Annual Methodological Archive Research Review
http://amresearchreview.com/index.php/Journal/about
Volume 3, Issue 12 (2025)
http://amresearchreview.com/index.php/Journal/about
Online ISSN 3007-3197
Print ISSN 3007-3189
https://doi.org/10.5281/zenodo.17832044

Building Control in Digital Finance: How Self-Efficacy and Mobile Banking Quality Shape Responsible Financial Behavior under Privacy Concerns

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ABSTRACT

This research paper investigates the relationship between digital financial self-efficacy mobile banking quality and responsible financial behavior mediated by perceived financial control and moderated by the digital privacy concern. Based on a three-wave time-lagged integrity, and data of 415 mobile banking users in Pakistan, PLS-SEM findings demonstrate that digital financial self-efficacy, as well as mobile banking quality, have a significant positive impact on perceived financial control which in turn, is a strong predictor of responsible financial behavior. The predictors are corroborated to mediate the effects, and the effect of digital privacy concern is negative in moderating the effect of perceived financial control on responsible financial behavior. CVPAT exhibits better predictive when it comes to the PLS-SEM model. These results contribute to the theory of digital finance and have informational prospects of enhancing user ability, platform quality, and privacy guarantee.

Keywords: Digital Financial Self-Efficacy, Mobile Banking Quality, Responsible Financial Behavior, Perceived Financial Control, Digital Privacy Concern

Introduction

The boom of online financial services has transformed consumer habits and financial decision making and access to financial resources especially in the emerging markets. Mobile banking apps, digital wallets, and branchless banking systems have come to the center of the financial engagement and empower users to carry out financial

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transactions with more convenient and rapidity than ever before. However, researchers are increasingly discussing the idea that the success of digital finance does not only rely on technology but on the psychological processes with the help of which people perceive and use digital financial instruments (Arora and Rahman, 2023; Gomber et al., 2023). In this respect, perceived financial control as the perception that an individual has the ability to handle the financial decision-making process effectively has become a decisive factor in responsible financial behavior and lifetime financial welfare (Zestcott et al., 2023).

Digital financial transformation in Pakistan has been quickened by programs like Raast, Easypaisa, JazzCash and mobile banking systems that have the support of the State Bank of Pakistan (SBP, 2023). Equivalent to the growing access, great behavioral difficulties still exist. Digital access is not yet translated into a prudent financial behavior by many users, in part because of the low financial capability and mistrust, as well as the complexity of digital tools (Ahmed and Dissanayake, 2024; Hassan et al., 2024). These issues point to the fact that responsible financial conduct is strongly correlated with the possibility of people getting a sense of control over the financial choices they take when they employ digital systems.

There are two important factors that are critical in determining perceived financial control. First, Digital Financial Self-Efficacy (DFSE) gives an indication of the belief of individuals to carry out a digital financial task. This is demonstrated through the fact that an increase in self-efficacy enhances digital decision-making, information processing, and behavioral consequences (Ryu et al., 2024; Yusuf and Mohd-Satar, 2023). Second, the Mobile Banking Quality (MBQ) such as reliability, usability, information accuracy, and security minimize uncertainty and increase the digital user competence (Addai et al., 2024). Although the literature is on the increase, there is a dearth of research that combines both factors to determine the contribution of the two factors to increased perceived financial control in digital finance.

Moreover, even though perceived financial control is theoretically connected with responsible financial behavior, Digital Privacy Concern (DPC) might alter this relationship. Privacy issue is also turning out to be one of the biggest obstacles to digital finance usage, which lower trust and create vulnerabilities (Maruping et al., 2023; Khalid and Ali, 2024). Users that believe their information can be used in inappropriate ways might be reluctant to participate conscientiously online even when they think they are financially competent.

The proposed study is grounded on the Social Cognitive Theory (Bandura, 1986) and financial capability view (Shim et al., 2010) in the following way: the digital financial self-efficacy and mobile banking quality have a positive impact on the perceived financial control, which subsequently has a positive impact on the responsible financial behavior, with the digital privacy concern moderating the relationship between the two. The research has value in the sense that the perceived financial control is placed in the heart of the study as a mediating variable between digital aptitude and system quality with the financial behavior and (b) it has shown that individual and system variables interactively to mediate between the perceived control and the financial behavior and (c) it has also introduced the privacy concern as a case condition as to whether the perceived financial control will translate to responsible financial behavior or not.

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Research Questions

RQ1: Does digital financial self-efficacy influence perceived financial control?
RQ2: Does mobile banking quality influence perceived financial control?
RQ3: Does perceived financial control influence responsible financial behavior?
RQ4: Does digital privacy concern moderate the relationship between perceived financial control and responsible financial behavior?
RQ5: Does perceived financial control mediate the relationship of digital financial self-efficacy with responsible financial behavior
RQ6: Does perceived financial control mediate the relationship of mobile banking quality with responsible financial behavior

Research Objectives

RO1: To examine the effect of digital financial self-efficacy on perceived financial control.
RO2: To assess the effect of mobile banking quality on perceived financial control.
RO3: To analyses the influence of perceived financial control on responsible financial behavior.
RO4: To evaluate the moderating role of digital privacy concern between perceived financial control and responsible financial behavior.
RQ5: To assess mediating role of perceived financial control between digital financial self-efficacy and responsible financial behavior
RQ6: To examine the mediating role of perceived financial control between mobile banking quality and responsible financial behavior

Literature Review

Digital financial self-efficacy has become widely accepted as one of the fundamental determinants of digital financial involvement. Self-efficacy improves confidence, resilience, and performance of tasks in the digital environment, which is based on Social Cognitive Theory (Bandura, 1986). Recent reports affirm the presence of positive links between increased digital financial self-efficacy and the enhancement of technological engagement and quality of digital transactions (Ryu et al., 2024; Yusuf and Mohd-Satar, 2023). Nonetheless, the study has not provided adequate research into the role of this in determining perceived financial control, one of the psychological constructs that are related to effective financial decision making.

