

Factors Influencing Women's Economic Empowerment Through Financial Technology: Evidence from Amanah Ikhtiar Malaysia

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ABSTRACT

Financial technology (FinTech) has emerged as a key enabler of financial inclusion and digital entrepreneurship, offering women greater opportunities to improve their financial management, business performance, and economic participation. Despite the increasing adoption of FinTech, limited empirical evidence exists regarding how technology acceptance factors contribute directly to women's economic empowerment, particularly among women microentrepreneurs in Malaysia. Guided by the Unified Theory of Acceptance and Use of Technology (UTAUT), this study examines the relationships between performance expectancy, effort expectancy, social influence, facilitating conditions, and women's economic empowerment. A quantitative cross-sectional research design was employed, and data were collected from 581 female entrepreneurs registered under Sahabat Amanah Ikhtiar Malaysia (AIM) using a structured questionnaire. Simple random sampling was adopted to ensure equal representation of eligible respondents. The collected data were analysed using IBM SPSS Statistics for descriptive analysis and SmartPLS 4 for Partial Least Squares Structural Equation Modelling (PLS-SEM). The measurement model demonstrated satisfactory reliability and validity, while the structural model revealed that performance expectancy, social influence, and facilitating conditions significantly and positively influenced women's economic empowerment. In contrast, effort expectancy did not exhibit a significant relationship. Among the predictors, facilitating conditions emerged as the strongest determinant, highlighting the critical role of technological infrastructure, digital capability, and institutional support in enabling women to leverage FinTech for economic advancement. The findings extend the application of UTAUT beyond technology adoption by demonstrating its relevance in explaining broader socioeconomic outcomes, particularly women's economic empowerment. Practically, the study provides valuable insights for policymakers, microfinance institutions, and FinTech providers in designing digital financial ecosystems that strengthen women's entrepreneurial capacity and financial independence. The findings support national initiatives aimed at promoting financial inclusion and sustainable economic development through the effective utilisation of digital financial technologies among women entrepreneurs.

Keywords: Financial technology (FinTech); Unified Theory of Acceptance and Use of Technology (UTAUT); Performance expectancy; Social influence; Facilitating conditions; Women's economic empowerment; Amanah Ikhtiar Malaysia.

INTRODUCTION

Women's economic empowerment has become a central agenda within the Sustainable Development Goals (SDG 5 and SDG 8), recognising that greater economic participation enhances women's financial independence, decision-making authority, entrepreneurial capacity, and overall quality of life. In developing economies, digital financial technologies have increasingly been recognised as important catalysts for inclusive economic development by expanding access to financial services that were previously inaccessible to disadvantaged populations. Financial technology (FinTech), which integrates digital technologies into financial services, provides efficient solutions for payments, savings, financing, investment, and business management, thereby reducing transaction costs while improving financial accessibility (Mishra et al., 2024; Kowsar et al., 2025).

Consequently, FinTech has emerged as a strategic mechanism for strengthening women's participation in economic activities, particularly among women entrepreneurs and micro-business owners who often face structural barriers in accessing conventional financial institutions.

Recognising the strategic importance of women's economic participation, the Malaysian government has established a target of increasing the female labour force participation rate to 60% by 2030 (Moksin et al., 2025). This national aspiration is further supported by broader initiatives to strengthen financial inclusion and accelerate financial digitalisation. In Malaysia, social enterprises have long contributed to economic development; however, their broader contribution to both economic and social prosperity has only gained significant recognition from the public and the government in recent years (Jasin et al., 2023). As financial digitalisation continues to expand, the integration of FinTech within these initiatives presents greater opportunities to empower women economically by enhancing access to financial resources, supporting entrepreneurial activities, and promoting sustainable economic participation.

Malaysia presents an appropriate context for examining the contribution of FinTech to women's economic empowerment due to the country's rapid digital transformation. The digital economy contributed RM427.7 billion, equivalent to 23.5% of the national gross domestic product in 2023, reflecting the increasing integration of digital technologies into economic activities (Department of Statistics Malaysia, 2024). Simultaneously, approximately 88% of Malaysian women possess formal financial accounts, suggesting that financial inclusion has substantially improved (World Bank, 2024). Nevertheless, the economic benefits of FinTech should not be assumed to occur automatically. Although digital financial services improve access to payments, financing, and financial management, their effectiveness depends on women's ability to utilise these technologies productively. Previous studies have reported that many women entrepreneurs continue to face challenges such as limited digital financial literacy, inadequate financial management skills, poor internet connectivity, restricted access to digital devices, and concerns regarding cybersecurity and online fraud. Furthermore, deeply rooted social norms and traditional household responsibilities may reduce women's autonomy in making financial and business decisions, thereby limiting the transformative potential of digital finance. Consequently, access to FinTech and microcredit programmes alone may be insufficient to achieve sustainable economic empowerment without complementary support in the form of digital capability development, infrastructure, and institutional assistance.

Existing evidence further suggests that successful economic empowerment through digital finance depends on several enabling conditions. Women who possess stronger digital financial literacy, have access to user-friendly mobile financial applications, receive support from peer networks, and benefit from appropriate microcredit facilities are more likely to improve business performance, increase financial independence, and strengthen their participation in economic activities. These enabling factors complement the role of technology adoption by creating an ecosystem that allows women entrepreneurs to utilise FinTech more effectively for productive purposes.

The increasing participation of Malaysian women in entrepreneurship further highlights the importance of understanding this relationship. In 2022, Malaysia recorded more than 219,000 women-owned business establishments, while women represented nearly half of the national population. However, their labour force participation rate remained considerably lower than that of men, indicating that significant economic potential remains underutilised (Department of Statistics Malaysia, 2024). For many women entrepreneurs, particularly those operating micro and small enterprises, FinTech provides opportunities to improve business operations through digital payments, online financing, cash flow management, and access to broader digital markets. However, these economic benefits are unlikely to occur automatically. Rather, they depend on whether women perceive FinTech as beneficial, easy to use, socially supported, and adequately facilitated to support their entrepreneurial activities.

Although previous studies have demonstrated the importance of UTAUT factors in explaining FinTech adoption, considerably less attention has been devoted to understanding whether these technological perceptions translate into meaningful economic empowerment among women entrepreneurs. Existing research has also paid limited attention to the contextual barriers that may constrain empowerment despite increasing access to digital financial services, particularly within microfinance institutions such as Amanah Ikhtiar Malaysia (AIM). Consequently,

empirical evidence remains limited regarding how technology-related factors contribute to women's economic empowerment within a supportive yet resource-constrained microfinance environment.

The Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003) provides a robust theoretical foundation for explaining how technology-related perceptions influence user behaviour. The theory proposes four principal determinants, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy refers to the degree to which individuals believe that using technology enhances their performance, while effort expectancy reflects the perceived ease associated with technology utilisation. Social influence represents the extent to which significant others encourage technology usage, whereas facilitating conditions describe the availability of technical infrastructure, organisational support, knowledge, and resources necessary for technology utilisation (Venkatesh et al., 2003). Within the FinTech context, these factors may extend beyond influencing technology acceptance by shaping women's ability to utilise digital financial services for income generation, financial management, business growth, and ultimately economic empowerment.

