THE IMPACT OF FAMILY INFLUENCE AND GENDER ON THE LEVEL OF DIGITAL FINANCIAL LITERACY AMONG STUDENTS

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We hope that our findings will benefit future students of FAST NUCES and provide insight for banks and regulators interested in digital financial literacy in this region. We are committed to sharing our research with the wider community to contribute to the ongoing conversation on this topic.

Abstract

Fintech (Financial Technology) emerged with the advent of the Fourth Industrial Revolution and has revolutionized banking and financial services by providing online solutions. Fintech is a powerful tool that enables financial institutions to offer enhanced services to a wider audience using the Internet. Digital financial literacy has become essential within the fintech ecosystem, as insufficient understanding of both financial and digital matters can impede the optimal utilization of fintech solutions. Insufficient digital financial literacy in Pakistan and the noticeable dearth of research on topic hinder the promotion of users' welfare, developing positive attitudes and behaviours related to finances is essential for making well-informed and enhanced financial choices. Hence, the objective of this study is to gather survey data from students in Karachi, aiming to investigate the factors that impede the adoption and comprehension of digital financial behaviours, as well as assess the level of awareness regarding digital financial literacy. In this study, various independent variables, namely digital literacy, financial experience, and financial attitude, are examined to understand their influence on digital financial literacy. In addition, the study explores the mediating role of family influence and the moderating impact of gender. A total of 228 surveys were conducted among students in Karachi. The findings reveal that, when mediated by family influence, gender plays a significant moderating role in the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy.

Keywords: *Digital Financial Literacy, Digital Literacy, Financial Attitude, Financial Experience, Family Influence*

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List of Abbreviations

Abbreviations	Definition
ATM	Automated Teller Machine
DFL	Digital Financial Literacy
DFS	Digital Financial Services
DL	Digital Literacy
DLG_Int	Digital Literacy and Gender Interaction Term
FA	Financial Attitude
FAG_Int	Financial Attitude and Gender Interaction Term
FAST	Foundation for Advancement of Science and Technology
FE	Financial Experience
FEG_Int	Financial Experience and Gender Interaction Term
FI	Family Influence
Fintech	Financial Technology
NFC	Near-field Communication
NUCES	National University of Computer and Emerging Sciences
POS	Point of Sales
QR	Quick Response
R	Pearson Correlation Coefficient
RTOBs	Real-time Online Branches
SBP	State Bank of Pakistan
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action

Chapter 1: Introduction

1.1 Background of the Study

Digitalization, globalization, and sustainability have emerged as key avenues for business growth. In the current economic scenario, the significance of digital transformation as a vital catalyst for business expansion is emphasized (Aziz & Naima, 2021). The internet, a longstanding tool for exchanging data and disseminating critical information, plays a central role. Technological advancements have revolutionized people's lifestyles, evident in their purchasing behaviour and preferences. Online platforms have broadened the accessibility, efficiency, speed, and security of services, providing convenience to customers (Selimović et al., 2021). Industrial Revolution 4.0 has emancipated the globe with the inclusion of technology. This revolution brought a complete metamorphosis to the financial system. For banks and financial organisations to exist and develop in the current digital environment, digitization must be prioritised. The financial sector of every country has an enormous impact on economic growth and development. Significant progress has been observed in the domain of financial technology (FinTech) in recent times, particularly in terms of digital innovation. Traditional financial institutions have started embracing these emerging technological advancements (Brandl & Hornuf, 2017). The financial industry has experienced a substantial transformation due to the rapid expansion of digitalization, partly fuelled by the fact that half of the population in developing nations now owns a mobile phone (World Bank Group, 2014). As a result, several fintech services are now available. Internet users globally stand for 63% of the population (ITU, 2022). These figures were favourable for the financial services industry, and fin-tech began to gain momentum as more people began utilising the internet and cell phones. As indicated by the State Bank of Pakistan, financial entities in Pakistan have adopted and offer a wide range of automated services. These services include payment cards, Automated Teller Machines (ATMs), internet banking, e-commerce merchants, real-time

online branch (RTOB) transactions, call centres, mobile banking, Point of Sale (POS) machines, QR payments, and other related features. In terms of the availability of information and the capacity to contact the bank, bank websites function like modern-day branches (Chaffey et al. 2006). Individuals need digital financial literacy to use fin-tech services at best and avoid costly mistakes and fraud. This helps them in making better profitable decisions and avoid risks (Klapper et al., 2012). The ability to utilise digital technology and an individual's degree of literacy interact to form this habit of using digital tools and applications. The significance of employees' psychological needs becomes evident in this context, encompassing the need for independence, competence, and affiliation. These particular needs have a direct influence on employees' motivation to embrace the evolving workplace of the future (Lo Prete, 2022). When employees perceive that utilizing digital tools and technologies will improve their productivity, satisfaction, and overall well-being, they are more inclined to support the implementation of digital transformation initiatives within the workplace (Kramer, 2016).

Fintech is the use of technology to drive innovation within the realm of financial services. It encompasses various technology sectors within the financial industry and offers services to customers, aiming to streamline trading and company operations (Micu & Micu, 2016). The term "Fintech" is used to describe the implementation of advanced software and technology in the field of finance. This type of business offers a range of services, including payments, investments, financing, and financial analysis. Digital financial services are those that employ electronic technologies to offer financial goods and services. Digital financial services encompass a wide range of offerings, including payment, credit, savings, remittances, and insurance. At the forefront of digital financial services are mobile financial services and online financial services, which utilize innovative technologies like mobile phones, electronic money models, and digital payment systems. These services play a vital role in providing underserved communities with essential financial services. By utilizing these channels, costs

can be reduced for both consumers and service providers, while also expanding access to rural and underserved populations. Regulatory bodies in the financial sector worldwide acknowledge the significant role that DFS can play in promoting financial inclusion and strive to create favourable environments to facilitate their growth (Baniya et al., 2021). People will need to be more proactive in their financial preparation, especially retirement, as gig workers become more prevalent. This shift gives individuals more control over their financial decisions (Lutkevich & Gillis, 2022; Yue et al., 2022).

Financial literacy encompasses crucial aspects such as financial competence, knowledge, and awareness. To be effective, it is essential to possess a comprehensive grasp of financial literacy that is reflected in one's financial behavior (Atkinson & Messy, 2012). This knowledge forms the foundation for various economic actors, including entrepreneurs, investors, students, and women entrepreneurs (Sconti, 2022), exerting a significant influence on individuals' decision-making processes in economic matters. Research emphasizes the significance of FL and highlights its benefits, such as enhanced financial decision-making (Li et al., 2020). Individuals with a solid understanding of financial principles and practices are less vulnerable to fraud, less prone to excessive borrowing, better equipped for retirement, more actively involved in financial markets, and often achieve higher investment returns (Guthrie & Nicholls, 2015). Earlier research has shown that in the past, consumers primarily relied on conventional media, such as television and radio, for monetary management information, but now family and peers are also common sources of financial information (Sabri & Aw, 2019). Digital financial literacy involves understanding how to use digital technology for financial activities such as online shopping, making payments through various methods, and accessing online banking systems (OECD, 2017). Additionally, digital literacy has grown to be vitally important for the country's economic development. The traditional method of paper-based is still recognized but to compete with the global competition they must be

substituted with technology (Feyen et al., 2021). Digital technology is an integral part of economic expansion patterns globally. The importance of digital literacy for national economic development has grown (Lyons & Kass-Hanna, 2021). Financial literacy and digital platforms combine to generate the notion of digital financial literacy, which may be researched on two different scales: the micro (person level) and the macro (system level or national level). In today's digital landscape, the proficiency in utilizing digital tools and services for financial transactions, known as digital financial literacy, is an essential skill. It entails acquiring knowledge, skills, and habits that empower individuals to leverage financial opportunities and make informed decisions (Yue et al., 2022). Enhancing digital financial literacy promotes economic stability, facilitates financial intermediation for individuals and the overall economy, and has positive long-term effects on performance (Feng et al., 2022; Andreou & Anyfantaki, 2021). Organizations can bolster their performance and support the digital transformation of the economy by updating their business models (Yu et al., 2017). The key benefits of digital financial literacy include gaining control over financial operations, increased confidence in managing finances, and quick access to information pertaining to monetary management.

