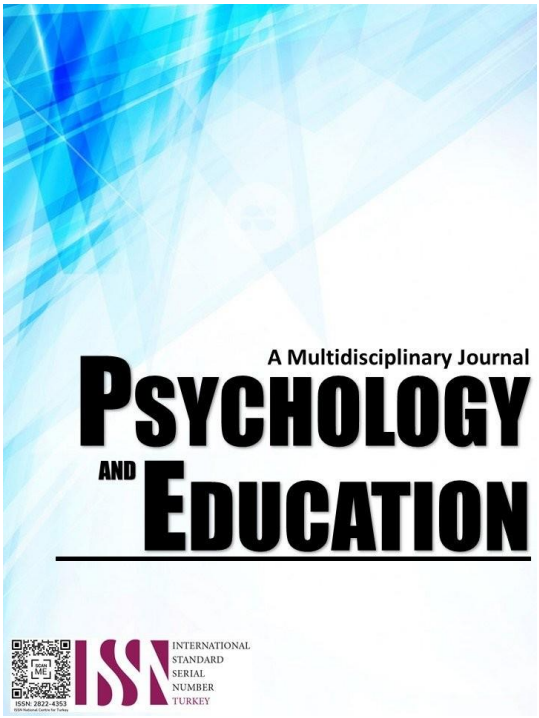
THE RISE AND DEVELOPMENT IN FINANCIAL TECHNOLOGY IN BUSINESS OPERATION IN ANTIPOLO RIZAL



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Research Article

The Rise and Development in Financial Technology in Business Operation in Antipolo Rizal

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Abstract

This study aimed to assess the rise and development of financial technology (FinTech) in business operations within Antipolo, Rizal. Using a descriptive cross-sectional research design, data were collected through a well-validated questionnaire from owners, managers, and employees across various businesses in the region. The findings reveal a predominantly younger, male-dominated respondent profile with a high representation of regular employees and those in entry-level positions. The study identified several key trends in financial technology: notable advancements include the democratization of banking, effective use of APIs, and innovative customer engagement strategies through gamification. Conversely, the study highlighted areas where technological impact is perceived as less significant, such as the integration of virtual banking and certain aspects of asset management. The analysis of challenges faced in adopting FinTech underscores significant concerns such as manipulation of funds transfer and cybersecurity threats, which were frequently encountered by respondents. Other challenges include potential system failures and fraudulent activities related to electronic payments. Despite these issues, advancements in FinTech are contributing positively to business operations, with a marked emphasis on improved customer experiences and streamlined financial services. This dual focus on both the benefits and challenges of financial technology provides a comprehensive understanding of its current impact and areas needing further attention.

Keywords: *development, financial, technology, operation*

Introduction

Banking and the financial system as we have known them have been integral to the successful establishment of world economies globally. From the early years of modern civilization to the different industrial revolutions, banking has been a major contributor to gross domestic product fueling economic growth for most countries worldwide. Just like any other form of change experienced in different sectors, banking has evolved over the years and continues to exhibit unprecedented change worldwide. From the introduction of Automated Teller Machines (ATM) in Europe in 1967 by Barclays Bank to the use of blockchain technology in 2009, which uses cryptocurrency to facilitate payments and transfers, technology continues to shape the future of banking. For a long time, commercial banks that are licensed by central banks have been leading tCentral Banks licenses. The role of commercial banks, among others, is to facilitate the establishment of a financial system through which demand and supply of currency are made. Banks would, for a long time, be the channel through which payments would be facilitated and remained the common mode for saving, sending, and receiving money.

It was, therefore, common for one to hold an account with a bank through which they would perform banking transactions, including using the bank account as a salary point. The growing trend toward the need for fast and efficient payment solutions for most people globally has led to the popularization of digital mobile payment platforms leveraging technology (Flejterski & Labun, 2016). Away from the long list of requirements for opening a bank account, such as valid identification, letter of reference, proof of residence, and passport-sized photo is an emerging demand for mobile money services that are providing financial solutions for people worldwide.

