The Impact of Fintech Adoption on Small and Medium Enterprises in Malaysia

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ABSTRACT

The rapid advancement of Financial Technology (FinTech) has reshaped global industries by integrating digital tools such as e-wallets, mobile banking, artificial intelligence, and blockchain into financial services. In Malaysia, the SMEs has increasingly adopted these technologies to enhance operational efficiency, improve customer experience, and support digital transformation. Despite this growth, small and medium-sized enterprises (SMEs) continue to face challenges in fully realizing the financial benefits of FinTech adoption due to barriers such as cybersecurity risks, limited infrastructure, regulatory compliance, and difficulties in measuring return on investment (ROI). This study investigates the factors influencing FinTech adoption among retail business owners in Malaysia and examines its impact on financial performance. Guided by the Unified Theory of Acceptance and Use of Technology (UTAUT) model, a quantitative research design was employed using a structured questionnaire distributed to retail business owners familiar with FinTech applications. A purposive sampling method was adopted with a target of 384 respondents, and data will be analyze using SPSS. The findings are expected to provide empirical evidence on the relationship between FinTech adoption and business performance, particularly in the context of SMEs. The study contributes to academic literature on technology adoption and offers practical insights for policymakers, regulators, and retail entrepreneurs in enhancing digital financial integration. By addressing gaps in existing research, this work underscores the role of FinTech in supporting competitiveness, sustainability, and inclusive growth in Malaysia's retail industry.

Keywords: Fintech; Small and Medium Enterprises; Sustainability; Digital Tools; Performance

INTRODUCTION

The rapid advancement of Financial Technology (FinTech) has significantly transformed global industries, particularly the retail and financial sectors. FinTech refers to the integration of innovative digital tools such as mobile payments, e-wallets, blockchain, artificial intelligence (AI), and cloud-based systems into financial services to enhance efficiency and customer experience (Schueffel, 2016; Gomber et al., 2017). By leveraging these technologies, businesses have been able to simplify financial transactions, improve operational efficiency, and strengthen customer engagement. In Malaysia, the retail sector has increasingly embraced these solutions, with technologies such as online banking, e-wallets, and QR-based payment systems driving the shift toward digitalization. These tools not only streamline transactions but also provide retailers with deeper insights into customer behavior, supporting more effective marketing, inventory management, and decision-making strategies (RinggitPlus, 2023; DigiPay Guru, 2023).

Globally, FinTech adoption has been recognized as a critical driver of financial inclusion and business competitiveness. In many emerging economies, digital finance platforms have enabled underserved populations and small businesses to access formal financial services that were previously unavailable due to geographical, structural, or cost-related barriers (Demirgüç-Kunt et al., 2018). For retailers, the application of FinTech is not limited to payments but also extends to financing solutions, supply chain management, and customer loyalty programs. With increasing digital penetration and changing consumer behavior, especially after the COVID-19 pandemic, the importance of FinTech as a catalyst for transformation in the retail sector has become even more pronounced (World Bank, 2022).

Despite this promising potential, many small and medium-sized enterprises (SMEs) in Malaysia continue to struggle with adoption and sustained utilization of FinTech. Several challenges hinder SMEs from realizing the full benefits of digital finance. First, the measurement of return on investment (ROI) remains difficult, making business owners uncertain about the tangible financial outcomes of adoption. Second, limited digital infrastructure and low levels of digital literacy, especially among traditional retailers, reduce readiness to embrace new technologies. Third, cybersecurity threats and regulatory compliance issues create additional concerns, as SMEs often lack the expertise and resources to implement robust safeguards. According to CPA Australia (2023), although more than 75% of Malaysian businesses have adopted at least one FinTech service, approximately 25%—mostly micro and small firms—remain hesitant due to high costs, risk aversion, and lack of technical capacity. Furthermore, most SMEs continue to rely on personal savings and conventional bank loans, with minimal engagement in alternative FinTech-based financing options. This digital divide between larger, resource-rich firms and smaller businesses highlights the vulnerability of SMEs and raises questions about whether FinTech adoption genuinely translates into measurable improvements in financial performance.