Mobile banking quality is the environment at the system level that facilitates the digital financial activities. Mobile banking systems of high quality, i.e. reliable, secure, responsive, and easy to work with interfaces, improve consumer competence and decrease operation anxiety (Addai et al., 2024). A well-integrated and safe system would lessen cognitive load, making users more confident in their online finances, but the effect of such systems on perceived financial control is little researched.

The perception of financial control is the subjective belief that people have control over financial decision making. Previous research has defined its use in budgeting

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forecasting, saving, and wise financial decisions (Zestcott et al., 2023). Technological complexity and risk make control an even more severe problem in digital environments. Research on the role of digital self-efficacy and service quality in financial control is, however, scanty.

Lastly, there is the issue of digital privacy which has become a significant hurdle to the adoption of digital finance. It lowers the level of trust, makes one feel vulnerable, and hampers positive financial practices (Maruping et al., 2023; Khalid and Ali, 2024). The issue of privacy can make a person fail to be responsible in the online space even when he/she feels capable and in control. The moderating effect of privacy concern on the relationship between perceived financial control and responsible financial behavior is mostly not studied.

Hypotheses Development

Digital Financial Self-Efficacy→Perceived Financial Control

Digital financial efficacy is the level of belief concerning how the individuals handle the digital financial tools, how they engage in making transactions online and how they are able to resolve technical issues. This is because the Social Cognitive Theory (Bandura, 1986) hypothesizes that the self-efficacy enhances perceived ability, reduction in uncertainty, and empowerment in relation to mastery of task performance. In online finance, individuals who have high self-efficacy view information effectively and make financial decisions in a more transparent and assertive way. As per past research, individuals who are more digitally engaged are self-efficacious users that have a higher level of psychological readiness to manage financial operations (Ryu et al., 2024; Yusuf and Mohd-Satar, 2023). In this way, self-efficacy will experience greater assumed monetary control.

H1: Digital financial self-efficacy positively influences perceived financial control.

Mobile Banking Quality→Perceived Financial Control

Mobile banking quality includes reliability of application, information precision, and ease of use, speed and security. Quality digital platforms are less demanding, more transparent, and offer a reliable setting to make financial decisions. Empirical data indicate that high-quality mobile banking services increase the level of confidence, satisfaction, and perceived competence of the users (Addai et al., 2024). Users are likely to feel that they have control over their online financial transactions when they have pleasant, safe, and user-understandable experiences in their mobile banking transactions. In this way, the quality of mobile banking is likely to enhance the perceived financial control.

H2: Mobile banking quality positively influences perceived financial control.

Perceived Financial Control→Responsible Financial Behavior

Perceived financial control is a belief that a person can handle her or his financial decisions well and control finances. The studies always conclude that perceived control is linked to strong predicted disciplined budgeting, saving, and less impulsivity, as well as other responsible financial behaviors (Zestcott et al., 2023). When using digital finance applications, users who perceive themselves as financially empowered will increase their chances of incorporating secure transactions, tracking

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their expenses, saving, and employing risky digital practices. Thus, the perceived financial control will stimulate responsible financial actions.

H3: Perceived financial control positively influences responsible financial behavior.

Perceived Financial Control mediates the relationship between Digital Financial Self-Efficacy and Responsible Financial Behavior

Digital financial self-efficacy boosts users with confidence in making digital transactions, moving around with mobile applications, and handling financial data. But, its influence on actual behavior is delivered mainly by psychological processes. Perceived financial control is the most important channel via which self-efficacy is converted into responsible behavior. People with a high level of digital self-efficacy believe that they are more competent, which makes them have a better chance of having financial control, and eventually, they become responsible in terms of budgets, savings, and transactions (Zestcott et al., 2023; Ryu et al., 2024). Therefore, this route is supposed to be mediated by perceived financial control.

H4a: Perceived financial control mediates the relationship between digital financial self-efficacy and responsible financial behavior.

Perceived Financial Control mediates the relationship between Mobile Banking Quality and Responsible Financial Behavior

Mobile banking quality has a secure, reliable, and easy to use environment that facilitates the financial decision-making of the users. Good digital platforms minimize uncertainties and enhance the perception of people as in control of financial operations. The perception of the mobile banking system as reliable and effective gives users more strength and a sense of control, increasing their risk-taking in disciplined financial behaviors, such as saving and budgeting (Addai et al., 2024; Zestcott et al., 2023). Thus, the perceived financial control is likely to mediate the effect of mobile banking quality on responsible financial behavior.

H4b: Perceived financial control mediates the relationship between mobile banking quality and responsible financial behavior.

