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Behavioural Factors Affect Fintech Adoption in Pakistan

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Abstract

This study explores the behavioural factors influencing FinTech adoption in Pakistan, focusing on mobile banking applications. Despite rapid technological advancements, adoption remains low due to trust issues, financial illiteracy, and perceived risks. Using the Unified Theory of Acceptance and Use of Technology (UTAUT) and an extended valence framework, this research examines the role of cognitive-behavioural factors, satisfaction, and continuous intention in FinTech adoption. Findings will provide insights for policymakers and financial institutions to enhance digital literacy, address security concerns, and foster consumer trust. This study contributes to the literature by identifying key psychological and social factors affecting digital financial services adoption.

Keywords: FinTech Adoption, Behavioral Factors, Digital Banking, Mobile Banking Applications, Consumer Trust, Financial Technology.

INTRODUCTION

New technologies are increasingly indispensable in every aspect of human life, and the financial industry is no exception. The importance of capital diversity in digital technologies is crucial. A new type of finance that is becoming more and more well-liked in social networks is technology-based financing over the Internet (Soni et al., 2022). Over the past ten years, financial technology (Fintech) has been the most often used phrase in the financial industry. Fintech is expanding quickly. In 2010, just US$2 billion was invested in financial technology startups; by 2015, that amount had risen to US$15.5 billion, and by 2020, it was predicted to reach US$130 billion (Gach and Gostch 2014). Traditional banking is about to be disrupted by technology, and the banking industry is attempting to select Fintech (Solms and Langerman 2022). However, the banking industry has certain technological and technological integration issues that need to be fixed and modified. Financial services use machine learning and artificial intelligence. In these situations, social concerns force credit organisations to provide services to marginalised communities, enhance credit judgement, and use peer-to-peer lending that eliminates the need for middlemen. However, the banking industry finds these procedures challenging (Rashid et al. 2019). As customer satisfaction is directed on micro levels while the formation of the sustainable digital economy is on the macro level, it's clear that the last technologies have been employed by financial institutions to broaden the scope of services offered and convert them into new and improved services (Tariq et al. 2024). Information Technology is evolving at a blistering pace and so is the mobile phone. The combinations of more advanced computing capabilities along with broader access to wireless data services like 3G, 4G, and Wi-Fi gave birth to what are now known as 'smartphones' (Middleton 2010). Over 450,000 mobile apps are now accessible for popular platforms including Android, iPhone, Blackberry, and Windows Phone, according to one mobile analytics business (Perez, 2014). According to the survey, as

of March 2014, smartphone users in Singapore spent an average of 2 hours and 42 minutes a day on mobile services, whereas smartphone users in the USA mostly utilise mobile apps. According to the exact split, people only utilise the mobile web for 22 minutes and spend an estimated 2 hours and 19 minutes on mobile applications.

• To find out the factors that affects the behavioral intention of usage and adoption of online banking applications.

• Identify how the behavioral intention mediates the relationship between satisfaction and continuous intention.

• Identify how the satisfaction mediates the relationship between Continuous Intention Cognitive-behavioral

LITERATURE REVIEW

Digital finance, closely tied to economic inclusion, plays a crucial role in modern economies by offering accessible financial services beyond traditional banking structures. Mobile technology has revolutionized commercial activities by enhancing efficiency and reducing operational costs (Ozili, 2018; Deng et al., 2019). Fintech innovations continue to reshape financial services, attracting global interest from institutions like the World Bank and the United Nations. These technological advancements reduce transaction costs, enhance marketing, and facilitate seamless financial transactions. However, while fintech offers numerous benefits, its adoption incurs costs for stakeholders, including innovators, customers, and society (Hua et al., 2019). Fintech's influence is more pronounced in advanced economies, fostering financial inclusivity worldwide (Senyo et al., 2020). Within organizations, fintech enhances internal processes, shifting focus to customer-centric approaches and data analytics (Alt et al., 2018). On an industry level, fintech fosters networking and competition, driving financial institutions to enhance service quality (Pousttchi et al., 2018). Governments have responded by implementing stricter regulations to ensure security in digital transactions.

The transformation of banking involves providing continuous, location-independent financial services while impacting human resources (Kitsios et al., 2021). Despite its rapid growth, fintech's long-term effects on business models and financial systems remain underexplored (Cheun & Teu, 2015). UTAUT, developed by Venkatesh (2003), integrates multiple theoretical frameworks to explain technology adoption. The model includes performance expectancy, effort expectancy, social influence, and facilitating conditions as key determinants of adoption. Research suggests that individuals prefer technologies that provide clear benefits, ease of use, and social acceptance (Slazus & Bick, 2022). Social influence significantly impacts digital banking adoption, as individuals rely on peer opinions before engaging with new financial technologies (Senyo et al., 2020). Facilitating conditions, such as technological infrastructure and user support, play a vital role in enabling seamless fintech adoption (Venkatesh et al., 2012).

