

PREDICTING ISLAMIC FINTECH ADOPTION SERVICES FOR COOPERATIVE MEMBERS IN MALAYSIA

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Article history

Received date : 18-8-2025
Revised date : 19-8-2025
Accepted date : 18-9-2025
Published date : 9-10-2025

To cite this document:

Safiyuddin, F. S., Abdull Rahman, N. L., Lokman, F. Z. A., Hakimi, N., & Kamarudin, M. H. (2025). Predicting Islamic FinTech adoption services for cooperative members in Malaysia. *Journal of Islamic, Social, Economics and Development (JISED)*, 10 (76), 877 -886.

Abstract: *Financial technology (FinTech) has rapidly transformed the financial services landscape by offering innovative, technology-driven solutions that enhance efficiency, accessibility, and user experience. Within Islamic finance, FinTech plays a pivotal role by merging digital innovation with Shariah principles to promote financial inclusion, social justice, and sustainable development. While prior research has extensively examined FinTech adoption in the banking sector, limited attention has been devoted to the cooperative industry, despite its significant role in serving grassroots and marginalized communities in Malaysia. Addressing this gap, the present study proposes a conceptual framework for predicting Islamic FinTech adoption among cooperative members in Malaysia. Grounded in the Technology Acceptance Model (TAM), the framework incorporates perceived usefulness, perceived ease of use, trust, and attitude as key determinants influencing members' intention to adopt FinTech services. Future research should empirically validate the framework through large-scale surveys and advanced statistical techniques, while also considering perceived risk as an additional construct.*

Keywords: *Islamic Fintech, Cooperative Members, Technology Acceptance Model, Financial Inclusion*

Introduction

Financial services and digital technologies are merged to develop Financial Technology (FinTech). FinTech is an emerging idea in the financial sector. FinTech refers to a new type of financial services that are made accessible through technology to different kinds of customers. The word FinTech describes how quickly new products, services, delivery channels, and new business models have revolutionized the financial services industry. FinTech means the fusion of information technology and finance for providing financial services at an affordable cost with a seamless user-friendly experience. Therefore, the use of cutting-edge technology in financial technology enhances financial services, goods, and processes.

FinTech has reshaped the global financial services landscape by introducing innovative, technology-driven solutions that enhance efficiency, accessibility, and customer experience. Its adoption is expanding rapidly within the banking sector, as financial institutions seek to remain competitive in an increasingly digital economy. For instance, Alrshedi and Iskandar (2025) applied the technology–organisation–environment (TOE) framework to examine FinTech adoption in Saudi banks, emphasizing the role of regulatory support and the maturity of digital infrastructure. Similarly, Zaid et al. (2025) identified a positive relationship between green finance and sustainable performance, with FinTech adoption serving as a significant moderator that strengthens this relationship. Collectively, these findings underscore the pivotal role of FinTech as a driver of modernization and sustainability in contemporary banking environments.

Islamic FinTech is broadly defined as the provision of Shariah-compliant financial solutions through technological innovation. It represents a key driver in the growth of the Islamic financial sector by merging digital innovation with Islamic principles. In Malaysia, many companies have developed digital platforms and applications that leverage advanced technologies such as big data analytics, blockchain, and artificial intelligence (Hamadi et al., 2025). Importantly, Islamic FinTech products must avoid elements prohibited under Shariah, such as *riba*, *gharar*, or gambling, and should not impose hidden charges that could harm consumers (Basar et al., 2024).

Existing research has established that FinTech enhances efficiency and convenience for users, particularly through its widespread adoption in banks and other financial institutions. However, its application within cooperatives remains limited and underexplored. This is a critical gap, as cooperatives play a vital role in Malaysia's financial ecosystem, especially in serving grassroots communities and members who may have limited access to conventional banking. Islamic FinTech, by addressing unmet needs in line with Shariah principles, has the potential to strengthen financial inclusion, reduce economic disparities, and promote social justice. Integrating Islamic FinTech into cooperatives could therefore enhance their operational efficiency and improve the financial well-being of members.

Furthermore, Malaysia's Islamic FinTech agenda emphasizes empowering disadvantaged groups, marginalized communities, small and medium-sized enterprises (SMEs), and unbanked populations in order to broaden financial inclusion (Mohd et al., 2024). Despite the growing body of research on FinTech adoption in banks and financial institutions, limited attention has been given to cooperatives, particularly in the context of Islamic FinTech. This underexplored area is critical, as cooperatives serve diverse member groups, often including underserved and rural communities. Addressing this gap, the present study proposes a conceptual framework for predicting the adoption of Islamic FinTech within the Malaysian cooperative sector.