Despite the widespread application of UTAUT in FinTech research, existing empirical evidence remains largely concentrated on explaining behavioural intention or technology adoption rather than broader socioeconomic outcomes. Numerous studies have confirmed that performance expectancy, effort expectancy, social influence, and facilitating conditions significantly influence FinTech adoption across various contexts (Yahaya et al., 2023; Islam et al., 2025). However, these studies implicitly assume that technology adoption naturally leads to positive economic outcomes. Such an assumption remains theoretically insufficient because adopting FinTech applications does not necessarily improve women's financial autonomy, entrepreneurial performance, or economic independence. Women may utilise digital payment applications for routine transactions without experiencing substantial improvements in income generation, asset accumulation, or business sustainability. Consequently, the direct contribution of UTAUT determinants toward women's economic empowerment remains insufficiently understood.

Furthermore, previous FinTech studies have predominantly focused on general consumers, university students, or urban digital users, with comparatively limited attention given to women entrepreneurs, particularly within developing economies such as Malaysia. Existing Malaysian studies primarily evaluate determinants of FinTech acceptance without extending the analysis to broader developmental outcomes such as women's economic empowerment (Tun-Pin et al., 2019; Islam et al., 2025). This narrow perspective limits current understanding of whether positive perceptions of FinTech genuinely contribute to strengthening women's economic capacity. As economic empowerment encompasses improvements in financial independence, entrepreneurial capability, access to economic opportunities, and decision-making power, it should be conceptualised as a distinct developmental outcome rather than a mere consequence of technology adoption.

Therefore, a significant theoretical and empirical gap exists in explaining how the core constructs of UTAUT directly contribute to women's economic empowerment. While technology acceptance models have successfully explained why individuals adopt FinTech, considerably less attention has been devoted to examining whether these technology perceptions generate meaningful socioeconomic value for women. Addressing this gap is particularly important within the Malaysian context, where digital financial inclusion continues to expand alongside national initiatives aimed at strengthening women's economic participation. Accordingly, this study investigates the direct relationships between performance expectancy (Jangkaan Prestasi - JP), effort expectancy (Jangkaan Usaha - JU), social influence (Pengaruh Sosial - PS), and facilitating conditions (Keadaan Fasilitas - KF) and women's economic empowerment (Pemeriksaan Ekonomi Wanita - EW). By extending UTAUT beyond technology adoption towards a broader development outcome, this study contributes to the growing literature on FinTech and gender-inclusive economic development while providing evidence that may inform policies aimed at strengthening women's participation in the digital economy.

Research Objectives

RO1: To examine the relationships between performance expectancy and women's economic empowerment in Malaysia.

RO2: To examine the relationships between effort expectancy and women's economic empowerment in Malaysia.

RO2: To examine the relationships between social influence and women's economic empowerment in Malaysia.

RO2: To examine the relationships between facilitating conditions and women's economic empowerment in Malaysia.

Research Questions

RQ1: Does performance expectancy have a significant relationship with women's economic empowerment in Malaysia?

RQ2: Does effort expectancy have a significant relationship with women's economic empowerment in Malaysia?

RQ3: Does social influence have a significant relationship with women's economic empowerment in Malaysia?

RQ4: Does facilitating condition have a significant relationship with women's economic empowerment in Malaysia?

LITERATURE REVIEW

Unified Theory of Acceptance and Use of Technology as the Underpinning Theory

The Unified Theory of Acceptance and Use of Technology (UTAUT) serves as the underpinning theory for this study. UTAUT was developed by Venkatesh et al. (2003) through the integration of eight prominent technology-adoption models, including the Technology Acceptance Model, Theory of Reasoned Action, Theory of Planned Behaviour, Innovation Diffusion Theory, Motivational Model, Model of Personal Computer Utilisation, Social Cognitive Theory, and the combined TAM-TPB model. The original UTAUT proposes that performance expectancy, effort expectancy, social influence, and facilitating conditions collectively explain individuals' behavioural intention and actual use of technology. It also identifies gender, age, experience, and voluntariness of use as potential moderators of these relationships.

UTAUT is particularly relevant to FinTech because the economic value of digital financial services depends not only on their availability but also on users' perceptions of their usefulness, ease of use, social acceptability, and supporting resources. FinTech applications may provide women with access to digital payments, savings, financing, financial information, and business-management tools. Nevertheless, the availability of these services does not automatically ensure that women can use them productively or translate them into improved economic outcomes. Women's economic empowerment requires more than access to a digital platform; it involves an enhanced capacity to generate and control income, make financial decisions, accumulate assets, participate in markets, and strengthen business sustainability. Evidence on digital payments indicates that such services can contribute to women's financial autonomy, decision-making, income control, and labour-force participation, although these outcomes depend on how the services are accessed and used.

Previous applications of UTAUT in FinTech research have primarily positioned behavioural intention, adoption or usage as the dependent variable. For example, studies have used the four UTAUT constructs to explain the adoption of digital financial services, mobile payments, FinTech platforms and other technology-enabled financial channels. Recent evidence suggests that performance expectancy, effort expectancy, social influence and facilitating conditions can significantly influence FinTech adoption, although the magnitude and significance of these relationships vary across user groups and contexts. This inconsistency suggests that the explanatory relevance of UTAUT is context-dependent and that the effects of its constructs should not be assumed to be uniform, particularly among women entrepreneurs and economically underserved communities.

The present study extends UTAUT by positioning women's economic empowerment as the principal outcome rather than behavioural intention or technology usage. This extension is theoretically justified because technology acceptance represents a means rather than an ultimate developmental outcome. A woman may perceive FinTech

positively or use a digital financial application regularly without necessarily gaining greater control over income, stronger financial decision-making authority or improved entrepreneurial performance. Therefore, the four UTAUT constructs are examined as technology-related enabling conditions that may directly strengthen women's capacity to use FinTech resources for productive economic purposes.

Performance Expectancy and Women's Economic Empowerment

Performance expectancy refers to the extent to which an individual believes that using a particular technology will improve the performance of relevant activities (Venkatesh et al., 2003). In the context of this study, performance expectancy represents women's perception that FinTech can improve financial and entrepreneurial activities through faster transactions, more effective financial management, convenient access to financing, reduced operating costs and wider market participation.

Performance expectancy is frequently identified as an important determinant of FinTech acceptance because users are more likely to engage with a digital financial service when they recognise clear functional benefits. Research involving women micro-entrepreneurs has similarly shown that perceived performance benefits can play an active role in digital-financing adoption. However, its relevance to the present study extends beyond adoption. When women perceive FinTech as capable of enhancing business productivity and financial performance, they may be more likely to apply it to revenue collection, cash-flow monitoring, savings, financing and customer transactions.

The direct relationship between performance expectancy and women's economic empowerment is therefore grounded in the productive value of FinTech. Perceived usefulness may encourage women to integrate digital financial tools into activities that increase income, improve business efficiency and strengthen control over financial resources. Nevertheless, this relationship should not be treated as automatic. Perceived benefits contribute to empowerment only when FinTech is employed for economically meaningful purposes rather than restricted to routine or consumption-oriented transactions. Accordingly, this study proposes that stronger performance expectancy is associated with greater women's economic empowerment.

Effort Expectancy and Women's Economic Empowerment

Effort expectancy refers to the perceived degree of ease associated with learning and using a technological system (Venkatesh et al., 2003). Within the FinTech environment, it reflects whether women consider digital financial applications understandable, manageable and uncomplicated. This construct is particularly relevant for women entrepreneurs who may differ in educational background, technological experience, digital literacy and exposure to formal financial services.

