



**A STUDY OF FACTORS INFLUENCING UNIVERSITY
STUDENTS' INTENTION TO USE DIGITAL FINANCIAL
SERVICES: A CASE STUDY OF SIAM UNIVERSITY**

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**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION
GRADUATE SCHOOL OF BUSINESS
SIAM UNIVERSITY
2026**



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This Independent Study Has Been Approved as a Partial Fulfillment of the
Requirements for the Degree of Master of Business Administration

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ABSTRACT

With the rapid global development of digital financial services, many countries have experienced significant transformations in their financial ecosystems. In Thailand, the government's promotion of a cashless society, the widespread adoption of mobile payment platforms such as PromptPay, and the increasing penetration of smartphones have accelerated the use of digital financial services among the population. This study aimed to examine the effects of perceived security, perceived usefulness, perceived ease of use, and perceived convenience on university students' intention to use digital financial services.

This study employed a quantitative research approach. Data were collected through an online questionnaire distributed via digital platforms. A total of 300 questionnaires were distributed, 298 were returned, and 287 valid responses were retained for analysis. The collected data were analyzed using SPSS.

The results showed that perceived security, perceived usefulness, perceived ease of use, and perceived convenience all had significant positive effects on university students' intention to use digital financial services. Among these factors, perceived convenience had the strongest influence, followed by perceived usefulness, perceived security, and perceived ease of use. The findings indicate that students are more willing to use digital financial services when they perceive such services as convenient, useful, secure, and easy to operate. Therefore, improving convenience, usefulness, security, and ease of use can effectively enhance university students' intention to adopt digital financial services.

Keywords: digital financial services, perceived security, perceived usefulness, perceived ease of use, perceived convenience

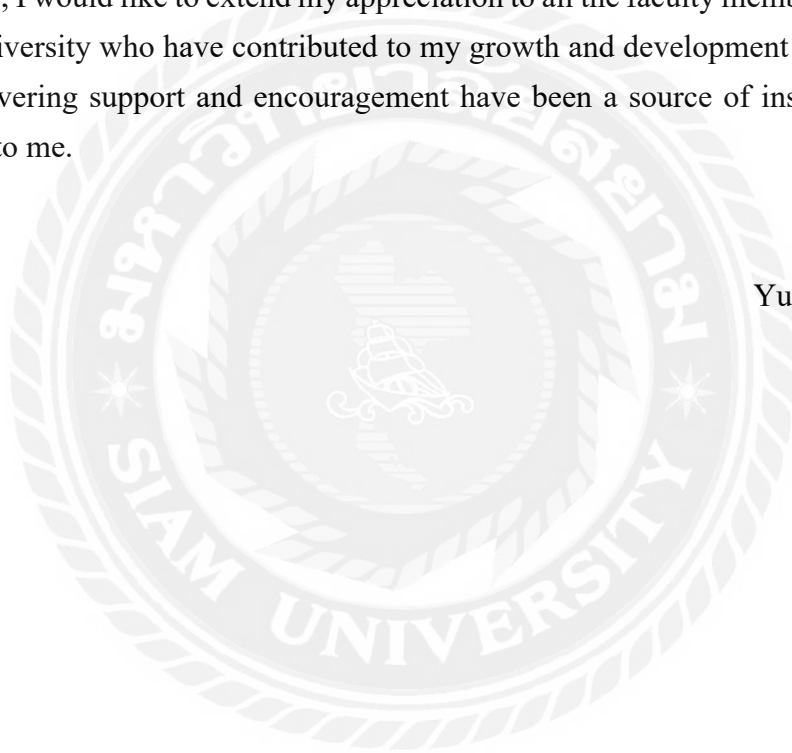
ACKNOWLEDGEMENT

I would like to express my deepest gratitude to my advisor for his invaluable guidance, support, and encouragement throughout my Independent Study. His insightful comments and constructive criticism have significantly improved the quality of my work.

Additionally, I am grateful to Associate Professor Dr. Jomphong Mongkhonvanit, Dean, Graduate School of Business, for his support and encouragement throughout my studies. His dedication to the graduate program and commitment to excellence have inspired me to strive for academic excellence.

Finally, I would like to extend my appreciation to all the faculty members and staff of Siam University who have contributed to my growth and development as a student. Their unwavering support and encouragement have been a source of inspiration and motivation to me.

Yuan Chongzhi



DECLARATION

I, Yuan Chongzhi, hereby declare that this Independent Study entitled “A Study of the Factors Influencing University Students’ Intention to Use Digital Financial Services: A Case Study of Siam University” is an original work and has never been submitted to any academic institution for a degree.

(Yuan Chongzhi)

Aug 7, 2026



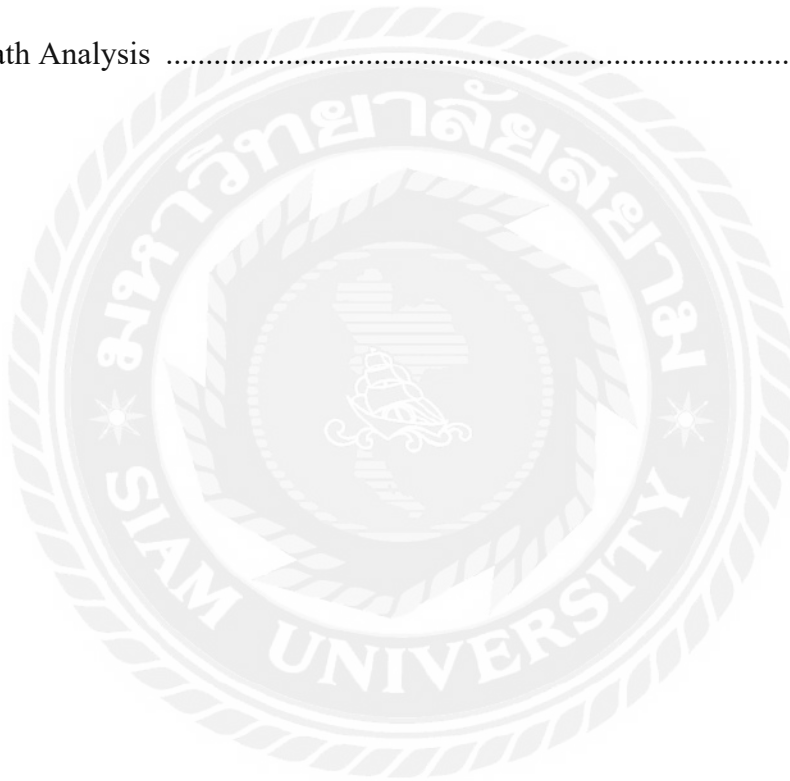
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Chapter 1 Introduction

1.1 Background of the Study

With the rapid development of financial technology, digital financial services have become an important part of daily financial activities. Digital financial services refer to financial services delivered through digital platforms, including mobile banking, e-wallets, online payment, QR code payment, internet banking, and other financial applications. These services allow users to conduct payments, transfers, account management, and other financial transactions more efficiently and conveniently. In recent years, digital financial services have expanded rapidly worldwide, supported by the growth of mobile technology, internet access, digital payment infrastructure, and financial innovation (World Bank, 2025; International Monetary Fund, 2025). The World Bank (2025) indicated that digital financial services and digital payments have become important components of global financial inclusion, while the International Monetary Fund (2025) reported that mobile money, mobile banking, internet banking, and digital wallets have experienced considerable growth in recent years.

In Thailand, digital financial services have become increasingly important in both commercial and daily consumption contexts. The development of digital payment infrastructure, mobile banking, e-wallets, and QR code payment has changed the way consumers access and use financial services (Bank of Thailand, 2024a). The Bank of Thailand has continuously promoted the development of secure and efficient payment systems, including digital payment infrastructure and cross-border QR payment linkages (Bank of Thailand, 2024b).

University students are an important group in the adoption of digital financial services. They frequently use smartphones and online platforms and often need to complete payments for food, transportation, online shopping, tuition-related expenses, mobile phone services, and peer-to-peer transfers. As a result, digital financial services have become closely integrated into their academic and daily lives. However, frequent exposure to digital technology does not necessarily mean that all students are equally willing to adopt or continue using digital financial services.

Students may evaluate digital financial services according to whether they are secure, useful, easy to operate, and convenient. Concerns about fraud, data leakage, unauthorized transactions, identity theft, and privacy may reduce their willingness to use these services. Similarly, complicated registration procedures, unclear interfaces, system errors, and limited practical functions may weaken their acceptance. In contrast,

services that save time, simplify transactions, operate efficiently, and remain accessible across different situations may strengthen students' usage intention.

This topic was selected because university students represent both current users and future long-term consumers of digital financial services. Understanding their adoption intention is important for banks, e-wallet providers, payment platforms, universities, and policymakers. For financial service providers, identifying the factors associated with students' usage intention can support the development of more secure, useful, user-friendly, and convenient services. For universities, the findings can contribute to digital financial literacy education and help students use financial technology safely and responsibly.

1.2 Questions of the Study

This study attempted to answer the following research questions:

1. Does perceived security affect university students' intention to use digital financial services?
2. Does perceived usefulness affect university students' intention to use digital financial services?
3. Does perceived ease of use affect university students' intention to use digital financial services?
4. Does perceived convenience affect university students' intention to use digital financial services?

1.3 Objectives of the Study

- 1 To examine the effect of perceived security on university students' intention to use digital financial services.
- 2 To examine the effect of perceived usefulness on university students' intention to use digital financial services.
- 3 To examine the effect of perceived ease of use on university students' intention to use digital financial services.
- 4 To examine the effect of perceived convenience on university students' intention to use digital financial services.

1.4 Scope of the Study

The study focused on Siam University students who had used or had been exposed to digital financial services. The service context included mobile banking, e-wallets, online payment, QR code payment, internet banking, and digital banking applications. The independent variables were perceived security, perceived usefulness, perceived ease of

use, and perceived convenience, while the dependent variable was intention to use digital financial services. The study used a quantitative, cross-sectional questionnaire design. Data were collected online from 300 invited respondents, and 287 valid responses were analyzed using descriptive statistics, reliability and validity tests, correlation analysis, and path analysis.

1.5 Significance of the Study

Theoretical Significance

First, this study enriches the research on digital financial service adoption by examining university students' intention to use digital financial services in the context of Siam University. Second, this study extends the application of the Technology Acceptance Model to the digital financial service context. In addition to perceived usefulness and perceived ease of use, this study includes perceived security and perceived convenience as important influencing factors. Third, this study provides a structured framework for understanding how students' perceptions influence their intention to use digital financial services. The findings may help explain the adoption behavior of digital financial services among university students.

Practical Significance

First, the findings of this study provide useful suggestions for digital financial service providers. By understanding the factors that influence students' intention to use digital financial services, service providers can improve platform security, service usefulness, ease of operation, and convenience. Second, the study can help Siam University better understand students' digital financial behavior and financial service needs. This can support the development of financial literacy education and digital finance-related student services. Third, the findings can help banks, e-wallet providers, and payment platforms improve their services for young users. Since university students are active users of digital platforms, improving their user experience may help increase digital financial service adoption.

1.6 Definition of Key Terms

Digital financial services: Financial services delivered through digital channels, including mobile banking, e-wallets, online payments, QR code payments, internet banking, and digital banking applications.

Perceived security: The degree to which students believe that a digital financial service protects personal information, account information, transaction data, and financial privacy from unauthorized access or misuse.

Perceived usefulness: The degree to which students believe that using digital financial services improves the speed, efficiency, and effectiveness of their daily financial activities (Davis, 1989).

Perceived ease of use: The degree to which students believe that learning and operating digital financial services requires little effort and that service processes are clear and understandable (Davis, 1989).

Perceived convenience: The degree to which students believe that digital financial services can be accessed and used quickly and flexibly across time, location, and transaction situations.

Intention to use: A student's stated willingness, plan, and likelihood to use digital financial services in the future.



Chapter 2 Literature Review

This chapter reviews the concepts, theories, and empirical findings relevant to university students' adoption of digital financial services. It covers digital financial services, the four predictor variables, intention to use, the Technology Acceptance Model, and the conceptual framework.

2.1 Digital Financial Services

Digital financial services refer to financial products, services, and transactions that are delivered and used through digital technologies. Pazarbasioglu et al. (2020) defined digital financial services as financial services that rely on digital technologies for their delivery and use by customers. These technologies allow users to access financial services through mobile phones, computers, internet-based platforms, and other electronic devices without depending entirely on physical bank branches. Digital financial services cover a broad range of activities, including mobile banking, internet banking, electronic wallets, electronic money, online payments, QR code payments, digital transfers, digital savings, online credit, insurance, investment, and account management. Therefore, digital financial services represent a broader concept than digital payment alone because they include not only payment transactions but also other financial products and financial management activities.

The development of digital financial services has changed the way individuals access, manage, and use financial resources. Compared with traditional financial services, digital financial services can reduce geographical and time-related restrictions by allowing users to complete transactions without visiting a physical financial institution. They can also reduce transaction costs, increase transaction speed, improve the transparency of financial activities, and provide services that are more responsive to individual customer needs. For example, users can check account balances, transfer funds, pay bills, receive payments, and review transaction records through digital platforms. These characteristics make digital financial services particularly valuable to people who require frequent, immediate, or small-value financial transactions.

Digital financial services also play an important role in financial inclusion. Digital channels can extend formal financial services to individuals who have limited access to traditional bank branches or who face high transportation and transaction costs. The Global Findex Database 2021 showed that mobile phones, the internet, and digital accounts have become important channels through which individuals make and receive payments, save money, and manage financial risks. Digital payments may also serve as

an entry point to other formal financial services because users who actively use an account for payments may subsequently use it for saving, borrowing, insurance, or financial planning. Therefore, digital financial services should not be viewed only as a technological alternative to cash. They also represent an important mechanism through which individuals can participate more fully in the formal financial system (Demirgüç-Kunt et al., 2022; Klapper & Banka, 2024).

However, the availability of digital financial services does not necessarily result in their adoption or effective use. Users need access to reliable internet connections, digital devices, payment infrastructure, digital identification systems, and interoperable financial platforms. They also need sufficient financial and digital knowledge to understand how the services operate and how to protect their accounts and personal information. A systematic review conducted by Hunter et al. (2025) identified four broad groups of factors associated with digital financial service adoption: structural factors, knowledge-related factors, service-quality factors, and social and psychological factors. Structural factors include access to devices, internet connectivity, electricity, service availability, and transaction costs. Knowledge-related factors include financial literacy, digital skills, and awareness of available services. Service-quality factors include functionality, reliability, security, and ease of operation, while social and psychological factors include trust, perceived risk, attitudes, and social influence. These findings indicate that digital financial service adoption is a multidimensional process rather than the result of a single technological feature.

