DETERMINANTS OF FINTECH ADOPTION: A COMPARATIVE STUDY OF INDIVIDUALS IN LOW- AND HIGH-INCOME GROUPS IN SINDH, PAKISTAN

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ABSTRACT

FinTech, as a Digital Financial Service, is rapidly transforming the financial industry landscape, providing opportunities and posing challenges to financial service providers, consumers, and regulatory bodies alike. Pakistan's consumer market, with the 5th largest youth population in the world, ever-increasing smartphone penetration, and internet subscriptions, is ripe for launching innovative FinTech solutions to bring low- and high-income people into financial inclusion and lift low-income individuals out of poverty. The primary objective of this study is to empirically examine the factors that influence an individual's decision to adopt and utilize FinTech. Applying a quantitative research approach, a structured survey questionnaire was used for data collection. The main finding of this study revealed that perceived usefulness and perceived ease of use factors strongly influence attitude toward Fintech usage, which in turn, majorly determines behavioral intention to use FinTech. The results show that in terms of Fintech adoption, a gender gap exists in favor of males. Moreover, it was found that in Sindh Province, a lack of a positive mindset towards the use of digital finance has been the biggest limiting factor in the growth of Fintech businesses. The consumer's positive mindset is a prerequisite for the use of FinTech. With respect to Fintech adoption and growth, there should be collaborative networks connecting all the relevant stakeholders, including regulatory authorities, market participants, telecommunication companies, academicians, and others, to create a conducive environment in which the interests of service providers and end-users should be well safeguarded.

Keywords: *FinTech; Small and Medium Enterprises (SMEs); Technology Acceptance Model (TAM); Consumer Attitude; Perceived Usefulness; Perceived Ease of Use.*

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INTRODUCTION

Globally, FinTech is fundamentally laying the building blocks for the modern financial economic fixture. Despite the robust growth of FinTech in the developed nations, financial experts argue it is still striving to reach its peak (Kowalewski & Pisany, 2023). In developing countries, Fintech firms are poised to take off the ground and have fundamentally changed the way consumers make payments, receive income, make savings, make investments, and buy insurance coverages. Technology plays multifaceted roles in enhancing the quality of financial services. The 21st-century technology has not only disrupted the financial sector, but other industries such as manufacturing, retail, services, media, entertainment, travel, transport, and hotels have witnessed disruption and disintermediation in their businesses. FinTech has revolutionized the financial industry in a similar way as companies like Uber and Careem have disrupted the transport and ride-hailing industry, Airbnb the hotel Industry, Food Panda and Grab altered the online shopping experience, and Spotify and Netflix transformed the entertainment industry due to emerging technological advancements. CB Insights (2024) reports a surge in fintech VC funding in AI-driven solutions, even amid global economic slowdown (see figure 1). The growth of Fintech has not been even across the globe, as some regions are more receptive to Fintech innovations. The Fintech industry has grown immensely in East Asian Countries, and high-value FinTech is located in Asia, mainly in China, Hong Kong, and Japan.

Fintech refers to finance technology, and that is an all-encompassing term for finance, technology, and innovation management. (Lomachynska et al., 2020). FinTech fundamentally provides financial technology solutions to businesses and consumers. The history of Fintech dates back to the 1950s when credit cards were introduced, under which people used digital money to make their purchases rather than paying in cash. The 1960s saw the introduction of ATMs, which eliminated the need for people to physically visit branches of a bank for cash transactions. Fintech firms can be used to improve economic and social development in multiple aspects, such as a reduction in poverty level, empowerment of citizens, documenting economy through rising financial inclusion, and promoting the building of an innovative financial industry. A large number of research studies have established the empirical link between a nation's financial development and economic growth. (Jiakui et al., 2023; Sarwar et al., 2021). The non-physical innovative model of Fintech firms makes them economically reachable to the poor, particularly in rural areas, thereby

increasing their financial capacities and subsequently strengthening social networks for collective action.