A FinTech application that is difficult to navigate may impose cognitive and operational burdens that limit its productive use. Conversely, user-friendly platforms can reduce the time and effort required to conduct financial transactions, monitor business finances or access financial information. These efficiency gains may allow women to allocate more attention to income-generating and entrepreneurial activities. Thus, effort expectancy may support economic empowerment by lowering the technological barriers that prevent women from benefiting fully from digital finance.

Empirical findings concerning effort expectancy remain mixed. Some FinTech studies identify ease of use as a significant predictor of adoption, whereas others suggest that it becomes less influential once users regard usability as a basic feature of digital financial services. This inconsistency strengthens the need to examine effort expectancy within a specific population. Among women entrepreneurs, particularly those operating microenterprises, perceived simplicity may remain important because complicated procedures, unfamiliar terminology and limited technical assistance can constrain independent use. Therefore, the study evaluates whether greater effort expectancy directly contributes to women's economic empowerment by making FinTech more accessible and practically usable.

Social Influence and Women's Economic Empowerment

Social influence refers to the extent to which individuals perceive that important people or groups believe they should use a particular technology (Venkatesh et al., 2003). In this study, social influence may originate from

family members, spouses, friends, fellow entrepreneurs, community leaders, microfinance officers, customers and other members of women's business networks.

The relevance of social influence is particularly pronounced when technology decisions are embedded within collective or community relationships. Recommendations, demonstrations and positive experiences shared by trusted individuals may reduce uncertainty and encourage women to experiment with FinTech. Social networks can also facilitate knowledge exchange by helping women understand application features, avoid errors and identify suitable digital financial services. Therefore, social influence may operate as both a normative force and an informal learning mechanism.

However, social influence does not necessarily produce empowerment in every circumstance. Social networks may encourage technology use, but they may also reinforce dependence when women rely continuously on other individuals to operate accounts or make financial decisions. In addition, restrictive family norms may limit women's control over devices, accounts, income or business activities. International evidence indicates that gender inequality and social norms can weaken the capacity of FinTech and financial inclusion to generate women's empowerment. Hence, the economic effect of social influence depends on whether social encouragement strengthens women's independent participation or merely creates superficial compliance. This study consequently tests whether supportive social influence directly enhances women's economic empowerment.

Facilitating Conditions and Women's Economic Empowerment

Facilitating conditions refer to an individual's perception that adequate organisational and technical infrastructure exists to support technology use (Venkatesh et al., 2003). In the FinTech context, facilitating conditions may include access to smartphones, affordable internet connectivity, digital skills, technical assistance, financial education, interoperable payment systems and institutional support.

Facilitating conditions are essential because favourable attitudes alone may not be sufficient when women lack the resources required to use FinTech effectively. A woman may recognise the benefits and simplicity of a digital financial service but remain unable to apply it when internet access is unreliable, devices are shared, technical support is unavailable or digital-financial knowledge is inadequate. Research has demonstrated that facilitating conditions can significantly influence the intention to use digital financial channels and FinTech adoption among financially underserved populations.

In relation to economic empowerment, facilitating conditions represent the practical resources that convert technological opportunities into economic capabilities. Access to infrastructure, knowledge and institutional assistance may enable women to use FinTech independently, respond to business opportunities and maintain continuous participation in digital markets. Facilitating conditions can therefore reduce structural constraints and expand women's ability to control financial transactions, obtain information, build transaction histories and access formal financial services. Since limited financial information and access to digital-financial services can restrict women's business development, asset accumulation and productive economic participation, adequate supporting conditions are expected to strengthen empowerment outcomes.

Theoretical Relevance of UTAUT to the Present Study

UTAUT is appropriate for the present study because it captures four complementary dimensions of women's engagement with FinTech. Performance expectancy represents the expected economic value of the technology; effort expectancy represents its usability; social influence captures the interpersonal and community environment surrounding its use; and facilitating conditions reflect the resources and support required for effective utilisation. Collectively, these constructs provide a multidimensional explanation of how women's technological perceptions and circumstances may influence their economic position.

Nevertheless, the present research departs from the conventional UTAUT framework by examining women's economic empowerment directly. The original theory was designed to explain behavioural intention and technology-use behaviour rather than developmental outcomes. This study therefore treats UTAUT factors as antecedent capabilities that can facilitate the productive utilisation of FinTech. Such an extension avoids the

assumption that adoption itself constitutes empowerment and instead evaluates whether positive technology conditions are associated with stronger income-generating capacity, financial autonomy, entrepreneurial participation and control over economic resources.

This theoretical extension is consistent with evidence that digital financial services can connect women to markets, support income generation, facilitate savings and strengthen control over earnings. However, FinTech alone may be insufficient to eliminate gender-based financial inequalities without supportive infrastructure and appropriate social and policy conditions. Accordingly, the purpose of this study is to determine whether performance expectancy, effort expectancy, social influence and facilitating conditions have direct relationships with women's economic empowerment. By doing so, the study extends UTAUT from a technology-acceptance framework into a framework for explaining the socioeconomic value generated through FinTech.

Based on this theoretical reasoning, the study proposes the following hypotheses:

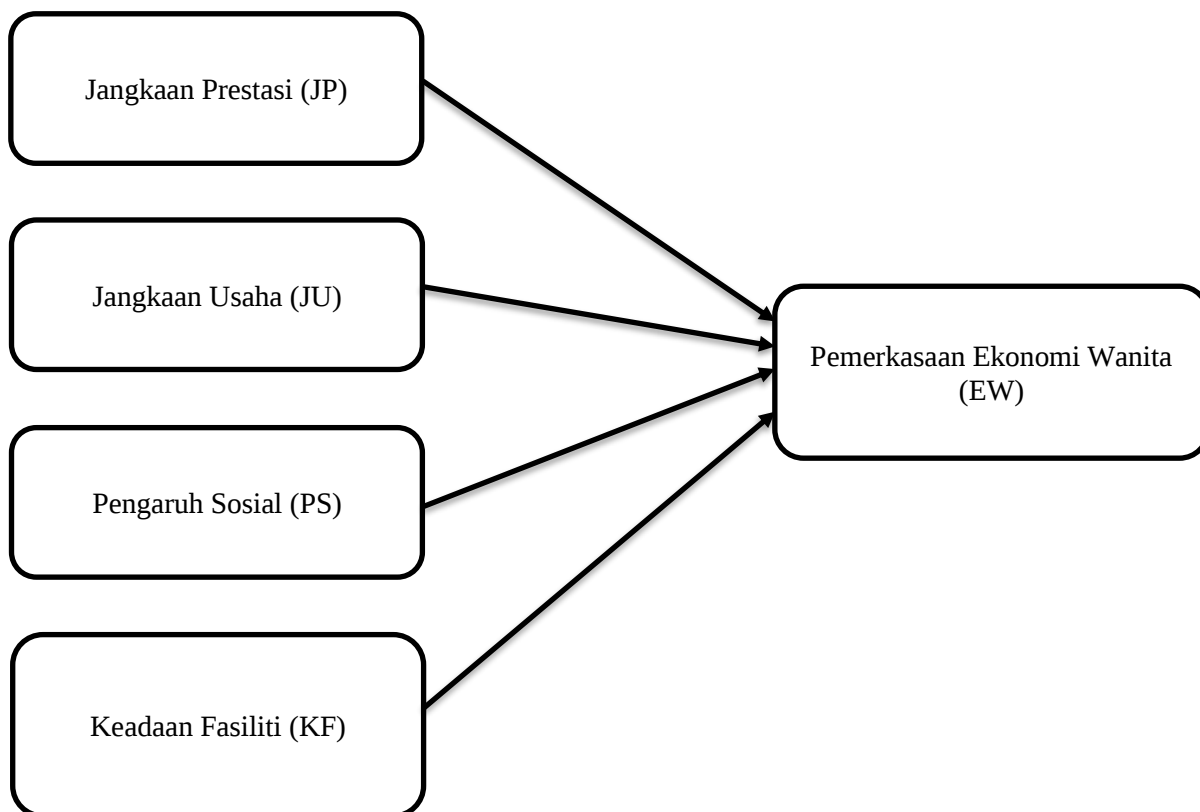
H1: Performance expectancy has a positive relationship with women's economic empowerment.