Although digital financial services provide considerable benefits, they may also expose users to new forms of financial and technological risk. Users may be concerned about fraudulent transactions, phishing, identity theft, data leakage, unauthorized account access, technical errors, unclear service fees, and misuse of personal information. Digital credit services may also create risks related to excessive borrowing when users do not fully understand repayment conditions or associated charges. Klapper and Banka (2024) explained that digital financial services can improve accessibility, privacy, and transaction security, but these benefits must be supported by appropriate consumer protection, transparent information, responsible service design, and effective complaint-resolution mechanisms. Consequently, the sustainable development of digital financial services requires a balance between accessibility and innovation on the one hand and security, privacy, transparency, and consumer protection on the other.

Mobile banking and mobile payment are among the most visible and widely used forms of digital financial services. Their adoption is commonly examined through technology-acceptance theories because users normally evaluate whether a platform is

beneficial, understandable, reliable, and suitable for their transaction needs. Pham Thi et al. (2025) found that perceived ease of use, perceived usefulness, network externalities, and task–technology fit were important in explaining users’ intention to adopt mobile payment. Their findings indicate that users are more likely to accept mobile payment when the technology fits their transaction requirements, is relatively simple to operate, and provides recognizable practical value. Similarly, Hung et al. (2024) found that information security functioned as an enabling factor in mobile payment adoption, whereas concerns related to potential loss could inhibit adoption. These studies show that the development of digital financial services involves not only technical availability but also users’ evaluations of the benefits, effort, risk, and suitability associated with the services.

University students represent an important group of digital financial service users because smartphones, online platforms, and digital transactions are closely integrated into their academic and daily activities. Students may use mobile banking, e-wallets, online payment systems, and QR code payments to pay for food, transportation, accommodation, online shopping, mobile services, tuition-related expenses, university activities, and peer-to-peer transfers. The ability to complete these transactions immediately and from different locations makes digital financial services suitable for the lifestyle and transaction patterns of university students.

Nevertheless, familiarity with smartphones does not mean that all students automatically accept every digital financial service. Students may still hesitate when platforms involve complicated registration, unclear operating procedures, transaction errors, limited merchant acceptance, privacy concerns, or security risks. Samad et al. (2023) found that convenience, transaction speed, and social influence were significant factors associated with university students’ intention to use cashless financial transactions. The findings suggest that students value services that allow transactions to be completed quickly and with minimal procedural effort. At the same time, some students remain uncertain about cashless transactions because of perceived security risks. Abikari (2024) similarly demonstrated that perceived risk and users’ emotional responses were associated with educated young consumers’ intention to adopt emerging e-banking technologies such as mobile wallets and digital currencies. Thus, being digitally experienced may reduce some operational barriers, but it does not eliminate concerns about financial loss, privacy, system reliability, or platform security.

In Thailand, the expansion of internet banking, mobile banking, electronic money, QR code payments, and PromptPay has created a highly developed digital payment environment. Payment indicators published by the Bank of Thailand show extensive use and continuing growth in electronic payments, internet and mobile banking

transactions, electronic money, and PromptPay transactions. This environment means that university students in Thailand are regularly exposed to digital financial services in commercial, educational, and personal contexts. However, a high level of market availability does not necessarily mean that every student evaluates or adopts these services in the same way. Individual perceptions regarding security, usefulness, ease of use, and convenience may still produce differences in intention to use digital financial services.

Based on the literature, digital financial services in this study refer to technology-enabled financial services that allow university students to make payments, transfer funds, access account information, manage financial activities, and use other financial functions through mobile phones, internet-based systems, and digital platforms. The term covers mobile banking, internet banking, e-wallets, online payments, QR code payments, and related digital financial applications. Digital financial services provide students with greater transaction flexibility, speed, accessibility, and practical value, but their adoption may also depend on whether students consider the services secure, useful, easy to operate, and convenient. Therefore, examining university students' intention to use digital financial services is important for understanding how students evaluate and respond to the continuing digital transformation of financial services.

2.2 Perceived Security

Perceived security refers to the extent to which users believe that a digital financial service can protect their personal information, financial information, account credentials, transaction data, and financial assets during the use of the service. In the context of mobile payment, perceived security specifically reflects users' subjective judgment that transactions conducted through a digital platform are sufficiently protected from unauthorized access, information disclosure, fraud, and financial loss. It is therefore based not only on the actual security technologies implemented by a service provider but also on whether users recognize, understand, and trust those security measures (Zhang et al., 2019).

Perceived security should be distinguished from objective or technical security. Objective security concerns the actual technical and organizational mechanisms used to protect a system, such as encryption, identity authentication, transaction verification, access control, fraud detection, and security monitoring. Perceived security concerns how users interpret these mechanisms and whether they feel protected when using the service. A digital financial platform may apply sophisticated security technology, but users may still consider it unsafe when security procedures are unclear, fraud warnings are inadequate, privacy policies are difficult to understand, or previous negative

experiences have reduced their confidence. Therefore, technical protection must be communicated effectively before it can be translated into a positive perception of security.

Perceived security is especially important in digital financial services because users are required to provide sensitive information and conduct transactions in an environment that they cannot completely observe or control. Mobile banking, e-wallets, online payments, and QR code payments commonly involve account numbers, passwords, identification information, transaction histories, and payment credentials. As a result, users may be concerned about phishing, identity theft, account theft, data leakage, fraudulent transfers, unauthorized transactions, malicious links, and misuse of personal information. Such concerns can increase perceived uncertainty and discourage individuals from adopting or continuing to use digital financial services.

Security perception is also closely related to trust. When users believe that a digital financial platform has effective technical safeguards, clear security responsibilities, reliable operating procedures, and appropriate privacy protection, they are more likely to trust the service provider. Trust reduces the psychological uncertainty associated with transferring money or providing sensitive information through an electronic system. Joshi and Chawla (2024) found that perceived security positively influenced users' trust and attitudes toward mobile wallets, which subsequently contributed to stronger behavioral intention. Their findings indicate that security affects adoption not only directly but also through users' confidence in the service provider and their overall evaluation of the platform.

Recent studies have consistently identified security as an important enabling factor in digital payment adoption. Hung et al. (2024) found that information security facilitated behavioral intention toward mobile payment, whereas concerns about potential loss acted as an obstacle to adoption. The study suggests that users are more likely to accept mobile payment systems when they believe that security arrangements can reduce the possibility of financial and information loss. Similarly, Wei et al. (2024) found that perceived security had a positive relationship with consumers' behavioral intention to use mobile payment applications. Their findings also showed that perceptions of privacy protection contributed to perceived security, demonstrating that privacy and security are related but distinct considerations in mobile payment acceptance.

Chand et al. (2025) further demonstrated that perceived security plays an important role in shaping mobile wallet users' perceptions and behavioral intentions. Based on 506 responses analyzed through confirmatory factor analysis and structural equation modeling, the study showed that users' security evaluations contributed both

directly and indirectly to their willingness to use mobile wallets. This indicates that users are more likely to adopt digital financial services when security mechanisms create a positive overall perception of the service and reduce uncertainty surrounding digital transactions.

Perceived security can be strengthened through several visible and understandable security mechanisms. These mechanisms may include multi-factor authentication, biometric verification, one-time passwords, transaction notifications, encryption, account access alerts, spending limits, device verification, and rapid account-freezing functions. Clear privacy policies, transparent explanations of data usage, accessible complaint procedures, and responsive customer service can also improve users' security perceptions. Such measures signal that the provider is capable of protecting users and is willing to accept responsibility when security problems occur.

However, overly complicated security procedures may create an additional challenge. Strong verification procedures can improve protection, but excessive identity checks, repeated password requirements, complicated authentication processes, and unclear security warnings may reduce usability. Digital financial service providers therefore need to balance security and ease of use. Security mechanisms should provide effective protection without creating unnecessary operational difficulty. Users should be able to understand why a security step is required, what information is being collected, and how the procedure protects their account.

Security-related policies and organizational commitments are also important. Al-Shamali et al. (2026) examined mobile payment users in Kuwait, Oman, and Bahrain and found that perceived security significantly influenced users' trust and attitudes. The study further showed that technological protection, security rules and policies, provider responsibility, and the coverage of security arrangements contributed to users' security perceptions. This suggests that users evaluate not only the presence of technical tools but also whether providers establish clear responsibilities and demonstrate a commitment to protecting customers.

Cybersecurity awareness may further shape how individuals evaluate and use digital financial services. Users who understand common forms of cyberfraud may be better able to recognize suspicious links, fraudulent payment requests, fake applications, and unauthorized account activities. Afzal et al. (2024) found that cybersecurity knowledge and awareness were positively associated with e-banking usage intention and protective behavior. The findings indicate that adoption can be supported not only by improving platform security but also by helping users understand digital risks and appropriate protective practices.

For university students, perceived security is particularly relevant because digital financial services are frequently used for daily and time-sensitive transactions. Students may use mobile banking, e-wallets, QR code payments, and online payment systems for food, transportation, online shopping, tuition-related payments, mobile phone services, accommodation, and peer-to-peer transfers. Frequent use increases students' exposure to digital transactions and may also increase their exposure to phishing messages, fraudulent links, account theft, unauthorized payments, and privacy risks.

Although university students are generally familiar with smartphones and digital applications, technological familiarity does not necessarily eliminate security concerns. Students may understand how to operate a financial application while still being uncertain about how personal data are stored, whether transactions can be reversed, who is responsible for unauthorized payments, or how quickly an account can be recovered after a security incident. Therefore, their intention to use digital financial services may depend on whether they believe that the service provider can prevent security incidents and respond effectively when problems occur.

Based on the literature, perceived security in this study refers to Siam University students' belief that digital financial services can adequately protect their personal information, account credentials, transaction records, financial privacy, and financial assets. It also reflects students' confidence that transactions are conducted through reliable systems and that unauthorized access, fraud, data leakage, and financial loss can be prevented or properly addressed. When students perceive digital financial services as secure, the uncertainty and perceived risk associated with their use are reduced, thereby increasing their confidence and intention to use these services.

2.3 Perceived Usefulness

Perceived usefulness refers to the degree to which an individual believes that using a particular technology or information system will improve his or her performance. It is one of the two central constructs of the Technology Acceptance Model developed by Davis (1989). According to the model, individuals are more likely to accept and use a technology when they believe that it provides meaningful functional benefits and improves the effectiveness of completing relevant tasks. Perceived usefulness therefore reflects users' evaluation of the practical value generated by a technology rather than their general interest in or emotional response to it (Davis, 1989).

In the context of digital financial services, perceived usefulness refers to the extent to which users believe that mobile banking, e-wallets, internet banking, online payment systems, QR code payments, and other digital financial platforms can improve the efficiency and effectiveness of their financial activities. A digital financial service may

be perceived as useful when it helps users complete payments and transfers more quickly, obtain financial information immediately, reduce the need to visit physical bank branches, maintain transaction records, and manage their accounts more efficiently. Therefore, perceived usefulness is closely connected to the practical outcomes that users expect to obtain from using digital financial services.

Perceived usefulness is different from perceived ease of use. Perceived ease of use concerns the amount of effort required to learn and operate a technology, whereas perceived usefulness concerns whether the technology helps the user achieve a valuable result. A digital financial platform may be simple to operate but may still be considered less useful when it offers limited functions, has low merchant acceptance, or does not support the transactions required by the user. Conversely, a platform with extensive financial functions may be considered useful even when some of its procedures require learning. Nevertheless, the Technology Acceptance Model suggests that ease of use may contribute to perceived usefulness because a system that requires less effort allows users to obtain its benefits more efficiently (Davis, 1989).

The usefulness of digital financial services can be understood from several dimensions. The first dimension is transaction efficiency. Digital platforms allow users to complete payments, transfers, account inquiries, and other transactions without waiting at a bank branch or relying on conventional banking hours. Faster transaction completion may reduce the time and effort required to perform routine financial activities. Users are therefore more likely to perceive digital financial services as useful when the services provide immediate transaction processing and reliable confirmation.

The second dimension is accessibility. Digital financial services can enable users to access financial functions through smartphones or other internet-connected devices. This allows financial activities to be conducted from different locations and at different times. Accessibility creates practical value because users can respond to immediate financial needs without being physically present at a bank or payment counter. For students, such accessibility may be particularly useful when they need to pay for food, transportation, online purchases, tuition-related expenses, accommodation, or peer-to-peer transfers.

The third dimension is financial management support. Mobile banking and digital financial applications may provide transaction histories, account balances, expenditure records, payment reminders, automatic notifications, and spending summaries. These functions can help users monitor financial activities and maintain clearer records of their payments and transfers. A digital financial service is therefore more likely to be perceived as useful when it supports not only individual transactions but also the broader management of personal finances.

The fourth dimension is service integration. Some digital financial platforms combine several financial functions within one application, such as payment, transfer, account inquiry, bill payment, mobile phone top-up, merchant payment, and transaction-record management. The integration of multiple functions reduces the need to use separate channels for different financial activities. Users may consequently perceive an integrated digital financial platform as more useful because it provides a more complete solution to their financial needs.

The importance of perceived usefulness has been demonstrated in recent studies on digital payment and mobile banking adoption. Balakrishnan and Eesan (2024) examined contactless payment acceptance among Malaysian adults and found that perceived usefulness was among the most influential factors affecting acceptance. Their findings indicate that users are more likely to accept contactless payment systems when they believe that the systems improve transaction performance and provide practical advantages over conventional payment methods.

Yamin and Abdalatif (2024) examined consumers' adoption of QR code-enabled mobile payment systems. Their results showed that perceived usefulness had a significant positive effect on users' attitudes toward QR code mobile payment. The study further indicated that perceived usefulness, perceived ease of use, convenience, subjective norms, and innovativeness jointly explained a substantial proportion of users' attitudes toward adoption. These findings suggest that consumers are more likely to develop a positive attitude toward QR code payment when they recognize clear benefits such as rapid payment, reduced dependence on cash, and improved transaction efficiency.

Pham Thi et al. (2025) also found that perceived usefulness had a significant positive effect on users' intention to adopt mobile payment. Their integrated model demonstrated that users' evaluation of usefulness may be strengthened when mobile payment technology is easy to operate, compatible with the relevant transaction task, and supported by a sufficiently large network of users and service providers. This indicates that usefulness is not determined only by the number of functions offered by a platform. It also depends on whether those functions are suitable for users' actual transaction requirements and can be applied in common payment situations.

Perceived usefulness remains important after the initial adoption of a digital financial service. Nguyen and Dao (2024) found that perceived usefulness significantly influenced users' continuance intention toward mobile banking. Their findings indicate that users reassess the value of a service based on their actual experience. When the service consistently helps users complete financial activities efficiently and satisfies their practical needs, they are more likely to continue using it. Therefore, perceived

usefulness contributes not only to initial adoption intention but also to post-adoption behavior and continued usage.

The relationship between perceived usefulness and continued usage is especially relevant in the digital financial service market because users often have access to several competing platforms. A user may initially register for an application because of promotional activities, recommendations, or curiosity. However, continued usage is more likely when the platform provides lasting practical value. Functions such as reliable transfers, broad merchant acceptance, clear transaction records, payment reminders, low transaction time, and efficient account management can encourage users to incorporate the service into their regular financial routines.

