup>rd</sup> Null Hypothesis. User Behavior improvements have helped cashless payment experiences, expectations, and user needs. It enticed people to accept new technology, enhancing their user experience and aligning it with their lifestyles.

## **5. Conclusion**

The following conclusions were drawn from the results given throughout the study:

1. Based on the responses, most millennials are single, ages 26 – 30, males, and at college level. These millennials among the Small and Medium food customers pave the business marketing as the highest source of cashless proficiency.
2. Infrastructure, User Knowledge, and User Behavior greatly towards cashless Acceptance. However, User Knowledge has the highest score among the three, and Infrastructure is the last. This means that the user is knowledge-equipped in today's generation, but the Infrastructure still needs to be improved to keep pace with the users. On the other note, for users to accept the cashless system, knowledge must be put first to advance and enter into the cashless system.
3. Merchants, banks, government, and security are essential factors to be Infrastructure ready. In a notable force, merchants are the ones that will lead the implementation of cashless payments since it fully affects the cashless system in the food

industry. On the other hand, although the government indicates good results, it must be able to heighten its monitoring and involvement in cashless Acceptance.

4. User Behavior's success toward cashless Acceptance depends on Performance Expectancy, Perceived Risk, Perceived Security, Trust, and Habit. All of these possess a Good extent towards User Behavior. To highlight, Perceived Risk has become the highest response as the users are conscious of their privacy and the stability of the cashless system in their lives. Conversely, Habit ranks last as cashless Acceptance will be at a detrimental pace since cash is still the king for the millennials.
5. For the food industry to attain cashless Acceptance, Financial Literacy must play an important role as it ranks first in User Knowledge, which was the highest among the three main dependent variables. Users must be financially literate first to accept the cashless system. With it, there will be a continuation and survival of the cashless system. Meanwhile, Fees as still a good extent towards the User Knowledge. It needs improvement to become justifiable to be used by the millennials in their transaction. Cognitive Ability and Platform use are also essential for user knowledge to influence Acceptance.
6. Cashless Acceptance means being Innovative in how the payment can make the lives of the user easier. It also means performing consistently to produce a positive image towards the user that enables the repeatability of usage. However, it is still impossible to completely convert the community into a complete cashless user.
7. Infrastructure has a significant relationship with Cashless Acceptance. This was also supported by Dennis et al. (2021). In addition, Infrastructure is the pillar of the cashless economy, which depends on affecting the business profit. With the Infrastructure, Cashless Acceptance enables a safe and secure operation in the food industry.
8. The adoption of the cashless system depends on how the users understand the technology. This was also backed up by the findings of Cwynar et al. (2021), as User Knowledge has a significant relationship with Cashless Acceptance. When the Users have an equipped knowledge, banking penetration and merchant advancement will be possible.
9. At last, In agreement with Tran & Hien (2021), User Behavior has a significant relationship with Cashless Acceptance. The experiences and expectation toward cashless payments change their behavior, which will convince them to adopt new technologies and be part of the users' lives.

## **6. Recommendations**

Following is a list of recommendations that have been offered on the basis of the findings provided in the study:

1. With the digitalization in the present times in the Philippines, digital marketing has the upper hand within businesses. As business marketing becomes the highest source of cashless proficiency, Small and Medium Food Enterprises must take this advantage in promoting their business digitally and also improve their services, especially their payments through online service.
2. Cashless acceptance is a major step forward only if users have the necessary information. Campaigning for user education in the Philippines through promoting the bank's application on television and billboards and by using transportation collaterals partnered with government organizations will enable the Philippines to become a cashless economy.
3. Banks, merchants, and the government must work together to ensure that cashless transactions are viable. Improving the infrastructure and aiming to strengthen its security also means focusing on laws aiming to control and monitor financial activities. In order to improve internet access in the country, the government has to work with telecommunications companies in the country as well as with foreign organizations that will add to the user experience within cashless payments.
4. Cash is still substantial as it is tangible that one can hold. With the users being a fan of discounts and promotions, it is recommended that the government, merchants, and banks support cashless payment by having a promotional card that adds value every time they purchase within the middle class. Imagine the new user rate from the advantage cards within the business being patronized by the customers and how it will stimulate in
5. The government should identify all cashless transactions as "Junk Fee Free" and assess each cashless payment entity's fee structure to ensure that cashless consumers are aware of their fees. As a result, it will be able to provide users with the confidence that fees on their transactions are clear and reasonable.
6. The government should promote and collaborate with the DOST, CHED, and Tech universities in the analysis and R&D of cashless payment. This would serve as a stepping stone in the continuous cashless use among Filipinos.



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