THE USE OF FINANCIAL TECHNOLOGY THROUGH BANKING AGENCY IN EMERGING ECONOMY

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Abstract

Financial technology has transformed the banking industry, providing convenient and efficient alternatives to traditional banking services. In emerging economies, where access to formal banking services may be limited, the utilisation of financial technology through banking agencies has garnered significant attention (Limna & Kraiwanit, 2022; Nguyen, 2022). This study aims to explore the factors influencing the adoption of financial technology through banking agencies in Thailand. The research employed a quantitative approach, utilising an online questionnaire to gather data from a convenience sample of 1,224 participants. Binary regression analysis was employed to analyse the collected data. The results indicated that the use of banking agents can be influenced by factors such as status, residence, experience, and transaction frequency. When making policy recommendations, it is crucial for financial institutions to ensure that the safety policies protecting the clients of banking agents meet the same standards as those of the appointing financial institutions. Further research is warranted to examine the usage patterns among different age groups, particularly the elderly, as this demographic is often overlooked and may face challenges in a digital environment. As the acceptance of financial transactions through banking agents grows among the older population, it is expected that seniors will increasingly adopt this banking method.

Keywords: Banking Agent, Financial Technology, Emerging Country

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1. INTRODUCTION

The advancement of information and communication technologies (ICTs) and the widespread availability of the Internet and mobile communications have ushered in a new era of globalisation. This phase of globalisation is characterised by the pivotal role played by computers and emerging ICTs, which have connected the world through a unified communication system and established an integrated financial and information landscape (Jangjarat, Kraiwanit, Satityapong, et al., 2023; Limna, Kraiwanit, & Siripipatthanakul, 2023; Wattanasin et al., 2023). Banks are viewed as highly dynamic enterprises that offer enhanced benefits to customers who utilise online banking services within

this interconnected global network. In line with other industries, the banking sector is leveraging the Internet and mobile applications as the most efficient channels for delivering banking products and services. Consequently, the banking industry is experiencing heightened competition due to increasingly discerning customers (Limna, Kraiwanit, & Siripipattanakul, 2023; Mahmud et al., 2023).

The banking industry has witnessed significant technological advancements, leading to intense competition among companies striving to retain their existing customer base and expand their reach to new customers. To meet customer needs and enhance satisfaction while reducing costs, many banks have developed financial products and services (Al-Okaily et al., 2022; Tsindeliani et al., 2022). Mobile- and Internet-banking have emerged as reliable technologies that enable banks to connect with and serve customers who are geographically distant from bank branches (Mani & Saraswathi, 2022). The growth of mobile banking has not only increased the number of client accounts but also the volume and total value of transactions. Consequently, continuous improvements in banking services necessitate the presence of mobile banking. Changes in user behaviour regarding financial transactions have prompted commercial banks to adapt by offering a comprehensive range of financial services through various online channels while enhancing the security of their online systems (Pratama et al., 2021). Due to the diminishing role of physical branches and the increasing costs associated with maintaining each branch (e.g., rental fees, employee salaries, utility bills), the number of bank branches has decreased in recent years. The investment required to sustain a bank branch, particularly those not located in shopping malls, is often deemed unworthy since only a few customers visit branches during business hours (Hensel, 2003; Loetrueangnapha & Kraiwanit, 2019).

The landscape of banking services has witnessed significant transformations in recent years, with the emergence of financial technology playing a crucial role. One aspect of this evolution is the provision of banking services through banking agents, a model that has been adopted by several financial institutions, including prominent Thai commercial banks such as Kasikorn Bank (KBank), Krung Thai Bank, and Bangkok Bank. Furthermore, the rapid growth of financial technology has garnered considerable attention, leading to numerous studies conducted across different countries. For instance, Citta et al. (2019) analysed financial technology using SWOT analysis in the banking industry in South Sulawesi. Elkmash (2022) examined the efficiency of the banks in Egypt after the spread of financial technology. However, there is a notable gap in research that specifically explores the realm of financial technology through banking agencies in Thailand. Also, few studies have investigated the factors that influence the utilisation of financial technology through banking agencies as a channel for financial transactions. Hence, to fill these gaps, this study aims to investigate the factors influencing the use of financial technology through banking agencies as a channel for financial transactions in Thailand, an emerging economy. By delving into the various dimensions associated with this emerging trend, the study seeks to comprehend the positive aspects and potential challenges that arise from this alternative mode of banking. The findings from this research will provide valuable insights that can be applied to enhance service quality, address concerns, and inform future applications of banking agent systems.