The Cooperative Societies Act of 1993 defines a cooperative in Malaysia as an organization whose goal is to enhance the financial well-being of its members. The cooperative sector contributes significantly to the economic development of its members by offering financial support in the form of grants for education, health care, general gifts, and charitable deaths. Therefore, cooperatives are crucial to a nation's long-term social and economic development if uphold the cooperative ideal. In addition to distributing wealth, creating jobs, and offering goods and services, cooperatives also improve communities. The role of the cooperative sector in national economic development is seen as having great potential as a driver for inclusive socioeconomic development.

In Islamic point of view, the concept of cooperatives described in Surah Al-Maidah, 5:2

وَتَعَاوَنُوا عَلَى الْبِرِّ وَالتَّقْوَىٰ ۖ وَلَا تَعَاوَنُوا عَلَى الْإِثْمِ وَالْعُدْوَانِ ۗ

“Cooperate with one another in goodness and righteousness, and do not cooperate in sin and transgression.” (Surah Al-Ma'idah, 5:2)

According to "Ibn Katheer," God commands His obedient servants in this verse to refrain from evil and sin (sin is doing what God has commanded, and transgression is a transgression of what God has limited in your religion and transgression of what God has imposed upon you in yourselves and others). God also commands His obedient servants to assist those who do good deeds, which is righteousness (righteousness is that which brings peace to the soul) (Hamida & Nor Azizan, 2023).

There are nine functions of cooperatives in Malaysia which are cooperative banks, credit cooperatives, agricultural cooperatives, housing cooperatives, industrial cooperatives, consumer cooperatives, construction cooperatives, transportation cooperatives, and service cooperatives.

1) Cooperative banks

This functional cooperative carries out financial activities, namely providing loans to members at reasonable interest rates. Other activities under this function are Islamic pawnbroking (Ar-Rahnu), investment and insurance services. Its members are made up of those with fixed salaries mainly in the public sector, statutory bodies, and private sector. Currently, two cooperatives specifically carry out banking functions, namely Bank Kerjasama Rakyat Malaysia Berhad and Co-op Bank Pertama Malaysia Berhad.

2) Credit cooperatives

Cooperatives with credit functions have pioneered the development of the cooperative movement since the 1920s. Investment and insurance services, as well as Islamic pawnbroking (Ar-Rahnu), are included in this function.

3) Agricultural cooperatives

Cooperatives registered under the agricultural function carry out agricultural land development and management activities. Among the main crops cultivated by these cooperatives are rubber, palm oil, pineapple, cocoa, and vegetables.

4) **Housing cooperatives**

The focus of this type of cooperative is to carry out housing projects for its members. Most of the projects focus on low and medium cost houses. The sale price of these houses is within the member's ability range and is generally around 20% to 30% lower than the price that is usually offered in the market.

5) **Transportation cooperatives**

Most of the transport function cooperatives are made up of cooperatives in land development such as FELDA, RISDA, and FELCRA that carry out the activities of transporting agricultural products to processing factories. Apart from cooperatives participating in the plan, other cooperatives that carry out transport functions are taxi operator cooperatives, bus and truck operators.

6) **Industrial cooperatives**

Most of the industrial function cooperatives are made up of cooperatives that carry out small industrial activities, better known as Village Industrial Cooperatives (KIK). KIK was established to gather resources to produce, market, and produce items from woven products, pottery and silver decorative items, and furniture items.

7) **Consumer cooperatives**

The main purpose of the consumer function cooperative is to help its members get quality goods at reasonable prices. Among the activities carried out by this cooperative are mini markets, supermarkets, grocery stores, gas stations, home appliance stores, and others. Consumer function cooperatives at the school level were introduced to inculcate frugality and foster the foundation of entrepreneurship among students. The main activities carried out at the school are the canteen, bookshop, laundry shop, and computer classes.

8) **Construction cooperatives**

Construction function cooperatives carry out activities related to infrastructure construction work such as the construction of small bridges, roads, and general maintenance work. Among the cooperatives involved in construction activities are Regional Development Cooperatives (KPD), cooperatives in the FELDA, FELCRA, and RISDA.

9) **Services cooperatives**

Service function cooperatives are cooperatives in activities and activities other than those related to financial, consumer, plantation, transport, industrial, construction and housing functions. Among the services carried out by these cooperatives are fund management, maintenance of buildings and residential areas, rental of buildings/stall lots, childcare centers, computer classes, bill payment centers and the like.