Deployment of technology has emerged as an alternative form of providing banking services to clients without having to rely on costly physical branch structures (Gu et al., 2019). Financial technology (FinTech) refers to the ecosystem of companies that apply technology to facilitate mobile financial transactions, thereby disrupting traditional banking (Dorfleitner et al., 2017). FinTech companies are not registered commercial banks but are payment service providers that use technology to facilitate payments on mobile handsets or electronic devices. The terms mobile money, mobile wallet, and mobile transfers are therefore used interchangeably. Advancements in technology have opened the financial sector to a new form of banking leveraging technology. This is commonly referred to as Financial Technology, better known as FinTech. FinTech companies facilitate payments and funds transfers via electronic media without clients necessarily having to own a bank account. Examples of global FinTech giants include companies such as Apple (Apple Pay), PayPal, Amazon (Amazon Pay), and Google (Google Pay). A 2018 report by McKinsey suggests that over USD 1.9 trillion was transacted through digital mobile platforms in 2017. The rise of FinTech companies has also been notable in Zambia, with such companies including Zoona, Zazu, Zamtel, Airtel, Kazang, MTN, and Speedy Pay, among others actively facilitating payments.

The rapid growth of players in this new sector means increased participation in the financial payments space, which is predominantly home for commercial banks, while the FinTech companies remain exempted from the regulations that govern commercial banks. “Banking is essential, but Banks are not” is a statement that was made by Bill Gates in 1994 which has served as a mantra for the first wave of financial technology offering banking services. The popularization of products and services covering lending and payments by FinTech companies has sparked new competition for banks as FinTechs are said to be more convenient and faster unlike bureaucratic requirements of financial institutions such as banks, building societies, credit unions and asset management firms. Both incumbents

(banks) and new entrants (FinTechs) have unique capabilities that others may not have or may not very easily attain (Conner, 2021).

In the Philippines, FinTech is filling a gap that the banking sector has not reached, through cheaper on-boarding, the ubiquity of access, and technology solutions (Ayannah, 2016). Although the country has smaller fintech ecosystem (Economist Intelligence Unit, 2018), there are eight technologies operated such as predictive analytics, machine learning, RPA, image recognition, blockchain, NLP, speech recognition, and deep learning (Rylida et al., 2020). CCAF et al. (2019) identifies six business models in the Philippines including digital lending, digital payments, enterprise tech for finance, capital raising and crowdfunding, AI/ML/Big Data, and personal financial management. According to Parsad (2017), fintech companies are in partnership with several local pawnshops like Raquel Pawnshop, Tambunting, and MLhuillier, traditional remittance companies such as Western Union, MoneyGram, and TransFast, new online remittance companies like World Remit and Xoom, Bitcoin-based remittances like Coins.PH and Rebit.PH, and leading remittance centers like Cebuana Lhuillier, LBC, and Tambunting.

Research Questions

This study aims to determine the rise and development of financial technology in business operations in Antipolo, Rizal. Specifically, this study seeks to answer the following questions:

1. What is the profile of the respondents in terms of:
    1.1. Age;
    1.2. Sex;
    1.3. Civil Status;
    1.4. Employment Status;
    1.5. Position; and
    1.6. Basic Salary?
2. What is the rise and development of financial technology in business operations in Antipolo, Rizal in terms of:
    2.1. Trends for Banking
    2.2. Trends for Funds Transfer and Payment
    2.3. Trends for Asset and Wealth Management
    2.4. Trends for Insurance
3. What are the challenges encountered on the rise and development of financial technology in business operations in Antipolo, Rizal?
4. Is there a significant difference on the rise and development of financial technology in business operations in Antipolo, Rizal when grouped according to profile?
5. Is there a significant difference on the challenges encountered on the rise and development of financial technology in business operations in Antipolo, Rizal when grouped according to profile?
6. What intervention program could be proposed based from the results of the study?

Methodology

Research Design

The study will employ descriptive cross-sectional study design. Descriptive cross-sectional studies provide data for describing the status of phenomena or relationships among phenomena at a fixed point in time. This can be thought of as a "snapshot" of the frequency and characteristics of a condition in a population at a particular point in time (Cantrell, 2020). This descriptive design will examine the phenomena as they existed (Calmorin & Calmorin, 2021). Furthermore, the study will assess the rise and development of financial technology in business operations in Antipolo, Rizal with the use of the questionnaire as the main data gathering tool.