1.2 Problem Statement

The Internet has made the lives of people increasingly digital. As discussed earlier, in the introduction section, we discussed that fin-tech is the term that is used to refer to financial innovations with the inclusion of technology. The advent of fintech has facilitated convenient access to both domestic and international financial products and services through technology, underscoring the importance of global cooperation in regulating fintech and fostering public digital financial literacy (Morgan et al., 2019). However, there is a lack of adequate research on digital financial literacy, and many national financial education plans primarily focus on fundamental financial concepts without specifically addressing digital financial literacy

(Arinda et al., 2022; Kartini et al., 2022).

G20 has not established any literature that addresses standards for digital financial education or digital financial literacy, even though G20 nations have turned to integrating digital financial literacy as part of their strategy owing to the development in the usage of digital banking (Morgan et al., 2019). Furthermore, as highlighted by Chetty et al. (2018) that there is a lack of a standardized definition for digital financial literacy. This poses a challenge as conventional financial services rapidly transition towards fintech, making it difficult for individuals to access digital financial facilities without a clear understanding of the associated risks, stemming from limited literacy about digital financial services. The monetary crisis revealed that individuals were engaging in risky financial behaviours without a full understanding of the consequences (Klapper et al., 2012).

Recent reports indicate that in Pakistan, there has been a significant surge in mobile banking transactions, with a growth rate of 102%, and internet banking has also witnessed a notable increase of 42% during the pandemic (The Nation, 2022). Figure 1.2 is composed of statistics issued by SBP (State Bank of Pakistan) which shows and compares the rapid increase in Internet banking, m-wallets, and mobile banking users from 2015 to 2019. The numbers show the thriving results in adoption and show the dire need to develop a guideline for digital financial literacy domestically and globally. The adoption of digital financial services is hindered in both developing and developed nations due to safety concerns and a limited understanding of these services (Lis & Kongaut, 2017; Kats, 2018; Zhang & Mao, 2020). Enhancing digital financial literacy can empower users to improve their financial awareness, skills, and behaviours.

Digital financial literacy is vital to develop an all-encompassing space in the country's finance segment. If used rightly, it has the potential to make financial services obtainable for everyone. Digital financial literacy is an essential instrument to foster attitudes and behaviours

about better financial decisions and helps to cultivate better financial education, awareness, and abilities to effectively use financial facilities (Lyons et al., 2019). Additionally, promoting inclusive digital financial literacy aids in integrating the financially underprivileged and excluded into the mainstream financial system so they may learn how to borrow, save, and build assets (Gash & Gray, 2016). Investigating the relationship amongst digital financial literacy and digital financial behavior is crucial, especially for individuals living in remote regions of Pakistan where access to formal education may be limited. These individuals can leverage applications like EasyPaisa, JazzCash, and other microfinance bank apps with the assistance of local agents or representatives who facilitate transactions and address their queries effectively. Therefore, such economically vulnerable populations have faced difficulties in financial inclusion as such coping or alternative mechanisms lead to never-ending financial insecurities and can result in unfavourable outcomes (Gash & Gray, 2016). Digital financial literacy can help the underprivileged make better financial decisions with detailed guidance. According to Lachance and Choquette-Bernier (2004), financial training within the home setting may be limited, but financial learning often occurs through indirect family communication. Therefore, various childhood-related variables have been examined with financial literacy & financial behaviour (Grohmann et al., 2015).

Additionally, digital financial literacy supplies citizens access to formal financial services. It also reduces the threat of losing money to different financial crimes, especially when starting cash-based transactions. On top of it, digital financial literacy can help promote financial empowerment among the people, particularly for the women of the country. However, the threat is high even in the digital space; therefore, to make certain it only helps the people, it is essential to ensure digital financial literacy. Individuals need to have this information to make sensible financial choices. It also has the potential to convert informal cash-based transactions into formal financial services. There are several advantages of managing finances

digitally, such as freedom to use, access to real-time information, speed, efficiency, portability i.e., using the services on mobile phones, and the ease of incorporating the integration of financial management into other businesses (Atkinson & Messy, 2012).

1.3 Research Questions

Our study aims to address the following research questions:

1. Is there any relationship between digital literacy, financial attitude, and financial experience, and digital financial literacy?
2. Does gender moderate the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy?
3. Does family influence to mediate the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy among individuals?
4. Does the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy is mediated by family influence and this mediation is moderated by gender?

1.4 Research Objectives

The following are the objectives of our study:

1. To determine the impact of digital literacy, financial attitude, and financial experience affect digital financial literacy.
2. To investigate the moderating effect of gender on the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy.
3. To determine the role of family influence as a mediator in the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy among individuals.

4. To determine the mediation effect of the family influence on the relationship between digital literacy, financial attitude, financial experience, and digital financial literacy and this mediation is moderated by gender.

1.5 Scope of the Study

This research seeks to investigate the relationship between financial literacy, digital literacy, and digital financial literacy, considering the increase in the adoption of digital financial services caused by the COVID-19 pandemic. The study will investigate various aspects of financial literacy, including individuals' financial attitudes and experiences, as well as different dimensions of digital literacy, such as technological and critical abilities. In addition, this research will analyze potential mediating factors, such as family influence, that may affect the connection between financial literacy, digital literacy, and digital financial literacy. Furthermore, gender will be considered as a moderating variable. To ensure feasibility and proximity, the study will be conducted exclusively among students from all batches of FAST NUCES, Karachi.

1.6 Significance of the Study

The current literature highlights a notable research gap concerning digital financial literacy, particularly within the context of Pakistan. Furthermore, the relationship amongst financial literacy and digital literacy remains inadequately comprehended. To bridge these gaps, this study adopts an innovative approach by investigating the mediating and moderating influences of family influence and gender on the relationship between FL, DL, and DFL. The outcomes of this study will provide valuable insights into evaluating the effectiveness of digital financial literacy in promoting the adoption of digital financial services in Pakistan. Moreover, the study can assist financial institutions in identifying key variables associated with digital financial literacy and provide relevant knowledge to enhance the uptake of digital financial

services among the population. By incorporating the moderating variable of gender, the study aims to deepen our understanding of how gender differences can influence digital financial literacy. The detailed framework presented in this study can serve as a valuable reference for future research, encouraging further investigation and exploration of additional factors related to digital financial literacy. Ultimately, this research aims to make a meaningful contribution to the development of our understanding of digital financial literacy and its influencing factors, specifically within the context of Pakistan.

