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Impact of Personality Characteristics on Financial Inclusion of Women Employees in Pakistan: Moderating Impact of Digital Financial Literacy

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Abstract

The participation and inclusion of women are vital for the growth and progress of any economy. Literacy in finance is crucial for financial inclusion and facilitates, the usage of formal services in finance and products that enhance the economic opportunities for women. The aim of the study is to examine the effects of personality characteristics on financial inclusion among 250 female employees in the major metropolitan cities of Pakistan. Quantitative approach is employed in the study through a survey questionnaire to gather the data. The sampling technique was purposive which was used to select the women employees, and the PLS-SEM technique was used to analyze the data. The empirical findings of the current study show that financial attitude, behavior, and influence positively impact financial inclusion, which is moderated by digital financial literacy. This study adds value to the existing literature on the factors that affect financial literacy, especially in the context of women in Pakistan, and has important implications for policymakers in the financial sector. The paper proposes measures to enhance women's engagement and inclusion in the financial sector and also provides future directions for research.

Introduction

The role of women in today's society has transformed tremendously with their participation in the labor market and higher education levels. They play an integral role in the overall economic development and progress of any society. The women constitute almost half of the total population yet their labor participation remains low (Corrêa et al., 2024; Sayeed, 2023). The women's diversity and inclusion in the workforce and the financial systems is also consistent with the Sustainable Development Goals (SDGs) of United Nations's. The increasing inclusion of women at the workplace requires that they make financial decisions for which they require higher level of financial knowledge, skills and capabilities. This financial literacy plays a vital role in the process of decision-making and helps in making informed decisions that could impact their careers and ultimately their lives (Beckker et al., 2020).

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Introduction

Many empirical studies have shown that women score low in terms of financial literacy as compared to men (Iqbal et al., 2024; Klapper & Lusardi, 2020). A study by Rink et al. (2021) shows that the gender disparity, in terms of financial inclusion, is glaring and aggravating where only 20% of middle-aged women educated from college were using financial services and products. Factors contributing to financial inclusion is crucial to study, in order to attain the desired level of participation in the financial sector. The financial attitude, behavior, and financial literacy have been seen to be important determinants of financial inclusion (Asyik et al., 2022). In order to advance the understanding and the use of financial products, it is imperative to understand the attitude and behavior women have towards decisions like budgeting, saving, and debt. Various studies have shown that women are more risk-averse than men, especially while making economic and financial decisions (Anthens et al., 2000; Rai et al., 2019).

The financial literacy is still very low among working women in Pakistan, despite substantial advancements for women in employment and education (Dsouza & Panakaje, 2023; Zahid et al., 2023). The rise of financial technology, or fintech, has made it possible for technical advancements to enhance financial services and accessibility (Azeez & Akhtar, 2021; Rahayu et al., 2022). Digital financial literacy is critical for access of financial services and hence the individuals lacking this knowledge are an obstacle in the advancement of digital services for economic mobility (Hasan et al., 2023). Previous research shows that women face a number of issues when it comes to financial access and digital competence (Fauzi et al., 2020). Hence it is important to understand and study the factors that contribute towards this financial exclusion as the women's inclusiveness promotes the overall financial wellbeing of the society as well. Pakistan ranks lowest in terms of access to bank accounts where only 13.5% of women hold bank accounts as compared to 22% in India, 53% in Bangladesh, and 89.3% in Sri Lanka (Hausmann et al., 2022; Zahid et al., 2023). A large number of Pakistani female employees lack this information, which results in financial instability, restricted access to financial services and products, and inadequate retirement planning (Agrawal et al., 2023; Khan et al., 2021).

However, until now, inadequate research has been done in the area of financial inclusion among working women in Asia and hardly any study is to be found in the context of Pakistan (Zahid et al., 2023). The financial attitude, behavior, financial influence, and financial inclusion relationship are still unclear. This study aims to fill this gap by making an important contribution to the existing literature on behavioral finance by incorporating digital financial literacy as a moderator in the relationship of the personality characteristics affecting women's financial inclusion.

The main objectives of the study are to determine the financial attitude, financial behavior, and financial influence relationship with financial inclusion respectively. Further, to determine the moderating effect of digital financial literacy on the relationship between financial attitude, behavior, influence, and financial inclusion. The scope of the study is the working women in the major Metropolitan cities of Pakistan. The result of this study has important implications for the policymakers, both in the government and the institutions, to create digital financial platforms for the easy accessibility of products and services by working women in Pakistan. The remaining paper has been organized as follows: It has literature followed by methodology. The subsequent section comprised of the results and discussion followed by a conclusion and recommendations.