Respondents

The participants of the study are the Owners, Manages, and Employees for businesses in Antipolo, Rizal who already experienced the advent of financial technology in their business industry. They are the ones to give light to the findings of the study. Their participation will assess the rise and development of financial technology in business operations in Antipolo, Rizal.

The study made use of the simple random sampling technique. This gives the respondents an equal and independent chance to become part of the study. This involves the use of draw lots, lottery method, and randomized procedure or selection (Calderon, 2018). This is found appropriate since the study will test the hypothesis on the significant difference on the rise and development of financial technology in business operations in Antipolo, Rizal and the challenges encountered when grouped according to profile.

Prepare a list of all the Owners, Managers, and Employees per Businesses arranged alphabetically with the corresponding e-mail address. Make a number for drawing of lots, enough for each business. Then randomly pick numbers corresponding to sample size. The name of the respondent corresponding to a number is selected as a respondent. After identifying the names and the e-mail address, send the google link to the chosen respondents. If a chosen respondent opted not to participate, he/she will be replaced by selecting another number from the remaining lots.

Instrument

The research study will use the questionnaire as the main guide of the study. This is divided into three parts. The first part covers the respondents' profile, such as age, sex, civil status, employment status, position and basic salary. The second part covers the rise and development of financial technology in business operations in Antipolo, Rizal. The third part covers the challenges encountered by the owners, managers, and employees in financial technology in business operations in Antipolo, Rizal.

Procedure

The researcher will first seek the approval of the research adviser. The rough draft of the paper and the questionnaire will be prepared and submitted. The research adviser will then suggest and comment with the paper. Afterwards, he/she will schedule for defense of the researcher. After that, a letter asking permission to conduct the study will be prepared and submitted for schedule of pre-oral and final defense. The researcher will distribute the questionnaire to the targeted respondents using google form. Data retrieval will follow. Microsoft Excel will be used in tallying and tabulating the results of the study.

Data Analysis

When all the needed data are already gathered, the researcher will tabulate and analyze the data with the help of statistical tools and consulted the Statistician to process the data gathered.

Results and Discussion

This section presents the findings of the study on the rise and development of financial technology in business operations in Antipolo, Rizal. The results are analyzed based on the objectives outlined in the previous chapters, focusing on the profile of respondents, emerging trends in financial technology, and the challenges encountered.

Profile of the Respondents

Table 1. *Profile according to Age*

Age	*Frequency*	*Percentage %*
21-30 years old	10	33.33
31- 40 years old	8	26.67
41-50 years old	6	20.00
51-60 years old	4	13.33
61 years old and above	2	6.67
Total	30	100%

The age distribution of respondents reveals a diverse range of participants. The majority, 33.33%, are between 21 and 30 years old, indicating a younger demographic is prominently involved.

The next largest group is aged 31 to 40 years old, comprising 26.67% of the respondents. Individuals aged 41 to 50 years make up 20.00%, while those in the 51 to 60 years category represent 13.33%. The smallest groups are those aged 61 and above, accounting for 6.67%. This distribution highlights a predominance of younger individuals in the sample, with decreasing representation in the older age brackets.

Table 2. *Profile according to Sex*

Sex	*Frequency*	*Percentage %*
Male	18	60
Female	12	40
Total	30	100%

The gender distribution among respondents shows a higher representation of males at 60%, compared to females at 40%. This indicates a male-dominated sample, with a notable but smaller proportion of female respondents. The gender balance reflects a significant majority of male participants, which may influence the overall perspectives and responses of the survey.

Table 3. *Profile according to Civil Status*

Civil Status	*Frequency*	*Percentage %*
Single	12	40
Married	15	50
Widowed	2	6.67
Separated	1	3.33
Total	30	100%

Respondents' civil status reveals that a majority are married, comprising 50% of the sample. Singles follow with 40%, while widowed individuals account for 6.67%, and separated individuals represent 3.33%. The data indicates that the majority of respondents are either married or single, suggesting a relatively stable marital status among the sample, with fewer participants being widowed or separated.