The remainder of this paper is organized as follows. Section 2 provides a comprehensive review of the relevant literature. Section 3 details the methodology employed in the research. Section 4 presents the findings derived from the analysis. Subsequently, Section 5 delves into a comprehensive discussion of the findings. Lastly, the final Section 6 incorporates a conclusion of the study, its limitations, and offers suggestions for further research.

2. LITERATURE REVIEW

The banking industry is undergoing rapid transformation, incorporating e-banking as an efficient and suitable tool to enhance customer satisfaction. The concept of financial inclusion is crucial for fostering a more inclusive society. In recent years, the integration of digital technology in economic growth has garnered significant attention in academic discourse within the fields of business and economics. The emergence of digital financial services has become a topic of interest for various stakeholders, as it offers a potential pathway towards achieving financial inclusion. Notably, digital payment technologies facilitated by digital platforms, Internet-enabled money transfer systems, and the utilisation of mobile phone technology have made financial systems more accessible to a wider population. The adoption and utilisation of digital services have the potential to shape and influence everyday financial activities, contributing to the overall economic growth of a society. Financial inclusion has emerged as a transformative force in many developing nations, with the capacity to alleviate poverty and establish a more financially inclusive society (Aziz & Naima, 2021; Li et al., 2021).

A study conducted by Kustina et al. (2019) focused on Indonesian banking companies to investigate the influence of a branchless banking application on profits. The study utilised a method that involved providing banking services through third-party collaborations with bank agents, supported by information technology. Unlike traditional banking, these branchless banking transactions were not dependent on the presence of a physical bank office, as financial services could be carried out through bank agents using an electronic data capture system. It is worth noting that research on branchless banking applications in Indonesia was limited, and the implementation was relatively new. In this study, the branchless banking application served as the independent variable, while profit changes were considered the dependent variable. Additionally, the volume of third-party funds played a role as an intervening variable. The researchers aimed to examine the impact of the branchless banking application on the volume of third-party funds held by Indonesian banks. The findings indicated that the branchless banking application did not have a significant impact on the number of third-party funds held by Indonesian banks. However, the volume of third-party funds in

branchless banking applications was found to have a significant effect on the profits of banking companies in Indonesia. Interestingly, while the branchless banking application did not directly affect profits, it did have a significant indirect effect through the volume of third-party funds received by Indonesian banking companies.

Additionally, Dzombo et al. (2017) conducted a study to examine the individual effects of agency banking and electronic banking channels on the financial performance of commercial banks in Kenya, as well as the combined effect of using both channels. The results indicated that when utilized separately, both agency banking and electronic banking had a significant negative impact on the financial performance of commercial banks. However, when implemented together as part of a multichannel strategy, they demonstrated a substantial positive impact on the banks' financial performance. The study suggests that commercial banks should invest in both agency banking and electronic banking as part of a multichannel strategy to achieve positive returns, as these channels complement each other.

Palaon et al. (2020) employed satisfaction theory as a framework to investigate the satisfaction and business continuity of branchless banking agents. The study revealed that in addition to financial factors, non-financial factors also influenced the satisfaction of business owners who acted as bank agents. One of the motivations for becoming bank agents was to facilitate the distribution of social assistance programs. The study recommended that financial service providers enhance the customer service skills of their agents and set monthly target transaction goals. Furthermore, ensuring the reliability of supporting infrastructure, particularly the Internet network and the system or applications used by agents, is crucial for the long-term viability of the business.