All functions of the cooperatives play a vital role in the economic development of Malaysia. In a period of ten years (2011-2020), the cooperative's revenue has increased by 92.79% from RM21.50 billion in 2011 to RM41.45 billion in 2020. This achievement demonstrates the success of the 2011-2020 National Cooperative Policy that has been implemented within 10 years. By looking at this development, planning cooperative development programs can be implemented align with “Wawasan Kemakmuran Bersama” so that the wealth of the cooperative can have a significant impact on the cooperative community (Cooperative Member Wellbeing Index, 2021).

The number of cooperative members from 2015 to 2023 can be seen in Figure 1.

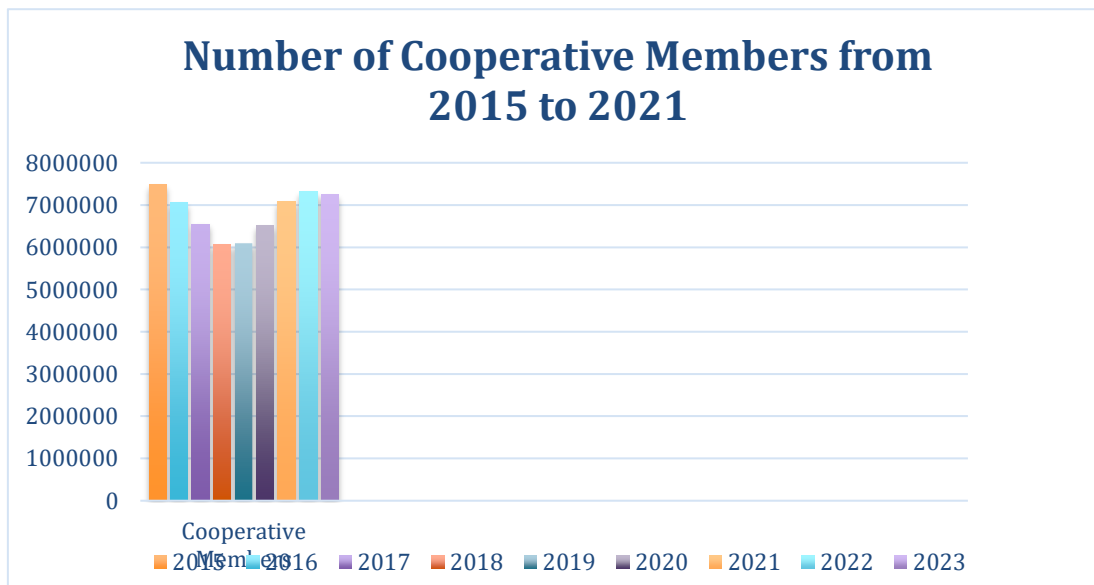


Figure 1: Number of Cooperative Members from 2015 to 2023

Source: Malaysian Cooperative Commission, 2015 to 2023

Figure 1 indicates the number of cooperative members fell between 2015 and 2017, rebounded slightly between 2018 and 2021, and then fell once more in 2023. The decrease in the number of members is upsetting because the cooperative sector has the potential to contribute to the country's GDP. Although there is an increase from 2018 to 2021, the number is still less than in previous years. Thus, several strategies and improvements in the cooperative sector need to be considered so that the number of members will rise and the contribution of cooperatives to cooperative members, as well as GDP, also rise.

Safiyuddin, Abd Wahab, and Maamor (2019) found that pure technical efficiency (PTE) contributed less to overall technical efficiency (OTE), indicating that Malaysian cooperatives still have room to enhance their managerial performance. Given the cooperative sector's important role in providing financial services to its members, Islamic FinTech offers a promising avenue to strengthen service delivery, improve efficiency, and promote financial inclusion.

Accordingly, this study aims to propose a framework incorporates demographic characteristics, perceived ease of use, perceived usefulness, trust, attitude, and intention as key determinants influencing FinTech adoption among cooperative members. By focusing on cooperatives, this study extends existing adoption models into a new institutional context, thereby contributing to theory development in Islamic financial technology adoption. At the same time, it provides practical insights for policymakers, cooperative leaders, and FinTech providers seeking to empower cooperative members, enhance managerial efficiency, and strengthen the role of cooperatives in Malaysia's digital financial ecosystem.

Literature Review

Theoretical Model

There are three prominent theories have been used in the adoption of information technology. The Theory of Reasoned Action (TRA) is one of the earliest models to describe the prediction

of people's conduct (Fishbein, 1967). This theory is divided into two parts: attitude (individuals' beliefs about a particular object that heavily influences their behavior) and subjective norm (influencers who can conform to people's ways of thinking and behaving) (Ajzen & Fishbein, 1980). However, the previous study by Tsourela and Nerantzaki (2020) argued that self-determination must be acknowledged for behaviours to emerge. Hence, TRA was expanded to become the Theory of Planned Behavior (TPB) (Fishbein & Ajzen, 1975). Figure 2 shows the Theory of Planned Behavior (TPB).