Adding to these concerns, the lack of standardized frameworks for evaluating the financial impact of FinTech adoption poses another challenge. Many SMEs adopt digital tools in response to market pressure or government incentives without having clear performance indicators to assess outcomes such as cost reduction, revenue growth, or profitability improvements. As a result, while adoption rates appear to be rising, the true financial value of these innovations for small retailers remains ambiguous. This ambiguity is further compounded by inconsistent levels of regulatory support and varying degrees of technological readiness across different segments of the retail industry.

Given the rapid digital transformation and government initiatives such as the Financial Sector Blueprint (2022–2026) aimed at accelerating FinTech integration, it is crucial to investigate whether FinTech adoption contributes to improved financial performance in the retail industry. In particular, understanding how SMEs, which represent the backbone of Malaysia's economy, navigate the opportunities and barriers of digital finance is essential. This study seeks to (i) identify the factors influencing FinTech adoption among retail businesses in Malaysia, (ii) determine its impact on financial performance, and (iii) evaluate the level of acceptance of FinTech among retail companies, with particular attention to the challenges faced by SMEs. By addressing these objectives, the research aims to fill the existing knowledge gap and provide insights that can guide policymakers, regulators, industry players, and businesses in leveraging FinTech for sustainable growth.

LITERATURE REVIEW

FinTech has undergone a significant transformation over the decades, evolving from basic banking technologies such as credit cards and electronic transfers to advanced innovations including artificial intelligence (AI), big data analytics, and blockchain. These developments have not only enhanced operational efficiency but also improved financial inclusion and customer experiences worldwide (Arner, Barberis, & Buckley, 2016; Gai, Qiu, & Sun, 2018). In Malaysia, regulatory support through initiatives like the Financial Sector Blueprint and the Digital Banking Licensing Framework has accelerated the growth of FinTech applications such as DuitNow, Touch 'n Go eWallet, and GrabPay, which are now widely adopted in the retail sector (Bank Negara Malaysia, 2022). These initiatives have created a conducive ecosystem for digital financial services and encouraged both consumers and businesses to participate in Malaysia's digital economy.

The importance of FinTech lies in its ability to make financial services more efficient, transparent, and accessible. Applications such as mobile wallets, digital banking, and peer-to-peer lending reduce transaction costs, minimize errors, and promote financial inclusion by serving previously underserved populations (Zavolokina, Dolata, & Schwabe, 2016; Demirgüç-Kunt et al., 2018). FinTech also supports small and medium-sized enterprises (SMEs) by providing alternative financing channels such as crowdfunding, invoice financing, and buy-now-pay-later schemes, which help address the limitations of traditional bank lending. Moreover, AI-driven analytics enable better fraud detection, data-driven decision-making, and improved customer personalization, further enhancing business competitiveness and resilience (Haddad & Hornuf, 2019; Chen, Wu, & Yang, 2021). Thus, FinTech not only drives efficiency but also plays a critical role in promoting entrepreneurship, competitiveness, and sustainable economic development.