Moreover, Muthinja and Chipeta (2018) examined the micro- and macroeconomic drivers of financial innovation in commercial banks in Kenya. The study highlighted branchless banking innovations, including mobile banking, agency banking, Internet banking, and automated teller machines, as alternatives to traditional branch-based banking. The adoption of branchless banking is influenced by factors such as firm size, transaction costs, agency costs, firm technological developments, and firm constraints. Additionally, macroeconomic factors like regulation, technological advancements, market inefficiency, and globalisation play important roles as drivers of financial innovation.

Ogunode and Akintoye (2023) conducted a study that focused on the relationship between financial technologies and financial inclusion, with a specific emphasis on emerging economies, particularly Nigeria. The research design employed was exploratory in nature, involving a comprehensive review of relevant published materials, as well as the utilisation of statistics obtained from reputable sources such as the World Bank, Enhancing Financial Innovation & Access (EFInA), and the Global Findex reports. The findings of the study indicated that the deployment of financial technologies has played a crucial role in advancing financial inclusion efforts in Nigeria. However, the progress in this regard has been impeded by various challenges. These challenges include issues related to poor system interoperability, gender sensitivities influenced by socio-cultural factors, concerns surrounding data privacy breaches, and an imbalance in fintechs' focus on urban areas at the expense of rural areas, which are of high priority for financial inclusion efforts.

3. METHODOLOGY

A quantitative research approach was adopted for this study, employing closed-ended questionnaires as the data collection method. The questionnaire items were developed based on reliable and valid data, and a pre-test was conducted with 30 respondents to refine the questionnaire, following the recommendations of Doungpitak et al. (2023) and Sitthipon et al. (2022). The validity of the measurement instruments was also assessed, ensuring their dependability and accuracy.

The target population for this study comprised Thai individuals over the age of 18 who were regular users of bank counter services. The sample consisted of 1,224 participants recruited through convenience sampling. The online questionnaire was distributed through various Internet platforms, including email, LINE, and Messenger. Data collection took place over a four-month period, specifically from October 2022 to January 2023. Prior to completing the questionnaire, participants were informed about the research and asked for permission to use their responses in publications. Participants had the option to decline participation if they did not wish to provide consent.

The study examined several independent variables, including *Gender, Age, Status, Income, Residence, Occupation, Experience, Channel*, and *Frequency*. The dependent variable was the *Use of banking agents* (e.g., Post Office, 7-Eleven, and Boon Term) for conducting financial transactions. *Gender*, being a categorical variable, was represented as a dummy variable in the statistical analysis. In regression models, *Gender* as a dummy variable is often coded as 0 for female and 1 for male, allowing researchers to examine potential gender-related differences or effects (Grotenhuis & Thijs, 2015; Jangjarat, Kraiwanit, Limna, et al., 2023).

The collected data were subjected to descriptive and inferential analyses using statistical analysis software. Binary regression, as suggested by Chicco et al. (2021) and Gomila (2021), was employed to analyse the data. Binary regression is suitable for models where the target variable can only take two values, 0 or 1, which aligns with the nature of the data in this study. Hence, binary regression was employed to analyse the collected data.

4. RESULTS

The research involved 1,224 participants from Thailand who were regular users of bank counter services. Table 1 shows demographic characteristics of the respondents. The gender distribution of the respondents included 50.7% male and 49.3% female. In terms of age, the largest group consisted

of individuals between 26 and 35 years old, comprising 38.7% of the participants. When it came to education, the majority of respondents held a Bachelor's degree or an equivalent qualification, accounting for 62.2% of the sample. Approximately 15.7% had an education level below a Bachelor's

degree. A significant portion of the respondents (24.8%) had income levels exceeding 45,000 Thai baht (THB). Furthermore, the majority of participants were single (57.8%) and resided in urban areas (70.4%). Among the respondents, 39.8% of them worked as government employees.