Chapter 2: Literature Review and Hypothesis Development

2.1 Introduction

The purpose of this section is to offer a comprehensive examination of prior research on the subject and examine the chosen elements: Digital Literacy, Financial Attitude, and Financial Experience. Furthermore, it investigates the connection between these factors and the level of Digital Financial Literacy among students. This analysis also considers the impact of family influence and the moderating role of gender.

2.2 Digital Financial Literacy

In the realm of digital financial technology, digital financial literacy encompasses both financial literacy and digital literacy. It involves comprehending financial concepts within the context of digital platforms and services (Morgan et al., 2019; Tony & Desai, 2020; Lyons & Kass-Hanna, 2021; Alliance for Financial Inclusion, 2021). Although there is currently no universally accepted definition of digital financial literacy due to its relatively recent emergence, researchers have identified four primary criteria for evaluating an individual's level of digital financial literacy: familiarity with digital financial services and products, awareness of potential risks associated with their usage, understanding of risk mitigation strategies, and knowledge of consumer rights and legal options (Morgan et al., 2019). According to Setiawan et al. (2020), digital financial literacy encompasses financial literacy within the context of digital financial technology. It entails the ability to safely utilize digital financial services, make informed financial decisions, and act in one's best financial interest, considering individual economic and social circumstances (Alliance for Financial Inclusion, 2021). Despite its importance, there is limited literature available on digital financial literacy (Arinda et al., 2022; Kartini et al., 2022). The research conducted by Setiawan et al. (2020) unveiled that an individual's digital financial literacy is influenced by their level of education, highlighting the importance of educational background in this context. The impact of digital financial literacy

is expected to be similar to that of traditional financial literacy (Setiawan et al., 2020). The finding that education level influences financial literacy and, by extension, digital financial literacy, is supported by prior research conducted by (Wangmo, 2018; Nanziri & Olcker., 2019; Setiawan et al., 2020). Given the understanding that digital financial literacy encompasses both financial literacy and digital literacy, it can be hypothesized, based on previous studies, that the factors that drive FL and DL also have an impact on DFL.

2.3 Digital Literacy

Digital literacy refers to the knowledge and skills required for effectively and safely utilizing digital technology to access, manage, comprehend, and generate digital information in social and economic contexts (UNESCO, 2018). A fundamental understanding of digital competencies entails possessing four essential abilities: information processing, communication, problem-solving, and software skills for content manipulation (Alkali & Amichai-Hamburger, 2004). These abilities enable individuals to identify, locate, organize, and assess digital content based on its relevance and intended purpose. Moreover, digital literacy encompasses the competence necessary to utilize digital technology for communication, information gathering and evaluation, and problem-solving. This includes the ability to engage in digital communication, evaluate digital resources, and utilize digital tools for conceptual problem-solving. It also involves skills related to creative applications of technology, such as producing media outputs and programming, as well as understanding and managing intellectual property rights. These skills are vital for effectively navigating and participating in the digital world, especially for parents guiding their children's digital media choices and usage. Proficiency in content manipulation software is essential for creating and editing content, producing creative expressions and media outputs, and addressing intellectual property rights (European Commission, 2020). Research also suggests that parents with strong digital literacy

skills are better equipped to guide their children's digital media usage and decision-making (Livingstone et al., 2017).

In contrast, financial literacy pertains to the capacity to comprehend financial concepts and processes and effectively manage one's financial resources. In today's digitally driven financial landscape, digital literacy plays a vital role in accessing, evaluating, communicating, and problem-solving using electronic tools and technology. Digital finance refers to the utilization of digital technology for delivering financial services and conducting financial transactions. To grasp and utilize digital financial services, as well as make well-informed financial decisions, individuals require a certain level of digital literacy in today's rapidly digitized financial world. Digital financial literacy and digital literacy are interconnected (Gautam et al., 2022). Since a significant portion of financial products and services are now provided digitally, having digital financial literacy has become essential in the modern era (Prasad et al., 2018). The ability to navigate digital infrastructure and tools effectively is a crucial component of digital literacy (Martin, 2006). Therefore, the integration of technology into financial channels has an impact on digital financial literacy. Based on these understandings, the research hypothesis can be formulated as follows:

H1: Digital literacy has a significant impact on digital financial literacy.

2.4 Financial Literacy

The global significance of financial literacy is underscored by the crucial role money holds in our lives. Financial literacy encompasses the understanding, awareness, and knowledge required to make responsible financial decisions pertaining to finance, credit, and debt management (Stanley & Fatemeh, 2017). It involves understanding basic financial concepts and using that knowledge to improve one's financial situation. Financial literacy encompasses various aspects, including awareness, knowledge, skills, attitudes, and behaviours (OECD, 2017). Another definition, as provided by the Asian Development Bank, characterizes

financial literacy as the ability to comprehend financial concepts and terms and apply that knowledge in practical situations (Fernando, 2010).

Extensive research indicates that financial literacy has a substantial impact on various aspects of life, ranging from personal well-being to economic contributions. It involves comprehending, assessing, obtaining, and communicating personal financial matters that affect one's financial security (Athens, 2004). Financial literacy also includes understanding financial concepts, making informed decisions about financial services and products, and applying basic financial knowledge (Tony & Desai, 2020). It can be described as understanding and using fundamental financial ideas (Singh, 2014).

Research findings indicate that an individual's level of financial literacy significantly influences their capacity to make informed choices and develop effective plans concerning their financial well-being. Moreover, it serves as a predictor of individuals' planning behaviours (Hung et al., 2009). Having a good understanding of finance is crucial for making wise decisions about money management and spending (Morgan, 2003). Financial literacy involves knowledge, skills, and attitudes related to financial matters (Atkinson & Messy, 2012). Some scholars have expanded the concept to include numeracy skills (Meeghan & Margie, 2014; Thomas & Subhashree, 2020). Financial socialization, encompassing the influences from family and peers, holds a crucial role in the development of financial literacy. Studies have demonstrated that financial socialization serves as a significant mediator for financial literacy (Brown et al., 2018). Both family and peer influence have been identified as predictors that have an impact on financial literacy (Sabri et al., 2012; Lusardi et al., 2010). Digital financial literacy is intricately connected to financial literacy, representing its digital manifestation (Prasad et al., 2018). The factors that influence financial literacy also have an impact on digital financial literacy (Sine et al., 2020). Peer pressure and family influence have been identified as factors that can shape financial literacy, as supported by other research studies (Prasad &

Meghwal, 2017). The OECD acknowledges five crucial components of financial literacy: financial awareness, financial knowledge, behavioural finance abilities, financial attitudes, and numeracy skills (Sine et al., 2020).