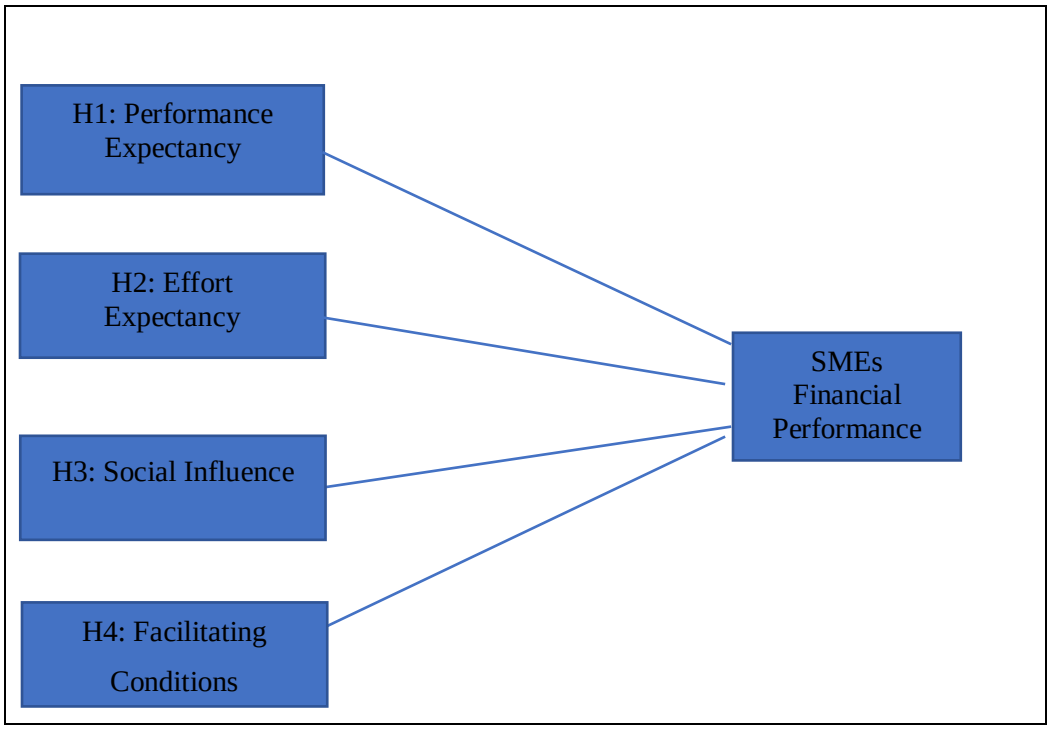
Financial performance, a key measure of business health and competitiveness, is often evaluated through revenue growth, profit margins, and capital efficiency (Venkatraman & Ramanujam, 1986; Kaplan & Norton, 1996). In the Malaysian retail sector, which has been reshaped by e-commerce, mobile commerce, and omnichannel strategies, accurate financial performance metrics are vital for strategic planning and long-term sustainability (Lai, 2020; Nordin & Ismail, 2023). Retail businesses are increasingly pressured to integrate digital solutions not only to remain competitive but also to meet changing consumer expectations for speed, convenience, and security in financial transactions.

However, despite the proliferation of FinTech, many SMEs still face challenges in fully leveraging its benefits. High implementation costs, lack of technical expertise, cybersecurity concerns, and complex regulatory frameworks continue to act as barriers to adoption. In particular, SMEs often lack standardized methods to evaluate the return on investment (ROI) of FinTech, making them hesitant to commit resources to long-term digital transformation. This creates a digital divide between larger firms with better resources and smaller firms that risk being left behind in the digital economy. Additionally, while government policies and incentives have encouraged adoption, many SMEs remain cautious due to uncertainties surrounding data privacy, digital literacy, and integration with existing business models.

To better understand the dynamics of technology adoption, this study employs the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003). The UTAUT model identifies four key determinants of technology adoption: performance expectancy, effort expectancy, social influence, and facilitating conditions. This theoretical lens provides a robust framework for analyzing how SMEs perceive and adopt FinTech solutions in Malaysia's retail sector. By linking these constructs to financial performance outcomes, the study seeks to contribute to both theoretical understanding and practical strategies for improving SME competitiveness in the digital era.

Furthermore, the application of UTAUT in the context of FinTech adoption among Malaysian retailers is particularly relevant as it bridges the gap between behavioral intentions and actual financial performance outcomes. Previous studies have largely focused on consumer adoption of FinTech, such as mobile banking and e-wallets, but fewer have examined its organizational impact, especially among SMEs. By situating the analysis within the retail sector, which plays a crucial role in Malaysia's economy, this study provides valuable insights into how digital financial solutions can drive business growth, improve resilience, and support national digitalization goals.

Figure 1: Propose Conceptual Framework



The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003), is a widely applied framework for predicting user acceptance of technology. It identifies four key constructs, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) as direct determinants of technology adoption. In the context of FinTech usage in the SMEs, these constructs provide a relevant basis for hypothesis formulation as shown in Figure 1. Accordingly, the following hypotheses are proposed:

H1: There is a relationship between Performance Expectancy and the SMEs Financial Performance

Performance Expectancy refers to the degree to which individuals believe that using FinTech will enhance their business performance, such as by improving operational efficiency, reducing costs, and enhancing customer satisfaction. In the retail sector, this may include mobile payment systems, automated inventory solutions, or digital customer engagement platforms. Venkatesh et al. (2003) identified PE as the strongest predictor of technology adoption intention in the original UTAUT model. In Malaysia, Rahi, Ghani, and Ngah (2021) found that performance expectancy significantly influenced SMEs' intention to use mobile financial services.