H2: Effort expectancy has a positive relationship with women's economic empowerment.

H3: Social influence has a positive relationship with women's economic empowerment.

H4: Facilitating conditions have a positive relationship with women's economic empowerment.

Proposed framework



METHODOLOGY

This study adopted a quantitative cross-sectional survey design to examine the direct relationships between performance expectancy, effort expectancy, social influence, facilitating conditions, and women's economic empowerment. The target population comprised female micro-entrepreneurs registered under Sahabat Amanah Ikhtiar Malaysia (AIM), with the individual entrepreneur serving as the unit of analysis. A simple random sampling technique was employed using the AIM membership database as the sampling frame to ensure that each eligible respondent had an equal probability of selection.

Data were collected through a structured questionnaire adapted from previously validated instruments. Performance expectancy, effort expectancy, social influence, and facilitating conditions were measured using items adapted from the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003). The measurement items for women's economic empowerment were adapted from established literature on women's empowerment and economic participation (Kabeer, 1999; Malhotra et al., 2002). All constructs were measured using a five-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Prior to the main survey, a pilot study was conducted to assess the clarity, validity, and reliability of the questionnaire. Participation was voluntary, and respondents' anonymity and confidentiality were assured throughout the data collection process.

The collected data were analysed using IBM SPSS Statistics and SmartPLS 4. SPSS was utilised for data screening, missing value analysis, descriptive statistics, respondents' demographic profiling, and preliminary reliability assessment. Subsequently, Partial Least Squares Structural Equation Modelling (PLS-SEM) was performed using SmartPLS 4. The measurement model was evaluated based on indicator loadings, Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and discriminant validity using the heterotrait-monotrait (HTMT) ratio. The structural model was assessed by examining collinearity (VIF), path coefficients (β), coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and the significance of the hypothesised relationships through bootstrapping with 5,000 resamples, following the recommendations of Sarstedt et al. (2021).

FINDINGS

Table 1 Demographic Profile

		Frequency	%
Cawangan AIM:	Cawangan Ampang	44	7.6%
	Cawangan Bandar Tun Razak	72	12.4%
	Cawangan Barat Laut Selangor	46	7.9%
	Cawangan Gombak	81	13.9%
	Cawangan Hulu Selangor	41	7.1%
	Cawangan Kuala Selangor	39	6.7%
	Cawangan Puchong	31	5.3%
	Cawangan Sepang	106	18.2%
	Cawangan Shah Alam	79	13.6%
	Cawangan Sungai Buloh	42	7.2%
Umur:	21-30 tahun	25	4.3%
	31-40 tahun	171	29.4%
	41-50 tahun	238	41.0%
	Atas 50 tahun	147	25.3%
Tempoh menjadi Sahabat Usahawan AIM:	11-15 tahun	115	19.8%
	16-20 tahun	43	7.4%
	6-10 tahun	236	40.6%
	Kurang dari 5 tahun	181	31.2%
	Lebih dari 20 tahun	6	1.0%
Pendapatan kasar (sebulan) sebelum menjadi Sahabat Usahawan AIM:	Kurang daripada RM 500	96	16.5%
	Lebih daripada RM 10,001	7	1.2%
	RM 1,501 – RM 3,000	170	29.3%
	RM 3,001 – RM 5,000	59	10.2%
	RM 5,001 – RM 10,000	21	3.6%
	RM 501 – RM 1,500	228	39.2%

Pendapatan kasar (sebulan) selepas menjadi Sahabat Usahawan AIM:	Kurang daripada RM 500	3	0.5%
	Lebih daripada RM 10,001	39	6.7%
	RM 1,501 – RM 3,000	204	35.1%
	RM 3,001 – RM 5,000	176	30.3%
	RM 5,001 – RM 10,000	92	15.8%
	RM 501 – RM 1,500	67	11.5%
Jumlah modal pembiayaan yang sedang dibayar balik (semua jenis pinjaman):	Kurang daripada RM 3,000	130	22.4%
	Lebih daripada RM 30,001	5	0.9%
	RM 10,001 – RM 30,000	170	29.3%
	RM 3,001 – RM 5,000	80	13.8%
	RM 5,001 – RM 10,000	196	33.7%

A total of 581 Sahabat Usahawan Amanah Ikhtiar Malaysia (AIM) participated in the study. The respondents were drawn from ten AIM branches, with the largest groups from Sepang (18.2%), Gombak (13.9%), Shah Alam (13.6%), and Bandar Tun Razak (12.4%). This distribution provides reasonable coverage across different AIM locations and reduces the likelihood that the findings reflect only one branch or local setting.

Most respondents were aged between 41 and 50 years (41.0%), followed by those aged 31 to 40 years (29.4%). Only 4.3% were aged between 21 and 30 years. This age pattern is relevant because middle-aged entrepreneurs may have greater business experience but may differ in their familiarity with FinTech applications. Therefore, their perceptions of performance expectancy, effort expectancy, social influence, and facilitating conditions may strongly determine whether FinTech contributes to their economic empowerment.

Regarding AIM membership, 40.6% had been members for 6 to 10 years, while 31.2% had joined for less than five years. This indicates that most respondents had sufficient experience with AIM's financing and entrepreneurship programmes. Their exposure to financial services makes them suitable respondents for evaluating whether FinTech-related benefits, ease of use, social support, and available facilities contribute to stronger financial control and business development.

The income distribution showed a clear upward shift after respondents became AIM entrepreneurs. Before joining AIM, 55.7% earned RM1,500 or less per month. After joining AIM, this proportion declined to 12.0%. In contrast, the proportion earning more than RM3,000 increased from 15.0% before joining AIM to 52.8% afterwards. Although these descriptive results do not establish that AIM participation directly caused the increase, they indicate that many respondents experienced improved economic conditions.

This income improvement is closely related to the purpose of the study. Women's economic empowerment is reflected through improved income, greater financial capacity, and stronger participation in entrepreneurial activities. However, the increase in income may not be explained by financing alone. It is also important to determine whether women perceive FinTech as useful for improving business performance, easy to use, supported by people around them, and accessible through adequate technological resources.

Most respondents were repaying financing between RM5,001 and RM10,000 (33.7%) or RM10,001 and RM30,000 (29.3%). This suggests that a large proportion were actively managing meaningful financial commitments. FinTech may assist them in monitoring repayments, managing cash flow, conducting transactions, and accessing financial information. However, these benefits depend on the availability of suitable devices, internet access, knowledge, and technical support.

The demographic findings indicate that the respondents were experienced women microentrepreneurs who had demonstrated improvements in income but continued to manage moderate financial obligations. This profile supports the relevance of examining whether performance expectancy, effort expectancy, social influence, and facilitating conditions directly strengthen women's economic empowerment. The demographic results therefore provide the contextual foundation for testing the proposed UTAUT-based relationships in the structural model.