Recent research focusing specifically on university students also supports the importance of perceived usefulness. Shamini et al. (2024) examined e-wallet adoption among university students in Sri Lanka and found that perceived usefulness significantly influenced students' intention to use e-wallets. This finding suggests that university students are more likely to adopt e-wallet services when they believe that the services provide practical benefits for their academic and daily activities.

For university students, the usefulness of digital financial services may be reflected in several specific situations. Students frequently make relatively small but repeated payments for food, transportation, mobile phone services, educational materials, online shopping, and university-related expenses. They may also need to transfer money to classmates, receive funds from family members, pay shared expenses, or review previous transactions. Digital financial services can be perceived as useful when they make these activities faster, more organized, and less dependent on cash.

Students may also value digital financial services because the services provide transaction records that can be reviewed later. Unlike some cash transactions, digital payments normally generate electronic evidence showing the amount, recipient, date, and time of the transaction. This function can help students confirm whether a payment has been completed, resolve misunderstandings involving shared expenses, and monitor their personal expenditure. Consequently, transaction visibility and record availability may strengthen students' perceptions of usefulness.

However, the presence of numerous functions does not automatically create perceived usefulness. Users may consider a digital financial service less useful when important functions are unavailable, transaction failures occur frequently, merchants do not accept the payment method, or the service is incompatible with other commonly used platforms. A platform may also lose its practical value when the transaction process is slow, records are unclear, or customer support does not resolve payment

problems effectively. Therefore, usefulness depends on the reliability and relevance of the service as well as the availability of its functions.

Perceived usefulness may also vary among users because individuals have different financial needs and levels of prior experience. A student who frequently uses online shopping, food delivery, and peer-to-peer transfers may perceive greater value in digital financial services than a student who primarily uses cash. Similarly, students who regularly manage several payments through one application may place greater importance on transaction records and account-management functions. Thus, perceived usefulness represents an individual evaluation of whether the service provides benefits that are relevant to the user's own financial activities.

Based on the literature, perceived usefulness in this study refers to the degree to which Siam University students believe that digital financial services can improve the efficiency and effectiveness of their daily financial activities. It includes students' perceptions that digital financial services can save time, accelerate payments and transfers, simplify transaction procedures, provide useful financial records, facilitate account management, and support their academic and daily consumption needs. When students recognize these practical benefits, they are more likely to regard digital financial services as valuable and develop a stronger intention to use them.

2.4 Perceived Ease of Use

Perceived ease of use refers to the degree to which an individual believes that using a particular system or technology will require little physical or mental effort. It is one of the two central constructs of the Technology Acceptance Model proposed by Davis (1989). According to this model, users are more likely to accept a technology when they believe that it is understandable, easy to learn, flexible to interact with, and simple to operate. Perceived ease of use therefore reflects users' subjective evaluation of the effort involved in learning and using a technological system rather than the objective technical complexity of the system itself (Davis, 1989).

In the context of digital financial services, perceived ease of use refers to the extent to which users believe that mobile banking, e-wallets, online payment systems, QR code payments, internet banking, and other digital financial platforms can be learned and operated without substantial difficulty. A digital financial service is more likely to be perceived as easy to use when users can register an account, complete identity verification, connect a bank account, locate important functions, enter transaction information, confirm payments, and review transaction records through clear and understandable procedures.

Perceived ease of use is related to, but conceptually different from, perceived usefulness. Perceived usefulness concerns whether a digital financial service improves users' financial activities, whereas perceived ease of use concerns the effort required to obtain those benefits. A financial application may provide useful functions but still be considered difficult to use when its interface is confusing, instructions are unclear, or transaction procedures involve too many steps. In contrast, a platform that provides clear navigation and simple operating procedures allows users to obtain its practical benefits with less effort.

The Technology Acceptance Model also proposes that perceived ease of use may contribute to perceived usefulness. When a digital financial service is easy to operate, users can complete transactions more efficiently and are better able to recognize the practical value of the platform. Davis (1989) found that perceived ease of use was associated with technology acceptance and could operate as an antecedent of perceived usefulness. More recent mobile-payment research similarly found that perceived ease of use positively influenced perceived usefulness, indicating that reduced operational effort can strengthen users' perceptions of the value provided by a digital service (Pham Thi et al., 2025).

Perceived ease of use can be understood through several related aspects. The first aspect is ease of learning. Users should be able to understand the basic functions of a digital financial service within a relatively short period. A service may be perceived as difficult when users need extensive instruction before they can make a payment, transfer money, or review their account information. In contrast, familiar icons, concise instructions, guided registration, and clearly labeled functions can reduce the learning effort required from new users.

The second aspect is clarity of interaction. Digital financial platforms normally contain several functions, including account management, payments, transfers, transaction records, notifications, financial services, and customer support. These functions should be organized in a logical and visible manner. Users may experience difficulty when important functions are placed in unclear locations, when similar functions use inconsistent labels, or when the system displays excessive information on a single screen. Clear menus, consistent terminology, readable content, and logical navigation can improve users' understanding of the platform.

The third aspect is simplicity of transaction procedures. Digital financial services may require users to enter account information, select transaction types, specify payment amounts, verify recipient information, and confirm transactions. Each additional step creates a possibility of confusion or error. Therefore, services that minimize unnecessary steps and present transaction information in a clear sequence are

more likely to be perceived as easy to use. However, simplicity should not eliminate necessary security controls. The objective is to design security procedures that provide effective protection without creating excessive difficulty.

The fourth aspect is ease of error prevention and recovery. Users may enter an incorrect amount, choose the wrong recipient, forget a password, experience a failed payment, or lose access to a registered device. A user-friendly financial platform should provide clear confirmation information before transactions are completed and understandable instructions when an error occurs. It should also provide accessible procedures for resetting passwords, recovering accounts, reporting incorrect transactions, and obtaining customer support. When users believe that errors can be identified and resolved without excessive effort, their perceptions of ease of use may improve.

The fifth aspect is technical responsiveness. A digital financial service may have a well-designed interface but still be regarded as difficult to use when pages load slowly, functions fail, verification codes are delayed, or transactions are interrupted. System responsiveness and stability influence the effort required to complete a financial activity. Therefore, perceived ease of use includes not only interface simplicity but also the ability of the platform to respond consistently and complete transactions without repeated attempts.

Previous research has demonstrated the importance of perceived ease of use in digital payment acceptance. Balakrishnan and Eesan (2024) found that perceived ease of use had a significant positive relationship with consumers' acceptance of contactless payment. Their findings suggest that consumers are more inclined to adopt contactless payment when they can understand and operate the technology without substantial difficulty. The study also showed that discomfort and limited awareness acted as barriers, indicating that technical simplicity should be accompanied by clear information and sufficient user knowledge.

Yamin and Abdalatif (2024) examined consumers' adoption of QR code-enabled mobile payment and found that perceived ease of use contributed positively to users' attitudes toward adoption. QR code payment is intended to simplify transaction procedures, but users must still understand how to open the relevant application, scan a code, verify merchant information, enter or confirm the amount, and authorize the transaction. When these procedures are clear and consistent, users are more likely to develop a favorable evaluation of the payment system.

Pham Thi et al. (2025) found that perceived ease of use positively influenced the perceived usefulness of mobile payment. Their study further showed that openness and task-technology fit positively affected perceived ease of use, whereas technology

anxiety had a negative effect. These findings indicate that ease-of-use perceptions are shaped by both system characteristics and individual differences. Users who are comfortable exploring new technologies may perceive a platform as easier to use, while users with greater technology anxiety may require clearer instructions and additional support.

Research on mobile wallets has also confirmed the role of ease of use in shaping usage intention. Hidayat-ur-Rehman et al. (2026) found that ease of use positively influenced users' intention to use mobile wallets and their perceptions of the relative advantages provided by such services. This suggests that a simple and understandable system can help users recognize how mobile wallets improve financial transactions compared with conventional payment methods. Consequently, ease of use may strengthen intention both directly and indirectly by making the benefits of the service more visible to users.

The importance of ease of use may differ according to users' digital experience. New users may place considerable importance on registration guidance, visible instructions, and customer assistance because they are unfamiliar with the platform. Experienced users may focus more on transaction speed, shortcut functions, and the efficiency of repeated activities. Therefore, a platform that is easy for an experienced user may still be difficult for a first-time user. Digital financial service providers should consider different levels of digital literacy and prior experience when designing their services.

Research involving older mobile-payment users has shown that perceived ease of use can directly influence both perceived usefulness and intention to use. Although older adults and university students differ in their digital experience, this evidence illustrates that reducing technological effort is relevant across user groups. At the same time, the relative importance of perceived ease of use may decline among users who have developed substantial experience with mobile applications, because basic operating simplicity becomes an expected service characteristic rather than a distinctive benefit (Huang et al., 2024).

For university students, perceived ease of use is particularly relevant because digital financial services are frequently used in immediate and everyday situations. Students may need to pay for meals, transportation, mobile phone services, accommodation, educational materials, online shopping, tuition-related expenses, and shared activities. These transactions are often small in value but frequent and time-sensitive. A complicated payment process may therefore create inconvenience and discourage students from using a particular platform.

University students are generally familiar with smartphones and digital applications, but this familiarity does not mean that all digital financial services are automatically considered easy to use. Financial applications involve functions and responsibilities that differ from ordinary social-media or entertainment applications. Students may need to complete identity verification, connect bank accounts, understand transaction fees, manage passwords, evaluate recipient information, and protect financial data. These procedures may still create difficulty when instructions are unclear or when users have limited experience with formal financial services.

Language can also influence students' perceptions of ease of use. Siam University includes both Thai and international students, and some users may operate financial applications in a language that is not their first language. Technical financial terminology, unclear translations, and inconsistent language options may increase the effort required to understand transaction procedures. Digital financial platforms that provide accurate multilingual interfaces and clear explanations can therefore improve accessibility for international student users.

Interface consistency is also important for students who use several digital financial services. Different mobile banking applications and e-wallets may use different symbols, menu structures, verification procedures, and transaction-confirmation methods. When a platform follows familiar design conventions, students may transfer their existing knowledge from other applications and learn the new service more quickly. In contrast, unusual navigation or inconsistent transaction procedures may increase cognitive effort and raise the possibility of errors.

Customer support represents another aspect of ease of use. Students may encounter unsuccessful payments, delayed transfers, account restrictions, verification problems, or difficulties accessing their accounts. Even when the ordinary transaction process is simple, users may evaluate the platform negatively when assistance is difficult to obtain. Accessible help centers, frequently asked questions, live support, and clear problem-resolution procedures can reduce the effort involved in handling unexpected situations.

Nevertheless, excessive simplification may create risks in digital financial services. A payment process that is completed too quickly may cause users to overlook recipient information, transaction amounts, or security warnings. Therefore, ease of use should not be interpreted as the complete removal of verification and confirmation procedures. An effective platform should present necessary information clearly and require appropriate confirmation while avoiding unnecessary repetition and complexity.

Perceived ease of use is therefore a multidimensional evaluation. It involves the effort required to learn the service, understand the interface, locate functions, complete transactions, respond to errors, and obtain assistance. It is also influenced by system

stability, language availability, prior experience, digital competence, and the complexity of security procedures. Digital financial services that perform well across these areas are more likely to be perceived as user-friendly.

Based on the literature, perceived ease of use in this study refers to the degree to which Siam University students believe that digital financial services are understandable, easy to learn, and simple to operate. It includes students' perceptions that registration and verification procedures are clear, important functions are easy to locate, payments and transfers can be completed without excessive effort, and transaction problems can be resolved through accessible procedures. When students perceive digital financial services as easy to use, they are more likely to develop a positive evaluation of the platform and a stronger intention to use it.

2.5 Perceived Convenience

Perceived convenience refers to users' subjective evaluation of the time and effort required to obtain and use a product or service. In service research, convenience is not limited to the physical accessibility of a service. It also includes the reduction of time, cognitive effort, physical effort, and procedural difficulty throughout the service process. Berry et al. (2002) explained that service convenience reflects consumers' perceptions of the time and effort associated with purchasing or using a service. Therefore, a service is perceived as convenient when customers can identify, access, obtain, use, and evaluate it without unnecessary expenditure of time and effort.

Perceived convenience is particularly relevant to digital financial services because these services are designed to reduce the temporal and spatial restrictions associated with traditional financial transactions. Mobile banking, internet banking, e-wallets, online payments, and QR code payment systems allow users to perform financial activities without visiting a bank branch or payment counter. Users may check account balances, make payments, transfer funds, receive money, and review transaction records through smartphones or other internet-connected devices. As a result, convenience represents one of the most visible benefits of replacing conventional cash-based or branch-based transactions with digital financial services.

Service convenience is generally regarded as a multidimensional construct. Berry et al. (2002) proposed five dimensions of convenience: decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience. Seiders et al. (2007) subsequently developed and validated the SERVCON scale based on these five dimensions, confirming that consumers evaluate convenience at different stages of the service process rather than through a single overall judgment.

Decision convenience refers to the time and effort required to decide how to obtain a service. In digital financial services, decision convenience may be reflected in whether users can easily understand the available payment methods, service functions, transaction charges, account requirements, and security procedures. A platform provides greater decision convenience when information is presented clearly and users can quickly determine which function or transaction channel is suitable for their needs.

For example, students may need to decide whether to use mobile banking, an e-wallet, a QR code payment, or another digital payment channel. When service information, fees, processing times, and transaction limits are clearly displayed, students can make this decision more efficiently. In contrast, unclear service conditions, hidden charges, or complicated comparisons between payment options may increase the effort required to choose a service and reduce perceived convenience.

Access convenience refers to the time and effort required to reach or enter the service system. In traditional banking, access may depend on branch locations, opening hours, transportation, waiting time, and the availability of service personnel. Digital financial services reduce many of these restrictions by allowing users to access financial functions through mobile devices. Students can therefore complete financial activities from their homes, classrooms, university campuses, stores, or other locations without travelling to a physical service point.

Access convenience also depends on whether a service is continuously available and technically accessible. A mobile financial application that is available at any time may provide greater convenience than a service limited by conventional banking hours. However, technical failures, slow loading, interrupted internet connections, delayed verification codes, or application maintenance may reduce access convenience. Therefore, digital availability alone does not guarantee convenience; the service must also provide stable and reliable access.

Transaction convenience refers to the time and effort required to complete the financial transaction itself. In digital financial services, transaction convenience may involve the number of steps required to make a payment, transfer money, verify the recipient, confirm the transaction, and receive evidence of completion. A shorter and clearer transaction procedure generally requires less effort and may therefore be perceived as more convenient.

Transaction speed is closely related to transaction convenience. Students often conduct small-value and time-sensitive transactions, such as paying for food, transportation, mobile phone services, online purchases, accommodation, and shared expenses. When payments and transfers can be completed and confirmed immediately, digital financial services become more suitable for these everyday situations. Yamin

and Abdalatif (2024) found that convenience, together with perceived usefulness, perceived ease of use, subjective norms, and innovativeness, contributed to users' attitudes toward adopting QR code-enabled mobile payment. Their study also emphasized the role of transaction speed in strengthening the attractiveness of QR code payments.