Moderation – Digital Privacy Concern

Digital privacy concern this is the fear that an individual or personal or financial information will be exploited, abused, or accessed without permission. Much privacy concern contributes to a perceived sense of vulnerability and lowers the desire to perform digital financial transactions (Maruping et al., 2023; Khalid and Ali, 2024). High privacy concern can result in people not engaging in responsible digital actions even in the situations when they have the financial power due to the fear of oversight (e.g., checking their transactions on a regular basis) or the utilization of digital budgeting programs. Thus, the perceived financial control effect on responsible behavior is likely to be undermined by privacy concern.

H5: Digital privacy concern negatively moderates the relationship between perceived financial control and responsible financial behavior.

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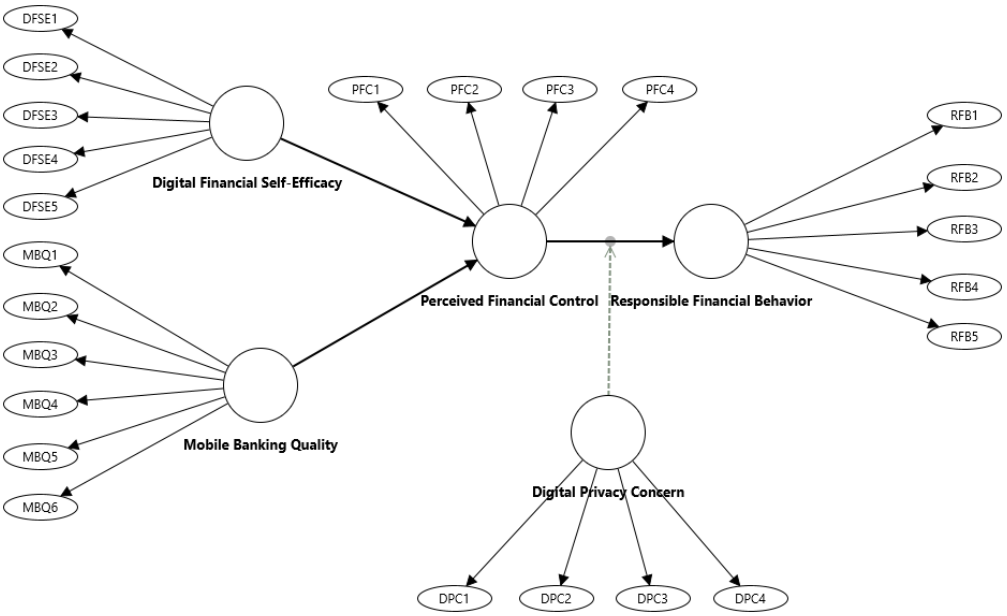


Figure # 01: Conceptual Model

Methodology

Research Design

The research design used three-wave time-lagged survey design so that the common method bias could be reduced and the independent variables, the mediator, the moderator, and the dependent variable should have a time gap. These designs are popularly suggested in behavioral and digital finance studies due to their lessening of self-report inflation, enhanced causal inference, and more reliable performance over time of tapping into psychological processes (Podsakoff et al., 2012). The sample population was active mobile banking users in Pakistan since they are individuals who have been exposed the most too digital financial decision-making. The design of the three waves enabled a predictor, psychological mechanism, and behavioral outcome measurement in a sequential way in a structured manner that was aligned with the theoretical framework of the study.

Data Collection Procedure

The data gathering was performed in three waves with a two-week break in between to allow sufficient differentiation of time and keep the respondents occupied. During the first wave (T1), the measures of Digital Financial Self-Efficacy (DFSE) and Mobile Banking Quality (MBQ) were administered to the participants, capturing the individual-level and system-level digital antecedent digital. Two weeks later respondents were again contacted to do Wave 2 (T2), the scale that included only the Perceived Financial Control (PFC) scale. Such a time gap makes the mediator measured following the predictors according to the principles of testing mediation. Wave 3 (T3) was then followed by another two-week interval during which the respondents took measures of Responsible Financial Behavior (RFB) and Digital Privacy Concern (DPC). A self-generated unique identification code was used by the

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respondents to identify answers in the waves without revealing their identity. Ethical consent was taken before the data was collected and the participants were made aware of confidentiality, voluntary participation and their right to withdraw.

Sample Size

Since the model is quite complex, since it involves mediation and moderation, the study utilized the PLS-SEM sample size regulations that focus on the minimum power (Hair et al., 2022). At least 350 matched responses were needed to provide sufficient statistical power in order to identify medium effects sizes. Taking into account anticipated attrition in multi-wave studies, at Wave 1, about 450 respondents were recruited. This plan meant that two rounds of attritions saw the final sample exceeding the suggested limit of sound structural equation and hypothesis testing.

Data Analysis Technique

SmartPLS 4 was used to analyze data, which is the two-step method suggested by PLS-SEM. The measurement model was evaluated based on internal consistency reliability (Cronbach Alpha and Composite Reliability = 0.70 and above), convergent validity (factor loadings = 0.60 and above and AVE = 0.50 and above) as well as discriminant validity (Fornell-Larcker = -0.85 and above and HTMT ratio = -0.85 and above) in the first step. The second step involved the test of the structural model with 10,000 bootstrapped subsamples to test direct, indirect (mediation), and interaction (moderation) effects. The model explanatory power (R2), the effect size (f2) and the predictive relevance (Q2) were analyzed and PLSpredict was applied to verify the out-of-sample predictive accuracy. This method of analysis is consistent with the best practices of digital finance behavioral research.