Table 2 Construct Reliability and Validity

	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Jangkaan Prestasi (JP)	0.962	0.971	0.869
Jangkaan Usaha (JU)	0.961	0.970	0.866
Keadaan Fasiliti (KF)	0.926	0.945	0.773
Pemeriksaan Ekonomi Wanita (EW)	0.964	0.970	0.823
Pengaruh Sosial (PS)	0.923	0.942	0.764

The reliability and convergent validity of the measurement model were assessed using Cronbach's alpha (CA), composite reliability (CR), and average variance extracted (AVE). Following the guidelines of Sarstedt et al. (2021), Cronbach's alpha and composite reliability values should exceed 0.70, while the AVE should be greater than 0.50 to demonstrate satisfactory reliability and convergent validity.

As presented in the table above, all constructs demonstrated excellent internal consistency reliability. Cronbach's alpha values ranged from 0.923 to 0.964, while composite reliability values ranged from 0.942 to 0.971, substantially exceeding the recommended threshold of 0.70. These findings indicate that the measurement items consistently represent their respective latent constructs, suggesting that the questionnaire provides reliable measures of performance expectancy, effort expectancy, social influence, facilitating conditions, and women's economic empowerment.

Convergent validity was also established, as all AVE values ranged between 0.764 and 0.869, well above the minimum criterion of 0.50. Among the constructs, Performance Expectancy (JP) recorded the highest AVE (0.869), indicating that its indicators explained the largest proportion of construct variance. This was followed by Effort Expectancy (JU) (AVE = 0.866), Women's Economic Empowerment (EW) (AVE = 0.823), Facilitating Conditions (KF) (AVE = 0.773), and Social Influence (PS) (AVE = 0.764). These results confirm that each construct adequately captures the variance of its indicators, supporting the convergent validity of the measurement model.

The reliability and validity assessment indicates that all constructs satisfy the recommended PLS-SEM criteria. The strong psychometric properties provide confidence that the latent variables are measured accurately and consistently, thereby supporting the subsequent assessment of the structural relationships between performance expectancy, effort expectancy, social influence, facilitating conditions, and women's economic empowerment.

Table 3 Outer Loadings

	Jangkaan Prestasi (JP)	Jangkaan Usaha (JU)	Keadaan Fasiliti (KF)	Pemeriksaan Ekonomi Wanita (EW)	Pengaruh Sosial (PS)
EW1. Dengan menggunakan aplikasi Fintech saya dapat membuat sumbangankew				0.903	
EW2. Dengan menggunakan aplikasi Fintech saya mampu menjangapendapatanse				0.914	
EW3. Dengan menggunakan aplikasi Fintech saya dapat membuat keputusanmen				0.940	
EW4. Dengan menggunakan aplikasi Fintech saya dapat membuatperbelanjaa				0.934	
EW5. Dengan menggunakan aplikasi Fintech kuasabelisaya meningkat				0.829	
EW6. Dengan menggunakan aplikasi Fintech saya boleh membuat keputusanmen				0.909	

EW7. Penggunaan aplikasi FinTech dapat meningkatkan tahap ekonomis saya				0.917	
JP1. Saya dapat jika FinTech dapat membantu urusan transaksi dalam kehidupan sehari-hari	0.908				
JP2. Penggunaan aplikasi FinTech dapat membantu saya menyelesaikan urusan	0.938				
JP3. Penggunaan aplikasi FinTech memudahkan urusan saya	0.944				
JP4. Penggunaan FinTech memudahkan urusan pembayaran saya	0.952				
JP5. Penggunaan FinTech meningkatkan peluang dalam mencari pekerjaan	0.917				
JU1. Saya mempelajari cara menggunakan FinTech adalah mudah bagi saya		0.918			
JU2. Saya dapat jika FinTech mudah digunakan		0.932			
JU3. Saya menjadi lebih mahir dengan menggunakan FinTech		0.938			
JU4. Arah dalam aplikasi FinTech adalah jelas dan mudah dipahami		0.937			
JU5. FinTech memudahkan untuk melaksanakan semua urusan saya		0.929			
KF1. Saya mempunyai sumber yang diperlukan untuk penggunaan FinTech			0.906		
KF2. Saya mempunyai ilmu yang diperlukan untuk penggunaan FinTech			0.892		
KF3. Pembayaran mudah dilakukan berdasarkan FinTech adalah sesuai dengan teknologi			0.896		
KF4. Saya dapat bantuan dari orang lain jika saya mengalami masalah			0.804		
KF5. Penggunaan FinTech adalah sesuai dengan gaya hidup saya			0.895		
PS1. Keluarga dan kawan berpendapat bahwa saya wajar menggunakan FinTech					0.878
PS2. Keluarga dan kawan telah mempengaruhi saya dalam penggunaan FinTech					0.895
PS3. Saya menggunakan FinTech karena saya menghargai uang dan pengeluaran					0.881
PS4. Saya atau orang sekeliling saya menggunakan FinTech					0.842
PS5. Informasi media massa mempengaruhi keputusan saya dalam menerima atau tidak					0.873

Indicator reliability was evaluated by examining the outer loadings of each measurement item. According to Sarstedt et al. (2021), indicator loadings of 0.708 or higher indicate that an item adequately represents its underlying construct and contributes substantially to the measurement model.

As presented in Table 3, all measurement items exceeded the recommended threshold of 0.708, with outer loadings ranging from 0.804 to 0.952. For Performance Expectancy (JP), the indicator loadings ranged from 0.908 to 0.952, indicating that all items consistently captured respondents' perceptions of the usefulness and

performance benefits of FinTech. Similarly, Effort Expectancy (JU) demonstrated strong indicator reliability, with loadings ranging between 0.918 and 0.938, suggesting that the items effectively measured the perceived ease of using FinTech applications.

The indicators for Facilitating Conditions (KF) also exhibited satisfactory loadings, ranging from 0.804 to 0.906. Although KF4 recorded the lowest loading (0.804), it remained above the recommended threshold, indicating that respondents consistently perceived the availability of resources, knowledge, and support necessary for FinTech utilisation. For Social Influence (PS), the indicator loadings ranged from 0.842 to 0.895, reflecting that encouragement from family, friends, and the surrounding environment was consistently represented by the measurement items.

The dependent construct, Women's Economic Empowerment (EW), demonstrated high indicator reliability, with outer loadings ranging from 0.829 to 0.940. These findings suggest that the indicators adequately captured different dimensions of women's economic empowerment, including income generation, financial decision-making, purchasing power, and improvements in economic well-being resulting from the use of FinTech.

All indicators satisfied the recommended criterion for indicator reliability, and therefore no measurement items were removed from the analysis. The consistently high outer loadings indicate that each indicator contributes meaningfully to its respective latent construct, providing strong support for the reliability and validity of the measurement model prior to evaluating the structural relationships among performance expectancy, effort expectancy, social influence, facilitating conditions, and women's economic empowerment.

Table 4 Discriminant Validity (HTMT)

	Jangkaan Prestasi (JP)	Jangkaan Usaha (JU)	Keadaan Fasilitas (KF)	Pemeriksaan Ekonomi Wanita (EW)	Pengaruh Sosial (PS)
Jangkaan Prestasi (JP)					
Jangkaan Usaha (JU)	0.865				
Keadaan Fasilitas (KF)	0.795	0.881			
Pemeriksaan Ekonomi Wanita (EW)	0.720	0.773	0.836		
Pengaruh Sosial (PS)	0.766	0.850	0.898	0.801	

Discriminant validity was assessed using the Heterotrait-Monotrait ratio (HTMT), which is recommended as a robust criterion for evaluating construct distinctiveness in PLS-SEM. According to Sarstedt et al. (2021), HTMT values below 0.90 indicate that the constructs are empirically distinct and adequately measure different theoretical concepts.