2.5 Financial Attitude

Financial literacy encompasses multiple dimensions, with financial attitude being one of them. Financial attitude is considered a measure of financial literacy (OECD,2016). Over the years, scholars have described various financial mindsets. Thomas and Subhashree (2020) state that financial attitude refers to an individual's mental or psychological evaluation of financial matters. Financial Attitudes are described by Ibrahim and Alqaydi (2013) as an inclination toward financial matters. An individual's viewpoint, views, and appraisals of their financial situation are referred to as their financial attitude. It is crucial to possess the ability to evaluate financial products and make decisions that consider long-term benefits. Financial attitude encompasses an individual's mindset and comprehension of financial matters (Chowa & Despard, 2014; Xiao, 2008). A person's perspective on financial issues is influenced by a combination of concepts, emotions, and knowledge (Atmadja et al., 2021). A person's thoughts and views about money, which may be favourable or negative, are referred to as their financial attitude. A person's behaviour can be influenced by knowledge, emotions, and information concerning financial issues. Financial attitude is directly connected to financial literacy, and it may have a considerable influence on it (Eagly & Chaiken, 2007; Rai et al., 2019; Atmadja et al., 2021). A person's financial attitude, including their inclination towards financial issues and their ability to plan and maintain savings, can significantly influence their level of financial literacy (Rai et al., 2019). There is a connection between an individual's financial attitude and their financial literacy, as one's attitude towards money and financial goals may impact their motivation to improve their financial knowledge and skills. Jorgensen (2007) emphasized that financial literacy is strongly influenced by one's financial mindset, and Ibrahim et al. (2009)

demonstrated that factors like financial attitudes can have a substantial impact on students' financial literacy. How someone feels about money can influence their level of financial literacy, as individuals who value money and strive to achieve financial objectives are more likely to improve their financial literacy (Thomas & Subhashree, 2020). It is hypothesized that there may be a connection between a person's financial attitude and their financial literacy, with those holding positive views on financial matters potentially demonstrating higher levels of financial literacy. Conversely, individuals with poor financial attitudes may have lower levels of financial knowledge (Ameliawati & Setiyani, 2018). Evaluating financial attitudes and behaviours is essential for enhancing financial literacy among the population (Bhushan & Medury, 2014). Their study emphasizes the importance of promoting positive financial attitudes to enhance financial literacy across different age groups. Consequently, the following hypothesis is proposed:

H2: Financial Attitude has a significant impact on digital financial literacy.

2.6 Financial Experience

As stated by Dewi et al. (2020), financial experience pertains to an individual's level of familiarity with owning or utilizing financial products, as well as their inclination to share those experiences with others. However, Ameliawati and Setiyani (2018) define financial experience as the collective experience of a community with financial policies, instruments, and services. Research suggests that there are various ways to understand the concept of financial experience. It includes the events and situations related to financial management that an individual encounters (Schmitt, 1999). Financial experience can also improve a person's financial management skills (Beverly, 2003). According to Wiener et al. (2005), financial experience is characterized by the competence to make investment decisions through effective planning and management. They emphasize the positive influence of financial education on financial behavior. Arellano et al. (2014) found that cognitive aspects, which can be enhanced

through learning from experience, are a part of acquired financial literacy. Therefore, gaining knowledge through experience may contribute to enhancing financial literacy (Cameron et al., 2014).

Multiple studies indicate that a person's financial literacy is significantly influenced by their financial experience (Johnson & Sherraden, 2007). Ameliawati and Setiyani (2018) argue that individuals with greater financial experience tend to exhibit higher levels of financial literacy. Financial experience plays a crucial role in the development of financial literacy (Sohn et al., 2012). Frijns et al. (2014) propose that the relationship between financial literacy and experience can work in both directions: financially literate individuals may engage in more financial activities, while individuals with lower financial literacy can enhance their financial knowledge through their experiences. Other researchers also support this idea. Bradley et al. (2001) found that challenging financial experiences were a major source of learning for the participants in their study. Hogarth and Hilgert (2002) state that to be considered financially literate, individuals need both theoretical knowledge and practical financial experience. According to their argument, financially literate individuals can effectively apply their knowledge and skills in real-life financial situations due to their experiences. Moore (2003) further suggests that a person's financial knowledge and their ability to manage their finances effectively are influenced by their financial experiences. Therefore, the hypothesis is made that:
H3: Financial Experience has a significant impact on digital financial literacy.

2.7 Family Influence

Family influence is the effect of a person's family upbringing on their character and behaviour. Positive family influence, among many other things; reflects in the form of healthier behaviours, and enhances self-esteem, leading to higher well-being (Maccoby, 1984). Multiple studies have demonstrated that the family is a significant factor in financial literacy (Firli, 2017). A person's financial literacy may be influenced by several sociodemographic

characteristics, including age, gender, and education (Bawre & Kar, 2019; Garg & Singh, 2018). The family impact is a crucial sociodemographic component that influences a person's comprehension of and management of financial issues. Lusardi and Tufano (2009) highlight a significant relationship between financial literacy, sociodemographic characteristics, and financial knowledge and abilities within the family context. The family's influence on financial literacy is determined by various factors, such as upbringing, childhood experiences, parent occupation and employment, family opinions, security, quality of family relationships, location, life-changing events, health, and access to credit, among others. Research suggests that the financial knowledge and experience within a person's family, as well as the emphasis placed on financial management during their upbringing, can have a notable influence on their ability to understand and navigate financial matters (Firli, 2017; Venkataraman & Venkatesan, 2018). In addition, research has shown that financial discourse within the family correlates strongly with financial literacy (Sabri et al., 2010). The family plays a vital role in shaping individuals' financial skills and has a substantial influence on their performance in reading, science, and math assessments. Mancebón et al. (2019) assert that the family exerts its influence in two different ways: the mother's education level positively affects adolescents' math skills, and the parents' occupation effect on their children's financial literacy. Ameliawati and Setiyani (2018) have noted that an individual cannot be separated from their surrounding environment, since there is a reciprocal connection among them. Financial socialization, which happens through various means e.g., families, education, friends, and the media, is an example of this mutual interaction. During the process of formally mediating the measurement of financial literacy, several researchers have utilized family influence as a mediating variable. As a result, financial socialization has been identified as the strongest mediator of financial literacy (M. Brown et al., 2018). Existing evidence suggests that the factors influencing financial literacy also have an impact on digital financial literacy. Therefore, it can be inferred that family

influence, which is known to affect financial literacy, will also extend its influence to digital financial literacy. Therefore, the experimental design hypothesis:

H4: Family influence mediates the relationship between digital literacy and digital financial literacy.

H5: Family influence mediates the relationship between financial attitude and digital financial literacy.

H6: Family influence mediates the relationship between financial experience and digital financial literacy.

2.8 Socio-demographic Factors

Socio-demographic factors such as age, gender, and education are important components of an individual's demographic profile, and they have an influence on financial literacy. According to research, demographic characteristics including age, gender, education level, and family history affect financial literacy (Herd et al., 2012). Research conducted by Venkataraman and Venkatesan (2018) has identified a strong correlation between family financial knowledge, demographic characteristics, and financial literacy. Furthermore, studies examining the influence of age indicate that younger individuals often exhibit higher levels of financial literacy compared to older adults (Lusardi & Tufano, 2009; OECD, 2005). In terms of gender, research has revealed that women tend to have lower debt literacy and generally possess lower levels of financial literacy compared to men (Chen & Volpe, 2002; Lusardi & Tufano, 2009, 2015). According to studies, those with greater education levels typically have better degrees of financial literacy (Lusardi, 2003). Consequently, those with less education could be less financially literate (Lusardi and Mitchell, 2011). The relationship between financial literacy and education is a topic that has yielded mixed findings. While some studies have found a relationship between education and financial literacy, others have not observed a significant connection. There is ongoing discussion regarding the impact of financial education

on improving financial literacy. Some studies suggest that financial education can enhance financial literacy (Lusardi, 2003), while others have found no clear association between a person's level of education and their financial literacy (Mandell, 2006). However, other research has shown that an individual's socio-demographic status has a limited influence on Internet use, with this influence diminishing at higher levels of digital use (Berrío-Zapata & Rojas-Hernández, 2014; Deursen & Dijk, 2010). Thus, it can be concluded that socio-demographic factors have the greatest impact on a variety of digital skills and which of them retain their impact for a longer period. Consequently, the emerging concept on gender proposes:

H7: Gender moderates the relationship between digital literacy and digital financial literacy.