Measurement & Instrumentation (With Original Scale References & Number of Items)

The measurement of all constructs was done on a seven point Likert scale (1 = strongly disagree 7 = strongly agree). The instruments have been modified based on well-established scales that have high psychometric validity.

DFSE was a scale designed to assess the digital financial self-efficacy in the form of five items based on the self-efficacy theory attributed by Bandura (1986) and adjusted to the specifics of digital finance by Ryu et al. (2024). These points measure the trust of people in the fulfillment of digital transactions, navigation of mobile interfaces, and solving problems in digital financial environments.

The Mobile banking quality (MBQ) was assessed based on six items of the mobile banking service quality scale of Addai et al. (2024). Such a measure encompasses such features as reliability, security, responsiveness, and usability and informational accuracy that are crucial measurements of digital service quality in new markets.

The Perceived Financial Control (PFC) was assessed using four items that have been borrowed by Zestcott et al. (2023). The scale indicates the perception of the people on the capability of handling financial decisions, control of financial activities in their daily lives, as well as the psychological control of financial resources.

Responsible Financial Behavior (RFB) was assessed with five items modified as the scale created by Potrich et al. (2023). These products capture budgeting discipline, saving regularity, prudent spending and overall financial prudence-demeans greatly

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associated with long term financial prosperity.

Digital Privacy Concern (DPC) was assessed as four items based on the Internet Users Information Privacy Concerns scale by Malhotra et al. (2004) modified to fit the digital finance settings by Maruping et al. (2023). These products indicate fears that are connected with misuse of data, the absence of confidentiality, unauthorized access, and the vulnerability of cyber security in the course of the digital financial operations.

All these tools provide a high level of theoretical congruence, conceptual clarity, and psychometric reliability and, thus, are suitable in analyzing the behavioral results of the digital finance ecosystem in Pakistan.

Findings and Analysis

Measurement Model

Table 01 shows that the reliability and validity of all constructs are satisfactory psychometrics. The item loadings of every item fall between 0.713 and 0.914 which is higher than the recommended 0.70 (Hair et al., 2022) making it a good indicator of the reliability of the indicators. Cronbach alpha values are 0.855-0.898, and Composite Reliability (CR) scores are 0.885-0.922 which are both well above 0.70, which is the standard threshold in the 0.70-1.00 range, and that indicates a high level of internal consistency. AVE of each construct is between 0.635 and 0.706, which is greater than the required minimum of 0.50, and indicates a high degree of convergent validity. These findings indicate that Digital Financial Self-Efficacy, Mobile Banking Quality, Perceived Financial Control, Responsible Financial Behavior, and Digital Privacy Concern have reliable measures and retrieve adequate variance among their items. On the whole, the measurement model meets the major reliability and validity preconditions, which proves its adequacy to further structural analysis of the model.

Table # 01 Reliability and Validity

Factor	Loading	alpha	CR	AVE
Digital Financial Self-Efficacy		**0.856**	**0.897**	**0.635**
DFSE1	0.814			
DFSE2	0.769			
DFSE3	0.810			
DFSE4	0.784			
DFSE5	0.805			
Digital Privacy Concern		**0.855**	**0.885**	**0.660**
DPC1	0.914			
DPC2	0.713			
DPC3	0.760			
DPC4	0.848			
Mobile Banking Quality		**0.898**	**0.922**	

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0.663			
MBQ1	0.778		
MBQ2	0.803		
MBQ3	0.837		
MBQ4	0.792		
MBQ5	0.841		
MBQ6	0.830		
Perceived Financial Control		**0.861**	**0.906**
0.706			
PFC1	0.829		
PFC2	0.844		
PFC3	0.832		
PFC4	0.856		
Responsible Financial Behavior		**0.884**	**0.915**
0.683			
RFB1	0.838		
RFB2	0.799		
RFB3	0.823		
RFB4	0.856		
RFB5	0.815		