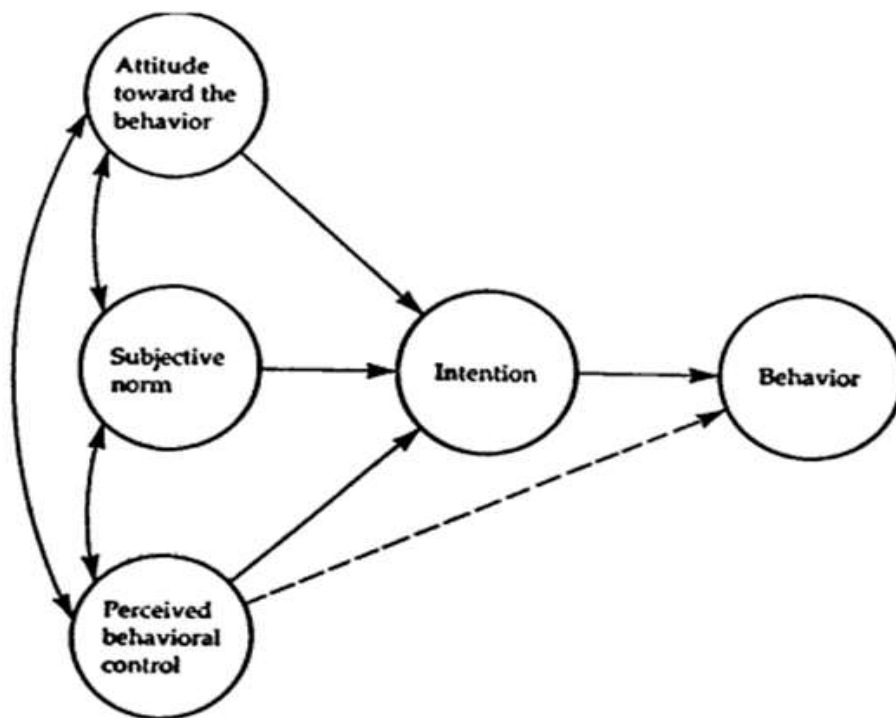


Figure 2: Theory of Planned Behavior

Source: Ajzen (1991)

Figure 2 portrayed the Theory of Planned Behavior. However, previous studies discovered that TPB is inadequate to describe human behaviour since other factors such as fear and prior experiences are thought to be more significant in explaining motivations (Davis, Bagozzi, & Warshaw, 1989). On the other hand, Belanche et al. (2019) also critiqued TPB for only taking normative effects into account and ignoring environmental, emotional, or economic aspects that could affect behavioural intention. The applicability of TPB in light of people's behaviour with regard to technology has been questioned by research, which has highlighted a gap in the literature (Sindhu & Namratha, 2019). TPB combines the TRA element with perceived behaviour control, arguing that a person's actions are also motivated by their perceived resolve, self-control, and willpower (Ajzen, 1991). Hence, studies have improved on these theories by establishing a "Theory Acceptance Model" (TAM) to describe people's behaviour toward technology in order to close the gap between TRA and TPB (Davis et al., 1989). Figure 3 describes the Theory Acceptance Model (TAM).

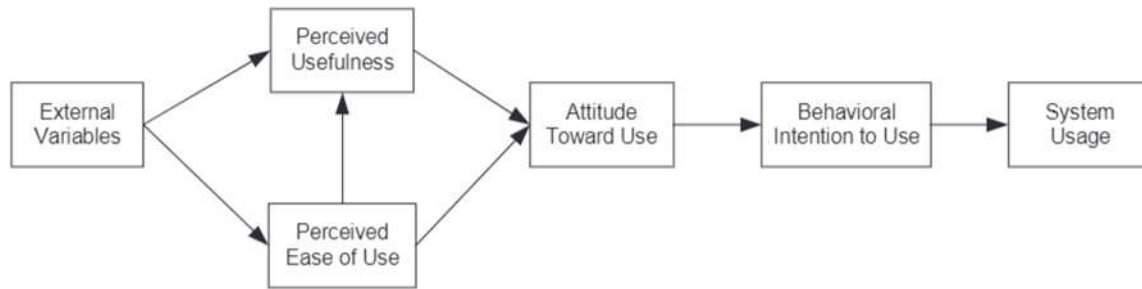


Figure 3: Theory Acceptance Model

Source: Davis (1989); Ma & Liu (2004)

Figure 3 signifies that the TAM model considers two key concepts that influence decisions on the behavioral purpose of technology. Perceived usefulness (PU) and perceived ease of use (PEOU) are these two variables. The first model uses the two essential elements to show how behaviour influences the application of technology; these constructs can also be used to explain the use of a device.