H8: Gender moderates the relationship between financial attitude and digital financial literacy.

H9: Gender moderates the relationship between financial experience and digital financial literacy.

H10: The relationship between digital literacy digital financial literacy is mediated by family influence and this mediation is moderated by gender.

H11: The relationship between financial attitude digital financial literacy is mediated by family influence and this mediation is moderated by gender.

H12: The relationship between financial experience and digital financial literacy is mediated by family influence and this mediation is moderated by gender.

2.9 Theory of Planned Behaviour

Fishbein and Ajzen (1975) utilized the theory of reasoned action (TRA) as the foundation for developing the theory of planned behavior (TPB). Building upon TRA, TPB expanded the understanding of human behavior by incorporating additional factors. According to the theory of planned behavior (TPB), proposed by Ajzen (1991), understanding an individual's attitudes towards a particular behavior and the impact of social norms allows us to

anticipate their intentions and subsequent actions (Kennedy, 2013). This framework suggests that behavioural intentions and actual behavior are influenced by attitudes, subjective norms, and perceived control over the behavior. By considering these factors, we can predict and analyze human behavior more accurately. If additional variables arise as predictors in different research fields within social science and are backed by empirical evidence, they can be integrated into the theory of planned behavior (Ajzen, 2008; Kennedy, 2013). The theory of planned behavior has been proven valuable in various domains through numerous studies (Ajzen, 2001), highlighting its efficacy in elucidating the adoption of emerging information technologies (Yaghoubi & Bahmani, 2010). Empirical evidence from various studies supports the theory of planned behavior in explaining individual intentions and behavior when it comes to adopting new information technologies. For instance, the adoption of virtual banking (Liao et al., 1999), the establishment and utilization of computer resource centres (Taylor & Todd, 1995), the incorporation of information technology in work environments (Venkatesh et al., 2000), and the acceptance of electronic brokerage services all serve as examples. These cases underscore the theory's efficacy in comprehending individuals' actions and intentions regarding the adoption of emerging information technologies (Bhattacherjee, 2000).

The theory of planned behavior remains consistent when applied to digital financial literacy, as it encompasses the same factors that influence traditional financial literacy (Setiawan et al., 2020). Although financial literacy, which pertains to an individual's specific knowledge of finances, differs from the original variables of the theory of planned behavior (Huston, 2010), it meets all the criteria outlined by Ajzen (2008) for being a predictor. Furthermore, research indicates that individuals with lower financial literacy tend to possess a greater number of financial products (Chudry et al., 2011), suggesting that financial literacy may indeed impact an individual's inclination to utilize financial products (Kennedy, 2013). Financial literacy is an extensively studied concept within the realm of social science, serving

as an assessment of an individual's understanding of financial matters (Chudry et al., 2011; Huston, 2010). The results of earlier studies, as highlighted by Ullah et al. (2022), have indicated that individuals with digital literacy demonstrate superior capabilities in utilizing digital systems compared to individuals who lack such proficiency. Additionally, students with higher levels of digital literacy exhibit a greater inclination towards engaging with technology-enhanced learning systems (Bergdahl et al., 2019), while those with lower levels of digital literacy demonstrate a reduced likelihood of utilizing online learning environments (Ferro et al., 2011). Furthermore, studies have revealed that individuals' self-confidence in using computers has a direct impact on their intention to utilize technology (Darsono, 2005). These findings suggest that individuals with greater digital literacy exhibit higher comfort levels when using digital platforms like mobile payment and mobile banking systems. This observation aligns with the connection between perceived control and intention within the theory of planned behavior (Ullah et al., 2022).

Chapter 3: Research Methodology

3.1 Introduction

Within the confines of this particular chapter, we will give you a general idea of how we conducted our research. We will talk about how we set up our research plan, explain the methods we used, and describe how we gathered data. Furthermore, we will provide clear explanations of important terms used in this study.

3.2 Research Framework

The main goal of the present study is to examine the various factors that exert influence on digital financial literacy, with a specific emphasis on analysing the dependent variable. For this purpose, we have identified digital literacy, financial attitude, and financial experience as independent variables that could potentially impact digital financial literacy. Figure 3.2 incorporates family influence as a mediator, illustrating its role in mediating the relationship between the independent variables and the dependent variable. Furthermore, gender is introduced as a moderator to explore its impact on the relationship between the independent variables, the mediator, and the dependent variable. Through the adoption of a comprehensive research framework, our objective is to illuminate the intricate interplay among these variables and offer valuable insights to enhance digital financial literacy.