Determinants of Fintech-Adoption

The main objective of this study is to empirically analyze the factors that influence an individual's decision to adopt and use FinTech. Historically, researchers have predicted an individual's behavior in a wide range of settings through behavioral theories, most notably the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) and the Theory of Planned Action (TPA) (Ajzen, 1991). Moreover, models like the Unified Theory of Acceptance and Use of Technology UTAUT and UTAUT2 have been widely applied in fintech adoption post-pandemic (Cavalcanti et al., 2022). TRA predicts the determinants of a person's rational behavior. It posits that a person's actual action is the direct result of their Behavioral Intention (BI). BI is the degree to which a person is ready to perform or not to perform a given behavior (Fishbein & Ajzen, 1980). TRA assumes that BI is influenced by a person's attitude toward that behavior and subjective norms. Attitude refers to a person's positive or negative feelings in a particular behavior and is shaped by a series of beliefs resulting from the outcome of certain behaviors (Ajzen, 2002). If a behavior is perceived to generate valuable and desirable results, an individual's attitude tends to be positive with a greater likelihood that they would engage in actual behavior (Rah, Hasler, Painter, & Chapman-Novakofski, 2014). Conversely, a negative attitude toward a particular behavior would tend to reduce an individual's behavioral intention to perform it. As per TRA, BI is also influenced by Subjective Norms (SN). SN is a social pressure coming from family members, friends, colleagues, and others whom a person holds in high regard, and subsequently that social pressure positively or negatively influences their attitude formation (Ajzen, 2002). Though TRA has been useful in explaining an individual's behavior in situations where a person has volitional control, it lacks the explanatory power in conditions where an individual does not have willful control. To address this, TRA was later extended into the Theory of Planned Behavior (TPB) with the addition of the perceived behavioral control construct to account for the situations in which an individual lacks control over their actual behavior (Ajzen, 1991). TPB was also presented in the decomposed version in which normative, attitudinal, and control constructs were broken down into a set of varied belief structures in order to further understand the weighted importance and influence of each decomposed belief structure on an individual's actual behavior (Taylor & Todd,

1995a, 1995b). Fundamentally, disruptive innovations have been introduced to bring cost-effectiveness and performance efficiency gains to the existing system, whether in the financial industry or any other sector. However, research studies have found that those gains are often constrained by end-users' lack of acceptance and actual usage (Marikyan & Papagiannidis, 2023). Consequently, researchers have been developing theoretical models to explain an individual's acceptance and use behaviors in the domain of information technology. In this regard, the most prominent is the Technology Acceptance Model (TAM) (Na et al., 2022).

TAM was originally developed by Davis (1986) who theorized that a person's actual system use is driven by their cognitive and affective responses toward a given information system, which in turn, are determined by design features, including system characteristics and external factors. Later, Davis, Bagozzi and Warshaw (1989) modified TAM with the addition of a construct (i.e., Behavioral Intention to use) and hypothesized that a person's actual decision to use a system is the direct result of BI. Later, Venkatesh and Davis (1996) gave an updated version of TAM in which the construct (i.e., Attitude towards system use) was removed. The causal chain in the final version of TAM starts from external factors (including system features, training, and system implementation process), which shape a person's level of perceived usefulness and perceived ease of use, which in turn, determines their behavioral intention (BI). Hence, the actual use of the system is a weighted function of BI.
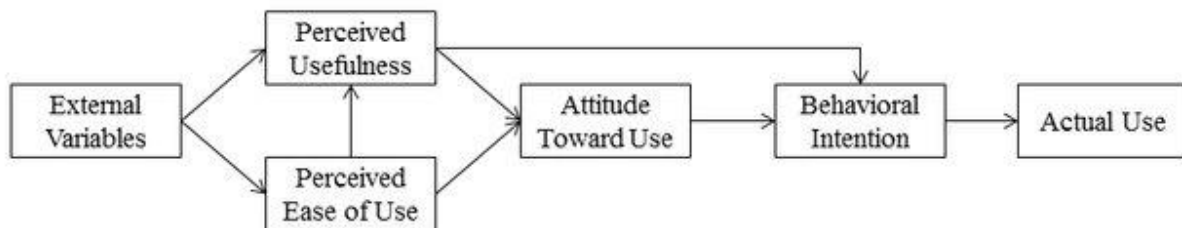