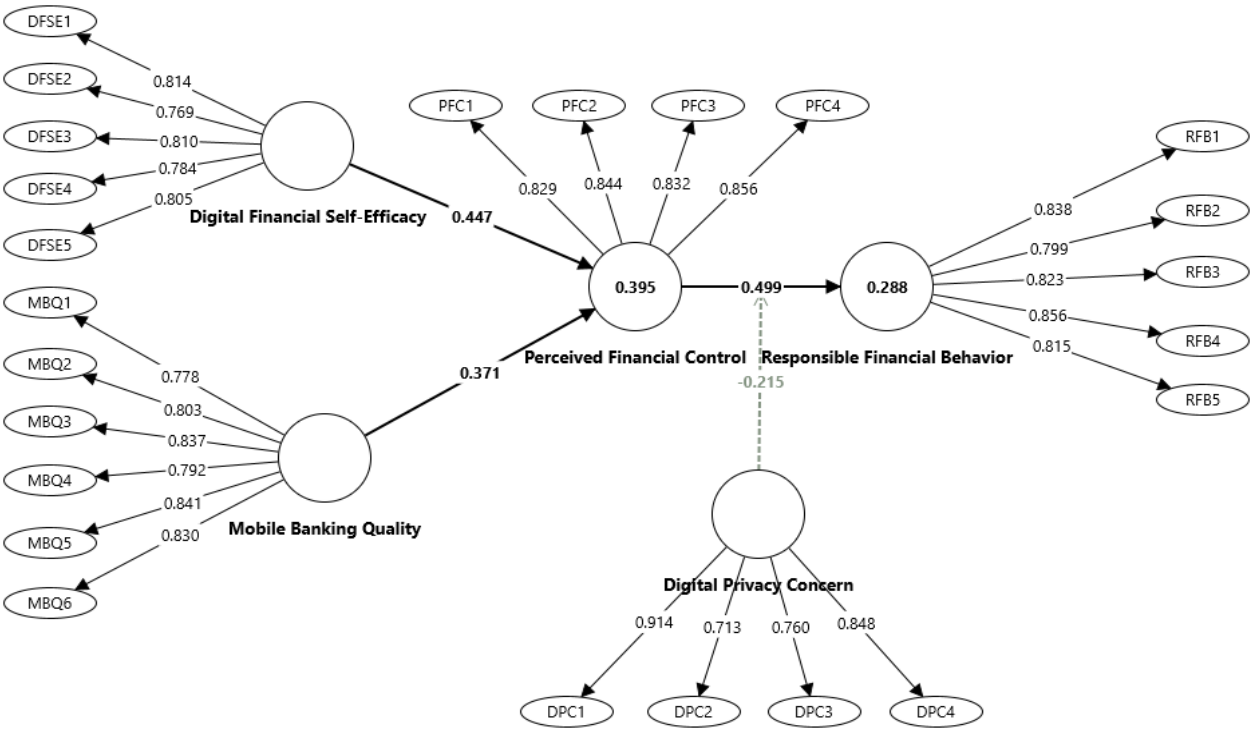


Figure # 02: Measurement Model

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Discriminant Validity

Table 02, which is based on the HTMT, proves strong discriminant validity, with all the values that are significantly lower than the conservative value of 0.85 as Henseler et al. (2015) recommend. The maximum HTMT value (0.590 between DFSE and PFC) is not too high, which proves that constructs are empirically different. These outcomes also confirm that the measurement model has a discriminant adequacy (Hair et al., 2022).

Table # 02 HTMT

	DFSE	DPC	MBQ	PFC	RFB
DFSE					
DPC	0.157				
MBQ	0.193	0.149			
PFC	0.590	0.091	0.507		
RFB	0.328	0.073	0.362	0.547	

Multicollinearity

Table 03 values of VIF are between 1.71 and 2.40, which is much less than the recommended value of 5.0, which means no issues of multicollinearity in the measurement items (Hair et al., 2022). One of the findings is that not all indicators are redundant or add greater variance to the construct, which is why the measurement model has quality.

Table # 03 VIF Values

Item	VIF	Item	VIF
DFSE1	1.960	PFC1	1.939
DFSE2	1.765	PFC2	1.990
DFSE3	1.974	PFC3	1.965
DFSE4	1.714	PFC4	2.171
DFSE5	1.793	RFB1	2.249
DPC1	1.887	RFB2	1.922
DPC2	1.967	RFB3	2.078
DPC3	2.155	RFB4	2.323
DPC4	1.891	RFB5	2.034
MBQ1	1.916		
MBQ2	2.043		
MBQ3	2.271		

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MBQ4	1.970
MBQ5	2.399
MBQ6	2.344

Variance in endogenous variable

Table 04 results show that the R-square has a moderate level of explanatory strength in the endogenous constructs. The percentage of Perceived Financial Control explained by Digital Financial Self-Efficacy and Mobile Banking Quality is 39.5 percent, which is significant predictive power. On the same note, the Perceived Financial Control describes 28.8% of the Responsible Financial Behavior, which is a high level of behavioural prediction. These R2 values are acceptable thresholds in social science models (Hair et al., 2022), so the model is able to explain itself.

Table # 04 R-square

Variable	R-Square	Adjusted R-Square
PFC	0.395	0.392
RFB	0.288	0.283

Effect Size

The f2 values of Table 05 demonstrate the relative contribution of each of the predictors to its own endogenous construct. Digital Financial Self-Efficacy (0.320) and Mobile Banking Quality (0.221) also set a medium effect on the Perceived Financial Control. The perceived financial control indicates a significant impact on the responsible financial behavior (0.347). Digital Privacy Concern, moderation effect on RFB is very small (0.015). These findings are in line with the recommendations provided by Cohen and Hair et al. (2022).

Table # 05 F-square

Variable	Effect Size
DFSE→PFC	0.320
DPC→RFB	0.015
MBQ→PFC	0.221
PFC→RFB	0.347

Structural Model

Table 06, which is the results of the structural model, indicates the strong and significant relationship amongst the proposed constructs. Digital Financial Self-Efficacy ($b = 0.447$, $p < 0.001$) and Mobile Banking Quality ($b = 0.371$, $p < 0.001$) both have significant positive influences on Perceived Financial Control which supports the fact that the two are key antecedents. Perceived Financial Control also exhibits a considerable positive effect on Responsible Financial Behavior ($b = 0.499$, $p < 0.001$) as a key element in central psychological positioning influencing the

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financial behavior. Digital Privacy Concern and Perceived Financial Control interaction term note a very strong negative moderation (b = -0.215, p = 0.002), which shows that the privacy concerns undermine a positive impact of perceived control on responsible behavior. Besides, the two mediation paths, namely, DFSE - PFC - RFB (b = 0.223, p < 0.001) and MBQ - PFC - RFB (b = 0.185, p < 0.001) are significant, which proves that perceived financial control is a fundamental mechanism that converts digital capability and system quality to responsible financial behavior.