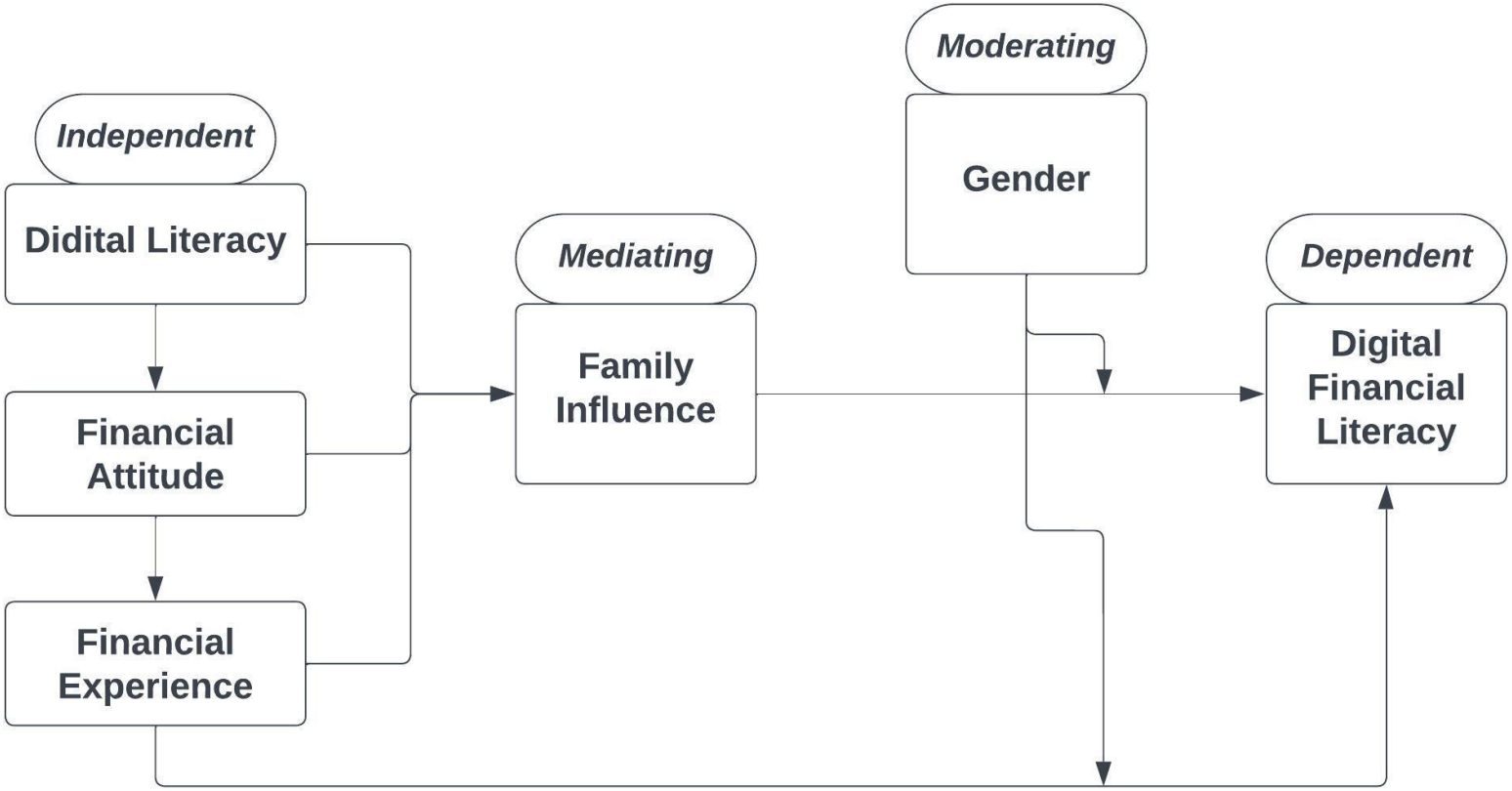

Figure 3.2 – *Research Framework*

3.3 Research Methodology

To guarantee the accuracy of our analysis, we followed a rigorous data collection process. Initially, we thoroughly checked the data for any missing information and ensured that all variables were complete. Once the data was verified, we utilized SPSS, a widely recognized statistical software package, for further analysis. To examine the relationships between variables and test our proposed hypotheses, we employed multiple regression analysis. Our research commenced by conducting a simple regression model to evaluate the direct relationship between the independent and dependent variables. Following this, we proceeded to examine the mediating role of family influence by employing a mediation model. This allowed us to explore the mediation effect of family influence on the independent-dependent relationship. Finally, we tested our framework by incorporating family influence as the mediating variable, which is influenced by gender acting as the moderating variable. To gain a comprehensive understanding of the relationships between variables, our study employed a complex model. This approach, as demonstrated by Morgan-Lopez and MacKinnon (2006), enables the examination of both direct and indirect effects of a moderating variable on the relationship between the independent and dependent variables. By utilizing this methodology, we aimed to capture a more nuanced perspective of the interplay among the variables under investigation. Our framework encompasses both moderation and mediation analysis, where gender serves as the moderator variable and family influence as the mediator. Employing this approach allows for a more nuanced comprehension of the complex interactions among the independent variables (digital literacy, financial attitude, and financial experience) and the dependent variable (digital financial literacy). This methodology is supported by Hayes (2022), who emphasizes the use of mediated moderation analysis when the indirect effect varies depending on the value of the moderator variable, such as gender. Gender can influence the

relationship between the independent and mediator variables, as well as the relationship between the mediator and dependent variables.

3.4 Data Collection

The primary objective of the present study is to investigate the factors that influence the level of digital financial literacy among students who are enrolled at FAST-NUCES in Karachi. The primary focus of the study is to investigate the different factors that contribute to students' digital financial literacy and highlight the specific elements that have a substantial role in their grasp and proficiency in this sphere. Convenient sampling is employed to include students from various age groups within the university. For data collection purposes, a Google form link was distributed to the students via the university's email domain. To determine the suitable sample size, we apply the formula suggested by Sekaran and Bougie (2016), multiplying the quantity of questionnaire items by five. Given that our research questionnaire comprises 43 items, the recommended sample size would be calculated as (43 * 5) = 215. Items assessing the dependent variable (digital financial literacy) are adapted from Rahayu et al. (2022), while items related to independent variables (digital literacy, financial attitude, and financial experience) have been adopted from Dios et al. (2016), Thomas (1995), and Dewi et al. (2020), respectively. Socio-demographic items are adopted from Anthony (2006), and an item for classifying students within the university is adopted from Nasser et al. (2008). Items concerning the mediating variable (family influence) are adopted from Shim et al. (2009).

The questionnaire is structured into four sections. The first section encompasses demographic questions, including items about age, gender, and university standing. The second section focuses on measuring digital financial literacy using 11 items, which are categorized into three sections: awareness, knowledge, and skills, following the dimensions identified by Prasad et al. (2018), Morgan et al. (2019), and Setiawan et al. (2020). To ensure the questionnaire items are meaningful and relevant to the participants, examples of digital

financial services available locally in Pakistan are incorporated, allowing for a contextualized approach (Schwarz & Strack, 1990). The items have been designed to accurately represent the digital financial services available in Pakistan, emphasizing their contextual relevance rather than solely focusing on their content (Schwarz & Strack, 1990). The third section includes items pertaining to independent variables, while the fourth section contains items related to the mediating variable. In conclusion, the objective of this study is to provide insights into the factors that influence digital financial literacy among FAST-NUCES students in Karachi. These insights will be beneficial for policymakers and educators, as they can use them to develop effective interventions and strategies aimed at enhancing students' digital financial literacy skills.

3.5 Operational Definitions

Variable	Definition	Reference
Digital Financial Literacy	Digital financial literacy refers to the combination of financial literacy and digital literacy in the context of digital financial technology.	(Morgan et al., 2019)
Digital Literacy	Digital literacy as the set of skills and knowledge that allow individuals to use digital technologies safely, effectively, and appropriately to access, manage, understand, evaluate, and create digital information for participation in economic and social life.	(UNESCO, 2018)
Financial Attitude	Financial attitude is an individual's mental or psychological judgement regarding financial matters.	(Thomas & Subhashree, 2020)

Financial Experience	Financial experience can be understood as an individual's familiarity with owning or using financial products or sharing such experiences with others.	(Dewi et al., 2020)
Family Influence	Family influence is the effect of a person's family upbringing on their character and behaviour.	(Maccoby, 1984)

Chapter 4: Results

4.1 Introduction

In this chapter, we present and analyze the study findings that explore the relationship between the independent variable and the dependent variable, while considering the influence of mediating and moderating variables. For data analysis, we employed SPSS to identify patterns, trends, and relationships among the variables. The results were organized into tables to enhance comprehension. The final framework was developed through a step-by-step process. Initially, we examined the direct relationship between independent variables (financial attitude, financial experience, and digital literacy) and the dependent variable, digital financial literacy. Subsequently, we introduced gender as a moderator to explore variations in the relationships across genders. Family influence was then incorporated as a mediator to assess indirect effects on the relationship between independent variables and digital financial literacy. Finally, we utilized family influence and gender together as mediating and moderating variables to investigate their combined impact on the relationship between independent and dependent variables. This systematic approach aimed to obtain a comprehensive understanding of the intricate dynamics among the variables under study.