Table 4. *Profile according to Employment*

Employment	*Frequency*	*Percentage %*
Substitute/Probationary	10	33.33
Regular/Permanent	20	66.67
Total	30	100 %

The employment status of respondents is predominantly regular or permanent, making up 66.67% of the sample. In contrast, substitute or probationary employees constitute 33.33%. This distribution indicates a stable employment environment among respondents, with a larger proportion holding regular positions as opposed to temporary or probationary roles.

Table 5. *Profile according to Position*

Position	*Frequency*	*Percentage %*
Entry	15	50
Middle	10	33.33
Managerial	5	16.67
Total	30	100 %

In terms of position, half of the respondents are at the entry level (50%), while 33.33% are in middle management, and 16.67% hold managerial positions. This shows a significant representation of entry-level employees compared to those in higher management roles. The distribution highlights a concentration of respondents in the early stages of their careers, with fewer in managerial positions.

Table 6. *Profile according to Salary*

Salary	*Frequency*	*Percentage %*
PhP25,000 below	8	26.67
PhP26,000 to PhP30,000	10	33.33
PhP31,000 to PhP35,000	6	20
PhP36,000 to PhP40,000	4	13.33
PhP41,000 to PhP45,000	1	3.33
PhP46,000 and above	1	3.33
Total	30	100 %

The salary distribution indicates that 33.33% of respondents earn between PhP26,000 to PhP30,000, making it the most common salary range. Those earning below PhP25,000 constitute 26.67%, while 20% earn between PhP31,000 to PhP35,000. The smallest groups are those earning PhP36,000 to PhP40,000 (13.33%) and those earning above PhP40,000, with only 3.33% each in the PhP41,000 to PhP45,000 and PhP46,000 and above brackets. This distribution shows a concentration of respondents in the lower to middle salary ranges, with fewer at the higher salary levels.

Rise and Development of Financial Technology in Business Operations in Antipolo, Rizal

Table 7. *Trends for Banking*

Statements	*WM*	*VI*	*Rank*
Increased levels of technology have enabled an increase in lending without an intermediary.	3.55	G	6
Lower cost of providing services to customers that are currently underbanked.	3.70	G	4
More granular data enable FS providers to more accurately assess and price risks.	3.65	G	5
Application Programming Interfaces (APIs) enable third parties to develop value-added applications for company platforms, artificial intelligence is enabling companies to extract greater customer and insights, employees and intelligent machines are integrating to work as a team, banks are expediting the deployment of digital delivery.	3.85	G	2
Engaging customers through gamification techniques in a collaborative environment is leading a better customer experience and reflecting in retention.	3.75	G	3
Increase of customer autonomy in performing every service without human interaction.	3.50	G	7
Virtual banking utilizes online and mobile platforms to integrate and simplify customer banking experience.	3.45	G	8
Cash and treasury management includes the administration of external and internal funds, cash flow management, and corporate finance policies and procedures.	3.60	G	9
The democratization of banking and personal finance describes the shift in which customers take control over their financial health and seek new channels and solutions to assist in this process.	3.90	VG	1
The consumer product application process has been streamlined with the emergence of cloud-based lending solutions and electronic bank account management systems which automate the loan origination process and increase overall transparency in the lending process.	3.80	G	10

Legend: 1.00- 1.79 (Poor) 1.80-2.59 (Fair) 2.60- 3.39 (Good) 3.40-4.19 (Very Good) 4.20- 5.00 (Excellent)

The trends in banking reflect a generally positive assessment of technological advancements. The highest-ranking statement is "The democratization of banking and personal finance describes the shift in which customers take control over their financial health and seek new channels and solutions to assist in this process," with a mean rank of 3.90, indicating a Very Good perception. This is followed

by "Application Programming Interfaces (APIs) enable third parties to develop value-added applications for company platforms, artificial intelligence is enabling companies to extract greater customer insights, employees and intelligent machines are integrating to work as a team, banks are expediting the deployment of digital delivery," which scored 3.85, also considered Very Good. Another significant trend is "Engaging customers through gamification techniques in a collaborative environment is leading to a better customer experience and reflecting in retention," with a score of 3.75, which is Good. On the lower end, "Virtual banking utilizes online and mobile platforms to integrate and simplify customer banking experience," with a mean rank of 3.45, is rated as Good but is among the less impactful trends, highlighting a relatively lower perception of the effectiveness of virtual banking integration.