H2: There is a relationship between Effort Expectancy and the SMEs Financial Performance

Effort Expectancy refers to the perceived ease of using a particular system or technology. In the retail industry, user-friendly FinTech applications that require minimal training or technical knowledge can encourage adoption among business owners. Alalwan, Dwivedi, and Rana (2017) emphasized the role of EE in influencing user adoption of mobile banking, while Yuen, Yeow, and Lim (2022) reported that ease of use significantly affects the intention to adopt e-wallets among Malaysian micro-retailers.

H3: There is a relationship between Social Influence and the SMEs Financial Performance

Social Influence represents the extent to which individuals perceive that important others—such as peers, customers, or business partners—believe they should use the new technology. In the retail context, merchants are more likely to adopt FinTech if competitors, suppliers, or customers are already doing so. According to Venkatesh et al. (2003), SI plays a crucial role, especially in voluntary technology adoption environments. Lai (2020) found that social influence significantly affects the intention to adopt e-wallets in Malaysia, while Zarifis, Cheng, and Efthymiou (2022) highlighted that peer and customer pressure drives digital transformation in retail businesses.

H4: There is a relationship between Facilitating Conditions and the SMEs Financial Performance

Facilitating Conditions refer to the perception that organizational and technical support is available to facilitate the use of technology. In the context of FinTech, this includes internet access, technical support, digital literacy, and government incentives. Venkatesh et al. (2003) identified FC as a direct determinant of actual technology usage. Teoh, Chong, and Lin (2022) observed that Malaysian small retailers with stronger digital infrastructure and government support were more likely to implement FinTech tools in their operations, leading to improved performance outcomes.

METHOD

This study employs a quantitative research design to investigate the factors influencing FinTech adoption among retail business owners in Malaysia. A cross-sectional survey was used to collect primary data at a single point in time, allowing for both descriptive and explanatory analysis (Creswell, 2014). The choice of a quantitative approach was guided by the need to test hypotheses derived from the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, focusing on constructs such as trust, perceived benefits, knowledge, and user attitudes. A structured questionnaire was developed and distributed to retail business owners with prior experience or familiarity with FinTech applications, ensuring consistency and comparability across responses (Sekaran & Bougie, 2016).

Primary data will be collected through a self-administered online questionnaire using a 5-point Likert scale, covering three sections: demographic profiles of SMEs, UTAUT constructs (performance expectancy, effort

expectancy, social influence, and facilitating conditions), and financial performance measures (DeVellis, 2016). A purposive sampling method was adopted, targeting business owners in Malaysia's retail sector who actively use or are familiar with FinTech tools (Etikan, Musa & Alkassim, 2016). Based on Krejcie and Morgan's (1970) sample size determination table, a minimum of 384 respondents was set to ensure statistical validity. The questionnaire was piloted with 20–30 participants to refine clarity and assess reliability (Saunders, Lewis & Thornhill, 2019).

The data will be analyze using SPSS software, which is widely applied in business and social science research (Pallant, 2020). Descriptive statistics (frequencies, means, standard deviations) provided insights into respondent profiles, while inferential analyses such as Pearson correlation and linear regression tested hypotheses and identified predictors of FinTech adoption (Field, 2018). Reliability was measured using Cronbach's Alpha to ensure internal consistency of constructs while validity was addressed through careful alignment of questionnaire items with established scales from prior studies (Hair et al., 2019). Together, these measures strengthened the accuracy, reliability, and generalizability of the findings.