Benefit convenience refers to the time and effort required to obtain the core benefits of the service. For digital financial services, the principal benefit is not simply gaining access to an application but successfully completing a financial activity. A user receives benefit convenience when a payment is accepted, a transfer reaches the intended recipient, an account balance is updated, and a transaction record becomes immediately available.

The level of benefit convenience may depend on the service's merchant coverage, compatibility, functionality, and reliability. A digital payment application may be easy to access and operate, but students may not consider it convenient when it is accepted by only a limited number of merchants. Similarly, a platform may provide low benefit convenience when transfers are delayed, payment confirmations are unclear, or users need to repeat the transaction through another channel. Therefore, convenience depends on whether the service allows users to accomplish their intended financial objectives effectively.

Post-benefit convenience refers to the time and effort required to deal with issues arising after the transaction has been completed. Digital financial users may need to review transaction records, request refunds, report incorrect transfers, resolve duplicate payments, recover accounts, or contact customer support. A service provides greater post-benefit convenience when users can find transaction evidence, submit complaints, obtain assistance, and resolve problems through clear and accessible procedures.

Post-benefit convenience is particularly important in financial services because unresolved transaction problems may involve financial loss or delayed payments. A platform may provide a quick payment process but still be perceived as inconvenient when customer support is difficult to contact or dispute-resolution procedures require excessive time. Consequently, digital financial service providers need to consider convenience throughout the entire user journey rather than only during the initial transaction.

Perceived convenience should be distinguished from perceived ease of use. Perceived ease of use concerns whether a technology is understandable, learnable, and simple to operate. Perceived convenience concerns the broader reduction of time and effort associated with accessing and completing a service. A digital financial application may have an understandable interface but still be inconvenient when users

can access it only under limited conditions, when transactions take a long time to process, or when merchant acceptance is restricted.

Perceived convenience should also be distinguished from perceived usefulness. Perceived usefulness refers to whether the service improves the effectiveness of users' financial activities. Convenience focuses more specifically on whether these benefits can be obtained with less time and effort. A platform may be useful because it provides financial-management functions, but its convenience may remain limited when registration, verification, transaction completion, or problem resolution requires considerable effort. Thus, usefulness reflects practical value, while convenience reflects the efficiency and flexibility with which that value can be obtained.

Empirical research has consistently shown that convenience is associated with users' acceptance of cashless and mobile financial services. Samad et al. (2023) collected 357 questionnaires from university students and found that convenience, transaction speed, and social influence were significant factors associated with students' intention to use cashless financial transactions. This finding is particularly relevant to the present study because it demonstrates that university students place considerable importance on reducing the time and effort involved in daily financial transactions.

Yamin and Abdalatif (2024) examined the adoption of QR code-enabled mobile payment and found that convenience contributed to consumers' attitudes toward adoption. QR code payments can reduce dependence on cash and allow transactions to be initiated by scanning a code through a mobile application. The convenience of this process is strengthened when scanning, verification, payment confirmation, and transaction-record generation can be completed quickly within a single digital environment.

Sodhay et al. (2024) investigated mobile-wallet adoption among bottom-of-the-pyramid consumers in India. Their results showed that convenience and social influence had significant positive relationships with behavioral intention to adopt mobile wallets, while several other examined variables did not show significant relationships. Although the respondents differed from university students, the findings reinforce the importance of convenience in digital financial service adoption, particularly where users value services that reduce the time, effort, and physical barriers involved in obtaining financial services.

For university students, perceived convenience may be especially important because their financial activities are frequent, dispersed across different locations, and often time-sensitive. Students may need to pay for meals between classes, transfer money to classmates, receive financial support from family members, purchase educational materials, pay for transportation, or complete university-related payments.

Digital financial services provide convenience when these transactions can be completed without carrying cash, visiting a bank branch, or waiting for a service counter to open.

The mobile lifestyle of university students also increases the importance of location convenience. Students may live away from their families, travel between accommodation and university, or participate in academic and social activities in different areas. The ability to conduct transactions from different locations allows digital financial services to fit more easily into their daily routines. In this sense, convenience is not only a technological feature but also a reflection of how well the service corresponds to students' lifestyles and financial situations.

However, perceived convenience depends on the surrounding service environment. A digital financial service may provide limited convenience when it is not accepted by commonly used merchants, when different banks or platforms cannot transfer money efficiently, or when users must maintain several applications for different transaction purposes. Transaction limits, service charges, system downtime, language barriers, and complicated dispute procedures may also reduce the overall convenience experienced by students.

Security procedures may create another potential trade-off. Identity verification, transaction authentication, passwords, and confirmation messages are necessary for protecting financial information and assets. Nevertheless, repeated verification, unclear authentication requirements, or excessive transaction steps may increase the effort required to use the service. Financial service providers must therefore design security processes that protect users without creating unnecessary inconvenience.

Convenience should not be interpreted simply as completing a transaction with the fewest possible steps. An effective service should allow users to complete transactions efficiently while still providing sufficient information and confirmation. For example, students should be able to verify the recipient, transaction amount, service fee, and payment status before confirming a transfer. A transaction process is convenient when necessary information is presented clearly and efficiently, rather than when important safeguards are removed.

Based on the literature, perceived convenience in this study refers to the degree to which Siam University students believe that digital financial services reduce the time and effort required to conduct their financial activities. It includes students' perceptions that these services can be accessed at different times and locations, that payments and transfers can be completed quickly, that transaction procedures are efficient, and that digital platforms reduce the need to use cash or visit physical bank branches.

It also reflects whether students can obtain the intended benefits of digital financial services and resolve transaction-related problems without unnecessary difficulty. When students perceive that digital financial services provide flexible access, rapid processing, simplified procedures, and reliable transaction support, they are more likely to integrate these services into their academic and daily lives and develop a stronger intention to use them.

2.6 Intention to Use Digital Financial Services

Intention to use refers to an individual's willingness, plan, or likelihood to adopt and use a particular product, service, system, or technology in the future. In technology-adoption research, intention to use is commonly described as behavioral intention because it reflects the motivational readiness of an individual to perform a specific behavior. The stronger the intention, the more effort an individual is generally willing to invest in performing the behavior, although intention does not necessarily guarantee that the behavior will occur (Ajzen, 1991).

The concept of behavioral intention is central to several widely applied behavioral and technology-acceptance theories. According to the Theory of Planned Behavior, behavioral intention captures the motivational factors that influence a behavior and represents how strongly an individual plans or attempts to perform it. Intention is generally influenced by the individual's attitude toward the behavior, perceived social expectations, and perceived control over performing the behavior. Behavioral intention, together with perceived behavioral control, can subsequently contribute to the prediction of actual behavior (Ajzen, 1991).

In the Technology Acceptance Model, intention to use represents the user's willingness to accept and use an information system. Davis (1989) proposed that users' acceptance of technology is primarily associated with their perceptions of its usefulness and ease of use. When individuals believe that a system improves their performance and can be operated without excessive effort, they are more likely to develop a favorable intention to use it. Therefore, intention to use is commonly treated as an important outcome variable in studies examining the acceptance of new technologies and information systems (Davis, 1989).

The Unified Theory of Acceptance and Use of Technology also treats behavioral intention as a major predictor of technology usage. Venkatesh et al. (2003) proposed that performance expectancy, effort expectancy, and social influence contribute to behavioral intention, while behavioral intention and facilitating conditions contribute to actual system use. This framework demonstrates that intention is shaped by users' evaluations of expected benefits, required effort, social expectations, and the conditions

supporting technology use. It also confirms that willingness to use a system should be distinguished from actual usage because users with positive intentions may still face technical, financial, organizational, or environmental barriers (Venkatesh et al., 2003).

In the context of digital financial services, intention to use refers to the degree to which an individual plans, expects, or is willing to use mobile banking, internet banking, e-wallets, online payment platforms, QR code payments, and other technology-enabled financial services. It reflects a user's readiness to select digital channels when completing future payments, transfers, account inquiries, and other financial activities.

Intention to use digital financial services may involve several related elements. The first element is willingness to begin using a digital financial service. This is particularly relevant to potential users who are aware of a platform but have not yet adopted it. Their intention may be reflected in their willingness to register for an account, install an application, connect a bank account, complete identity verification, or attempt their first digital transaction.

The second element is the plan to use digital financial services in future financial activities. A user may intend to select digital payment rather than cash when purchasing goods, paying bills, transferring funds, or completing university-related payments. This type of intention represents a more specific commitment than general interest because it indicates that the individual expects to incorporate the service into future behavior.

The third element is the preference to use digital financial services instead of alternative channels. Users may have several options for completing the same transaction, including cash, bank branches, automated teller machines, debit cards, credit cards, and digital payment platforms. Intention to use may therefore reflect the likelihood that an individual will choose a digital financial service when different transaction methods are available.

The fourth element is the intention to use digital financial services regularly. Digital financial services are not necessarily adopted through a single decision. Users may first experiment with a service and then decide whether to integrate it into their daily financial routines. Intention may consequently include a willingness to use the service repeatedly for different transaction purposes rather than only for an occasional payment.

Intention to use should be distinguished from actual usage behavior. Behavioral intention reflects an individual's planned or expected future action, whereas actual usage concerns observable behavior, such as the frequency, duration, or number of transactions completed through a digital platform. A student may express a strong intention to use mobile banking but may be unable to do so because of limited merchant

acceptance, internet problems, account restrictions, registration difficulties, transaction charges, or lack of access to a supported bank account.

Conversely, an individual may use a digital financial service without having a particularly strong preference for it. For example, a student may use a particular application because it is required for a university payment, commonly accepted by local merchants, or used by classmates for shared expenses. Therefore, actual usage may be affected by external conditions in addition to the individual's personal willingness. The distinction between intention and actual use is important when interpreting technology-adoption research because cross-sectional questionnaire studies normally measure respondents' stated intentions rather than directly observing their future behavior.

Initial usage intention should also be distinguished from continuance intention. Initial usage intention refers to a user's willingness to adopt or begin using a digital financial service. Continuance intention refers to the willingness of an existing user to continue using the service after gaining direct experience. Initial intention may be influenced by expectations, advertising, recommendations, and general perceptions, whereas continuance intention may depend more strongly on satisfaction, actual service performance, trust, and confirmation of previous expectations.

Nguyen and Dao (2024) found that perceived usefulness, satisfaction, adaptation, and self-efficacy were significantly associated with users' continuance intention toward mobile banking. Their findings indicate that after adoption, users evaluate whether the service has actually met their needs and expectations. When users consider the service useful and satisfactory, they are more likely to continue using it. This suggests that digital financial service providers must maintain service quality after initial adoption rather than focusing only on attracting new users.

This study focuses mainly on students' general intention to use digital financial services rather than a single stage of adoption. The respondents may already have experience with one or more forms of digital financial service while considering whether to use such services in future financial activities. Therefore, intention to use in this study includes students' willingness to adopt, select, reuse, and continue using digital financial services when relevant financial needs arise.

Recent studies demonstrate that intention to use digital financial services is influenced by users' evaluations of the expected advantages and disadvantages of the technology. Pham Thi et al. (2025) found that perceived usefulness had a significant positive effect on intention to use mobile payment. The study also showed that perceived ease of use, network externalities, and task-technology fit contributed to perceived usefulness. These findings indicate that users develop stronger usage

intentions when mobile payment provides practical value, corresponds to their transaction needs, and can be used within a sufficiently developed service network.

Kiran and Sailaja (2025a) examined behavioral intention toward different Unified Payments Interface applications. Their results showed that performance expectancy, effort expectancy, and social influence had significant positive effects on behavioral intention. The findings suggest that consumers are more willing to adopt digital payment services when they expect financial or operational benefits, consider the services relatively easy to use, and receive support or encouragement from people around them. The study also demonstrated that perceived risks can alter the effects of several adoption factors on behavioral intention.

In another study, Kiran and Sailaja (2025b) examined the adoption and usage of Unified Payments Interface services through UTAUT-related factors. The study further supports the view that users' intentions toward digital payment are formed through a combination of expected performance, required effort, social influence, and supporting conditions. Consequently, behavioral intention should not be viewed as an isolated personal preference. It represents the outcome of users' evaluations of the technology, the service environment, and the possible consequences of adoption.

Wei et al. (2025) proposed an integrated model combining perceived-value and perceived-risk perspectives to explain mobile fintech adoption. Their findings showed that utilitarian value, social value, performance risk, and time risk had significant effects on adoption. The study accounted for 46.27% of the variance in mobile fintech adoption intention and demonstrated that adoption decisions may result from different combinations of perceived benefits and risks. This finding indicates that users may develop strong intentions when they perceive substantial value and manageable risk, while concerns about service performance, privacy, financial loss, or wasted time may weaken adoption intention.

In this study, perceived security is expected to contribute to intention to use because digital financial services involve personal information, account details, passwords, transaction records, and financial assets. Students may be unwilling to use a service when they believe that it exposes them to data leakage, unauthorized transactions, account theft, or other forms of financial risk. In contrast, confidence in transaction protection, privacy safeguards, identity verification, and fraud-prevention mechanisms may reduce uncertainty and strengthen usage intention.

Perceived usefulness is expected to contribute to intention to use because students are more likely to adopt services that provide recognizable practical benefits. Digital financial services may allow students to complete payments and transfers more quickly, obtain immediate transaction records, reduce visits to physical bank branches, and

manage financial activities more efficiently. When students believe that a service improves their daily financial activities, they are more likely to plan to use it.

Perceived ease of use is also expected to contribute to intention because complicated procedures may create psychological and operational barriers. Students may avoid a digital financial platform when registration, identity verification, navigation, or transaction confirmation requires excessive effort. Clear interfaces, understandable instructions, and straightforward transaction processes may increase students' confidence that they can successfully operate the service.

Perceived convenience may further strengthen intention by reducing the time, location, and procedural limitations involved in financial transactions. Students frequently need to make immediate or small-value payments for food, transportation, online shopping, accommodation, mobile services, and shared expenses. Services that can be accessed at any time and from different locations may fit more effectively with students' daily routines, thereby increasing their willingness to use them.

The intention of university students may also be shaped by their prior experience with digital technology. Students who regularly use smartphones, online shopping applications, social media, and other digital platforms may feel more confident about adopting financial technologies. However, general technological familiarity does not necessarily result in strong usage intention. Financial services involve greater potential consequences than many ordinary applications because transaction errors, account theft, and privacy violations may result in financial loss.

Students may therefore evaluate digital financial services more cautiously than entertainment or communication technologies. Before forming an intention to use a platform, they may consider whether the provider is trustworthy, whether transactions are accepted by commonly used merchants, whether the application supports their bank account, and whether assistance is available when a problem occurs. This indicates that usage intention depends on the perceived overall suitability of the service rather than on familiarity with smartphones alone.

Social and environmental conditions may also influence students' intentions. University students frequently exchange information with classmates, friends, family members, and online communities. Positive experiences shared by others may increase confidence in a digital financial platform, while reports of fraud, failed transactions, or poor customer service may reduce intention. Merchant acceptance, university payment arrangements, internet availability, and compatibility between banks and payment platforms can also influence whether a positive intention is formed and translated into actual usage.