4.1.1 Data Description

In Chapter 3, we outlined the methodology used, which involved employing a convenient sampling method based on geographical proximity. We utilized Google Forms to create a comprehensive survey for data collection. The survey was divided into four distinct parts, each targeting specific information relevant to the research objectives. To ensure the credibility and consistency of the collected data, we initiated the survey process by distributing an email containing the survey link form from the university's official email domain. To reduce the chances of receiving redundant and repetitive responses, we made some important changes. First, we required each survey participant to login from their university email address before

filling out the form. This helped us to verify that the data collected was only from FAST-NUCES, Karachi students and to avoid duplicate responses from the same participant. Second, we made every question on the survey link form mandatory, and any incomplete or unanswered questions were not allowed to move to the next section until they were completed. By implementing these measures, we successfully gathered valid and comprehensive data from a sample population consisting of FAST-NUCES students in Karachi.

4.1.2 Response Rate

The research study aimed to collect a representative sample from FAST-NUCES, Karachi by sending the survey to all registered students. Among the 2,000 students approached, we obtained 228 valid responses that were utilized for data analysis, indicating an 11.4% response rate. We ensured data accuracy and impartiality by allowing participants to answer the survey at their own pace, reducing response bias. Considering the research objectives, the local context in Pakistan, and the length of the 43-item questionnaire, the achieved response rate of 11.4% is deemed appropriate for this study.

4.2 Demographic Characteristics

The following section describes the demographics characteristics of participants of our research study. We show tables that illustrate how the participants are distributed according to gender, age, and university standing. The descriptive statistics give a summary of the participants' attributes and aid in the exploration of potential trends or patterns within the data.

Table 1 presents the distribution of study participants by gender. Among the 228 total participants, the data demonstrates that 182 (79.8%) were male, 44 (19.3%) were female, and 2 (0.9%) preferred not to disclose their gender. This information is significant as it will be used in later stages of the research to investigate the potential moderating influence of gender within our research framework. Analysing the data provided in Table 1, the study was largely comprised of male participants, with approximately 4 out of every 5 participants identifying as

male. Additionally, a relatively small proportion of participants chose to not disclose their gender.

Table 4.2 demonstrates the age range of the participants in the study. Among 228 people, 131 (57.5%) were between 17 and 20 years old, 90 (39.5%) were between 21 and 24 years old, and 7 (3.1%) were older than 25 years. The data shows that most of the people in the study were in the 17-20 age group, with more than half of them in this range. A bit less than 40% of the people were in the 21-24 age group. Only 3.1% of the people were older than 25 years. This means that the study mainly had younger people, which might affect how well the results apply to older people.

Moreover, table 4.2 also shows how many participants in the study were in each year of university. Out of 228 participants, most were first-year students, who made up 36.4% of the sample. The next largest group was sophomores, with 23.7% of participants. Juniors were 20.6% of the sample, and seniors were 15.4%. Graduate students were the smallest group, at 3.9%. The data shows that the study mainly involved freshmen and sophomores, who were more than half of all participants. On the other hand, senior students were not common in the sample. This might affect how well the study results apply to other university groups, especially those with more senior students. Also, the number of participants in each year of university might matter when looking at how education level affects the study outcomes. For example, education level might change how participants answered or acted pertaining to the study.

Table 4.2

Demographic Characteristics

		Frequency	Percent
Gender	Male	182	79.8
	Female	44	19.3
	Prefer Not to Say	2	.9
Age	17 - 20	131	57.5
	21 – 24	90	39.5
	>25	7	3.1
University Standing	Freshman	83	36.4
	Sophomore	54	23.7
	Junior	47	20.6
	Senior	35	15.4
	Graduate	9	3.9
Total		228	100.0

4.3 Descriptive Statistic

Table 4.3 summarizes the descriptive statistics for five variables measured on a 5-point Likert scale: digital financial literacy (DFL), digital literacy (DL), financial attitude (FA), financial experience (FE), and family influence (FI). This paragraph provides an overview of the key findings. The minimum and maximum values indicate the lowest and highest scores observed for each variable, respectively. The mean and standard deviation values represent the average and variability of the responses. Skewness and kurtosis values assess the shape of the distribution, with positive skewness indicating a right-skewed distribution and negative kurtosis suggesting a flatter distribution than the normal. The standard error values of skewness and kurtosis indicate the accuracy of the sample estimates. The results indicate that the variable with the highest average score is DL (3.911), while DFL has the lowest average score (2.713). The variable with the most variability in responses is FI (SD = 0.918), whereas DL exhibits the least variability (SD = 0.402). In terms of skewness, FA demonstrates the most positive skewness (skewness = 0.573), whereas FI exhibits the most negative skewness (skewness = -0.539). Regarding kurtosis, FA has the highest peakiness (kurtosis = 2.249), whereas DFL shows the flattest distribution (kurtosis = -0.114). The small standard error values for both skewness and kurtosis indicate reliable sample estimates. Overall, the pattern of responses in the sample shows a balanced distribution around the midpoint of the scale, with some variations among the variables. For DFL, FA, and FE, most respondents scored near the middle, with fewer scoring higher, resulting in positive skewness. Conversely, for DL and FI, most respondents scored near the high end, with fewer scoring lower, indicating negative skewness for these variables.

Table 4.3

Descriptive Statistics, Skewness, and Kurtosis

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
DF L	1.00	5.00	2.973	.835	.034	.161	-.114	.321
DL	2.08	5.00	3.911	.402	-.259	.161	1.703	.321
FA	1.00	5.00	2.947	.547	.573	.161	2.249	.321
FE	1.00	5.00	2.713	.764	.159	.161	.067	.321
FI	1.00	5.00	3.411	.918	-.539	.161	.053	.321

4.4 Normality Test

In Table 4.4, the findings of the Shapiro-Wilk normality test for the variables DFL, DL, FA, FE, and FI are displayed. The Shapiro-Wilk test is used to determine if a sample is drawn from a population that follows a normal distribution. According to the results, the p-value for DFL surpasses the commonly accepted significance level of 0.05. This implies that DFL is likely to exhibit a normal distribution. However, the p-values for DL, FA, FE, and FI are all less than 0.05, indicating that these variables do not follow a normal distribution. It is important to mention that when the sample size is not large enough, the presence of non-normality may not have a substantial impact. In such cases, one can analyze non-normally distributed variables without the concern of drawing inaccurate conclusions.

Table 4.4

Shapiro-Wilk Test

	Sig.
DFL	.203
DL	<.001
FA	<.001
FE	.034
FI	<.001

4.5 Reliability Analysis

In this paragraph, a summary of the reliability analysis conducted on our research instrument is provided. Cronbach's alpha and Pearson's correlation were employed for this purpose. Cronbach's alpha was used to evaluate the internal consistency of the questionnaire items, ensuring that they are closely related to one another. Additionally, Pearson's correlation was used to examine the correlations between different items within the questionnaire.