As presented in Table 4, all HTMT values ranged from 0.720 to 0.898, remaining below the recommended threshold of 0.90. The highest HTMT value was observed between Facilitating Conditions (KF) and Social Influence (PS) (HTMT = 0.898). Although this value approaches the upper limit, it remains within the acceptable range, indicating that both constructs are conceptually related but sufficiently distinct. This finding is theoretically reasonable because individuals who receive greater social encouragement to use FinTech are also likely to perceive stronger support, resources, and infrastructure that facilitate its use.

The remaining construct pairs demonstrated HTMT values well below the threshold, including Performance Expectancy and Effort Expectancy (0.865), Effort Expectancy and Social Influence (0.850), Facilitating Conditions and Women's Economic Empowerment (0.836), Social Influence and Women's Economic Empowerment (0.801), Performance Expectancy and Facilitating Conditions (0.795), Effort Expectancy and Women's Economic Empowerment (0.773), Performance Expectancy and Social Influence (0.766), and Performance Expectancy and Women's Economic Empowerment (0.720). These results indicate that each construct captures a unique aspect of the research model despite the expected theoretical relationships among them.

The HTMT assessment confirms that discriminant validity has been established. The findings demonstrate that performance expectancy, effort expectancy, facilitating conditions, social influence, and women's economic empowerment represent conceptually distinct constructs. Therefore, the measurement model satisfies the recommended discriminant validity criterion and is appropriate for subsequent structural model evaluation.

Table 5 Path Coefficients

	Sample mean	T statistics	P values
Jangkaan Prestasi (JP) -> Pemerdayaan Ekonomi Wanita (EW)	0.123	2.198	0.028
Jangkaan Usaha (JU) -> Pemerdayaan Ekonomi Wanita (EW)	0.111	1.368	0.171
Keadaan Fasilitas (KF) -> Pemerdayaan Ekonomi Wanita (EW)	0.400	6.015	0.000
Pengaruh Sosial (PS) -> Pemerdayaan Ekonomi Wanita (EW)	0.248	4.459	0.000

The structural model was evaluated by examining the significance of the hypothesised relationships between the UTAUT constructs and women's economic empowerment using the bootstrapping procedure with 5,000 resamples. Following Sarstedt et al. (2021), a relationship is considered statistically significant when the *t*-value exceeds 1.96 and the *p*-value is less than 0.05.

As shown in Table 5, Performance Expectancy (JP) demonstrated a significant positive relationship with Women's Economic Empowerment (EW) ($t = 2.198, p = 0.028$). This finding supports the proposition that women who perceive FinTech as useful for improving business performance and financial activities are more likely to experience greater economic empowerment. The result suggests that recognising the practical benefits of FinTech encourages women to utilise digital financial services in ways that enhance financial management, business productivity, and income-generating opportunities.

In contrast, Effort Expectancy (JU) did not have a significant relationship with women's economic empowerment ($t = 1.368, p = 0.171$). Although respondents generally perceived FinTech applications as easy to use, this perception alone was insufficient to improve their economic outcomes. A possible explanation is that ease of use has become a basic expectation among current FinTech users. Consequently, while user-friendly applications may facilitate technology utilisation, they do not necessarily translate into greater financial independence or improved entrepreneurial performance. This finding suggests that economic empowerment depends more on the value created through FinTech utilisation than on the simplicity of the technology itself.

Among the four predictors, Facilitating Conditions (KF) exerted the strongest positive influence on women's economic empowerment ($t = 6.015, p < 0.001$). This finding highlights the importance of having adequate resources, digital knowledge, technological infrastructure, and technical support to enable women to benefit from FinTech. Even when users perceive FinTech as useful, meaningful economic outcomes are unlikely to be achieved without sufficient access to supporting facilities and capabilities. This result reinforces the view that technological readiness is a critical foundation for translating digital financial services into tangible socioeconomic benefits.

Similarly, Social Influence (PS) showed a significant positive relationship with women's economic empowerment ($t = 4.459, p < 0.001$). This indicates that encouragement and support from family members, peers, communities, and social networks positively contribute to women's utilisation of FinTech for economic activities. Social support may enhance confidence, facilitate knowledge sharing, and reduce uncertainty associated with digital financial services, thereby enabling women to engage more actively in entrepreneurial and financial activities.

Three of the four hypotheses were supported. Performance expectancy, facilitating conditions, and social influence were found to significantly enhance women's economic empowerment, whereas effort expectancy was not significant. Notably, facilitating conditions emerged as the most influential predictor, suggesting that providing women with adequate technological resources, digital skills, and institutional support may be more effective in strengthening economic empowerment than focusing solely on improving the ease of using FinTech applications. These findings extend the application of UTAUT by demonstrating that its core constructs not only explain technology acceptance but also contribute directly to broader socioeconomic outcomes, particularly women's economic empowerment.

Table 6 Hypothesis

Hypothesis	p-values	Result
H1: Performance expectancy has a positive relationship with women's economic empowerment.	0.028	Supported
H2: Effort expectancy has a positive relationship with women's economic empowerment.	0.171	Not supported
H3: Social influence has a positive relationship with women's economic empowerment.	0.000	Supported
H4: Facilitating conditions have a positive relationship with women's economic empowerment.	0.000	Supported

The hypothesis testing results are presented in Table 6. Of the four proposed hypotheses, three were supported, while one was not supported.

Specifically, H1 proposed that performance expectancy has a positive relationship with women's economic empowerment. The hypothesis was supported ($p = 0.028$), indicating that women who perceive FinTech as beneficial for improving business performance and financial management are more likely to experience greater economic empowerment. This finding suggests that the perceived usefulness of FinTech remains an important driver of positive economic outcomes, as women are more likely to utilise digital financial services when they believe these technologies improve productivity, increase efficiency, and create greater economic opportunities.