Table # 06 Path co-efficient

Path	Beta	STDV	T	P Value	Decision
DFSE→PFC	0.447	0.035	12.754	0.000	accepted
MBQ→PFC	0.371	0.039	9.490	0.000	accepted
PFC→RFB	0.499	0.037	13.392	0.000	accepted
DPC*PFC→RFB	-0.215	0.069	3.092	0.002	accepted
DFSE→PFC→RFB	0.223	0.024	9.245	0.000	accepted
MBQ→PFC→RFB	0.185	0.026	7.204	0.000	accepted

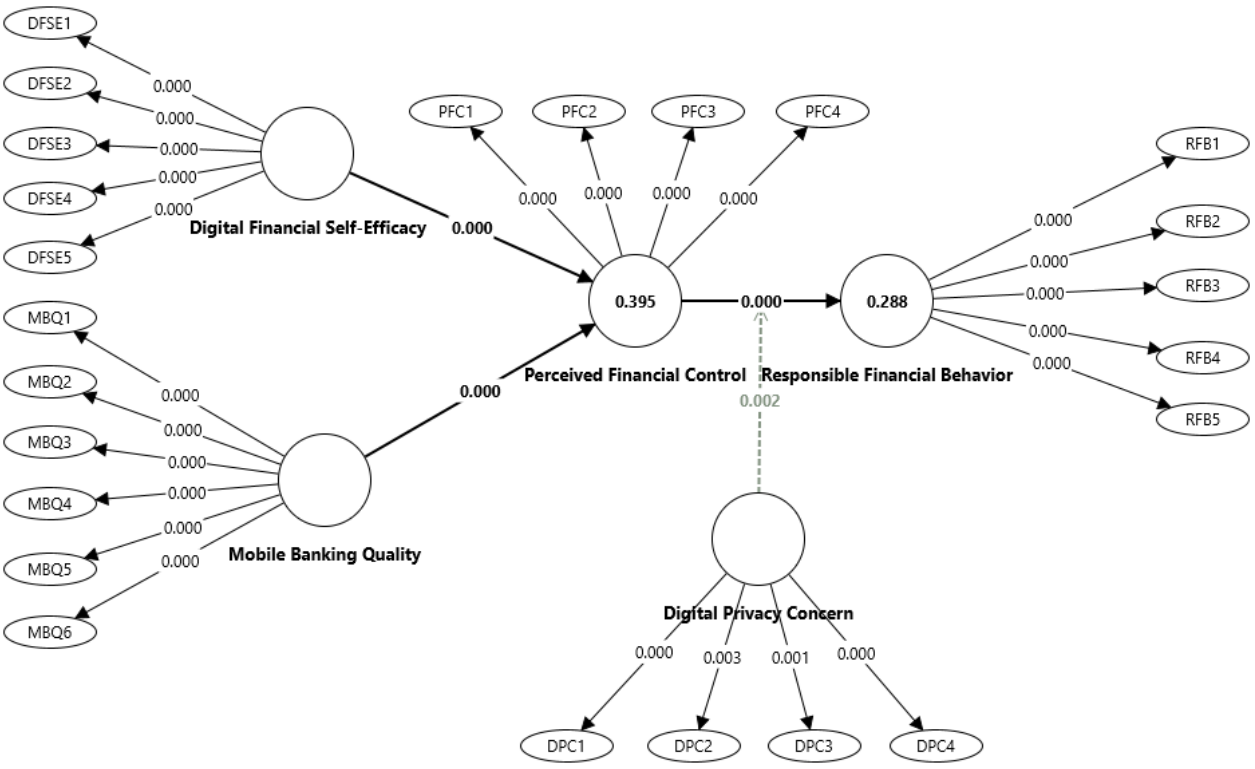


Figure # 03: Structural Model

Construct cross-validated redundancy

Table 07 that shows the outcome of the blindfold operation proves that the model has a significant predictive relevance. The two Q2 values are positive and this means that the endogenous constructs are being predicted by their antecedents well (Hair et al., 2022). Perceived Financial Control has Q2 of 0.274 which is a moderately predictive,

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and Responsible Financial Behavior has Q2 of 0.192 which is a small but acceptable predictive motivator. In general, the model has a good out-of-sample predictive power.

Table # 07 Blindfolding

Variable	SSO	SSE	Q2=(1-SSE/SSO)
PFC	1660.000	1204.374	0.274
RFB	2075.000	1676.288	0.192

CVPAT LV Summary

The evidence in Table 08 CVPAT latent variable summary is that the PLS-SEM model depicts high predictive accuracy than the linear model (LM). The PLS loss values are always less than LM loss values in both constructs, Perceived Financial Control (PFC) and Responsible Financial Behavior (RFB) (0.894 vs. 0.929 and 0.945 vs. 0.992 respectively). The negative values of the average losses (-0.035 and -0.047) demonstrate that PLS-SEM have greater performance with respect to prediction. Moreover, the t-values and p-values are statistically significant (PFC: $t = 3.220$, $p = 0.001$; RFB: $t = 3.138$, $p = 0.002$) which proves that these improvements are not caused by random variation. This conclusion is reinforced by the general comparison of the models, where the average difference in the loss is -0.042 ($t = 4.312$, $p < 0.001$), and proves that PLS-SEM offers significantly better predictive power. These results can be compared to the recent suggestions of the critical role of evaluation of predictions with CVPAT and PLSpredict in contemporary SEM (Hair et al., 2024; Sarstedt et al., 2022).