The measurement of intention to use commonly includes statements concerning future plans, willingness, expectations, and preference. Respondents may be asked whether they intend to use the service in the future, expect to use it regularly, plan to select it for relevant transactions, or are willing to recommend and continue using it. These indicators are intended to capture the strength of an individual's behavioral commitment rather than merely awareness of or interest in the service.

Based on the literature, intention to use digital financial services in this study refers to the degree to which Siam University students are willing, likely, and planning to use digital financial platforms in their future financial activities. It includes their intention to use mobile banking, e-wallets, online payments, QR code payments, internet banking, and other digital financial applications for payments, transfers, account management, and related financial needs.

It also reflects students' preference for selecting digital financial services when alternative transaction methods are available and their willingness to integrate these services into their regular activities. When students perceive digital financial services as secure, useful, easy to operate, and convenient, they are more likely to develop a stronger intention to adopt and use them.

2.7 Technology Acceptance Model

The Technology Acceptance Model, commonly referred to as TAM, is one of the most widely applied theoretical models for explaining individuals' acceptance and use of information systems and technological services. The model was developed by Davis (1989) to identify the principal beliefs that influence users' willingness to accept a new technology. TAM proposes that users do not accept a technological system merely because it is available. Instead, they evaluate whether the system provides meaningful benefits and whether it can be operated without excessive effort. These evaluations subsequently contribute to their intention to use the system and their actual usage behavior (Davis, 1989).

TAM was developed from the broader tradition of behavioral-intention research. Davis et al. (1989) compared TAM with the Theory of Reasoned Action and demonstrated that technology usage could be explained through users' beliefs and behavioral intentions. Their longitudinal study showed that perceived usefulness was a particularly important determinant of intention, while perceived ease of use also contributed to technology acceptance. The study established the value of using a relatively concise belief-intention framework to explain why individuals accept or reject information technologies (Davis et al., 1989).

The original Technology Acceptance Model contains two central belief constructs: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which an individual believes that using a system will improve the performance or effectiveness of a relevant activity. Perceived ease of use refers to the degree to which an individual believes that operating the system will require little effort. Davis (1989) developed and validated measurement scales for these two constructs and found that both were associated with current and expected future technology usage. Perceived usefulness demonstrated a stronger relationship with usage than perceived ease of use in the original studies.

Perceived usefulness represents the functional or performance-related evaluation of a technology. Users are more likely to accept a system when they believe that it helps them complete tasks more quickly, accurately, efficiently, or effectively. In the digital financial service context, perceived usefulness may be reflected in faster payments, more efficient transfers, immediate access to account information, reliable transaction records, and improved personal financial management. A service that provides recognizable practical benefits is therefore more likely to generate a positive usage intention.

Perceived ease of use represents users' evaluation of the effort involved in learning and operating a technology. A system is more likely to be perceived as easy to use when its functions are understandable, its interface is clearly organized, and its operating procedures can be completed without substantial physical or mental effort. In digital financial services, perceived ease of use may involve account registration, identity verification, navigation, payment, transfer, transaction confirmation, and account recovery. Complicated procedures may create resistance even when the service offers useful functions.

Perceived usefulness and perceived ease of use are related but conceptually distinct. A system may be easy to operate but provide limited practical value, while another system may provide valuable functions but require substantial effort to learn. TAM proposes that perceived ease of use can also contribute to perceived usefulness. When a service requires less effort, users can obtain its benefits more efficiently and may consequently evaluate it as more useful. Davis's original research indicated that perceived ease of use may operate as an antecedent of perceived usefulness rather than only as a separate predictor of technology usage.

Behavioral intention is another central component of TAM. It represents the degree to which an individual plans, expects, or is willing to use a particular technological system. Behavioral intention connects users' beliefs about a technology with their subsequent usage behavior. When individuals regard a technology as useful

and manageable, they are more likely to develop a stronger intention to use it. However, intention should not be treated as identical to actual use because technical availability, access conditions, costs, institutional requirements, and other external barriers may affect whether an intention is converted into observable behavior.

Davis et al. (1989) provided longitudinal evidence regarding the relationship between intention and actual technology use. Their findings indicated that users' intentions measured after gaining experience with a system were associated with later usage. Perceived usefulness strongly influenced intention, while the contribution of perceived ease of use became weaker as users gained experience. These findings suggest that ease of use may be especially important during the initial stages of technology adoption, whereas practical value may remain important after users become familiar with the system.

TAM has subsequently been extended to provide a more comprehensive explanation of technology acceptance. Venkatesh and Davis (2000) developed TAM2 by incorporating social-influence processes and cognitive-instrumental processes. The social-influence variables included subjective norm, voluntariness, and image, while the cognitive-instrumental variables included job relevance, output quality, result demonstrability, and perceived ease of use. TAM2 explained how these factors contribute to perceived usefulness and usage intention under both voluntary and mandatory conditions.

Venkatesh and Bala (2008) later developed TAM3 by integrating the determinants of perceived usefulness and perceived ease of use. TAM3 included factors such as computer self-efficacy, perceptions of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective usability. It also emphasized that users' experience can change the relative importance of different acceptance factors. For example, the effect of perceived ease of use on behavioral intention may become weaker as users gain more direct experience with a system.

The development of TAM2 and TAM3 demonstrates that the original TAM constructs may be supplemented by contextual variables. The original model provides a parsimonious foundation, but the factors influencing acceptance can differ according to the characteristics of the technology, the user group, and the usage environment. A literature review covering TAM research from 1986 to 2013 found that the model had been widely applied, replicated, and extended across different technological settings. The review also noted that researchers frequently add external variables to improve the model's explanatory relevance in specific contexts (Marangunić & Granić, 2015).

TAM is particularly suitable for studying digital financial services because mobile banking, internet banking, e-wallets, online payments, and QR code payments are

technology-based services that require active user acceptance. Users must decide whether to register for the service, provide personal information, connect financial accounts, learn the operating procedures, and conduct transactions through a digital interface. Their adoption decisions are therefore likely to involve evaluations of the expected benefits and the effort required to operate the service.

Recent studies have applied TAM to different forms of digital payment. Balakrishnan and Eesan (2024) examined contactless payment acceptance and identified perceived usefulness and perceived ease of use as important enabling factors. The study demonstrates that consumers are more likely to accept contactless payment when they believe that it improves transaction performance and can be operated without substantial difficulty.

Yamin and Abdalatif (2024) integrated TAM with the Theory of Reasoned Action to examine the adoption of QR code-enabled mobile payment. Their study considered perceived usefulness, perceived ease of use, convenience, subjective norms, and innovativeness in explaining consumers' attitudes and intentions. The findings demonstrate that the TAM framework can be expanded to include factors that reflect the specific characteristics of mobile-payment services.

Pham Thi et al. (2025) also used an integrated acceptance model to examine mobile-payment adoption. Their findings showed that perceived usefulness directly contributed to intention to adopt mobile payment, while perceived ease of use contributed to perceived usefulness. The study also included technology anxiety, openness, task–technology fit, and network externalities, illustrating that mobile-payment acceptance is influenced by both users' technological evaluations and the surrounding service environment.

Although TAM provides a suitable foundation for examining digital financial service adoption, perceived usefulness and perceived ease of use alone may not fully represent users' evaluations of financial technologies. Digital financial services differ from many ordinary information systems because they involve personal information, account credentials, payment data, financial privacy, and monetary assets. Users may therefore evaluate not only whether a service is useful and easy to operate but also whether it is sufficiently secure.

Security concerns may weaken technology acceptance even when a service is functionally useful. A user may recognize the benefits of mobile banking or an e-wallet but remain unwilling to use it because of concerns about unauthorized transactions, account theft, privacy violations, phishing, or financial loss. Research on mobile fintech adoption has emphasized that perceived risks and privacy or security concerns remain

important obstacles to acceptance. Therefore, perceived security represents a contextually relevant extension of TAM in digital financial service research.

Convenience is another relevant extension because digital financial services are commonly adopted to reduce the time, location, and procedural restrictions of traditional financial transactions. Although convenience is related to usefulness and ease of use, it represents a distinct evaluation. Perceived usefulness concerns whether a service improves financial activities, and perceived ease of use concerns whether the platform is simple to operate. Perceived convenience concerns whether users can access and complete the service quickly, flexibly, and with reduced time and effort.

For example, a mobile banking application may be easy to understand but offer limited convenience when it frequently becomes unavailable or requires users to visit a physical branch to complete important procedures. Similarly, an e-wallet may provide useful functions but remain inconvenient when it has limited merchant acceptance. Therefore, including perceived convenience allows the research model to capture the time flexibility, location flexibility, transaction speed, accessibility, and reduced dependence on physical banking channels associated with digital financial services.

The inclusion of perceived security and perceived convenience does not replace the original Technology Acceptance Model. Instead, these variables extend the model by incorporating characteristics that are especially relevant to digital financial transactions. Perceived usefulness and perceived ease of use represent the core technological beliefs proposed by TAM, while perceived security represents users' confidence in the protection of information and financial assets. Perceived convenience represents their evaluation of whether the service reduces the time and effort required to complete financial activities.

TAM is also relevant to university students because they are frequent users of smartphones, online platforms, and digital payment services. However, familiarity with digital technology does not necessarily mean that all students evaluate a financial service positively. Students may be capable of operating an application but still consider it insufficiently useful, insecure, or inconvenient. Therefore, examining several dimensions of students' perceptions provides a more complete explanation of their usage intention than assuming that technological familiarity automatically results in acceptance.

Within this study, perceived usefulness explains whether students believe that digital financial services improve the efficiency and effectiveness of their financial activities. Perceived ease of use explains whether students believe that these services are understandable and uncomplicated to operate. These two variables directly reflect the principal constructs of the Technology Acceptance Model.

Perceived security extends TAM by explaining whether students believe that digital financial services protect their personal information, transaction data, accounts, financial privacy, and monetary assets. Perceived convenience extends the model by explaining whether students believe that digital financial services can be accessed and used quickly across different times, locations, and transaction situations.

The dependent variable, intention to use digital financial services, represents the behavioral-intention component of TAM. It reflects students' willingness, expectations, and plans to use mobile banking, e-wallets, online payments, QR code payments, internet banking, and other digital financial platforms. According to the proposed research model, students are expected to demonstrate a stronger usage intention when they perceive these services as useful, easy to operate, secure, and convenient.

The application of TAM in this study therefore provides a logical explanation of the proposed relationships among the variables. Perceived usefulness represents the expected functional benefits of digital financial services. Perceived ease of use represents the expected operational effort. Perceived security represents confidence in information and transaction protection, while perceived convenience represents reduced time, location, and procedural effort. Together, these perceptions form students' overall evaluation of digital financial services and are proposed to be positively associated with their intention to use them.

Based on the literature, the Technology Acceptance Model is considered an appropriate theoretical foundation for this study because it explains technology usage intention through users' cognitive evaluations of a system. The model also permits the inclusion of contextual variables when the characteristics of a specific technology require a broader explanation. Accordingly, this study adopted perceived usefulness and perceived ease of use as the original TAM variables and incorporated perceived security and perceived convenience to reflect the distinctive characteristics of digital financial services among Siam University students.

2.8 Perceived Risk Theory

Perceived Risk Theory provides an important theoretical perspective for explaining consumer decisions under conditions of uncertainty. The theory originated from Bauer's (1960) argument that consumer behavior involves risk because individuals cannot know with certainty whether their decisions will produce the expected outcomes. Consumers may therefore evaluate not only the potential benefits of a product or service but also the possible negative consequences associated with selecting or using it. Perceived risk consequently represents a subjective judgment rather than an objective calculation of actual danger. Two individuals may face the same

technological or financial environment but perceive different levels of risk because of differences in knowledge, experience, confidence, and sensitivity to potential losses.

Perceived Risk Theory is especially relevant to innovative products and digital services because users often have limited information about how the technology operates and what consequences may result from its use. When consumers adopt a new technology, they may be uncertain about whether the system will function correctly, whether their information will remain confidential, whether the provider will fulfill its responsibilities, and whether problems can be resolved effectively. Such uncertainty can create psychological discomfort and discourage adoption even when the technology offers substantial functional benefits.

Featherman and Pavlou (2003) defined perceived risk in the context of electronic services as the potential for loss in pursuing the desired outcome of using an e-service. Their study extended traditional technology-adoption research by integrating perceived risk into the Technology Acceptance Model. Whereas TAM mainly emphasizes the positive utility generated by perceived usefulness and perceived ease of use, the perceived-risk perspective introduces the possible negative outcomes that users associate with technology adoption. Their findings showed that e-service adoption could be reduced by risk perceptions, particularly concerns that the service might fail to perform as expected.

The integration of TAM and Perceived Risk Theory is appropriate because technology-adoption decisions usually involve a comparison between expected benefits and possible losses. Users may recognize that a digital financial service is useful, easy to operate, and convenient while simultaneously worrying that it could expose them to fraud, transaction errors, financial loss, or privacy violations. Adoption intention therefore depends not only on whether users recognize the advantages of the technology but also on whether they consider its risks acceptable and manageable.

Perceived risk is generally regarded as a multidimensional concept. In digital-service research, the most frequently discussed dimensions include financial risk, performance risk, privacy risk, security risk, time risk, psychological risk, social risk, and legal risk. These dimensions reflect different forms of uncertainty that may arise before, during, or after the use of a digital service. Recent mobile-fintech research has similarly emphasized that adoption cannot be fully explained through benefits alone because users also evaluate financial, performance, psychological, social, time, security, and legal risks.

Financial risk refers to the possibility that using a service may result in monetary loss. In digital financial services, financial loss may occur because of fraudulent transfers, incorrect transactions, duplicate payments, hidden fees, unauthorized access,

or unsuccessful transaction recovery. Financial risk may be particularly influential because mobile banking, e-wallets, and online payment systems directly involve users' financial assets. Unlike problems involving ordinary digital applications, errors in a financial application may produce immediate and measurable economic consequences.

Performance risk refers to the possibility that a service may not operate as expected or may fail to provide its promised functions. For digital financial services, performance risk may involve application failure, delayed transactions, unsuccessful authentication, incorrect account information, server instability, interrupted network connections, or payment confirmation errors. If users believe that the service may fail during an important transaction, their willingness to rely on the platform may decrease. Current mobile-fintech research identifies system defects, authentication failures, network interruptions, and transaction delays as major components of performance risk.

Privacy risk concerns the possibility that users' personal information may be collected, processed, disclosed, or used without appropriate authorization. Digital financial platforms commonly collect names, identification information, phone numbers, location-related data, account information, transaction histories, and behavioral data. Users may therefore be concerned that their information could be disclosed to external parties, used for unwanted commercial purposes, or accessed by unauthorized individuals.

Security risk is closely related to privacy risk but focuses more specifically on the possibility that the technological or organizational protection of a financial service may be inadequate. Security risk may involve hacking, phishing, password theft, malware, account takeover, identity theft, unauthorized transactions, and payment fraud. Mobile-fintech studies emphasize that security and privacy concerns may undermine confidence because users cannot directly observe whether their information and funds are adequately protected.