Literature Review and Hypotheses Development

Financial literacy, according to the OECD, is the ability to make wise financial decisions for one's financial well-being by combining awareness, skill, knowledge, attitude, and behavior (Atkinson & Messy, 2013). The emergence and growth of technology has led to digital financial literacy which is a person's understanding related to online purchases, payments, banking systems and various digital financial platforms (Morgan, 2021). The digital financial literacy is influenced strongly by the financial attitude, behavior and the influence that other people have on the individual (Banthia & Dey, 2022). The theory of Planned Behavior (TPB) has been used to understand financial behavior as it predicts and understands human behavior (Xiao, 2008). The financial inclusion is influenced by the behavior, attitude and intentions of the individual and since financial knowledge and attitude encompass the skills and beliefs, it's reasonable to use the Azjen Theory of Planned Behavior (Zaimovic et al., 2024; Rai et al., 2019).

Personality Characteristics and Financial Inclusion

There are many determinants of financial literacy including socio-demographic factors, income level, age, education, marital status, behavior, etc. Studies have shown that education has a major impact on financial knowledge followed by income level (Lusardi, 2011). Ajzen's (2011) theory of planned behavior (TPB) helps to predict the behaviour of the individual and their action toward a certain situation. This theory has been used in many studies to assess the effect of personality characteristics on financial behaviour (Dewi et al., 2020; Yong et al., 2018; Panchasara et al., 2019).

With the growing number of women entering the workplace, it's imperative to empower them with the financial knowledge needed for their professional and personal decision-making (F. Aziz et al., 2022; Nawaz et al., 2023). The personality characteristics: financial attitude, behaviour, and influence also play a vital part in determining the level of financial literacy and hence are important variables to be considered (Banthia & Dey, 2022).

Financial Attitude

The financial attitude, behaviour and influence are important characteristics for determining the impact of financial literacy on the financial inclusion (Rai et al., 2019). The financial attitude is an individual's state of mind and perspective of the financial situation (Baskara & Gladys, 2021). The study by Bongomin et al. (2018) shows that attitude can have a positive significant impact on financial literacy and promote financial inclusion. The behaviour is also dependent on the attitude, and it dictates the level of the usage of the financial services. The risk-averse attitude of women is one of the prime reasons for their low financial inclusion (Kappal & Rastogi, 2020). The financial attitudes can change the cultural and personal views of financial decisions, in terms of the judgments and opinions about the various forms of savings and investments (Halim & Setyawan, 2021).Bongomin and Ntayi (2020) also state that attitudes positively affect the financial inclusion, especially among the women. Hence, it's important to study this factor in the women population as most of them have been found to be risk averse having a negative attitude towards taking financial decisions (Bilgili et al., 2016; Rink et al., 2021; Wang et al., 2023).

H1: There is a significant effect of the financial attitude on financial inclusion.

Financial Behaviour

The financial behaviour leads to making financial decisions and taking action related to financial matters. According to Xiao (2008), financial behaviour is related to money and its use. Previous studies have shown that financial behaviour has a direct positive impact on the acquiring of financial literacy and its inclusion (Gunawan, 2023; Ingale & Paluri, 2022; Sabri et al., 2024). There are very few studies conducted on the subject related to women entrepreneurs while they are strongly influenced and their attitude and behaviour are shaped by the financial knowledge that they gain and possess.

H2: There is a significant effect of financial behaviour on financial inclusion.

Financial Influence

The financial influence also is an important factor in the overall inclusion of women as they learn considerably from their friends, family, co-workers, jobs and life experiences (Mishra et al., 2021). The influence from the family is much stronger for the women as most of them lack documentation and some other family members own the account (Husodo et al., 2018). The education, income and background of the women shape their financial influence, which in turn has an impact on the level of financial inclusion. The majority of the women, in Pakistan, learn the financial management and knowledge from the men of the household as they are mostly not educated and also lack the required exposure (Kasozi & Makina, 2021). Hence past studies show that parents, friends, spouses, media and life experiences contribute a lot in shaping the financial outlook and hence financial products and services usage (Arshad, 2023; Melubo & Musau, 2020; Mishra et al., 2021).

H3: There is a significant impact of the financial influence on financial inclusion.

Digital Financial Literacy and Financial Inclusion

The digital financial technology (fintech) has improved the availability of financial services and products. Aziz and Naima (2021) concluded, in their study, that digital financial literacy enabled Bangladeshi women to access the financial markets and products and also increased their penetration. Though the overall usage of digital platforms has increased, the inclusion of women, less educated and elderly remains low and a lot of work is needed to improve the infrastructural and other issues for easy access (Barik & Sharma, 2019). Thus, higher level of financial inclusion is only possible through advancing digital financial literacy and developing the required personality characteristics (Akpuokwe et al., 2024; Maheshwari et al., 2023; Moko et al., 2022).