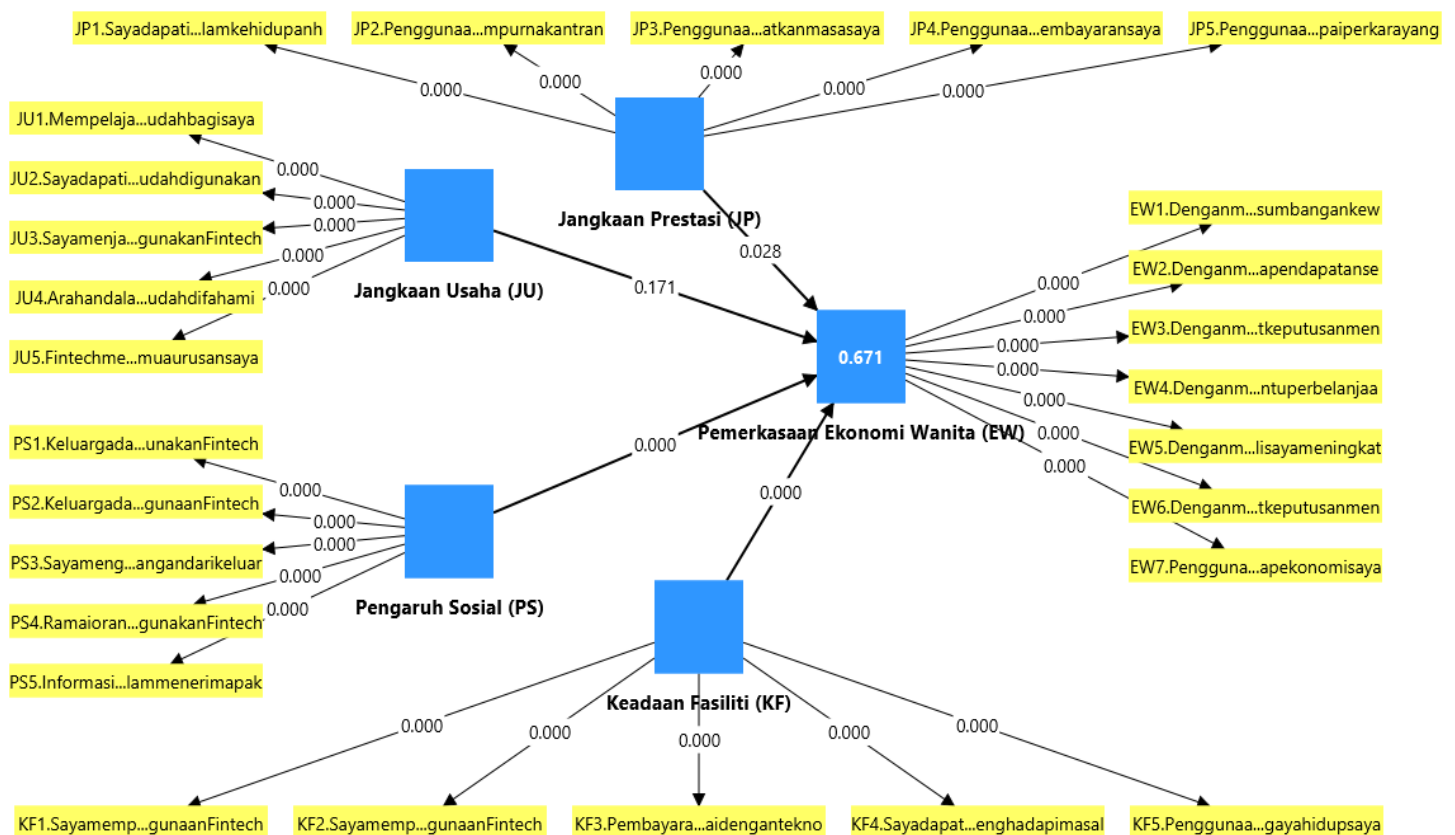
In contrast, H2, which proposed a positive relationship between effort expectancy and women's economic empowerment, was not supported ($p = 0.171$). This finding indicates that the perceived ease of using FinTech applications does not necessarily improve women's economic well-being. Although user-friendly applications may encourage technology usage, ease of use alone is insufficient to generate higher income, stronger financial autonomy, or better entrepreneurial performance. One possible explanation is that FinTech applications have become increasingly intuitive and easy to operate, making usability an expected characteristic rather than a distinguishing factor influencing economic outcomes. Instead, women entrepreneurs may place greater emphasis on the tangible economic value created through FinTech rather than on the effort required to use the technology. This finding is consistent with previous studies that reported the insignificant influence of effort expectancy in FinTech adoption and technology usage contexts. For example, Mohd Hanapi (2023) found that effort expectancy did not significantly influence the adoption of FinTech digital payment services among higher education students in Malaysia, suggesting that users no longer regard ease of use as a primary determinant once digital technologies become familiar. Similarly, Jou et al. (2023) reported that effort expectancy was not a significant predictor of technology usage among women entrepreneurs, as other factors such as perceived benefits and facilitating support played a more substantial role. Furthermore, Oliveira et al. (2016) argued that as users gain greater experience with digital technologies, the influence of effort expectancy gradually diminishes because ease of use becomes a basic expectation rather than a competitive advantage. These findings suggest that improving the usability of FinTech applications alone may not be sufficient to enhance women's economic empowerment without simultaneously strengthening the economic value and supporting ecosystem surrounding digital financial services.

Both H3 and H4 were supported, demonstrating that social influence ($p < 0.001$) and facilitating conditions ($p < 0.001$) positively influence women's economic empowerment. The significant effect of social influence indicates that encouragement from family, peers, and surrounding communities can increase women's confidence and willingness to utilise FinTech for productive economic activities. More importantly, facilitating conditions emerged as the strongest determinant of women's economic empowerment, highlighting that adequate technological infrastructure, digital knowledge, and institutional support are essential for enabling women to translate FinTech utilisation into meaningful economic benefits.

The findings partially support the application of the Unified Theory of Acceptance and Use of Technology (UTAUT) in explaining women's economic empowerment. While performance expectancy, social influence, and facilitating conditions significantly contribute to empowerment, effort expectancy does not appear to be a decisive factor in this context. Collectively, these findings suggest that women are more likely to achieve economic

empowerment when they perceive clear economic benefits from FinTech, receive encouragement from their social environment, and have adequate resources and support to utilise digital financial services effectively, rather than simply perceiving the technology as easy to use.

Figure 1 Final Framework



DISCUSSION

Conclusion

This study examined the direct relationships between performance expectancy, effort expectancy, social influence, facilitating conditions, and women's economic empowerment within the context of FinTech utilisation among Sahabat Usahawan Amanah Ikhtiar Malaysia (AIM). Grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), the findings demonstrate that performance expectancy, social influence, and facilitating conditions significantly contribute to women's economic empowerment, whereas effort expectancy does not have a significant effect.

Among the four determinants, facilitating conditions emerged as the strongest predictor of women's economic empowerment, highlighting the importance of providing adequate technological infrastructure, digital knowledge, technical support, and access to financial resources. This finding suggests that women are more likely to translate FinTech utilisation into meaningful economic outcomes when they possess the necessary resources and support to use digital financial services effectively. Social influence also plays an important role, indicating that encouragement from family members, peers, and communities can strengthen women's confidence in adopting FinTech for entrepreneurial and financial activities. Meanwhile, performance expectancy confirms that women are more likely to experience economic empowerment when they perceive FinTech as capable of improving business performance, increasing productivity, and creating greater financial opportunities.

Although facilitating conditions emerged as the strongest predictor, the findings should be interpreted cautiously. Adequate infrastructure alone may not guarantee sustainable economic empowerment if women continue to experience digital literacy limitations, insufficient financial capability, or socio-cultural barriers that restrict independent financial decision-making. Likewise, concerns regarding cybersecurity and digital trust may discourage women from fully utilising available financial technologies. Therefore, strengthening women's

economic empowerment requires not only expanding access to FinTech but also improving digital capability, financial education, institutional support, and an enabling social environment.

Conversely, the insignificant relationship between effort expectancy and women's economic empowerment suggests that the ease of using FinTech applications alone is insufficient to improve women's economic well-being. As digital financial applications become increasingly intuitive and familiar, women entrepreneurs may place greater emphasis on the practical value and economic benefits derived from FinTech rather than on the effort required to use the technology. Therefore, policymakers and FinTech providers should prioritise strengthening digital infrastructure, improving financial capability, and creating supportive ecosystems instead of focusing solely on enhancing system usability.