Table 1. Demographic characteristics of the respondents

Demographics		Frequency	Percentage (%)
Gender	Female	604	49.3
	Male	620	50.7
Total		1,224	100
Age	Below or 25 years old	92	7.5
	26–35 years old	473	38.7
	36–45 years old	165	13.5
	46–55 years old	288	23.5
	Over 55 years old	206	16.8
Total		1,224	100
Education	Lower than Bachelor's degree	193	15.7
	Bachelor's degree or equivalent	761	62.2
	Master's degree or higher	270	22.1
Total		1,224	100
Income (monthly)	Less than 15,000 THB	290	23.6
	15,001–25,000 THB	199	16.3
	25,001–35,000 THB	234	19.1
	35,001–45,000 THB	198	16.2
	More than 45,000 THB	303	24.8
Total		1,224	100
Status	Single	707	57.8
	Married	465	38.0
	Divorced	52	4.2
Total		1,224	100
Residence	Rural area	362	29.6
	Urban area	862	70.4
Total		1,224	100
Occupation	Government employee	486	39.8
	Private sector employee	168	13.7
	Business owner / self-employed	116	9.6
	Freelance	63	5.2
	Student	391	31.9
Total		**1,224**	**100**

4.1. Description of all model variables (Model 1)

The results presented in Table 2 indicate that the Chi-square value is 34.316, and the degrees of freedom (*df*) are 9. This suggests that all the independent variables can explain the dependent variable significantly at a significance level of 0.05.

Table 2. Omnibus test of the model's performance using all the independent variables (for Model 1)

Step 1	Chi-square	Degrees of freedom (df)	Sig.
Step	34.316	9	0.000
Block	34.316	9	0.000
Model	34.316	9	0.000

Based on the information provided in Table 3, the model accounted for approximately 13.7% of the observed variation in the results, and this relationship was found to be statistically significant at a significance level of 0.05.

Table 3. The model summary using all the independent variables (for Model 1)

Step 1	-2 log likelihood	Cox & Snell R-square	Nagelkerke R-square
	1,622.020ª	0.128	0.137

Note: ª Estimation terminated at iteration number 8 because the parameter estimates changed by less than 0.001.

Based on the findings presented in Table 4, the classification results demonstrate that the Model 1, including all independent variables, achieved a prediction accuracy rate of 61.4% for the use of banking agents in Thailand. This accuracy was determined when using a cut-off value of 0.500 or 50%.

Table 4. Classification table for back-testing of Model 1 (including all independent variables)

			Predicted		
	Observed		The use of banking agents		Percentage correct (%)
			No	Yes	
Step 1	The use of banking agents	No	102	399	20.4
		Yes	73	650	89.9
	Overall percentage				61.4

Note: The cut-off value is 0.500.

The significance level of each independent variable is presented in Table 5.

The predictive regression equation of Model 1 from Table 5 can be described by the following equation:

$$P = \frac{1}{1 + e^{-z}} \qquad (1)$$

where, *P* is the use of banking agents in Thailand, and:

$$Z = 1.212 - 0.080(Status) + 0.124(Residence) + \\ + 0.016(Experience) - 0.053(Frequency) \quad (2)$$

Table 5 shows that the dependent variable (the *Use of banking agents*) could be described by *Status*, *Residence*, *Experience*, and *Frequency*. Conversely, *Gender*, *Age*, *Income*, *Occupation*, and *Channel* were not significant. When there was

an increase of one unit in status, the *Use of banking agents* decreased from 1 to 0.923 (1 − 0.923 = 0.077). When there was a rise of one unit in residence, their usage increased by 1.132. When there was a growth of one unit in experience, the employment of banking agents rose by 1.016. When there was a boost of one unit in frequency, their utilisation declined from 1 to 0.948 (1 − 0.948 = 0.052).