Time risk refers to the possibility that users may waste time learning, accessing, or resolving problems associated with a service. Although digital financial services are generally intended to save time, transaction failure, application instability, complicated registration, delayed verification, or poor customer support may create additional time costs. Users may also need to spend time switching between applications or repeating transactions when a service does not perform as expected. Thus, the potential convenience of digital finance can be weakened when users expect that technical or service problems will require excessive time and effort.

Psychological risk refers to the anxiety, frustration, stress, or discomfort that may result from using a service. Digital financial transactions can create psychological pressure because users may worry about entering an incorrect amount, transferring

funds to the wrong person, exposing their personal information, or being unable to recover money after a mistake. Users with limited financial or technological experience may experience greater psychological risk because they are less confident in their ability to recognize and resolve problems.

Social risk refers to the possibility that using a particular service may negatively affect how an individual is perceived by other people. This dimension may be less prominent than financial or security risk in routine digital payments, but it can remain relevant when adoption is shaped by classmates, friends, family members, or other social groups. Users may hesitate to adopt a platform that is unfamiliar, rarely used by people around them, or regarded as unreliable. Conversely, widespread adoption among peers may reduce uncertainty and provide informal evidence that the service is acceptable.

Legal risk refers to uncertainty about users' rights, providers' responsibilities, data protection, contractual terms, and available remedies when problems occur. Users may be uncertain about who is responsible for an unauthorized transaction, how complaints should be submitted, whether transferred funds can be recovered, or which regulatory rules apply to a digital platform. Legal uncertainty can increase perceived risk because users may believe that they have limited protection when a dispute or security incident occurs. Recent fintech research includes legal risk as an important consideration because technological innovation may develop more rapidly than relevant regulatory arrangements.

Among these dimensions, security-related risk is particularly relevant to the present study. The use of digital financial services requires students to trust a technological system with personal information, account credentials, transaction data, and financial assets. Students may recognize the efficiency and convenience of a platform but remain unwilling to use it when they believe that unauthorized persons could access their accounts or that the provider may not adequately protect their information.

Perceived security can be viewed as the positive counterpart of perceived security risk. Security risk reflects users' concerns that a digital financial service may expose them to fraud, unauthorized access, data leakage, or financial loss. Perceived security reflects users' confidence that the service contains adequate mechanisms to prevent or manage these threats. Therefore, when perceived security increases, perceived uncertainty and perceived security risk are expected to decline.

This relationship explains why perceived security can positively contribute to intention to use digital financial services. Users who believe that a platform provides effective identity verification, transaction protection, privacy safeguards, fraud

prevention, and account-recovery procedures are more likely to feel confident about conducting financial transactions. In contrast, unclear privacy policies, reports of fraud, weak authentication, unsuccessful dispute resolution, and inadequate customer support may increase uncertainty and weaken usage intention.

The relationship between risk and adoption has been supported by recent research on digital payments and mobile fintech. Wei et al. (2025) integrated perceived-value and perceived-risk theories to explain mobile-fintech adoption. The study found that risk and value factors jointly shaped adoption decisions and that performance and time risks had significant effects. The integrated model explained 46.27% of the variance in adoption, indicating that users' decisions are better understood by considering both expected benefits and possible negative consequences.

Kiran and Sailaja (2025) examined the role of perceived risk in consumers' behavioral intentions toward digital payment services. Their research treated perceived risk as an important condition affecting how adoption-related factors influence behavioral intention. This supports the argument that users may respond differently to usefulness, ease of use, social influence, and other benefits depending on the level of risk they associate with the service.

Risk perceptions are also relevant in the Thai digital-payment context. Ponsree (2024) applied an extended Technology Acceptance Model to QR code payment adoption in Thailand. The research demonstrates that technology acceptance in Thailand can be explained more effectively when contextual perceptions are added to the original TAM framework. Similarly, Ponsree and Naruetharadhol (2025) examined alternative-payment adoption among Generation Z in Thailand, reinforcing the need to consider the specific expectations and concerns of younger users when explaining payment-technology adoption.

Perceived risk may change as users gain experience. Before adopting a digital financial service, users may rely on general information, recommendations, advertisements, news reports, and assumptions about the provider. After using the service, they can evaluate actual transaction reliability, security notifications, customer support, system stability, and problem-resolution procedures. Positive experiences may reduce uncertainty, whereas transaction failures or security incidents may increase perceived risk and discourage continued use.

Trust may also reduce the negative effect of perceived risk. Nugroho and Paramita (2024) found that trust-building mechanisms were important in promoting the continued use of mobile payments while addressing perceived-risk concerns. When users believe that the service provider is competent, reliable, responsible, and willing

to protect customers, they may be more willing to accept the remaining uncertainty associated with digital transactions.

Nevertheless, providers cannot reduce perceived risk only through promotional claims. Users generally require visible and understandable evidence of protection. Such evidence may include secure authentication, immediate transaction notifications, clear privacy information, recipient verification, accessible account-freezing functions, transparent dispute procedures, and responsive customer service. These mechanisms can provide users with a greater sense of control and make security protection more observable.

Risk reduction should also be balanced with ease of use and convenience. Additional security procedures may improve protection but may also increase the time and effort required to complete transactions. For example, repeated verification steps, complicated password requirements, or unclear security warnings may discourage users. Effective digital financial service design must therefore protect users while maintaining understandable and efficient transaction procedures.

For university students, Perceived Risk Theory is relevant because students frequently conduct small-value and time-sensitive transactions through smartphones. They may use digital financial services for food, transportation, online shopping, accommodation, tuition-related payments, mobile services, and transfers between classmates. Although individual transactions may be relatively small, frequent usage increases students' exposure to possible transaction errors, fraudulent messages, suspicious links, account theft, and privacy concerns.

University students may also have different levels of financial literacy, cybersecurity awareness, and experience in resolving financial disputes. Familiarity with smartphones does not necessarily mean that students understand data-processing practices, account-protection mechanisms, liability for unauthorized transactions, or complaint procedures. Students may therefore be technically capable of operating a digital application while remaining uncertain about its financial and security consequences.

Within the present study, Perceived Risk Theory provides a complementary explanation for the role of perceived security. The Technology Acceptance Model explains how perceived usefulness and perceived ease of use contribute to usage intention by emphasizing the expected benefits and effort associated with technology. Perceived Risk Theory explains why students may still reject a useful and easy-to-use service when they believe that using it may result in information leakage, unauthorized access, transaction failure, or financial loss.

The theory does not require perceived risk to be added as a separate variable in the present research framework. Instead, it supports the inclusion of perceived security as a context-specific extension of TAM. Perceived security captures students' confidence that digital financial services can protect their information, transactions, accounts, privacy, and financial assets. Greater perceived security reduces the uncertainty associated with digital financial transactions and is therefore expected to strengthen students' intention to use these services.

Based on Perceived Risk Theory, university students evaluate digital financial services by considering both expected gains and possible negative outcomes. Perceived usefulness, ease of use, and convenience represent important benefits, while concerns about fraud, privacy violations, transaction errors, and financial loss represent potential costs. When students believe that the security mechanisms of a digital financial service sufficiently control these risks, the perceived benefits of the service are more likely to outweigh their concerns, resulting in a stronger intention to use digital financial services.

2.9 Conceptual Framework

Based on the Technology Acceptance Model and digital financial service adoption studies, this study constructed the following theoretical framework:

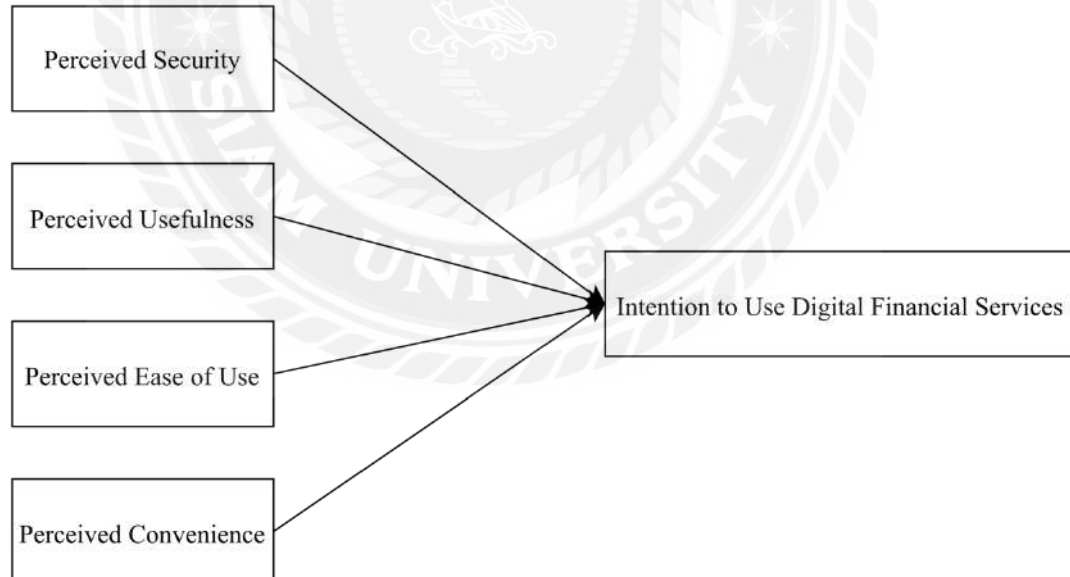


Figure 2.1 Conceptual Framework

Chapter 3 Research Methodology

3.1 Research Design

This study employed a quantitative, cross-sectional research design. A structured online questionnaire was used to collect responses from Siam University students at one point in time. The design was suitable for examining statistical associations between the four predictor variables and intention to use digital financial services. Because the data were cross-sectional, the findings are interpreted as relationships rather than proof of causation.

3.2 Questionnaire Design

The scale items were adapted and paraphrased from established technology acceptance and digital payment studies to fit the student context. All construct items used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 3.1 Questionnaire Structure and Measurement Sources

Variable	No. of Item	Source
Perceived Security	5	Adapted from Al-Shamali et al. (2026) and Wei et al. (2025)
Perceived Usefulness	5	Adapted from Davis (1989) and Nguyen and Dao (2024)
Perceived Ease of Use	5	Adapted from Davis (1989) and Kiran and Sailaja (2025)
Perceived Convenience	5	Adapted from Yamin and Abdalatif (2024) and Wei et al. (2025)
Intention to Use	4	Adapted from Davis (1989) and Nguyen and Dao (2024)

3.3 Hypothesis

H1: Perceived security has a significant positive effect on university students' intention to use digital financial services.

H2: Perceived usefulness has a significant positive effect on university students' intention to use digital financial services.

H3: Perceived ease of use has a significant positive effect on university students' intention to use digital financial services.

H4: Perceived convenience has a significant positive effect on university students' intention to use digital financial services.

3.4 Population and Sample

The target population comprised Siam University students who had used or had been exposed to at least one form of digital financial service. Because a complete sampling frame of eligible users was not available, non-probability purposive sampling was used to screen for relevant experience, together with convenience distribution through online student networks. A total of 300 questionnaires were distributed. This sample size also exceeded the common minimum requirement for multivariate analysis based on the number of scale items and predictors included in the model.

3.5 Data Collection

The questionnaire was distributed online through digital communication and social media channels used by Siam University students. Before participating, respondents were informed that the survey was for academic research, participation was voluntary, and responses would be analyzed in aggregate. No unnecessary personally identifying information was requested. Completed responses were screened before coding and statistical analysis.

After data collection, 298 questionnaires were returned. Eleven questionnaires were excluded because of incomplete responses, duplicate submissions, obvious response patterns, or lack of relevant service experience. The final sample comprised 287 valid responses, representing 95.7% of all distributed questionnaires and 96.3% of returned questionnaires.

3.6 Data Analysis

SPSS was used for data screening and statistical analysis. Frequencies and percentages summarized demographic characteristics of respondents. Cronbach's alpha assessed internal consistency. The Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity assessed whether the scale data were suitable for factor-based validity analysis. Pearson correlation coefficients examined bivariate relationships, and path analysis using standardized regression coefficients tested the proposed relationships. Statistical significance was evaluated at the 0.05 level.

3.7 Reliability and Validity Analysis of the Scale

3.7.1 Reliability Analysis

Reliability analysis was conducted using Cronbach's Alpha to test the internal consistency of the measurement scales. A Cronbach's Alpha value greater than 0.70 indicates acceptable reliability. The results are shown in Table 3.2.

Table 3.2 Reliability Analysis Results

Variable	Number of Items	Cronbach's Alpha
Perceived Security	5	0.891
Perceived Usefulness	5	0.884
Perceived Ease of Use	5	0.872
Perceived Convenience	5	0.889
Intention to Use Digital Financial Services	4	0.905
Overall Scale	24	0.938

Cronbach's alpha values for all constructs ranged from 0.872 to 0.905, and the overall scale alpha was 0.938. All values exceeded 0.70, indicating satisfactory internal consistency.

3.7.2 Validity Analysis

Table 3.3 KMO and Bartlett's Test

Test	Value
KMO	0.921
Bartlett's Test Chi-square	3412.567
df	276
Sig.	0.000

The KMO value was 0.921 and Bartlett's test of sphericity was statistically significant (chi-square = 3,412.567, df = 276, $p < 0.001$). The results show that correlations among the scale items were adequate for construct analysis and provide evidence supporting the validity of the measurement structure.

Chapter 4 Findings and Discussion

4.1 Demographic Characteristics of Respondents

As shown in Table 4.1, female respondents accounted for 54.2% of the sample, while male respondents accounted for 45.8%, indicating a relatively balanced gender distribution with a slightly higher proportion of female respondents. Respondents aged between 21 and 23 years formed the largest age group, representing 47.5% of the sample. This suggests that nearly half of the respondents were within the typical age range of university students.

Regarding educational level, undergraduate students accounted for 81.4%, while postgraduate and other students represented the remaining 18.6%. Therefore, the findings primarily reflect the perceptions and usage intentions of undergraduate students. In terms of nationality, Thai students accounted for 61.0%, Chinese students accounted for 28.8%, and students of other nationalities accounted for 10.2%. Although Thai students formed the majority, the sample also included a meaningful proportion of international students.

Mobile banking was the most frequently used individual type of digital financial service, accounting for 37.3% of responses. Other services, including e-wallets, QR code payments, internet banking, and other digital payment platforms, collectively accounted for 62.7%. In addition, 35.6% of respondents reported using digital financial services every day. These results indicate that the respondents generally had sufficient experience with digital financial services to evaluate their security, usefulness, ease of use, and convenience.

Table 4.1 Demographic Characteristics of Respondents

Characteristic	Category	Percentage
Gender	Female	54.2%
	Male	45.8%
Age	21-23 years	47.5%
	Other age groups	52.5%
Study level	Undergraduate	81.4%
	Postgraduate	18.6%
Nationality	Thai	61.0%

Characteristic	Category	Percentage
	Chinese	28.8%
	Other	10.2%
Most-used service	Mobile banking	37.3%
	Other services	62.7%
Usage frequency	Daily	35.6%
	Less than daily	64.4%

4.2 Descriptive Analysis of Variables

Descriptive statistical analysis was conducted to examine respondents' overall perceptions of the five variables. The mean and standard deviation were calculated based on the 287 valid questionnaires. All variables were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The results are presented in Table 4.2.