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REFERENCES

1. Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. International Journal of Information Management, 37(3), 99–110. https://doi.org/10.1016/j.ijinfomgt.2017.01.002
2. Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The evolution of Fintech: A new post-crisis paradigm? Georgetown Journal of International Law, 47(4), 1271–1319.
3. Bank Negara Malaysia. (2022). Financial Sector Blueprint 2022–2026. Bank Negara Malaysia. https://www.bnm.gov.my
4. Chen, M. A., Wu, Q., & Yang, B. (2021). How valuable is FinTech innovation? Review of Financial Studies, 32(5), 2062–2106. https://doi.org/10.1093/rfs/hhz138
5. CPA Australia. (2023). Asia-Pacific small business survey 2023: Malaysia report. CPA Australia. https://www.cpaaustralia.com.au
6. Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications.
7. Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). The Global Findex Database 2017: Measuring financial inclusion and the Fintech revolution. World Bank. https://doi.org/10.1596/978-1-4648-1259-0
8. DeVellis, R. F. (2016). Scale development: Theory and applications (4th ed.). Sage Publications.
9. DigiPay Guru. (2023). Fintech trends and adoption in Malaysia. DigiPay Guru. https://digipay.guru
10. Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11
11. Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). Sage Publications.
12. Gai, K., Qiu, M., & Sun, X. (2018). A survey on FinTech. Journal of Network and Computer Applications, 103, 262–273. https://doi.org/10.1016/j.jnca.2017.10.011
13. Gomber, P., Koch, J. A., & Siering, M. (2017). Digital finance and FinTech: Current research and future research directions. Journal of Business Economics, 87(5), 537–580. https://doi.org/10.1007/s11573-017-0852-x
14. Haddad, C., & Hornuf, L. (2019). The emergence of the global FinTech market: Economic and technological determinants. Small Business Economics, 53(1), 81–105. https://doi.org/10.1007/s11187-018-9991-x
15. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning.

16. Kaplan, R. S., & Norton, D. P. (1996). The balanced scorecard: Translating strategy into action. Harvard Business Press.
17. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607–610. https://doi.org/10.1177/001316447003000308
18. Lai, P. C. (2020). Factors influencing consumers' intention to use a single platform e-payment. Journal of Internet Banking and Commerce, 25(2), 1–20.
19. Nordin, N., & Ismail, R. (2023). The impact of digital finance on SMEs' performance in Malaysia. International Journal of Business and Society, 24(1), 15–30.
20. Pallant, J. (2020). SPSS survival manual: A step by step guide to data analysis using IBM SPSS (7th ed.). Routledge.
21. Rahi, S., Ghani, M. A., & Ngah, A. H. (2021). Integration of UTAUT model in internet banking adoption context: The mediating role of performance expectancy. Journal of Accounting and Management Information Systems, 20(1), 74–98. https://doi.org/10.24818/jamis.2021.01004
22. RinggitPlus. (2023). E-wallet adoption and consumer payment trends in Malaysia 2023. RinggitPlus. https://ringgitplus.com
23. Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students (8th ed.). Pearson Education Limited.
24. Schueffel, P. (2016). Taming the beast: A scientific definition of FinTech. Journal of Innovation Management, 4(4), 32–54. https://doi.org/10.24840/2183-0606_004.004_0004
25. Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill-building approach (7th ed.). Wiley.
26. Teoh, A. P., Chong, S. C., & Lin, B. (2022). Digital transformation adoption in Malaysian SMEs: The moderating role of government support. Journal of Small Business and Enterprise Development, 29(7), 1067–1086. https://doi.org/10.1108/JSBED-04-2021-0153
27. 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. https://doi.org/10.2307/30036540
28. Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. Academy of Management Review, 11(4), 801–814. https://doi.org/10.5465/amr.1986.4283976
29. Yuen, K. F., Yeow, J. A., & Lim, J. M. (2022). E-wallet adoption among micro-retailers in Malaysia: An extended UTAUT2 approach. Technology in Society, 68, 101883. https://doi.org/10.1016/j.techsoc.2021.101883
30. Zarifis, A., Cheng, X., & Efthymiou, L. (2022). Digital transformation and the role of social influence: Evidence from European retail. Technological Forecasting and Social Change, 174, 121211. https://doi.org/10.1016/j.techfore.2021.121211
31. Zavolokina, L., Dolata, M., & Schwabe, G. (2016). FinTech – What's in a name? In Proceedings of the International Conference on Information Systems (ICIS 2016) (pp. 1–19). AIS Electronic Library.