H4: A significant moderating impact of the digital financial literacy between the financial attitude and inclusion.

H5: A significant moderating impact of the digital financial literacy between the financial behavior and inclusion.

H6: A significant moderating impact of the digital financial literacy between financial influence and inclusion.

Conceptual Framework:

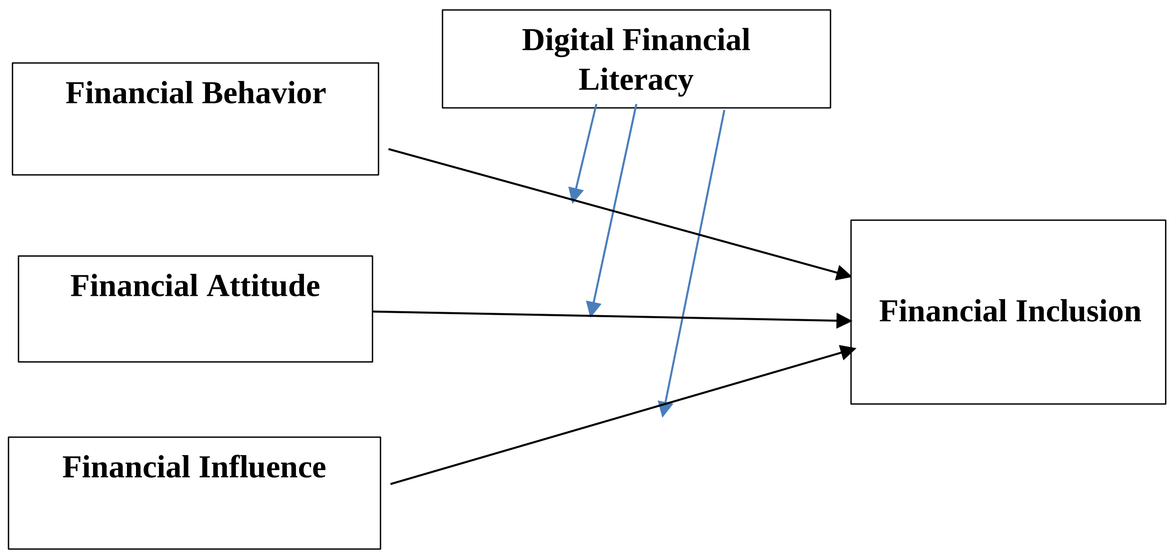

Figure no 1

Methodology

The study adopts a positivist view where a quantitative approach has been used to show the influence of the financial personality characteristics on financial inclusion of the women employees in Pakistan. A survey was carried out, using self-administered questionnaires, among the women employees of the various sectors in the three major Metropolitan cities of Pakistan (Karachi, Lahore and Islamabad-Rawalpindi). The first part of the questionnaire was based on the demographics (age, income, profession, education), the second part comprised of questions regarding financial attitude, behavior, influence, digital financial literacy and inclusion. The questions related to financial attitude, behavior and influence have been adapted from the study by (Jorgensen, 2007) while the questions pertaining to digital financial literacy and financial inclusion has been adapted from study by (Hasan et al., 2023).The reliability of the instruments have been tested using the Cronbach's alpha coefficient, as shown in Table 4.5.The women employees were selected using the purposive sampling where they were approached both physically and through online questionnaire. The purposive sampling technique has been utilized so that the respondent has the best knowledge about the topic that has been discussed. The Krejcie and Morgan (1970) sample size technique has been utilized. The 450 questionnaires in total were distributed among the participants while only 250 were completed and found eligible for the study. SmartPLS 4.0 software is utilized to check PLS-SEM model. PLS-SEM is used in this research instead of CB-SEM because this research objective is to find important constructs or predict important target constructs. Moreover, this is exploratory research and extension to a structural theory that is already established.

Results and Discussion

The below figure 2 shows the financial behavior, financial attitude and financial influence as an independent variable and comprising 3 items each while the digital financial literacy is a moderating variable comprising 3 items. The financial inclusion is taken as a dependent variable and comprising 3 items as well.