Figure 2. Original TAM

Source: Davis (1986)

The reference to external factors in TAM was broad, multi-dimensional, and vaguely explained. As a result, TAM has been extended by various leading researchers, especially to identify the specific external factors that influence the system-use decision-making process of an individual. In this regard, TAM2 was developed by Venkatesh and Davis (2000), which mainly identified external antecedents of the perceived usefulness construct. In addition to TAM assumptions,

TAM2 assumed that a person's level of perceived usefulness of a given system is a function of social influence represented by subjective norm, image & voluntariness, and cognitive evaluation represented by job relevance, experience, output quality, and result demonstrability. (Wang et al., 2022; Long, 2008). Lastly, Venkatesh and Bala (2008) made an extension into TAM2 and developed TAM3, which has synthesized previous research work on TAM and added two constructs (i.e., Anchor and Adjustment) as important antecedents to perceived ease of use. The addition in TAM3 postulated that anchoring effects emanating from computer self-efficacy, perceptions of external control, computer anxiety, and computer playfulness, and adjustment effects coming from perceived enjoyment and objective usability can occur and ultimately influence a person's judgment for perceived ease of use of a given information system. In all of the TAM versions, the perceived usefulness and ease of use constructs remained fundamental predictors of an individual's intention to use a technology-oriented system.

The perceived usefulness refers to the degree to which an individual assumes that usage of a particular system would result in an increase in job performance, whereas ease of use shows the extent to which an individual believes that usage of a particular system is effortless (Marikyan & Papagiannidis, 2023). Moreover, in other technology-acceptance related models, Venkatesh, Morris, Davis and Davis (2003) developed Unified Theory of Acceptance and Use of Technology (UTAUT) with the integration of the elements of eight models, (i.e., Theory of Reasoned Action-Fishbein & Ajzen, 1975; Theory of Planned Behavior-Ajzen,1991; Technology Acceptance Model-Davis, 1986; Motivational Model-Davis, et al., 1992; Unified TAM and TPB- Taylor & Todd, 1995b; Model of PC Utilization-Thompson, Higgins, & Howell, 1991; Innovation Diffusion Theory-Rogers, 1995; Social Cognitive Theory-Bandura, 1986).

UTAUT posits that performance expectancy and effort expectancy are the direct determinants of an individual's behavioral intention, whereas actual use behavior is a direct function of two variables (i.e., facilitating conditions and behavioral intention). UTAUT also highlights the role of gender, age, experience, and voluntariness of use in moderating causal relationships among antecedents of BI and actual use of the information system in question. Likewise, Thompson et al. (1991) developed a model for the use of Personal Computers explaining that PC usage is a direct function of six factors (i.e., complexity of PC usage, job fitness with PC usage, long-term consequences of PC usage, affect toward PC usage, social factors influencing PC usage, and

facilitating conditions for PC usage). In summary, though TAM was initially designed to predict computer usage, it was widely applied in several settings of IT adoption. (FakhrHosseini et al., 2024; Teeroovengadum et al., 2017; Zhong et al., 2013). Similarly, many studies such as Subhani et al. (2024), Khan et al. (2023), Sundjaja et al. (2019); Cao (2016) and others noted that of numerous competing models on the domain of technology acceptance, TAM is well-aligned with the innovative features of FinTech. Therefore, in this study, TAM is administered to examine the factors influencing the adoption and use of FinTech in the selected study area, i.e., the province of Sindh, where in rural areas, technology adoption is still in its formative years. Notwithstanding various infrastructural and adaptability challenges, this study investigates the attitudinal and consumer perception-based variables that impact the adoption of FinTech in the study region to provide preliminary studies to cover the existing research gap.

METHODOLOGY

Research Design

Applying a quantitative research approach, a structured survey questionnaire was developed and used for data collection. The study aims to target both low- and high-income groups; therefore, the classification of low- and high-income people was made on the guidelines of a previous study by Durr-e-Nayab (2011), which provided a composite index to classify the people into various economic classes.