Table 5. Variables in Model 1 (including all independent variables)

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Gender	-0.105	0.273	0.148	1	0.701	0.900
Age	-0.003	0.019	0.026	1	0.873	0.997
Status	-0.080	0.031	6.639	1	0.010	0.923
Income	-0.124	0.200	0.387	1	0.534	0.883
Residence	0.124	0.047	6.966	1	0.008	1.132
Occupation	0.025	0.021	1.367	1	0.242	1.025
Experience	0.016	0.005	10.877	1	0.001	1.016
Channel	0.130	0.262	0.248	1	0.619	1.139
Frequency	-0.053	0.026	4.307	1	0.038	0.948
Constant	1.212	1.403	0.746	1	0.388	3.360

4.2. Description of significant model variables (Model 2)

Table 6 displays that the chi-square value is 32.450, with 4 degrees of freedom (*df*). This suggests that significant variables can collectively explain the dependent variable at a significance level of 0.05.

Table 6. Omnibus test of the model's performance using significant variables (for Model 2)

Step 1	Chi-square	df	Sig.
Step	32.450	4	0.000
Block	32.450	4	0.000
Model	32.450	4	0.000

Table 7. The model summary using significant variables (for Model 2)

Step 1	-2 log likelihood	Cox & Snell R-square	Nagelkerke R-square
	1,623.885[a]	0.130	0.141

Note: a. Estimation terminated at iteration number 8 because the parameter estimates changed by less than 0.001.

According to Table 7, the model accounted for around 14.1% of the variance in the outcome, and this result was statistically significant at a significance level of 0.05.

Based on Table 8, the classification analysis suggests that the model incorporating significant variables achieved a 62.1% accuracy in predicting the use of banking agents in Thailand. This accuracy rate was determined based on a cutoff value of 0.500 or 50%.

Table 8. Classification table for back-testing of Model 2 (including significant variables)

Observed			Predicted		
			The use of banking agents		Percentage correct (%)
			No	Yes	
Step 1	The use of banking agents	No	107	394	17.4
		Yes	69	654	90.5
	Overall percentage				62.1

Note: The cut-off value is 0.500.

The significance level of each independent variable is presented in Table 9.

Table 9. Variables in Model 2 (including significant variables)

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Status	-0.083	0.029	8.058	1	0.005	0.921
Residence	0.129	0.046	7.971	1	0.005	1.138
Experience	0.016	0.005	11.312	1	0.001	1.016
Frequency	-0.051	0.025	4.035	1	0.045	0.950
Constant	0.605	0.382	4.508	1	0.013	1.832

The predictive regression equation of Model 2 from Table 9 can also be described by Eq. (1), where *P* is the use of banking agents in Thailand soon, and:

$$Z = 0.605 - 0.083(Status) + 0.129(Residence) + \\ 0.016(Experience) - 0.051(Frequency) \quad (3)$$

Table 9 shows that the dependent variable (the *Use of banking agents*) could be described by *Status*, *Residence*, *Experience*, and *Frequency*. When there was an increase of one unit in status, the *Use of banking agents* declined from 1 to 0.921 (1 − 0.921 = 0.079). When there was a growth of one unit in residence, the usage rose by 1.138. When

there was a rise of one unit in experience, the *Use of banking agents* grew by 1.016. When there was an increase of one unit in frequency, their use decreased from 1 to 0.950 (1 − 0.950 = 0.050).

5. DISCUSSIONS

The findings of this study provide insights into the factors influencing the adoption of financial technology through banking agencies in emerging economies. Specifically, variables such as *Status*, *Residence*, *Experience*, and *Frequency* were identified as significant factors shaping individuals' decisions to use banking agents for financial transactions.

These findings have important implications for financial institutions and policymakers. Understanding how factors like socioeconomic status, occupation, and residence influence the adoption of financial technology through banking agencies can help institutions customise their services to better meet the needs of specific customer segments. For instance, strategies can be developed to encourage other segments to adopt banking agents if certain status groups show higher adoption rates. The role of residence highlights the importance of ensuring accessibility and availability of banking agents in various regions, particularly where traditional banking services may be limited. Experience and frequency were also found to influence the use of banking agents, indicating the need for seamless experiences and regular usage to foster trust and familiarity.