Table 4.2 Descriptive Statistics of Variables

Variable	Minimum	Maximum	Mean	Standard Deviation
Perceived Security	1.00	5.00	3.89	0.654
Perceived Usefulness	1.00	5.00	4.02	0.617
Perceived Ease of Use	1.00	5.00	3.95	0.638
Perceived Convenience	1.00	5.00	4.15	0.592
Intention to Use Digital Financial Services	1.00	5.00	4.08	0.621

As shown in Table 4.2, the mean values of all study variables ranged from 3.89 to 4.15, indicating that respondents generally reported relatively high levels of agreement with the questionnaire statements.

Perceived Convenience had the highest mean value ($M = 4.15$, $SD = 0.592$). Intention to Use Digital Financial Services had the second-highest mean value ($M = 4.08$, $SD = 0.621$). Perceived Usefulness recorded a mean value of 4.02 and a standard

deviation of 0.617. Perceived Ease of Use had a mean value of 3.95 and a standard deviation of 0.638. Perceived Security had the lowest mean value among the five variables ($M = 3.89$, $SD = 0.654$).

4.3 Correlation Analysis

Table 4.3 Correlation Analysis

Variable	PS	PU	PEOU	PC	IU
PS	1				
PU	0.612*	1			
PEOU	0.587*	0.634*	1		
PC	0.601*	0.658*	0.623*	1	
IU	0.645*	0.672*	0.651*	0.703*	1
*Note: * $p < 0.01$					

Table 4.3 shows that all variables were significantly and positively correlated at the 0.01 level. The correlations among the four independent variables ranged from 0.587 to 0.658. The strongest relationship among the independent variables was between Perceived Usefulness and Perceived Convenience, with a correlation coefficient of 0.658. The weakest relationship was between Perceived Security and Perceived Ease of Use, with a coefficient of 0.587.

All four independent variables were positively correlated with Intention to Use Digital Financial Services. Perceived Convenience had the strongest correlation with Intention to Use ($r = 0.703$, $p < 0.01$), followed by Perceived Usefulness ($r = 0.672$, $p < 0.01$), Perceived Ease of Use ($r = 0.651$, $p < 0.01$), and Perceived Security ($r = 0.645$, $p < 0.01$).

These results indicate that higher levels of perceived security, usefulness, ease of use, and convenience were associated with stronger intention to use digital financial services. Furthermore, none of the correlation coefficients among the independent variables exceeded 0.80. This suggests that the independent variables were related but measured distinct aspects of students' perceptions, and there was no clear indication of severe multicollinearity.

4.4 Path Analysis

Table 4.4 Path Analysis

Path	Standardized Coefficient (β)	t-value	Sig.
Perceived Security → Intention to Use	0.214	4.021	0.000
Perceived Usefulness → Intention to Use	0.259	4.563	0.000
Perceived Ease of Use → Intention to Use	0.187	3.412	0.001
Perceived Convenience → Intention to Use	0.321	5.782	0.000

The path analysis results showed that perceived security, perceived usefulness, perceived ease of use, and perceived convenience were all significantly and positively associated with university students' intention to use digital financial services. Perceived security had a significant positive association with intention to use digital financial services ($\beta = 0.214$, $t = 4.021$, $p < 0.001$), supporting H1. Perceived usefulness also had a significant positive association with usage intention ($\beta = 0.259$, $t = 4.563$, $p < 0.001$), supporting H2. Perceived ease of use had a significant positive association with usage intention ($\beta = 0.187$, $t = 3.412$, $p = 0.001$), supporting H3. Perceived convenience had the strongest significant positive association with usage intention ($\beta = 0.321$, $t = 5.782$, $p < 0.001$), supporting H4.

4.5 Discussion

Perceived security was positively associated with intention to use. Students considered the protection of personal and financial information when evaluating digital services. The result is consistent with research indicating that security perceptions influence mobile payment and financial technology acceptance (Al-Shamali et al., 2026; Wei et al., 2025).

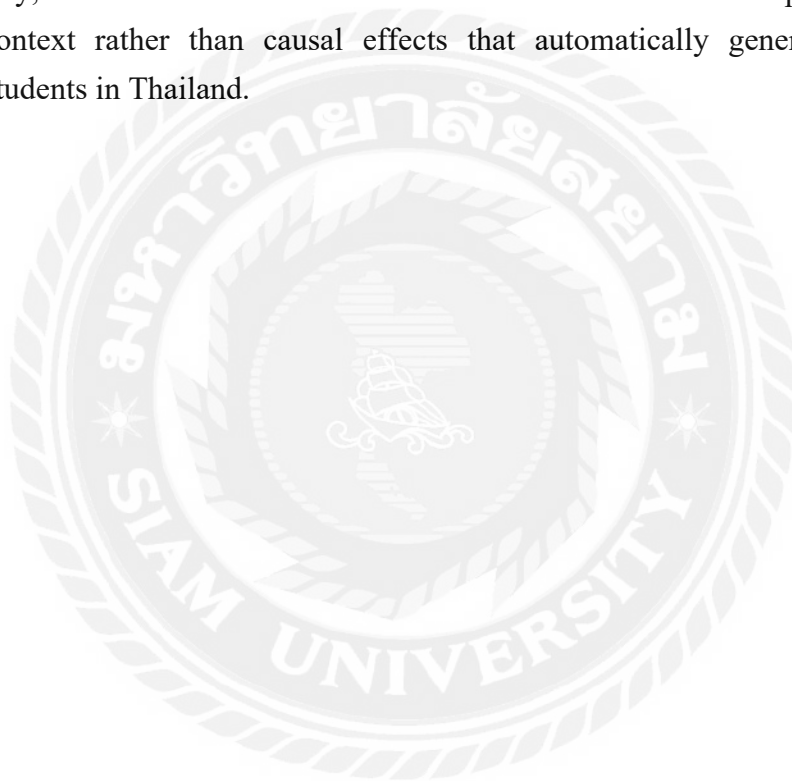
Perceived usefulness was positively associated with intention to use, supporting TAM. Faster payments, convenient transfers, transaction records, and support for daily financial management provide visible practical value. This finding is consistent with Nguyen and Dao (2024), who identified usefulness as an important factor in mobile banking continuance intention.

Perceived ease of use was positively associated with intention to use, although it had the smallest coefficient. Clear procedures and uncomplicated interfaces still matter, but respondents' familiarity with smartphones may mean that basic ease of use is

already expected. Convenience and practical value may therefore distinguish competing services more strongly.

Perceived convenience showed the strongest relationship with intention to use. Students often make immediate, small-value payments and transfers, so anytime-anywhere access closely matches their routines. The result is consistent with Yamin and Abdalatif (2024), who emphasized convenience in QR code mobile payment adoption.

The relative coefficients suggest that security and ease of use provide necessary foundations, while convenience and usefulness create the strongest motivation for adoption in this sample. Because the study used self-reported cross-sectional data from one university, the results should be understood as statistical relationships within the surveyed context rather than causal effects that automatically generalize to all university students in Thailand.



Chapter 5 Conclusion and Recommendation

5.1 Conclusion

The findings of this study supported all four proposed hypotheses. This indicates that perceived security, perceived usefulness, perceived ease of use, and perceived convenience are important factors associated with university students' intention to use digital financial services. The conclusions corresponding to each hypothesis are presented as follows.

The support for H1 indicates that perceived security is positively associated with university students' intention to use digital financial services. When students believe that digital financial services can adequately protect their personal information, account details, transaction records, passwords, and financial privacy, they are more willing to use these services. This finding shows that students' intention to adopt digital financial services depends partly on the level of confidence they have in the security of the platform. Concerns about data leakage, online fraud, unauthorized transactions, identity theft, and account loss may reduce students' willingness to use digital financial services. In contrast, reliable identity verification, transaction protection, privacy safeguards, and fraud-prevention mechanisms can reduce students' perceived uncertainty and strengthen their confidence in digital financial platforms. Therefore, the establishment of H1 demonstrates that security is a fundamental condition for encouraging university students to use digital financial services.

The support for H2 indicates that perceived usefulness is positively associated with university students' intention to use digital financial services. Students are more willing to use these services when they believe that digital financial platforms can improve the efficiency and effectiveness of their daily financial activities. Digital financial services are perceived as useful when they help students complete payments and transfers more quickly, reduce waiting time, provide transaction records, simplify account management, and support different financial needs. This finding shows that students do not adopt digital financial services only because they are technologically advanced. They are more likely to use them when the services provide clear and practical benefits. Therefore, the establishment of H2 demonstrates that the practical value of digital financial services is an important factor in strengthening students' intention to adopt and continue using them.

The support for H3 indicates that perceived ease of use is positively associated with university students' intention to use digital financial services. Students are more likely to use digital financial platforms when the systems are easy to understand, easy

to learn, and simple to operate. Clear interfaces, straightforward instructions, uncomplicated registration procedures, and efficient transaction processes can reduce the effort required to use digital financial services. In contrast, complicated identity verification, confusing navigation, unclear information, system errors, and excessive operational steps may discourage students from adopting a service. Although university students are generally familiar with smartphones and digital applications, they still expect digital financial services to provide a smooth and user-friendly experience. Therefore, the establishment of H3 demonstrates that reducing operational difficulty and simplifying the user process can strengthen students' willingness to use digital financial services.

The support for H4 indicates that perceived convenience is positively associated with university students' intention to use digital financial services. Students are more willing to adopt services that allow them to complete transactions quickly, at any time, and from different locations. Digital financial services enable students to make payments and transfers without carrying cash, visiting a physical bank branch, or being limited by conventional banking hours. This is particularly important because university students frequently need to make small-value and time-sensitive transactions related to food, transportation, online shopping, mobile phone services, tuition-related expenses, and peer-to-peer transfers. The finding also shows that students place considerable importance on transaction speed, accessibility, flexibility, and reduced procedural effort. Therefore, the establishment of H4 demonstrates that convenience is a major factor in encouraging students to integrate digital financial services into their daily lives.

Overall, the support for the four hypotheses demonstrates that university students' intention to use digital financial services is shaped by both functional benefits and perceived risks. Perceived usefulness and perceived convenience encourage adoption by helping students complete financial activities more efficiently and flexibly. Perceived security provides the confidence needed to conduct digital transactions, while perceived ease of use reduces the effort required to learn and operate the services. Among the four factors, perceived convenience showed the strongest association with usage intention, followed by perceived usefulness, perceived security, and perceived ease of use. This indicates that students are particularly concerned with whether digital financial services can meet their daily financial needs quickly and flexibly, while security, usefulness, and ease of operation remain essential conditions for adoption.

5.2 Recommendation

Based on the findings of this study, several recommendations are proposed for digital financial service providers, universities, financial institutions, and other relevant stakeholders.

First, digital financial service providers should place greater emphasis on improving service convenience. Since perceived convenience had the strongest association with students' intention to use digital financial services, banks, e-wallet providers, mobile payment platforms, and digital banking application developers should ensure that their services are available at any time and can be accessed from different locations. Transaction procedures should be shortened, payment confirmation should be completed quickly, and unnecessary operational steps should be reduced. Providers should also improve system stability and transaction processing speed, particularly during periods of high demand.

Digital financial platforms should provide functions that match university students' daily consumption and financial activities. These may include QR code payments, peer-to-peer transfers, tuition-related payments, mobile phone top-up, transportation payments, online shopping payments, bill payments, and electronic transaction records. Platforms should also improve compatibility with commonly used merchants and payment channels so that students can complete different types of transactions through one convenient system.

Second, service providers should improve the practical usefulness of digital financial services. The findings indicate that students are more willing to use digital financial platforms when they believe that the platforms improve the efficiency of their financial activities. Therefore, providers should develop functions that help students manage their daily finances more effectively. Useful functions may include automatic spending records, transaction categorization, monthly expense summaries, payment reminders, budgeting tools, balance notifications, and personalized financial management information.

Service providers should clearly communicate the practical benefits of their platforms. Promotional information should explain how digital financial services can save time, simplify transactions, reduce dependence on cash, and assist students in managing their expenses. Rather than focusing only on promotional discounts, providers should demonstrate how their services can solve common financial problems faced by students. This may help students recognize the long-term value of using digital financial services.

Third, financial institutions and digital payment platforms should continue to strengthen information security and privacy protection. Although perceived security

was not the strongest predictor, it remains a fundamental factor in students' willingness to use digital financial services. Providers should adopt effective identity verification, data encryption, transaction monitoring, fraud detection, account protection, and privacy management mechanisms. Security systems should be regularly evaluated and updated to address emerging digital financial risks.

Transaction alerts should be sent immediately when payments, transfers, password changes, or unusual account activities occur. Providers should also establish simple procedures for reporting suspicious transactions, temporarily freezing accounts, recovering accounts, and resolving payment disputes. Clear information should be provided regarding how personal and financial data are collected, stored, processed, and protected. Transparent privacy policies can reduce uncertainty and strengthen students' confidence in the platform.

Digital financial service providers should also educate students about common risks such as phishing messages, fraudulent links, false payment requests, password sharing, identity theft, and unauthorized account access. Security reminders should be communicated through simple and understandable language. Practical guidance, short educational videos, in-application warnings, and fraud-prevention notifications may help students use digital financial services more safely and responsibly.

Fourth, providers should improve the ease of learning and operating digital financial services. Registration, identity verification, account linking, payment, transfer, and account recovery procedures should be clearly explained. Interface designs should be simple, consistent, and suitable for users with different levels of digital experience. Important functions should be easy to locate, and transaction instructions should avoid unnecessary technical language.

Applications should provide clear confirmation messages before and after transactions to reduce user errors. Help centers, frequently asked questions, online customer service, and step-by-step instructions should be easily accessible. Providers should also conduct usability testing with university students to identify confusing interfaces, complicated procedures, and functions that require excessive effort. Although students may already be familiar with digital applications, a complicated or unstable system can still reduce their willingness to use a particular platform.

Fifth, Siam University and other higher education institutions should strengthen digital financial literacy education. Universities may organize workshops, seminars, orientation activities, or online learning materials related to digital payments, personal information protection, fraud prevention, responsible borrowing, password security, and financial management. Such activities can help students understand both the benefits and risks of digital financial services.

Universities may cooperate with banks, payment platforms, and financial technology companies to provide practical demonstrations of secure digital transactions. However, such cooperation should maintain neutrality and should not encourage students to use a particular service without understanding its terms, fees, risks, and privacy policies. The purpose of university-based education should be to improve students' ability to evaluate and use digital financial services responsibly.

Sixth, universities should improve the convenience and security of campus-related digital payment services. Payments for tuition, registration fees, university activities, food, transportation, library services, and other campus expenses may be integrated into reliable digital payment channels. Clear payment instructions and official verification information should be provided to reduce confusion and prevent students from transferring money to incorrect or fraudulent accounts.