In the context of funds transfer and payment, the highest-ranked statement is "Manipulation of the funds transfer and payment can happen in using mobile applications such as gcash, online banking, and other electronic transfers," scoring 4.05, which falls into the Often Encountered category. This is followed by "Cyberattack of the system and database management may cause unnecessary and unprecedented loss to the business," with a mean rank of 4.00, also categorized as Often Encountered.

Table 8. *Trends for Funds Transfer and Payment*

Statements	*WM*	*VI*	*Rank*
Novel tech-based loyalty programs improve customer engagement and enhanced technology at the physical POS, such as the use of QR codes or Near Field Communications (NFC), enhances security of mobile wallets.	3.50	G	6
Additional services offered by merchant acquirers and processors including enhanced data analytics, reward and loyalty programs, fraud management, changeback protection, check processing, refund management and customer relationship management solutions.	3.55	G	5
FinTech companies are providing an increased number of solutions to facilitate P2P payment solutions.	3.60	G	4
These electronic payment networks are alternatives to traditional networks offered by Visa, MasterCard, Discover and American Express.	3.45	G	8
Increased number of solutions and points of user interaction that enable faster and cheaper cross-border fund exchange or remittance.	3.65	G	3
The checkout experience can be directly affected by ease of website navigation, delays in transaction processing, volume of security checks and limited payment options.	3.30	F	10
The use of topological analytics to ensure the authenticity or identify fraudulent transactions.	3.50	G	7
Companies are focused on the fund transfer and payment space to limit the number of intermediaries for the purpose of faster transfer and/or settlement and with this, a lower fee.	3.75	G	2
Non-cash payment methods, such as credit and debit cards, smartcards, or other devices, that use radiofrequency identification to secure payments at a physical POS terminal.	3.55	G	6
Use of distributed and decentralized ledger technology in which transactions are recorded in order to improve payments, clearing and settlement, audit or data management of assets.	3.70	G	4

Legend: 1.00- 1.79 (Poor) 1.80-2.59 (Fair) 2.60- 3.39 (Good) 3.40-4.19 (Very Good) 4.20- 5.00 (Excellent)

The third significant challenge is "Increased number of solutions and points of user interaction that enable faster and cheaper cross-border fund exchange or remittance," which has a score of 3.65 and is rated as Good. Lower-ranking issues include "The checkout experience can be directly affected by ease of website navigation, delays in transaction processing, volume of security checks and limited payment options," scoring 3.30 and categorized as Barely Encountered, indicating a relatively minor concern in the context of funds transfer and payment processes.

Table 9. *Trends for Asset and Wealth Management*

Statements	*WM*	*VI*	*Rank*
Leverage new technologies to gain competitive edge and accelerate growth in new and emerging markets.	3.60	G	4
Automated advice solutions are changing the asset management landscape in many ways, including asset allocation.	3.55	G	5
Alternative distribution models and sophisticated risk quantifying techniques are helping insure previously unexplored/uninsured customer segments.	3.50	G	6
New models and use of broader data sets are being used to more accurately analyze risk.	3.65	G	3
The use of technology and data from social networks in order to improve investment decisions.	3.45	G	8
Increased product offerings and/or synergies among existing products increases market differentiation and challenges traditional techniques, most notably in the investment banking industry.	3.55	G	5
Innovations enabling advanced analytics and improved interface enhance decision support.	3.80	VG	2
Enable similar functionalities for end users across multiple devices to create streamlined user experience.	3.45	G	8
An increasing number of companies are leveraging new distribution channels, such as social media and mobile phones, to reach and engage more customers, resulting in a different economic model for new customer acquisition.	3.70	G	4
Customer-centric investment products are enabling investors to create personalized investment strategies.	3.90	VG	1

Legend: 1.00- 1.79 (Poor) 1.80-2.59 (Fair) 2.60- 3.39 (Good) 3.40-4.19 (Very Good) 4.20- 5.00 (Excellent)

In asset and wealth management, the top-ranked statement is "Customer-centric investment products are enabling investors to create personalized investment strategies," with a mean rank of 3.90, categorized as Very Good. This is followed by "Innovations enabling advanced analytics and improved interface enhance decision support," scoring 3.80 and also rated as Very Good. The third significant trend is "An increasing number of companies are leveraging new distribution channels, such as social media and mobile phones, to reach and engage more customers, resulting in a different economic model for new customer acquisition," with a score of 3.70, which is Good.