Table # 08 PLS-SEM vs. Linear model (LM)

Variable	PLS Loss	LM Loss	AVG loss Diff:	T value	P value
PFC	0.894	0.929	-0.035	3.220	0.001
RFB	0.945	0.992	-0.047	3.138	0.002
Overall	0.923	0.964	-0.042	4.312	0.000

Discussion

H1 Discussion (DFSE→PFC)

The results are firmly in favor of H1, which proves that digital financial self-efficacy is a powerful boost of the perceived financial control. Users who are more confident in their ability to do online financial tasks are more competent in undertaking financial decisions, which is in line with Social Cognitive Theory with self-efficacy influencing the beliefs in mastery and behavioural consequences. Recent research proves that online financial efficacy increases the accuracy of decisions, information processing, and online financial freedom (Ryu et al., 2024; Yusuf and Mohd-Satar, 2023). Within the fast-growing digital finance ecosystem of Pakistan, the increased

Annual Methodological Archive Research Review
http://amresearchreview.com/index.php/Journal/about
Volume 3, Issue 12 (2025)
http://amresearchreview.com/index.php/Journal/about
Online ISSN 3007-3197
Print ISSN 3007-3189
https://doi.org/10.5281/zenodo.17832044

DFSE can assist users in reducing the cognitive bias concerning technological complexity and uncertainty, which increases the feeling of control in a subjective way. These findings indicate that self-efficacy is the underlying psychological asset of promoting financial control.

H2 Discussion (MBQ→PFC)

H2 is rejected meaning that the quality of mobile banking plays an important role in perceived financial control. Good mobile banking services, i.e. mobile banking services that provide reliability, accuracy, real time information, easy to use interface and good security offer secure environment in which the user feels capable and in control of his or her financial actions. It has been demonstrated that the quality of the service alleviates cognitive load and increases the level of user trust (Addai et al., 2024). The digital banking experiences should be flawless in developing markets like Pakistan, whose digital literacy is not uniform, to enhance user empowerment. The findings suggest that system-level usability and security improvements have a positive impact on perceived financial control and make MBQ a critical factor of digital financial capability.

H3 Discussion (PFC→RFB)

H3 finds a good support that proved the fact that responsible financial behavior is largely predicted by perceived financial control. When one believes he/she is in charge of his/her financial life, there is a greater chance that this person will budget, save, not spend impulsively, and track his/her financial transactions. This is similar to the literature on behavioral finance that makes perceived control a key focus of financial self-regulation (Zestcott et al., 2023). Perceived control is more vital in the digital space since a user should manoeuvre risks, information complexity, and trust issues. The findings indicate that as people become certain about their capability of handling digital financial activities, such a psychological attitude is transferred into disciplined and responsible behavioral patterns.

H4a Discussion (DFSE→PFC→RFB Mediation)

The mediation analysis indicates that H4a is correct and the perceived financial control is the key psychological process in which the digital financial self-efficacy results in responsible financial behavior. Despite the fact that self-efficacy improves digital capability, its behavioral effect takes place mainly on the enhanced sense of control. A user with a sense of financial control through assumptions that she can cope with digital finance tools has higher chances of cultivating an effective financial control that indirectly promotes budgeting, saving and wise spending habits. It is in line with more recent findings that digital capability can be effective in behavior change only when coupled with psychological empowerment (Zestcott et al., 2023; Ryu et al., 2024). Therefore, the key channel between self-efficacy and financial responsibility is perceived financial control.

H4b Discussion (MBQ→PFC→RFB Mediation)

The H4b hypothesis is accepted, and it proves that perceived financial control does depict the association between the quality of mobile banking and responsible financial

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behaviour. The excellent mobile banking solutions diminish the uncertainty, enhance the clarity, and bring the trust, enabling the user to feel that they are more in-control of the digital financial processes. This felt power then leads to responsible behaviours including paying on time, spending wisely, and checking the finances frequently. The results are consistent with the recent studies that claim that the quality of digital platforms improves financial performance mainly due to the increased user confidence and control (Addai et al., 2024; Zestcott et al., 2023). Therefore, quality of platforms enhances behaviour not in itself, but by enhanced financial control.

H5 Discussion (Moderation of DPC on PFC→RFB)

H5 is accepted and the moderation effect of digital privacy concern on the relationship between perceived financial control and responsible financial behaviour is significant and negative. Even though people might be confident and in control, high privacy concern undermines their desire to perform responsible use of digital finances. This is in line with studies that have shown that perceived vulnerability, loss of trust, and discouraged active financial involvement are enhanced by privacy concerns (Maruping et al., 2023; Khalid and Ali, 2024). The outcomes prove that psychological empowerment cannot be used on its own, and users must be afraid of data misuse. High privacy concern can therefore be considered as a boundary condition which limits the transfer of perceived control into accountable financial behavior.