Study Constructs

Based on the literature review eight variables of interest were identified, of which six variables (i.e., Perceived Usefulness (PU), Perceived Ease of Use (PEU), Price Value (PV), Perceived Enjoyment (PE), Social Influence (SI), Security Concerns (SC) were hypothesized to have a positive impact on Attitude toward Using (ATT). Further, the PEU has been assumed to have a linear direct influence on ATT and PU. Lastly, in the path analysis, it is hypothesized that ATT is a strong antecedent to Intention to Use-IU. PU was originally related to job performance expectancy (Davis, 1986), but here it refers to the degree to which a user perceives a comparatively better value proposition from Fintech-Usage than traditional financial mode. PEU refers to the extent to which a user perceives fintech usage as effort-free (Davis, 1989). PV refers to the cost-benefit trade-off that a user makes prior to a Fintech-usage decision (Al-Adwan, 2023). PE refers to the user's perception that Fintech-Usage is inherently enjoyable and interesting (Davis et al.,

1992). SC refers to a user's belief that the Fintech-Service provider will be unwilling and/or unable to protect the personal and transactional information from security lapses (Ashrafi et al., 2022). SI refers to the influence that important people exert on users, which ultimately impacts their decision to use Fintech in the future (Warsame & Ireri, 2022). ATT refers to the degree to which a user holds positive and negative evaluations on the use of a given Fintech service (Bankuoru et al., 2021; Taylor & Todd, 1995a). Finally, IU refers to the user's subjective judgment on the degree of their willingness to use a given Fintech-Service (Bajunaied et al., 2023).

Research Instrument

The measurement scales of PU and PEU were adapted from Davis (1989), PV and ATT were measured using the scales of Venkatesh et al. (2012), PE was based on Davis et al. (1992), SI was from Davis (1989 and Thompson, et al. (1991), SC was from Gupta and Xu (2010) and IU was from the study of Venkatesh and Davis (2000). The measurement scales were slightly modified in wording in order to match the items for this research. In this study, following (Cao, 2016; Taylor & Todd, 1995a), IU has been used as a proxy to actual usage, as IU has been empirically evidenced to be highly correlated with actual system usage (Alia, 2017).

Population and Sampling

In total, 407 respondents (who only used the payment category of Fintech) took part in the survey measuring determinants of Fintech usage, of whom 205 were from the low-income group and 202 were from the high-income category. That size in both samples is slightly higher than the sample of 200 respondents recommended for reliably running Structural Equation Models. (Hair et al., 2018). The respondents had practical knowledge of FinTech Usage for one service (i.e., payment category); therefore, it is assumed that they had an adequate level of system-use self-efficacy belief.

Data Collection Technique

Prior to the administration of the survey, the respondents were given an information sheet explaining the features of one of FinTech Services that they were not familiar with and had not used. They were further informed that the future usage of that particular Fintech-Service is purely voluntary, and field team facilitated a hands-on explanation of an information sheet. The collected data was analyzed through PLS-Structural Equation Model, as it has been widely administered in

the research studies on the determinants of an information system usage (Dadhich et al., 2023; Bhattacherjee & Premkumar, 2004; Venkatesh & Davis, 2000).