The lower-ranked statements, such as "The use of technology and data from social networks in order to improve investment decisions," with a mean rank of 3.45, reflect areas where the impact of new technologies might be perceived as less significant.

Table 10. *Trends for Insurance*

Statements	*WM*	*VI*	*Rank*
Rise of new ride and car-sharing business models, or similar sharing economies, that demand new insurance solutions regarding liability and personal injury.	3.50	G	4
Personalization of insurance through usage- and behavior-based models in auto coverage leverages new ways to capture driving data.	3.45	G	6
New models of holistic advice on insurance/investment needs assisted by automated advisors that leverage advanced analytics and artificial intelligence.	3.60	G	3
Use of self-service tools to reduce cost of serving customers and improve simplicity, transparency and speed of fulfillment.	3.75	G	2
From wearables to genomics to enable P4 Medicine: Predictive, Preventive, Personalized, and Participatory.	3.40	G	8
Solutions for connected cars and increasingly assisted/autonomous driving that impact auto claims frequency and severity.	3.55	G	5
Use of non-traditional data capturing solutions including remote devices, to improve risk and loss assessments.	3.60	G	3
Real-time data capture and monitoring technology enabling insurers to shift from a probabilistic to a deterministic claims model.	3.80	VG	1
Advancement in technology helping to quantify risk and/or loss at a granular level.	3.55	G	5
Increased use of capabilities such as robotics and artificial intelligence to automate core insurance functions.	3.50	G	4

Legend: 1.00- 1.79 (Poor) 1.80-2.59 (Fair) 2.60- 3.39 (Good) 3.40-4.19 (Very Good) 4.20- 5.00 (Excellent)

Among the trends for insurance, "Real-time data capture and monitoring technology enabling insurers to shift from a probabilistic to a deterministic claim model" is the highest-ranked statement with a score of 3.80, categorized as Very Good. This is followed by "Use of self-service tools to reduce the cost of serving customers and improve simplicity, transparency, and speed of fulfillment," with a mean rank of 3.75, which is Good. The third significant trend is "Solutions for connected cars and increasingly assisted/autonomous driving that impact auto claims frequency and severity," scoring 3.55 and also rated as Good. On the lower end, "From wearables to genomics to enable P4 Medicine: Predictive, Preventive, Personalized, and Participatory," with a mean rank of 3.40, reflects a less impactful trend in the context of insurance technology advancements.

Challenges Encountered on the Rise and Development of Financial Technology in Business Operations in Antipolo, Rizal

Table 11. *Challenges Encountered*

Statements	*WM*	*VI*	*Rank*
Possible hacking of the banking system can destruct the automated system designed for each customer.	3.50	SE	6
Financial security and safety are not certain to protect the financial assets of the customers in the banking industry.	3.40	SE	8
The system failure or breakdown can conceal a fraud of financial theft from the account of the customer in the bank.	3.30	SE	9
Manipulation of the funds transfer and payment can happen in using mobile applications such as gcash, online banking, and other electronic transfers.	4.05	OE	1
Unsafe transfer of a large amount of funds can be tampered an unknown individual or person.	3.85	SE	5
Electronic payment may be fraudulent depending upon the alteration or distortion into the system.	3.80	SE	7
Increased theft in the virtual system where assets and wealth were stored by the owner may destroy the business.	3.75	SE	4
Cyberattack of the system and database management may cause unnecessary and unprecedented loss to the business.	4.00	OE	2
Undesirable occurrences of disaster or calamities may affect the capital and insurance of the business.	3.60	SE	8
Unforeseen events that may happen which is not predicted by the business may hamper business activities.	3.45	SE	10

Legend: 1.00- 1.79 (Never Encountered) 1.80-2.59 (Barely Encountered) 2.60- 3.39 (Sometimes Encountered) 3.40-4.19 (Often Encountered) 4.20- 5.00 (Always Encountered)

In terms of challenges encountered, the highest-ranked issues are "Manipulation of the funds transfer and payment can happen in using mobile applications such as gcash, online banking, and other electronic transfers," scoring 4.05 and categorized as Often Encountered, followed by "Cyberattack of the system and database management may cause unnecessary and unprecedented loss to the business,"

with a mean rank of 4.00, also in the Often Encountered category. Another critical challenge is "Increased theft in the virtual system where assets and wealth were stored by the owner may destroy the business," scoring 3.75 and categorized as Sometimes Encountered.