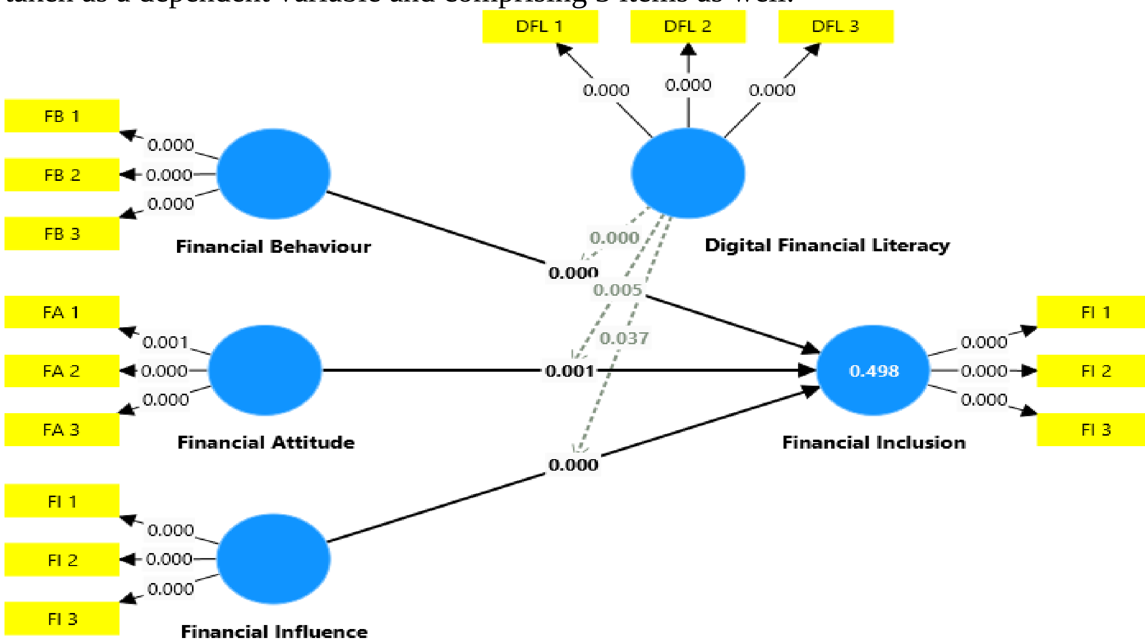

Figure 2 Structural Equation Modeling

4.1 Descriptive Statistics:

The respondents' age, monthly income range, and educational level is shown in the table below. Table 4.1 shows that the majority of the women employees (48%) are in the age bracket of 20-25 years while there are very few below 20 as most of the women start working in the middle of after graduation. Most of the respondents are graduates while most of them (31.2%) earn an income in the range of 30000-40000 per month.

4.1.1 Demographic Statistics

Table 4.1 Age Group

Age Group	Frequency	Percent
below 20	15	6.0
20-25	120	48.0
26-30	85	34.0
above 30	30	12.0
Total	250	100.0

Table 4. 2 Education

Education	Frequency	Percent
undergraduate	82	32.8
graduate	93	37.2
master	70	28.0
phd	5	2.0
Total	250	100.0

Table 4.3 Monthly Income

Monthly Income	Frequency	Percent
Below 30000	59	23.6
30000-40000	78	31.2
40000-50000	69	27.6
Above 50000	44	17.6
Total	250	100.0

4.2 Reliability and Convergent Validity

Table 4.4 Outer Loadings

	DIGITAL FINANCIAL LITERACY	FINANCIAL ATTITUDE	FINANCIAL BEHAVIOUR	FINANCIAL INCLUSION	FINANCIAL INFLUENCE
DFL 1	0.806				
DFL 2	0.731				
DFL 3	0.889				
FA 1		0.864			
FA 2		0.94			
FA 3		0.936			
FB 1			0.814		
FB 2			0.783		
FB 3			0.857		
FI 1					0.795
FI 2					0.824
FI 2				0.789	
FI 3				0.91	
FI 3					0.759
FI 4				0.867	

The outer loading has been tested to check the item reliability of this research (Hair et al., 2019). The outer loadings in Table 4.4 indicate that all the items utilized in the study are reliable as values are greater than 0.708 (Hair et al., 2019).

Table 4.5 'Construct Reliability and Convergent Validity'

	Cronbach 's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
DFL	0.751	0.819	0.852	0.658
FA	0.902	0.936	0.938	0.835
FB	0.757	0.776	0.859	0.67
FI	0.82	0.84	0.892	0.735
FIN	0.711	0.728	0.836	0.629

Table 4.5 shows the construct's reliability to check the internal consistency of variables. The average variance extracted has been utilized for the constructs to check the convergent validity of the constructs. The result shows that the reliability of all the constructs utilized in this study has been established as Cronbach Alpha values are greater than 0.7 (Sarstedt et al., 2019). The convergent validity of all the constructs has also been established as values are greater than 0.5 (Hair et al., 2011).