Universities should also provide appropriate support channels when students experience problems with campus-related digital payments. Students should be able to verify official payment information and obtain assistance when transactions fail, payments are delayed, or records are inconsistent. A reliable support system can increase students' confidence in using digital financial services for academic and campus-related purposes.

Finally, digital financial service providers should regularly collect feedback from student users. Students' expectations and usage patterns may change as new technologies and payment methods emerge. User feedback can help providers identify problems involving transaction speed, platform stability, interface design, customer service, security, and functional usefulness. Regular service evaluation can support continuous improvement and help providers develop digital financial services that better meet the needs of university students.

5.3 Further Study

This study provides evidence regarding the relationships between perceived security, perceived usefulness, perceived ease of use, perceived convenience, and university students' intention to use digital financial services. However, several directions may be considered in future research.

First, future studies should include respondents from multiple universities. This study focused only on students at Siam University. Students from public universities, private universities, vocational institutions, and universities located in different regions may have different experiences, financial needs, and levels of access to digital financial services. A broader sample could improve the representativeness and generalizability of the findings.

Second, future research may compare different groups of university students. Comparative studies could examine differences between undergraduate and graduate students, Thai and international students, frequent and infrequent users, or students from different academic disciplines. Such comparisons may help identify whether the importance of security, usefulness, ease of use, and convenience varies across student groups.

Third, longitudinal research should be conducted to examine changes in students' digital financial service usage over time. This study used a cross-sectional research design and collected data at one point in time. A longitudinal design may provide a clearer understanding of how students' perceptions and usage intentions change after gaining more experience, encountering security problems, adopting new payment platforms, or responding to changes in financial technology.

Fourth, future studies may combine quantitative and qualitative research methods. Questionnaire data can identify statistical relationships among variables, but interviews or focus groups may provide more detailed explanations of students' experiences and concerns. Qualitative research may help explain why students prefer certain digital financial services, what security risks they are most concerned about, and which service functions they consider most useful or convenient.

Fifth, future research may include additional variables that could influence digital financial service adoption. These variables may include perceived risk, trust, social influence, financial literacy, service quality, system quality, privacy concern, facilitating conditions, customer satisfaction, promotional incentives, and prior usage experience. Including these factors may produce a more comprehensive model of university students' digital financial service adoption.

Sixth, future studies may examine actual usage behavior in addition to behavioral intention. Students may express a strong intention to use digital financial services but may not use them frequently in practice. Future research could compare stated intention with actual frequency of use, transaction type, duration of use, or continued usage behavior. With appropriate consent and privacy protection, objective usage information could also be considered to reduce the limitations associated with self-reported data.

Seventh, future researchers should consider using probability sampling methods where feasible. The use of a more systematic sampling method may reduce sampling bias and improve the ability to generalize findings to a larger student population. Future studies may also increase the sample size to support more detailed subgroup comparisons and more complex statistical analysis.

Eighth, future research may examine specific categories of digital financial services separately. Mobile banking, e-wallets, QR code payments, internet banking,

and online payment platforms may differ in terms of security, convenience, functions, and operational procedures. Studying these services independently may provide more precise recommendations for different types of financial service providers.

Finally, future studies may investigate the effects of emerging financial technologies on students' adoption behavior. Biometric authentication, artificial intelligence-based fraud detection, cross-border QR payments, digital identity systems, and personalized financial management tools may change students' perceptions of security, usefulness, convenience, and ease of use. Examining these developments could provide updated evidence for financial institutions, universities, policymakers, and technology developers.



References

- Abikari, M. (2024). Emotions, perceived risk and intentions to adopt emerging e-banking technology amongst educated young consumers. *International Journal of Bank Marketing*, 42(5), 1036–1058.
- Afzal, M., Ansari, M. S., Ahmad, N., Shahid, M., & Shoeb, M. (2024). Cyberfraud, usage intention, and cybersecurity awareness among e-banking users in India: An integrated model approach. *Journal of Financial Services Marketing*, 29, 1503–1523.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Al-Shamali, S., Almutairi, S., Albalushi, A., Alsaber, A., Nafea, R., & AlReshaid, F. (2026). Attitudes toward mobile payment: A comparison study of Gulf States. *Frontiers in Human Dynamics*, 7, Article 1730153.
- Balakrishnan, V., & Eesan, M. L. (2024). Enablers and disablers for contactless payment acceptance among Malaysian adults. *Humanities and Social Sciences Communications*, 11, Article 534.
- Bank of Thailand. (2024a). *Cross-border payment linkages*. <https://www.bot.or.th/en/financial-innovation/digital-finance/digital-payment/cross-border-payment.html>
- Bank of Thailand. (2024b). *Payment data indicators: September 2024*. https://www.bot.or.th/content/dam/bot/documents/en/research-and-publications/reports/payment-report/payment-data-indicators/2024/Sep2024_payment_indicator.pdf
- Bauer, R. A. (1960). Consumer behavior as risk taking. In R. S. Hancock (Ed.), *Dynamic marketing for a changing world: Proceedings of the 43rd National Conference of the American Marketing Association* (pp. 389–398). American Marketing Association.
- Berry, L. L., Seiders, K., & Grewal, D. (2002). Understanding service convenience. *Journal of Marketing*, 66(3), 1–17.
- Chand, K., Tiwari, R., Gupta, A., Taneja, S., & Özen, E. (2025). How does perceived security influence mobile wallet users' behavior? A SEM investigation. *Managerial Finance*, 51(1), 146–165.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.

- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank.
- Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: A perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4), 451–474.
- Hidayat-ur-Rehman, I., Hossain, M. N., Bhuiyan, A. B., & Zulkifli, N. (2026). Toward comprehensive understanding of m-wallet adoption: The significance of user perceptions and financial autonomy. *International Journal of Innovation Science*, 18(2), 333–358.
- Huang, T., Wang, G., & Huang, C. (2024). What promotes the mobile payment behavior of the elderly? *Humanities and Social Sciences Communications*, 11, Article 1501.
- Hung, S.-W., Cheng, M.-J., & Tung, Y.-J. (2024). Following the herd? An empirical investigation into the adoption of mobile payment systems. *International Journal of Bank Marketing*, 42(5), 897–923.
- Hunter, S., Pham, C., Kim, K., Trinh, L. Q., Chai, A., Deshpande, S., Johl, S., Morgan, P. J., & Obucina, M. (2025). Factors influencing digital financial services adoption in low- and medium-income countries: A systematic literature review. *International Journal of Bank Marketing*, 43(9), 1884–1909.
- International Monetary Fund. (2025). *Financial Access Survey: Fintech, a catalyst for financial services access, innovation, and growth*. <https://data.imf.org/-/media/iData/External-Storage/Documents/7FC05452C6C743D2BFB6188D2E248A38/en/2025-FAS-Annual-Report.pdf>
- Joshi, H., & Chawla, D. (2024). Impact of security on wallet adoption: Multiple and serial mediating roles of trust and attitude and gender as a moderator. *International Journal of Bank Marketing*, 42(5), 870–896.
- Kiran, K. P., & Sailaja, V. N. (2025a). Assessing Unified Payments Interface (UPI) adoption and usage through the interplay of UTAUT factors. *Humanities and Social Sciences Communications*, 12, Article 1060.
- Kiran, K. P., & Sailaja, V. N. (2025b). Exploring behavioral intentions of consumers towards different digital payment services through the interplay of perceived risks and adoption factors. *Humanities and Social Sciences Communications*, 12, Article 1141.

- Klapper, L., & Banka, H. (2024). Expanding financial inclusion through digital financial services. *Revue d'économie financière*, 156(4), 77–96.
- Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature review from 1986 to 2013. *Universal Access in the Information Society*, 14(1), 81–95.
- Nguyen, G.-D., & Dao, T.-H. T. (2024). Factors influencing continuance intention to use mobile banking: An extended expectation-confirmation model with moderating role of trust. *Humanities and Social Sciences Communications*, 11, Article 276.
- Nugroho, S. S., & Paramita, W. (2024). Trust-building mechanism for promoting mobile payments' continued use by small businesses in a developing country: Tackling the perceived risk issue. *Journal of Financial Services Marketing*, 29, 936–945.
- Pazarbasioglu, C., Garcia Mora, A., Uttamchandani, M., Natarajan, H., Feyen, E., & Saal, M. (2020). *Digital financial services*. World Bank Group. <https://thedocs.worldbank.org/en/doc/305a39cbb6f35567db78bda6709c5cd8-0430012025/original/World-Bank-DFS-Whitepaper-DigitalFinancialServices.pdf>
- Pham Thi, T. D., Pham, V. K., & Duong, N. T. (2025). Why do users adopt mobile payment? An integrated model. *Journal of the Knowledge Economy*, 16, 4364–4391.
- Ponsree, K. (2024). QR code payment in Thailand 4.0 era: Expand the understanding of perceived susceptibility to COVID-19 in the TAM theory. *Current Psychology*, 43, 22637–22655.
- Ponsree, K., & Naruetharadhol, P. (2025). Unveiling the determinants of alternative payment adoption: Exploring the factors shaping Generation Z's intentions in Thailand. *International Entrepreneurship and Management Journal*, 21, Article 45.
- Samad, N. S. A., Muhammad, S. F., Ab Rahman, A. H., Bahari, N., & Chindo, S. (2023). Intention to use cashless financial transactions among university students. In M. N. H. Yusoff (Ed.), *Industry forward and technology transformation in business and entrepreneurship: Proceedings of the International Conference on Entrepreneurship, Business and Technology (InCEBT 2022)* (pp. 773–782). Springer.
- Seiders, K., Voss, G. B., Godfrey, A. L., & Grewal, D. (2007). SERVCON: Development and validation of a multidimensional service convenience scale. *Journal of the Academy of Marketing Science*, 35(1), 144–156.

- Shamini, P. V. P., Kothalawala, C., Yapa, S. R., Kavishka, K. H., Thathsarani, W. A. P. I., & Younus, M. R. M. (2024). Factors impact on customer intention—A Technology Acceptance Model perspective on e-wallets among Sri Lankan university students. In R. Dissanayake, G. Y. Jayasinghe, S. Setunge, D. Amaratunga, L. Gunawardana, & P. Gajanayake (Eds.), *Proceedings of the 1st International Conference on University-Industry Collaborations for Sustainable Development* (pp. 495–508). Springer.
- Sodhay, S., Kathuria, L. M., Kaur, T., & Kaur, G. (2024). Behavioural intention to adopt mobile wallets at the bottom of the pyramid: A developing economy perspective. *International Journal of Quality and Service Sciences*, 16(3), 345–371. <https://doi.org/10.1108/IJQSS-05-2023-0063>
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273–315.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.
- Wei, Y., Gáti, M., & Simay, A. E. (2024). How consumers' privacy perceptions influenced mobile payment acceptance during the COVID-19 pandemic. *International Journal of Bank Marketing*, 42(7), 2051–2074.
- Wei, N., Liang, Y., Wang, H., & Liu, M. (2025). Analysis of mobile fintech adoption based on perceived value and risk theory: Findings from PLS-SEM and fsQCA. *Humanities and Social Sciences Communications*, 12, Article 973. <https://doi.org/10.1057/s41599-025-05142-x>
- World Bank. (2025). *The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy*.
- Yamin, M. A. Y., & Abdalatif, O. A. A. (2024). Examining consumer behavior towards adoption of quick response code mobile payment systems: Transforming mobile payment in the fintech industry. *Humanities and Social Sciences Communications*, 11, Article 675.
- Zhang, J., Luximon, Y., & Song, Y. (2019). The role of consumers' perceived security, perceived control, interface design features, and conscientiousness in continuous use of mobile payment services. *Sustainability*, 11(23), Article 6843.

Appendix

Dear respondent: This questionnaire is designed for an academic study of the factors associated with Siam University students' intention to use digital financial services. Participation is voluntary. Responses will be used only for academic analysis and reported in aggregate. Please answer according to your actual experience.

Section A: Screening and Background Information

1. Have you used or been exposed to any digital financial service (for example, mobile banking, an e-wallet, online payment, or QR code payment)? Yes / No
2. Gender: Male / Female / Prefer not to say
3. Age: 18-20 / 21-23 / 24-26 / 27 or above
4. Level of study: Undergraduate / Postgraduate / Other
5. Nationality: Thai / Chinese / Other
6. Most frequently used digital financial service: Mobile banking / E-wallet / QR code payment / Internet banking / Other
7. Usage frequency: Daily / Several times a week / Weekly / Less than weekly

Section B: Measurement Items

Please indicate your agreement with each statement using the following scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

Code	Statement	1	2	3	4	5
PS1	I believe digital financial services protect my personal information.	☐	☐	☐	☐	☐
PS2	I believe transactions made through digital financial services are secure.	☐	☐	☐	☐	☐
PS3	The identity-verification procedures of digital financial services are reliable.	☐	☐	☐	☐	☐
PS4	I feel confident that my account and financial privacy are protected.	☐	☐	☐	☐	☐
PS5	Digital financial services provide adequate protection against unauthorized access.	☐	☐	☐	☐	☐

Code	Statement	1	2	3	4	5
PU1	Digital financial services help me complete financial transactions more quickly.	☐	☐	☐	☐	☐
PU2	Digital financial services improve the efficiency of my daily financial activities.	☐	☐	☐	☐	☐
PU3	Digital financial services are useful for my everyday payments and transfers.	☐	☐	☐	☐	☐
PU4	Digital financial services make it easier to manage my financial activities.	☐	☐	☐	☐	☐
PU5	Overall, digital financial services provide practical benefits to me.	☐	☐	☐	☐	☐
PEOU1	Learning to use digital financial services is easy for me.	☐	☐	☐	☐	☐
PEOU2	The functions of digital financial services are clear and understandable.	☐	☐	☐	☐	☐
PEOU3	The interfaces of digital financial services are easy to navigate.	☐	☐	☐	☐	☐
PEOU4	I can complete transactions without unnecessary difficulty.	☐	☐	☐	☐	☐
PEOU5	Using digital financial services requires little effort.	☐	☐	☐	☐	☐
PC1	I can use digital financial services whenever I need them.	☐	☐	☐	☐	☐
PC2	I can access digital financial services from different locations.	☐	☐	☐	☐	☐
PC3	Digital financial services allow me to complete payments quickly.	☐	☐	☐	☐	☐
PC4	Digital financial services reduce my need to carry or use cash.	☐	☐	☐	☐	☐
PC5	Digital financial services are convenient for my daily activities.	☐	☐	☐	☐	☐

Code	Statement	1	2	3	4	5
IU1	I intend to continue using digital financial services in the future.	☐	☐	☐	☐	☐
IU2	I plan to use digital financial services frequently.	☐	☐	☐	☐	☐
IU3	I expect digital financial services to remain part of my daily financial activities.	☐	☐	☐	☐	☐
IU4	When appropriate, I will choose digital financial services for future transactions.	☐	☐	☐	☐	☐

Thank you for your participation.