Performance expectancy strongly influences fintech adoption, as users seek tangible benefits such as convenience and efficiency (Onalapo & Oyewole, 2018). Research highlights that users adopt financial innovations when they perceive them as beneficial in daily transactions (Demirguc-Kunt et al., 2018; Al Nawayseh, 2020). Effort expectancy, a key UTAUT component, assesses how easy users find a technology to adopt (Venkatesh et al., 2012). User-friendly interfaces enhance adoption rates, while complex processes deter engagement (Al-jabri, 2012; Kim et al., 2018). Social factors

significantly affect digital banking adoption, as recommendations from peers and social networks influence decision-making (Senyo et al., 2020; Grover & Kar, 2020). Digital platforms and influencers shape consumer behavior, making social perception a vital consideration (Fishbein & Ajzen, 1977). Access to necessary technological infrastructure determines fintech adoption (Venkatesh et al., 2012). Users require mobile devices, internet connectivity, and digital literacy to engage with fintech solutions effectively (Senyo et al., 2020). Trust is fundamental to fintech adoption, given the sensitive nature of financial transactions (Kesharwani & Bisht, 2012; Hu et al., 2019). Perceived risk, including concerns over data security and financial fraud, negatively affects user adoption (Pavlou, 2003; Sikdar & Makkad, 2015). Despite fintech's growth, mitigating risk remains a critical challenge for digital financial service providers (Al Nawayseh, 2020).