Table 4.6 Discriminant Validity (Heterotrait and Monotrait Ratio)

	DFL	FA	FB	FI	FIN
DFL					
FA	0.423				
FB	0.223	0.13			
FI	0.553	0.084	0.417		
FIN	0.661	0.395	0.176	0.555	

Discriminant validity is tested through Heterotrait-Monotrait ratio (Nawanir et al., 2019). (Roemer et al., 2021). The acceptable level of discriminant validity is less than 0.90 (Hair & Alamer, 2022). The heterotrait and monotrait ratios were found to be lower than 0.85 that shows discriminant validity of all the constructs has been established (Henseler et al., 2015).

Table 4.7 R-Square

	R-square	R-square adjusted
FI	0.498	0.486

The R-Square has been utilized in the research to find out how much dependent variable variance is explained by the independent variable. The 0.498 R-Square value shows that there is moderating effect of the financial inclusion model that shows 49.8% effect.

Table 4.8 Path Coefficient

	Original sample (O)	T statistics	P values
FA-> FI	0.318	3.615	0
FB -> FI	0.392	7.424	0
FI -> FI	0.232	4.165	0
DFL x FI -> FIN	0.112	2.209	0.028
DFL x FB-> FI	0.336	4.398	0
DFL x FA -> FI	0.217	2.83	0.005

The above Table 4.8 shows the hypothesis results by examining the path coefficient of the variables postulated in the research framework. According to Table 4.8 financial attitude, financial behavior and financial influence show a highly significant and positive relationship with financial inclusion as all the P Values are lower than 0.05 (Sarstedt et al., 2019). The digital financial literacy also shows the significant and positive moderating impact between financial attitude, financial behavior, financial influence and financial inclusion. Therefore, all the hypotheses developed through the literature review have been accepted.

Table 4.9: Summary of hypotheses testing.

Hypotheses	**P value**	**Significance level**	**Results**
H1	0.000	0.05	Accepted
H2	0.000	0.05	Accepted
H3	0.000	0.05	Accepted
H4	0.005	0.05	Accepted
H5	0.000	0.05	Accepted
H6	0.028	0.05	Accepted

The results show that the personality characteristics of financial behavior, attitude, and influence all positively have an impact on the financial inclusion. This is in line with previous studies which state that the financial attitude and behavior of the person is an important determinants of their utilization of the financial products and services (Baskara & Gladys, 2021; Rai et al., 2019; Sabri et al., 2024). The study also shows the financial literacy strengthens the relationship between personality characteristics and the financial inclusion and having the digital financial literacy strengthens this relationship. Most of women are risk-averse and hesitant to gain financial knowledge or make financial decisions

(Kappal & Rastogi, 2020). The women employees already have the required capital, in terms of their income, that can be used for the various financial purposes of saving, investment and insurance (Sadiq et al., 2023). The results are consistent with past studies on financial literacy which show that financial knowledge and understanding do influence the level of financial inclusion (Maheshwari et al., 2023; Moko et al., 2022). Also as stated by Halim and Setyawan (2021), financial attitude has an influence on the degree of financial inclusion of women.

Conclusion

The study's main aim was to examine the impact of important personality characteristics on the financial inclusion of women employees in Pakistan. It also included digital financial literacy as a moderator variable, given the advancement and prevalence of financial technology (Fintech) in the industry. Overall, the findings indicate that all personality characteristics are impacting positively financial inclusion and help to facilitate and increase the use of financial products among the women employees. The results also showed that the majority of the working women are in the 20-25 age bracket (48%) while most of them are graduates (37%). Moreover, it was also found that digital financial literacy moderates the relationship between personality characteristics and financial inclusion.

The study has important implications for the banking industry and the government where there is a need to devise appropriate programs, trainings and seminars to help these women become more financially inclusive. The results of the study suggest that policymakers should consider the cost of the digital platforms as well and the channels used to communicate with the women. Branchless banking and e-banking should be made more convenient and customized according to the needs of the women. Introducing default-free or low-interest loans for lower-salaried women would also help enhance their financial inclusion. Moreover, making accessible digital financial literacy programs, designing courses, and inculcating in the curriculum will also help enhance the overall women financial inclusion in the country. Future studies could consider a comparative study of males and females regarding the financial inclusion and also use different variables to measure the financial literacy. Also, other factors such as income and age can be used to assess the level of financial literacy. Another important area could be the study the impact of digital financial literacy on the women empowerment in Pakistan and other countries. Overall, future research on digital financial literacy could have implications for the improvement of the women's empowerment and inclusion in the country.

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