Theoretical Contributions

The article proposes part of the theoretical contributions by integrating digital capability (DFSE) and system quality (MBQ) and behavioral finance in regard to mediating the visualized financial control. It demonstrates that psychological empowerment is one of the key mechanisms that may result in the emergence of responsible financial behavior that the relations to the field of digital finance can be offered in the context of the Social Cognitive Theory. Also, the critical condition of moderation of digital privacy concern exists, which assists in enhancing the knowledge of risk perception in digital financial decision-making.

Practical and Managerial Implication

The findings show that financial institutions should improve user self-efficacy by educating users, with tutorials and streamlined digital interfaces. The mobile banking quality, should it be reliable, in terms of speed and security can boost the financial control and responsible utilization of the services by large proportions. One of the things the policy makers should focus on in curbing privacy issues is the digital literacy programs and open data protection structures. Banking organizations must also create communications approaches that emphasize on security, and in so doing build trust and promote responsible use of digital financial services.

Conclusion and Future Directions

This paper has established that digital self-efficacy and mobile banking quality have a significant impact on responsible financial behavior by perceived financial control but this is weakened by privacy issues. Other psychological and contextual moderators

Online ISSN 3007-3197
Print ISSN 3007-3189
https://doi.org/10.5281/zenodo.17832044

like trust, financial anxiety or regulatory support should be studied in the future. Behavioral results could also be proved further using longitudinal or experimental designs, cross-country comparisons, and integration of actual transaction data to enhance the generalizability to different digital financial ecosystems.

Reference

Addai, B., Boateng, H., & Okoe, A. F. (2024). Mobile banking service quality and customer engagement in emerging markets. Journal of Retailing and Consumer Services, 76, 103532. https://doi.org/10.1016/j.jretconser.2023.103532

Ahmed, M., & Dissanayake, D. (2024). Digital financial inclusion challenges in South Asia: Evidence from Pakistan. International Journal of Bank Marketing, 42(1), 55–76. https://doi.org/10.1108/IJBM-04-2023-0194

Arora, S., & Rahman, Z. (2023). Emerging trends in digital financial behaviour: A systematic review. Journal of Consumer Behaviour, 22(4), 867–885. https://doi.org/10.1002/cb.2206

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice Hall.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum.

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2023). Digital finance transformations: A review and future directions. Electronic Commerce Research and Applications, 59, 101195. https://doi.org/10.1016/j.elerap.2023.101195

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.). SAGE Publications.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Danks, N. (2024). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. Springer.

Hassan, M., Tariq, M., & Janjua, S. (2024). Factors influencing responsible digital finance use among young adults. Journal of Behavioral and Experimental Finance, 41, 101017. https://doi.org/10.1016/j.jbef.2023.101017

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Khalid, R., & Ali, S. (2024). Privacy concerns, cyber-fraud fears and trust in digital banking: Evidence from Pakistan. Computers & Security, 133, 103457. https://doi.org/10.1016/j.cose.2023.103457

Malhotra, N. K., Kim, S. S., & Agarwal, J. (2004). Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. Information Systems Research, 15(4), 336–355. https://doi.org/10.1287/isre.1040.0032

Maruping, L. M., Bala, H., & Venkatesh, V. (2023). Privacy concerns in mobile financial services: A meta-analytic review. MIS Quarterly, 47(2), 567–598. https://doi.org/10.25300/MISQ/2023/17382

Online ISSN 3007-3197
Print ISSN 3007-3189
https://doi.org/10.5281/zenodo.17832044

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63(1), 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Potrich, A. C. G., Vieira, K. M., & Mendes-Da-Silva, W. (2023). Predicting responsible financial behaviour: The role of financial capability and behavioural traits. Journal of Economic Psychology, 99, 102644. https://doi.org/10.1016/j.joep.2023.102644

Ryu, H., Lee, J., & Kim, Y. (2024). Digital financial self-efficacy and mobile banking adoption: A cross-cultural investigation. Information & Management, 61(2), 103780. https://doi.org/10.1016/j.im.2023.103780

Sarstedt, M., Hair, J. F., Cheah, J.-H., Becker, J. M., & Ringle, C. M. (2022). How to specify, estimate, and validate higher-order constructs in PLS-SEM. Australasian Marketing Journal, 30(4), 423–436. https://doi.org/10.1016/j.ausmj.2022.01.002

Shim, S., Xiao, J. J., Barber, B., & Lyons, A. (2010). Pathways to life success: Financial capability as a mediator of financial socialization and financial well-being. Journal of Youth and Adolescence, 39(12), 1489–1500. https://doi.org/10.1007/s10964-009-9432-x

State Bank of Pakistan. (2023). Annual Payment Systems Review. SBP Publications.

Yusuf, S., & Mohd-Satar, M. (2023). The influence of digital financial self-efficacy on FinTech usage among millennials. Journal of Financial Services Marketing, 28(3), 241–255. https://doi.org/10.1057/s41264-022-00160-7

Zestcott, C. A., Rodriguez, L., & Viale, A. (2023). Perceived financial control and financial well-being: A psychological perspective. Journal of Economic Psychology, 98, 102631. https://doi.org/10.1016/j.joep.2023.102631

Zestcott, C. A., Rodriguez, L., & Viale, A. (2023). Perceived financial control and financial well-being: A psychological perspective. Journal of Economic Psychology, 98, 102631. https://doi.org/10.1016/j.joep.2023.102631