CONCEPTUAL FRAMEWORK

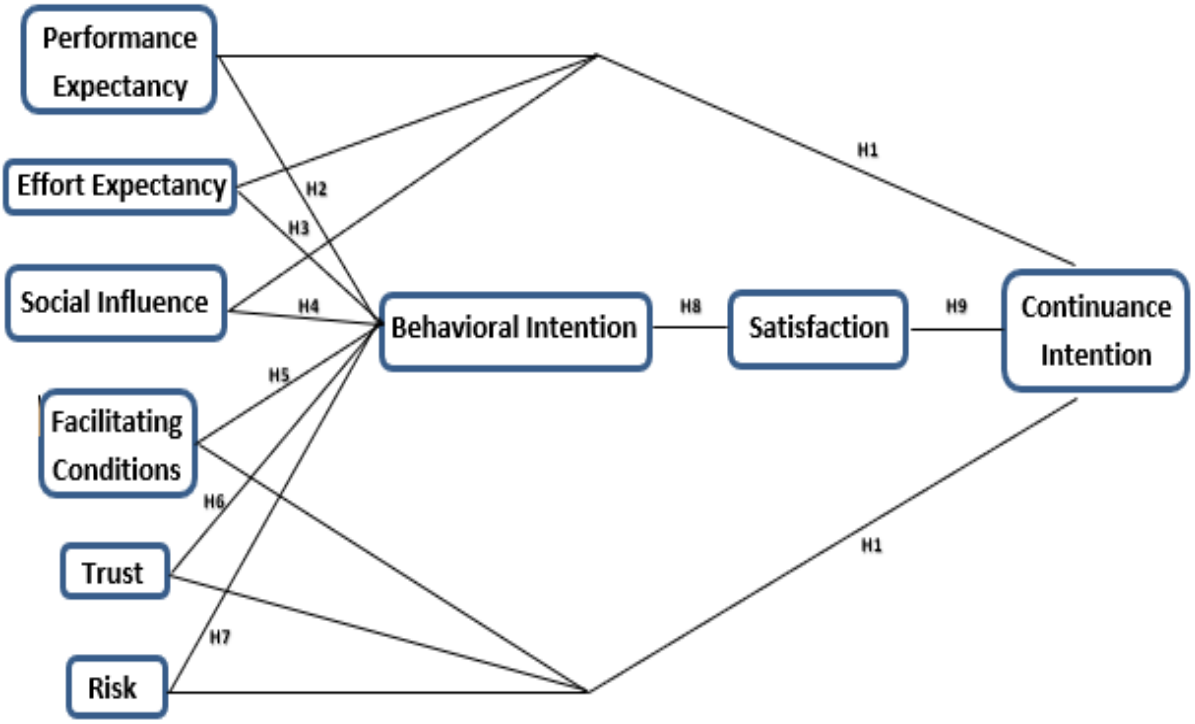

Figure 1.
Conceptual Framework

RESEARCH METHODOLOGY AND DESIGN

This study examines the impact of performance opportunities, effort prospects, social stimuli, enabling conditions, risk, and trust on actual usage via behavioral intentions. A deductive, quantitative approach was employed, using an online survey targeting university students and corporate employees. Following Berger's sample size rule, 350 participants were surveyed, with 294 valid responses analyzed using PLS-SEM in SmartPLS. Data collection involved a structured questionnaire, measuring constructs like performance expectation, effort expectation, facilitating conditions, and behavioral intention. Responses were gathered via emails, LinkedIn, and WhatsApp, ensuring a streamlined process. Data analysis utilized SPSS and SmartPLS, employing Cronbach's Alpha for reliability and SEM for hypothesis testing. Ethical considerations included participant anonymity, informed consent, and data security, adhering to the University of Karachi's ethical guidelines and legal frameworks.

Figure 2.
Research Design

RESULTS

This study collected primary data via an online survey, piloted with 300 participants using SPSS. Reliability analysis showed Cronbach's alpha values above 0.7, indicating strong internal consistency. After data screening, 294 valid responses remained. Outliers were detected using Mahalanobis distance, removing six cases. No missing values were found. Demographic analysis showed most respondents were male (77.6%), aged 25-34 (72.8%), and employed (76.9%). Path analysis was conducted using Smart PLS. Reliability and validity tests confirmed robust construct measurement, with all factor loadings exceeding 0.6. Discriminant validity was assessed using Fornell-Larcker criteria, cross-loadings, and HTMT ratio.

Table 1.
Pilot Study

VARIABLES	No. of Items	Cronbach's Alpha
Performance Expectancy (PE)	4	0.805
Effort Expectancy (EE)	4	0.870
Social Influence (SI)	4	0.792
Facilitating Condition (FC)	4	0.778
Trust (T)	4	0.764
Risk (R)	4	0.733
Behavioral Intention (BI)	5	0.857
Satisfaction (S)	5	0.866
Continuance Intention (SI)	5	0.802

The hypothesis testing results confirm significant relationships between most independent and dependent variables, with all p-values below 0.05 except for EE -> BI, EE -> CI, and EE -> S, which are not statistically significant. Behavioral intention (BI) strongly influences customer intention (CI) (β = 0.293, p = 0.000) and satisfaction (S) (β = 0.355, p = 0.000). Facilitating conditions (FC) significantly impact BI (β = 0.301, p = 0.000), CI (β = 0.088, p = 0.000), and S (β = 0.107, p = 0.000). Social influence (SI) and trust (T) also significantly affect BI, CI, and S. Performance expectancy (PE) and reliability (R) are positively associated with all dependent variables. The strongest relationship is between satisfaction (S) and customer intention (CI) (β = 0.826, p = 0.000), indicating satisfaction is a key determinant of customer intention. These findings validate the hypotheses and emphasize the importance of customer satisfaction in influencing behavioral and customer intentions.

Table 2.
Hypothesis Testing

BI -> CI	0.293	6.576	0.000
BI -> S	0.355	6.846	0.000
EE -> BI	0.121	1.756	0.079

EE -> CI	0.035	1.626	0.104
EE -> S	0.043	1.632	0.103
FC -> BI	0.301	4.213	0.000
FC -> CI	0.088	3.518	0.000
FC -> S	0.107	3.578	0.000
PE -> BI	0.143	2.580	0.010
PE -> CI	0.042	2.328	0.020
PE -> S	0.051	2.350	0.019
R -> BI	0.110	2.877	0.004
R -> CI	0.032	2.707	0.007
R -> S	0.039	2.728	0.006
S -> CI	0.826	33.027	0.000
SI -> BI	0.173	2.342	0.019
SI -> CI	0.051	2.355	0.019
SI -> S	0.061	2.352	0.019
T -> BI	0.140	2.356	0.019
T -> CI	0.041	2.107	0.035
T -> S	0.050	2.127	0.033

Table 3.
Coefficients of Determination and Predictive Relevance

	R-square	**R-square adjusted**
BI	0.588	0.579
CI	0.682	0.680
S	0.126	0.123

DISCUSSION

The validated hypotheses highlight the influence of various factors on behavioral intention (BI), customer intention (CI), and satisfaction (S). Understanding these relationships can significantly impact business strategies, customer engagement, and service improvements. The strong relationship between Behavioral Intention -> Customer Intention (β = 0.293, p = 0.000) and Behavioral Intention -> S (β = 0.355, p = 0.000) suggests that when customers have a strong intention to engage with a service or product, they are more likely to be satisfied and continue using it. Businesses should focus on enhancing behavioral intention through marketing strategies and user engagement. Effort Expectancy was not statistically significant in influencing Behavioral Intention, Customer Intention, or Satisfaction, suggesting that ease of use alone may not be a major driver in customer decisions. Companies should integrate Effort Expectancy with other factors like trust and reliability to improve its impact.