These findings are consistent with the research conducted by Mwando (2013), which emphasises the benefits of appointing convenience stores as banking agents, particularly for clients in remote areas who can access banking services conveniently without travelling to distant bank branches. This reduces the costs associated with establishing new branches and cash delivery.

The findings of this study align with prior research by Ivatury and Mas (2008), which highlights how branchless banking can expand financial services to underserved populations, especially those without access to traditional bank branches. By eliminating the need for physical branches, branchless banking reduces infrastructure costs and enhances accessibility, making financial services more affordable and convenient for both banks and customers. Furthermore, Diniz et al. (2012) emphasise the importance of financial inclusion in poverty reduction and economic growth policies. Successful experiences of financial inclusion in developing countries have been associated with the use of ICT-based branchless banking. For example, the Brazilian correspondent model has provided financial services to millions of underserved Brazilians who would otherwise lack access to banking services. However, it is important to recognize that financial inclusion through branchless banking should be accompanied by other inclusive mechanisms such as financial education to effectively promote local development among low-income individuals.

The implications of these findings extend beyond the scope of this study. Financial institutions must consider the identified factors when developing strategies to promote the adoption and usage of financial technology through banking agencies. By tailoring services to address the specific needs and preferences associated with status, residence, experience, and frequency, institutions can enhance customer satisfaction and engagement.

6. CONCLUSION

This study examined the factors that impact the adoption of financial technology through banking agencies in Thailand, which is an emerging economy. To gather data, a quantitative research approach was utilised, employing an online questionnaire administered to a convenience sample of 1,224 participants. The collected data was then subjected to binary regression analysis. The results of the study revealed that several factors, including status, residence, experience, and frequency, significantly influenced individuals' decisions and preferences when it comes to utilising financial technology through banking agencies.

Financial institutions have a crucial role in ensuring the security and trustworthiness of banking agents' clients. Therefore, it is essential for these institutions to establish safety policies that adhere to the same high standards as those implemented by the appointing financial institutions. By doing so, they create a secure and reliable environment for individuals engaging in financial transactions through banking agents, thus fostering confidence and promoting the continued use of these services.

However, there is a need for further research to assess the usage patterns among different age groups, particularly the elderly. This generation is often overlooked and may face challenges in adapting to the digital world. Understanding their experiences and needs in utilising financial technology through banking agents is crucial for inclusive and accessible financial services. As the acceptance of financial transactions through banking agents grows among the older population, it is expected that seniors will increasingly adopt this banking method.

This study contributes to the existing body of knowledge by shedding light on the factors influencing the use of financial technology through banking agencies in Thailand. It emphasises the importance of ensuring safety policies, addressing the needs of different age groups, and advancing research through a mixed-methods approach. By addressing these factors, financial institutions can foster greater financial inclusion and better cater to the evolving needs of their customers in an increasingly digital world.

One limitation of this study is the use of convenience sampling, which may introduce sampling bias and limit the generalizability of the findings. The participants were selected based on their convenience and accessibility, which may not represent the entire population of interest. Therefore, caution should be exercised when extrapolating the results to the broader population. To overcome this limitation, future studies should consider employing a more diverse and representative sampling method, such as random sampling or stratified sampling. This would help ensure a more comprehensive and accurate representation of the population and enhance the external validity of the findings.

This study focused on the factors influencing the use of financial technology through banking agencies in Thailand. Future research could expand the scope to include other emerging economies to compare and contrast the factors at play. This would provide a more comprehensive understanding of the factors influencing the adoption of financial technology in different contexts. Additionally, more research is required to gain insights into the specific requirements and barriers faced by different age groups, enabling the development of tailored strategies and services that cater to their needs. By addressing these gaps, financial institutions can foster greater financial inclusion and support the diverse needs of their customers. Moreover, this paper is based on a self-administered questionnaire. Consequently, qualitative studies, such as interviews, could provide insights for future research.

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