DATA ANALYSIS AND RESULTS

Initially, the validity and reliability of the constructs have been determined. The results in both models for AVE are higher than 0.5, implying that all the measurement scales show convergent validity (Chin, 1998). For reliability, the values of Cronbach's alpha and Composite reliability show that all the values in both tests are above the cut-off value of 0.7 suggested as acceptable (Sarstedt, Ringle, & Hair, 2021), hence, establishing the reliability for all the measurement scales used in this study. Finally, the Variance Inflation Factor-VIF results report that all the scores are substantially below the threshold value of 05 (Hair Jr, et al., 2021), indicating that there is no serious multicollinearity among latent variables. The path coefficient estimates in Model-1 (representing high-income group) show that Perceived Usefulness-PU ($\beta = 0.257$, $p < 0.01$) is the strongest determinant of ATT-Attitude toward using Fintech, followed by Security Concerns-SC ($\beta = -0.254$, $p < 0.01$), which significantly negatively influences people's attitude towards Fintech-Usage. The Perceived Ease of Use-PEU ($\beta = 0.204$, $p < 0.05$) and Price Value-PV ($\beta = 0.199$, $p < 0.05$) are positively associated with Usage-Attitude. Whereas, Perceived Enjoyment-PE and Social Influence-SI have not been found statistically significant in influencing Fintech-Usage Attitude. Furthermore, according to path coefficient estimates, ATT ($\beta = 0.436$, $p < 0.01$) is found to be strongly correlated with Intention to Use-IU. In Model-1, latent variables jointly accounted for 38.5 percent of the variance in ATT, which in turn, explained 18.6 percent of the variance in IU. The path coefficients in Model-2 (representing the low-income group) show that Perceived Usefulness-PU ($\beta = 0.248$, $p < 0.01$) is the major antecedent to ATT-Attitude toward using Fintech, followed by the Perceived Ease of Use-PEU ($\beta = 0.223$, $p < 0.01$). The Security Concerns-SC ($\beta = -0.210$, $p < 0.01$) is negatively related to Usage-Attitude. Whereas, Price Value-PV ($\beta = 0.206$, $p < 0.01$) and Social Influence-SI ($\beta = 0.162$, $p < 0.01$) are positively influencing Fintech-Usage Attitude. The Perceived Enjoyment have been found statistically insignificant in impacting Usage-Attitude. Furthermore, path coefficients show that ATT ($\beta = 0.511$, $p < 0.01$) is strongly determining the Intention to Use-IU. In Model-2, explanatory variables cumulatively accounted for 46.4 percent of the variance in ATT, which in turn, caused 15.8 percent of the variance in IU. The main finding in both Structural Equation Models is that PU and PEU strongly derive ATT,

which in turn, majorly determines behavioral intention to use the FinTech in Sindh Province. These results are in line with the postulations of TRA, TAM, and other research studies. Particularly, with respect to information system usage, the attitude has been positively associated with an individual's behavioral intentions (Vahdat et al., 2021; Venkatesh & Davis, 2000). In the adoption of Fintech-Services, Wiprayoga et al. (2023) evidenced that Attitudes are strongly linked with behavioral intention to use. Similarly, users' positive attitudes have been found to positively influence their behavioral willingness to use Mobile Enterprise Applications-MEA (Lee, 2016) and online banking (Lee, 2009). ATT is found to be significantly mediating the relationship between Intuition to use and the constructs related to the features of Fintech-Services. PEU also correlates with PU as initially posited in the original TAM by Davis (1986). In comparison, when it comes to attitude formation for Fintech-usage, PU has been a more important predictor for high-income than low-income people, while PEU has been relatively stronger determinant for low-income people. The plausible explanation is that high-income people tend to be more financially literate, hence, they are more concerned with determining the perceived usefulness of fintech services than learning its operational procedures. Social Influence happens to be influencing only the fintech usage among low-income people. Interestingly, though security concerns matter for all respondents, high-income people are more scared of security issues than low-income people are. The findings align with recent findings by Hasan et al. (2023), who identified security and user experience as major predictors in Pakistani fintech adoption.

Table 1. SEM estimates for the High-Income Group Sample

	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics (|O/STDEV|)	P Values
ATT -> IU	0.436	0.441	0.059	7.374	**0.000**
PE -> ATT	0.031	0.027	0.077	0.395	**0.693**
PEU -> ATT	0.204	0.198	0.088	2.330	**0.020**
PEU -> PU	0.426	0.432	0.071	5.993	**0.000**
PU -> ATT	0.257	0.262	0.085	3.010	**0.003**
PV -> ATT	0.199	0.198	0.085	2.348	**0.019**
SC -> ATT	-0.254	-0.253	0.057	4.439	**0.000**
SI -> ATT	0.007	0.009	0.072	0.093	**0.926**