Facilitating Conditions significantly affects Behavioral Intention (β = 0.301, p = 0.000), Customer Intention (β = 0.088, p = 0.000), and Satisfaction (β = 0.107, p = 0.000). This implies that providing the right infrastructure, support, and resources enhances customer engagement and satisfaction. The results of Performance Expectancy and Reliability indicate that both factors significantly influence customer satisfaction and intention. Companies should emphasize improving product or service quality to boost customer confidence. Trust and Social Influence are the factors which significantly affect Behavioral Intention, Customer Intention, and Satisfaction, reinforcing the idea that trust and social perception drive customer engagement. Businesses should focus on building credibility and leveraging word-of-mouth marketing. Satisfaction as the Strongest Predictor of Customer Intention, with the highest coefficient (β = 0.826, p = 0.000), satisfaction is the most critical factor driving customer intention. Businesses must

prioritize customer experience and feedback mechanisms to retain and attract customers.

RECOMMENDATIONS

There are several critical strategy gaps in Fintech adoption in Pakistan that need to be addressed. One of them is the trust gap. Financial institutions especially need to focus on sophisticated security systems as well as transparent two-way communication to bolster trust. Trust can also be built through user education and fraud protection campaigns along with automated harm reduction features. Risk perceptions are equally important and require as much effort as other aspects. Policymakers need to create robust protection against financial fraud and data theft with strong regulations. Information drives about these protective measures can help to mitigate the impact of risk perception. Control over digital literacy is also important, and so building systems with simplified and intuitive navigational graphics by developers needs to be done at all levels. Multilingual interfaces along with simplification protocols can enable a lot of users.Exploring the use of social influence as an approach to drive adoption is recommended. Marketing efforts should focus on user and influencer endorsements to leverage the collectivist perspective within Pakistani culture. Encouraging satisfied users to share their experiences can be a valuable marketing tool that helps promote Fintech services. Obtaining better infrastructure is crucial as well. Policymakers along with telecom companies should work together to improve the region's internet coverage and smartphone availability. The subsidisation of these devices, along with lower cost data plans, would aid in digital inclusion and Fintech adoption.

LIMITATION AND DIRECTIONS FOR FUTURE RESEARCHES

There are several limitations to this study that must be recognised. First, there is a glaring sampling bias since the sample for the study was largely encompassed of corporate workers and students. This ignores other groups such as those in rural areas or older adults who would likely be marginalised. Further, the use of self-reporting data is likely to introduce biases that would influence the accuracy of the findings such as social desirability or recall biases. The temporal aspect is another limitation of the study's cross-sectional strategy, that does not let the scrutiny of behavioural progression over time. User behaviour longitudinally in relation to increasing exposure to Fintech services would be better understood with longitudinal research. Furthermore, the focus on Pakistan as a geographical area of interest also compromises the generalisability of the findings to other developing countries that are situated within different socio-economic contexts.

These strides can be taken in future research. The scope of sampling for Fintech adoption should be more relatable to the actual underrepresented populations. Future research should incorporate rural citizens, small entrepreneurs, and other marginalised populations to attain a broader scope of user diversity. Longitudinal designs will help provide clarity on users' evolving behaviour and the sustained outcome of actions taken. Cultural comparisons would also be of great significance. Cross-culturally comparative research will strengthen the findings and provide varied perspectives regarding the adoption of Fintech. Also, studying cultural and technological infrastructure, as well as regulations that govern Fintech adoption will aid in understanding the focused issues. Addressing these concerns will improve the strategies aimed at achieving digital financial inclusion.

CONCLUSION

Trust and risk were found to be the most important factors influencing the adoption and continuance of Fintech services in Pakistan. Additionally, the study established that the cognitive-behavioural aspects indeed affect its use. In this context, behavioural intention performs as a strong mediator between the two cognitively driven factors and user satisfaction. Such findings are compelling because they highlight the degree to which psychological, social, and infrastructural components synergise to enhance or inhibit the adoption of Fintech. Tackling some of the barriers such as low levels of trust, perception of risks, and limited availability of appropriate technologies can greatly support stakeholders in achieving wide financial inclusion. The digital divide in developing nations is the focus of concern and, therefore, this study seeks to provide a theoretical and empirical contribution that is useful for developing policies and strategies to enhance financial services in these countries.

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