Theoretically, this study extends the application of UTAUT by demonstrating that its core constructs can explain not only technology acceptance but also broader socioeconomic outcomes, particularly women's economic empowerment. While UTAUT has traditionally been applied to behavioural intention and technology adoption, the present study broadens its application by positioning women's economic empowerment as the primary outcome. Practically, the findings provide valuable insights for policymakers, Amanah Ikhtiar Malaysia, financial institutions, and FinTech providers in designing initiatives that strengthen women's participation in the digital economy. Investment in digital literacy programmes, accessible technological infrastructure, and community-based support mechanisms may enhance the effectiveness of FinTech as a tool for empowering women entrepreneurs.

Limitations of the Study

Despite its contributions, this study has several limitations. First, the study employed a cross-sectional research design, which captures respondents' perceptions at a single point in time. Consequently, the findings identify statistical associations but cannot establish causal relationships between the UTAUT constructs and women's economic empowerment. A longitudinal approach would provide stronger evidence of how FinTech utilisation influences economic empowerment over time.

Second, the study focused exclusively on women entrepreneurs registered under Amanah Ikhtiar Malaysia in Selangor. Although this population is highly relevant to the research objective, the findings may not be generalisable to women entrepreneurs operating in other Malaysian states, urban business sectors, or different microfinance institutions. Differences in socioeconomic background, digital infrastructure, and financial ecosystems may influence the relationships examined.

Third, all data were collected using self-administered questionnaires. As with most survey-based studies, respondents' answers may be affected by social desirability bias, recall bias, or subjective perceptions, which could influence the accuracy of the reported responses.

Furthermore, this study focused primarily on technology acceptance factors derived from UTAUT and did not explicitly examine contextual factors such as digital financial literacy, financial capability, internet accessibility, cybersecurity concerns, or socio-cultural norms. Although these issues may influence women's ability to translate FinTech adoption into meaningful economic empowerment, they were beyond the scope of the present study. Future research should incorporate these contextual factors to provide a more comprehensive understanding of women's digital financial empowerment.

The study investigated only four antecedents derived from the original UTAUT framework. Women's economic empowerment is a multidimensional concept that may also be influenced by other technological, organisational, psychological, and environmental factors that were not included in the present model.

Future Research

Future studies are encouraged to adopt longitudinal research designs to examine how the influence of FinTech evolves as women entrepreneurs gain greater digital experience and expand their businesses. Such an approach would provide stronger evidence regarding the long-term contribution of FinTech to women's economic empowerment.

Future research should also expand the sampling frame by including women entrepreneurs from different states, microfinance institutions, and business sectors to enhance the generalisability of the findings. Comparative studies between urban and rural entrepreneurs or across different demographic groups may further explain contextual differences in FinTech utilisation.

In addition, future studies could extend the proposed model by incorporating other relevant variables such as digital literacy, financial literacy, trust, perceived security, innovation capability, self-efficacy, government support, or entrepreneurial orientation. These variables may provide a more comprehensive explanation of how FinTech contributes to women's economic empowerment and improve the explanatory power of the model.

Future researchers are encouraged to employ mixed-method or qualitative approaches to complement quantitative findings. In-depth interviews or case studies could provide richer insights into women's experiences, challenges, and strategies when utilising FinTech for business development and financial decision-making. Such evidence would contribute to a deeper understanding of the mechanisms through which digital financial technologies support sustainable women's economic empowerment.

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CONFLICT OF INTEREST

The author declares that there are no financial, personal, professional, or institutional conflicts of interest that could have influenced the design, conduct, analysis, interpretation, or reporting of this study. The internal research grant provided by UNITAR International University supported the research but had no influence on the study design, data collection, analysis, interpretation of the findings, or the decision to publish the results. Amanah Ikhtiar Malaysia (AIM) facilitated participant recruitment for the survey but had no involvement in the study design, data analysis, interpretation of the findings, or the preparation of the manuscript. The research was conducted independently, and the views, findings, and conclusions presented in this article are solely those of the author.

REFERENCES

1. Goswami, S., Chouhan, V., & Saraswat, P. (2025). FinTech adoption: driving financial inclusion at the bottom of pyramid. *Future Business Journal*, 11(1), 150.
2. Hendriks, S. (2019). The role of financial inclusion in driving women's economic empowerment. *Development in Practice*, 29(8), 1029-1038.
3. Hudi, Z. H., Munap, R., Paulus, L., Mahmood, M., & ITHNIN, M. (2024). Harnessing Social Media: Elevating Business Performance in Klang Valley's Small and Medium Enterprises. *INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS AND SOCIAL SCIENCES*, 14(10).
4. Islam, M. E., & Polas, M. R. H. (2025). FinTech Adoption in Emerging Economies: Integrating Technology Acceptance and Institutional Perspectives. *Electronic Journal of Business and Management*, 10(4), 56-76.
5. Jasin, D., Hansaram, S. K., Hansaram, R., & Chong, K. L. (2023). Generation Z behavioral intentions towards social entrepreneurship. *International Journal of Academic Research in Business & Social Sciences*, 13(5), 2194-2206.
6. Jou, Y. T., Shiang, W. J., Silitonga, R. M., Adilah, M., & Halim, A. Z. A. (2023). Assessing factors that influence Womenpreneurs' intention to use technology: a structural equation modeling approach. *Behavioral Sciences*, 13(2), 94.

7. Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and change*, 30(3), 435-464.
8. Kowsar, M. M., Islam, S., Mohiuddin, M., & Siddiqui, N. A. (2025). Digitization In Retail Banking: A review of customer engagement and financial product adoption in South Asia. *ASRC Procedia: Global Perspectives in Science and Scholarship*, 1(01), 42-46.
9. Malhotra, A., Schuler, S. R., & Boender, C. (2002, June). Measuring women's empowerment as a variable in international development. In background paper prepared for the World Bank Workshop on Poverty and Gender: New Perspectives (Vol. 28, p. 58). Washington, DC: The World Bank.
10. Mishra, D., Kandpal, V., Agarwal, N., & Srivastava, B. (2024). Financial inclusion and its ripple effects on socio-economic development: a comprehensive review. *Journal of Risk and Financial Management*, 17(3), 105.
11. Mohd Hanapi, A. (2023). *Factors affecting the adoption of fintech digital payment services among higher education students in Malaysia* (Doctoral dissertation, Universiti Teknologi MARA, Kelantan).
12. Moksini, H., Rossli, I. I. F., & Hansaram, S. K. (2025). The Sacrifice Paradox: Women Entrepreneurs in Small Business. *International Journal of Research and Innovation in Social Science (IJRISS)*, 9(11).
13. Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in human behavior*, 61, 404-414.
14. Saluja, O. B., Singh, P., & Kumar, H. (2023). Barriers and interventions on the way to empower women through financial inclusion: a 2 decades systematic review (2000–2020). *Humanities and Social Sciences Communications*, 10(1), 148.
15. Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing.
16. Sultana, N., Chowdhury, R. S., & Haque, A. (2023). Gravitating towards Fintech: A study on Undergraduates using extended UTAUT model. *Heliyon*, 9(10).
17. Tun-Pin, C., Keng-Soon, W. C., Yen-San, Y., Pui-Yee, C., Hong-Leong, J. T., & Shwu-Shing, N. (2019). An adoption of fintech service in Malaysia. *South East Asia Journal of Contemporary Business*, 18(5), 134-147.
18. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view1. *MIS quarterly*, 27(3), 425-478.
19. Yahaya, M. H., Baharudin, Z. N., Mohamad, S. N. A., Ishak, A. H., Abd Rahman, F., Ab Manan, S. K., & Mohd, N. A. (2023). Determinants Of Fintech Adoption: A Systematic Literature Review. *al-Qanatir: International Journal of Islamic Studies*, 30(2), 291-302.