	R Square	R Square Adjusted
ATT	0.403	0.385
IU	0.190	0.186
PU	0.181	0.177

Source: Survey Results

Table 2. SEM estimates for the Low-Income Group Sample

	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics (|O/STDEV|)	P Values
ATT -> IU	0.511	0.520	0.070	7.294	**0.000**
PE -> ATT	-0.113	-0.078	0.091	1.242	**0.215**
PEU -> ATT	0.223	0.219	0.064	3.502	**0.001**
PEU -> PU	0.403	0.413	0.058	6.886	**0.000**
PU -> ATT	0.248	0.253	0.070	3.564	**0.000**
PV -> ATT	0.206	0.203	0.063	3.289	**0.001**
SC -> ATT	-0.210	-0.208	0.054	3.903	**0.000**
SI -> ATT	0.162	0.162	0.056	2.902	**0.004**

	R Square	R Square Adjusted
ATT	0.480	0.464
IU	0.261	0.257
PU	0.162	0.158

Source: Survey Results

Table 3. Cronbach's Alpha, Composite Reliability, Average Variance Extracted, and VIF results for High-Income Group Sample

	Cronbach's Alpha		Composite Reliability		Average Variance Extracted (AVE)		VIF	
	Low-Income	High-Income	Low-Income	High-Income	Low-Income	High-Income	Low-Income	High-Income
ATT	**0.700**	**0.726**	**0.834**	**0.846**	**0.626**	**0.646**		
IU	**0.744**	**0.714**	**0.840**	**0.838**	**0.642**	**0.633**		
PE	**0.798**	**0.742**	**0.783**	**0.800**	**0.560**	**0.585**	**1.010**	**1.029**
PEU	**0.728**	**0.790**	**0.845**	**0.876**	**0.646**	**0.703**	**1.305**	**1.349**
PU	**0.750**	**0.772**	**0.838**	**0.851**	**0.565**	**0.588**	**1.530**	**1.424**
PV	**0.726**	**0.722**	**0.879**	**0.878**	**0.784**	**0.782**	**1.490**	**1.454**
SC	**0.710**	**0.783**	**0.837**	**0.872**	**0.631**	**0.695**	**1.218**	**1.123**
SI	**0.799**	**0.781**	**0.879**	**0.873**	**0.708**	**0.696**	**1.159**	**1.378**

Source: Survey Results

The following are the major factors that shape a person's overall perceived usefulness of Fintech-Usage.

Convenience

For consumers, convenience in money management manifests in multiple traits such as ease of access & use, speed, and flexibility. FinTech has made financial transactions so convenient from any place at any time, and that has given a major boost to some ventures such as Careem, Uber,

and online stores. FinTech such as MoneyGram and PayPal enables consumers to pay for purchasing anything they can from any corner of the world. Various web applications (e.g., cartright.pk) in Pakistan can be used to compare the retail prices of various goods offered by different vendors. This application also notifies a consumer if a certain vendor lowers the price of an item. Consumers can get the best deal for their money. With the launch of Fintech, the consumer is now only a click and a ship away from making a purchase. Transaction speed is another convenience advantage for the consumers who pay through electronic devices for their purchases. For payment at the point of sale, plastic cards generally need swiping, entering the PIN code, and signing the receipt, while, owing to the advancement in technology, contactless payments can be made through smart cards or mobile phones. Contactless payments are the fastest and crucial to special transactions such as paying toll charges, where a person has to quickly pass through the gates. Near Field Communications technology is widely used in contactless mobile payments (Elia et al., 2023). Biometric-based fintech interfaces have gained widespread adoption since 2020, especially in South Asia (World Bank Digital Finance Report, 2022).

In contactless payment methods Haritha (2022) showed that ease of use was the most cited reason, with 57% of respondents mentioning it, followed by speed with 53%. Payments by mobile phones are likely to be more convenient than traditional methods of payment. Consumers can open mobile wallets to any of the banks or card accounts, thereby eliminating the need to physically carrying out all kinds of plastic cards such as debit, credit, prepaid or vendor-specific cards. A mobile phone can be used flexibly to make payments with different options. As a result, consumers can take advantage of price discounts offered under different modes of payments and can pay directly from their bank accounts or credit cards to avail specific discounts. Additionally, consumers can choose the type of payment method to avoid any surcharges attached to a specific mode of transaction. Finally, the use of digital technology by Fintech firms creates a superior user experience, and that makes FinTech particularly potent in the financial market.