The two main constructs of the Technology Acceptance Model (TAM) are influenced by external factors (Davis et al., 1989). The TAM model has long been recognized as a robust framework for evaluating the adoption of information technology, as it consistently explains variations in user attitudes and intentions toward technology acceptance (Venkatesh & Davis, 2000). Previous studies have widely applied TAM in diverse contexts such as internet banking, mobile internet, e-payments, and e-wallets (Shahzad et al., 2022). Similarly, Bureshaid and Sarea (2021) developed a theoretical framework that integrates TAM with the Diffusion of Innovation Theory (DOI) to examine the determinants of FinTech adoption. The Technology Acceptance Model (TAM) is considered the most suitable framework for this study and it has been extensively validated across different technological contexts, particularly in financial services, due to its ability to consistently explain users' behavioral intentions toward technology adoption (Venkatesh & Davis, 2000; Shahzad et al., 2022).

Empirical evidence further reinforces the importance of FinTech adoption in strengthening institutional performance. For example, Meyliana et al. (2019) found that user trust significantly influences perceived usefulness in the adoption of FinTech services. This study contributes to the literature on FinTech adoption by offering insights into the factors that shape users' intentions to utilize FinTech services in the Indonesian context. Dwivedi et al. (2021) found that FinTech adoption significantly enhances competitiveness and overall performance in the UAE banking sector, particularly when aligned with effective technology management practices. Likewise, Guang-Wen and Siddik (2022) emphasized the critical role of FinTech adoption, green finance, and green innovation in improving the environmental performance of financial institutions and fostering sustainable economic development. Singh et al. (2021) also reported a significant positive relationship between FinTech adoption and bank profitability, noting that institutions offering tailored, flexible, and technology-driven services demonstrate greater dynamism than traditional counterparts.

While these findings clearly demonstrate the significance of FinTech adoption in advancing competitiveness, efficiency, and sustainability within the banking and financial sectors, the cooperative industry has received far less scholarly attention. This gap is particularly important because cooperatives play a vital role in extending financial services to grassroots communities

and members who often face barriers to accessing traditional banking. Therefore, this study proposes an enhanced TAM framework that incorporates perceived usefulness, perceived ease of use, trust, and attitude to examine the adoption of Islamic FinTech in cooperatives. By doing so, the study aims to highlight how cooperatives, like banks and other financial institutions, can leverage FinTech to improve efficiency, broaden accessibility, and better serve their members. The hypotheses developed for this study as follows:

- H1. Perceived usefulness is positively related to the intention to adopt Islamic FinTech in cooperatives.
- H2. Perceived ease of use is positively related to the intention to adopt Islamic FinTech in cooperatives.
- H3. Trust is positively related to the intention to adopt Islamic FinTech in cooperatives.
- H4. Attitude is positively related to the intention to adopt Islamic FinTech in cooperatives.

Research Methodology

Based on prior studies, a structured questionnaire was developed comprising two main sections: (i) demographic information of respondents and (ii) measurement items related to the study constructs. The measurement scales were adapted from established instruments validated in earlier research, Hu et al. (2019).

Data will be collected through online survey questionnaires distributed to cooperative members, employing a purposive sampling technique to ensure the relevance of responses to the study context.

Prior to the main data collection, a pilot study will be conducted to evaluate the reliability and validity of the instrument. The pilot study serves to identify potential deficiencies, ambiguities, or weaknesses in the questionnaire, thereby allowing for refinement of the measurement items and ensuring that the instrument is suitable for full-scale administration in the actual study.

Conclusion

This study has proposed a conceptual framework for predicting Islamic FinTech adoption among cooperative members in Malaysia. By incorporating demographic characteristics, perceived usefulness, perceived ease of use, trust, attitude, and intention, the framework extends the Technology Acceptance Model (TAM) into a new institutional context that has received limited attention in prior research. The study contributes theoretically by broadening the application of TAM in Islamic financial technology, and practically by offering guidance for cooperative leaders, and FinTech providers seeking to enhance efficiency, accessibility, and financial inclusion.

However, as a conceptual paper, the framework requires empirical validation. Future research should conduct large-scale surveys among cooperative members and employ advanced statistical techniques, such as structural equation modeling (SEM), to test the proposed relationships.

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