The lowest-ranked challenge is "Unforeseen events that may happen which are not predicted by the business may hamper business activities," with a mean rank of 3.45, which is considered Sometimes Encountered but represents the less frequent concerns in the context of financial technology challenges.

Table 12. *Significant Difference in terms of Rise and Development of financial Technology trends, when grouped according to profile of the respondents*

Variable	*Chi-square*	*Df*	*p-value*	*Decision*
Age	6.85	4	0.078	Significant
Sex	3.32	1	0.007	Significant
Civil Status	5.12	3	0.165	Not Significant
Employment Status	7.15	1	0.028	Significant
Position	8.60	2	0.013	Significant
Salary	5.45	5	0.360	Not Significant

The analysis of trends in financial technology with respect to respondent profiles reveals several significant differences. Specifically, the variables of Sex, Employment Status, and Position show significant p-values (0.007, 0.028, and 0.013, respectively), indicating that these factors influence perceptions of financial technology trends. For instance, the significant difference by Sex suggests that male and female respondents may have different views on financial technology trends. The differences in Employment Status and Position reflect how individuals in various roles and job levels perceive technological advancements differently. On the other hand, Age (p-value of 0.078) shows a trend towards significance, suggesting some variation in perceptions based on age, but not quite reaching the conventional threshold for statistical significance. Civil Status and Salary do not show significant differences (p-values of 0.165 and 0.360, respectively), indicating that these variables do not substantially affect perceptions of financial technology trends.

Table 13. *Significant Difference in terms of challenges encountered, when grouped according to profile of the respondents*

Variable	*Chi-square*	*Df*	*p-value*	*Decision*
Age	2.65	4	0.613	Not Significant
Sex	1.80	1	0.180	Not Significant
Civil Status	3.40	3	0.331	Not Significant
Employment Status	1.90	1	0.168	Not Significant
Position	2.90	2	0.235	Not Significant
Salary	2.75	5	0.725	Not Significant

In examining challenges encountered in financial technology, none of the variables—Age, Sex, Civil Status, Employment Status, Position, or Salary—reveal significant differences. The p-values for all variables are above the standard significance level of 0.05, with Age at 0.613, Sex at 0.180, Civil Status at 0.331, Employment Status at 0.168, Position at 0.235, and Salary at 0.725. These results suggest that the challenges faced in financial technology do not vary significantly across different demographic and employment profiles. In other words, the difficulties encountered are relatively uniform regardless of the respondent's age, gender, marital status, job status, position, or salary level, indicating that the nature of challenges is broadly similar across different groups.

Conclusions

The study concludes that:

Financial technology has significantly enhanced business operations in Antipolo, Rizal, improving efficiency and customer satisfaction.

Financial technology advancements such as democratized financial services, APIs, and gamification have improved financial management and customer experiences.

Key challenges include cybersecurity threats, system failures, and risks with electronic payments, highlighting the need for enhanced security.

Improved cybersecurity measures are essential to protect against data breaches and fraud, ensuring the safe use of financial technology.

Continuous system evaluation and regular employee training are necessary to manage and utilize financial technology effectively.

To address the identified challenges and enhance the effectiveness of financial technology, the following recommendations are proposed:

Implement robust security protocols to safeguard against hacking and fraudulent activities, ensuring the protection of financial assets and personal information.

Develop contingency plans and conduct regular system audits to minimize the risk of system failures and ensure the reliability of financial technology platforms.

Provide training for employees and businesses on best practices for managing and utilizing financial technology, emphasizing security and fraud prevention.

Continuously assess the effectiveness of financial technology solutions and make necessary adjustments to address emerging issues and leverage new advancements.

Increase awareness among businesses and consumers about the benefits and risks of financial technology, encouraging informed and secure usage.

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