Security

In payments, the element of security generally has two applications. First, the probability that the transaction is fraudulent such as unauthorized payment made by someone other than the account holder. Second, the relevance and effectiveness of laws in protecting consumers in case of financial loss owing to fraudulent transactions. One of the disadvantages of digital transactions is that

hackers through malicious software steal the secured information of a consumer and subsequently make unauthorized financial transfers and payments. In terms of security, though Fintech transactions are generally protected with static data such as pin code, account number, expiration date, CNIC number, or matching of signature but the protection of transactions through static data tends to be vulnerable to fraud. In Pakistan, there have been plenty of cases where criminal elements have intercepted secured static data and made unauthorized transactions. Cybersecurity remains a major concern, with 64% of consumers in Asia citing it as a barrier to fintech use (PWC Fintech Survey, 2023). However, through the application of advanced technologies such as NFC-enabled smart chips, Fintech firms have started dynamic authentication, which enables vendors to carry out an authentication process uniquely developed for a given transaction. Master Card and Visa companies have been promoting the application of dynamic authentication in order to protect consumers from transactional data leakages. Dynamic authentication also increases the likelihood of acceptance of such cards by merchants. FinTech has also initiated payment mechanisms by smart phones or computers which has facial recognition as a password to give an added layer of security to the consumers. The facial recognition password technology enables merchants to see a customer's photo before approval of an online transaction or at the point of sale. The empirical evidence for the importance of the element of security on consumers' preferred payment has been strong. Ching and Hayashi (2010) found that consumers' perception of safety for different payment methods has the statistically significant impact on their decisions to select a mode of payment. Sullivan (2010) noted that security concern serves as a main reason that deters consumers from using online financial transactions. Consistent with these findings, Malhotra and Chauhan (2008) found that 52% of respondents categorized the security and safety of their personal information as a "major issue". According to Brown (2011), 94% of respondents reported that they are willing to perform financial transactions by their mobile phones if they are assured it is secure. Furthermore, consumer needs protection when a financial loss is incurred owing to a fraudulent transaction, and that can best be protected through the promulgation of relevant laws and ensuring their implementation in letter and spirit. Though the government of Pakistan has given branchless banking regulations to protect the rights of consumers in case of losses from fraudulent digital transactions but most consumers still seem to believe the world of digital finance is vulnerable to security lapses and hence, are reluctant to adopt FinTech in their money management transactions.

CONCLUSION

The financial environment has turned increasingly digital because of FinTech and other branchless banking networks. FinTech can foster a culture of financial innovation, exploit the untapped resources, and acquire a large consumer base. The main finding in Structural Equation Models is that perceived usefulness and perceived ease of use factors strongly derive attitude toward Fintech-Usage, which in turn, majorly determines behavioral intention to use FinTech in Sindh Province. The results show that in terms of Fintech adoption, a gender gap exists in favor of males. Moreover, it is found that in Sindh Province, a lack of a positive mindset towards the use of digital finance has been the biggest limiting factor in the growth of Fintech businesses. A consumer-positive mindset is a prerequisite for the use of FinTech in Sindh province. According to OECD, (2017) report that innovative technologies are the key drivers for updating and advancing the financial sector of a country. Though the usage of digital financial services initially carries out uncertainty and mistrust but as its adoption grows, it results in higher efficiency gains for the users and service providers. The government has to address deficiencies in the ecosystem required for the proliferation of FinTech in Sindh by creating a culture of innovation, developing human skills, reforming branchless banking regulations, developing a prudential supervisory system, and improving digital infrastructure. With respect to FinTech adoption and growth, there should be collaboration networks connecting all the relevant stakeholders including regulatory authorities, market participants, telecommunication companies, academicians, and others, to create a conducive environment in which the interests of service providers and end-users should be well safeguarded. Government-led digital ecosystem reforms, as emphasized by the *State Bank of Pakistan's 2023 Strategy*, are crucial to scaling fintech innovations

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