4.5.2 Cronbach's Alpha

Table 4.5.2 presents the results of the reliability analysis using the Cronbach's alpha test in SPSS. The obtained Cronbach's alpha value was 0.558, indicating acceptable internal consistency based on Taber's (2018) criteria. However, Hinton et al. (2004) consider a Cronbach's alpha value between 0.50 and 0.70 as indicative of moderate reliability. It is important to note that the number of items or variables in a scale can influence the Cronbach's alpha value. According to Tavakol and Dennick (2011), a lower number of items may result in a lower Cronbach's alpha value. In our study, the scale comprised only five items, which could have contributed to the lower Cronbach's alpha value observed. Considering the results of the reliability analysis, although the Cronbach's alpha value falls below the threshold recommended by Hinton et al. (2004), it still falls within the acceptable range proposed by Taber (2018).

Table 4.5.2

Cronbach's Alpha

Reliability Statistics	
Cronbach's Alpha	N of Items
.558	5

4.5.3 Pearson's Correlation

The relationships among the five variables (DFL, DL, FA, FE, and FI) are examined through Pearson's correlation analysis, as presented in Table 4.5.3. Each cell in the table represents a correlation coefficient, ranging from -1 to 1. A positive correlation coefficient indicates a positive relationship, where an increase in one variable is associated with an increase in the other variable. Conversely, a negative correlation coefficient indicates an inverse relationship, where an increase in one variable is associated with a decrease in the other variable. The analysis reveals significant positive correlations between DFL and DL (r = 0.318), DFL and FA (r = 0.193), DFL and FE (r = 0.468), DL and FA (r = 0.087), DL and FE (r = 0.222), FA and FE (r = 0.238), FI and FE (r = 0.224), and FA and FI (r = 0.310). These findings indicate that these variables are related and tend to increase together. For instance, as DFL increases, DL, FA, and FE also tend to increase. Likewise, an increase in FE is correlated with an increase in FI. However, there is no significant correlation between DFL and FI (r = 0.049), as well as DL and FI (r = 0.029). This indicates that these variables are not strongly correlated, implying that changes in one variable do not consistently correspond to changes in the other variable. The correlation analysis highlights that some variables exhibit relationships with each other, while others do not. These findings are valuable for researchers and practitioners interested in understanding the connections between these variables and their potential impact on various outcomes.

Table 4.5.3

Pearson's Correlation

Pearson Correlation					
	DFL	DL	FA	FE	FI
DFL	1	.318**	.193**	.468**	.049
DL	.318**	1	.087	.222**	.029
FA	.193**	.087	1	.238**	.310**
FE	.468**	.222**	.238**	1	.224**
FI	.049	.029	.310**	.224**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

4.6 Linear Regression

In our study, we utilize linear regression to explore the relationship dependent and independent variables. The regression model presented in Table 4.6.1 reveals an R-squared value of 0.273, indicating that the independent variables (DL, FA, and FE) explain 27.3% of the variability in the dependent variable (DFL). This model is statistically significant, as evidenced by the F-statistic of 28.097 and a p-value less than 0.001. These results suggest that the independent variables have a significant impact on the dependent variable, surpassing a model without any independent variables. Thus, the regression model provides a satisfactory fit for the data, and the independent variables are considered meaningful factors in elucidating the variation in the dependent variable.

The results of a regression analysis, exploring the association between the dependent variable (DFL) and the independent variables (DL, FA, and FE), are presented in Table 4.6.2. The unstandardized beta values assigned to each independent variable indicate the extent to which the dependent variable changes with an increase in the corresponding independent variable. The unstandardized beta values for DL, FA, and FE are 0.462, 0.121, and 0.437, respectively. The p-values for DL, FA, and FE, using a 95% confidence interval, are <.001, .179, and <.001, respectively. These results imply that DL and FE have significant relationships with DFL, while FA does not have a significant relationship with DFL. These results suggest that DL and FE are key predictors of DFL variation. A higher DL and FE is linked to a higher DFL. However, FA does not affect DFL significantly, meaning that FA variations do not influence DFL significantly.

4.7 Framework using Gender as Moderator

In this section, our aim is to investigate the potential moderating role of gender on the relationship between digital financial literacy and its predictors: digital literacy, financial attitude, and financial experience. We seek to gain insights into how gender influences this

relationship. To accomplish this, we will employ moderation analysis, a statistical technique that allows us to explore how the relationship between two variables (digital financial literacy and independent variables) varies based on the values of a third variable (gender). In our analysis, we will represent gender using a dummy variable in SPSS. A dummy variable is a categorical variable that takes the values of 0 and 1, with 0 indicating one category (such as male) and 1 representing another category (such as female). By utilizing a dummy variable, we can compare and examine the impact of gender on the relationship between digital financial literacy and its predictors.

DL and DFL

The relationship between dependent variable and digital literacy, with gender as a moderator, is examined in Table 4.7.1. Two regression models were utilized to test our hypotheses. In Model 1, the dependent variable digital financial literacy, digital literacy, and gender are included. The model explained 32% of the variance in DFL, as indicated by the R-squared value. The F-change value of 25.947 was highly significant at $p < 0.001$, suggesting that the model provided a good fit for the data. In Model 2, we introduced an interaction term, DLG_Int, to assess whether gender moderates the effect of DL on DFL. The interaction term captures how the relationship between DL and DFL varies based on gender. However, the interaction term was not statistically significant, and there were minimal changes in the R-squared and F-change values compared to Model 1. Based on the findings, it can be concluded that gender does not have a significant influence on the relationship between DL and DFL in the sample. Therefore, it can be concluded that DL is positively associated with DFL irrespective of gender.

In Table 4.7.2, the coefficients for Model 1 and Model 2 are presented. Model 1 does not include the predictor DLG_Int, which is the interaction term of digital literacy and gender. In Model 1, the relationship between the dependent variable and all independent variables,

except for Gender_Dummy, is statistically significant. This suggests that higher scores in digital literacy, financial attitude, and financial experience are positively associated with DFL. However, being female (indicated by the Gender_Dummy variable) is negatively associated with DFL. In Model 2, it introduces a significant positive association between DLG_Int and DFL. This implies that the interaction between digital literacy and gender is linked to higher DFL scores. Overall, the coefficients in both models indicate that all variables significantly predict the moderation in DFL and contribute to explaining the variance in the dependent variable.

FA and DFL

Table 4.7.3 presents an overview of two models that investigate the relationship between FA and DFL, taking Gender into account as a moderator. Model 1 accounts for 32% of the variation in DFL, The R-squared value in the model indicates that a significant proportion of the variance in the dependent variable, Digital Financial Literacy, is accounted for by the independent variables. The adjusted R-squared value (0.307) further confirms that the model adequately fits the data, considering the number of independent variables included. The F-Change value is statistically significant (<0.001), indicating that the model outperforms the null model, and all independent variables (Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL)) significantly predict DFL. In Model 2, an additional predictor, Financial Attitude and Gender Interaction Term (FAG_Int), is included, resulting in an R-Squared value of 0.330. However, the F-Change value is not significant (0.069), suggesting that the inclusion of FAG_Int does not significantly enhance the model's predictive ability for DFL. The findings emphasize that Financial Attitude remains a strong predictor of Digital Financial Literacy (DFL) in both models, irrespective of Gender. This indicates that Financial Attitude plays a crucial role in determining individuals' DFL, regardless of their gender. Nonetheless, the inclusion of the interaction term does not contribute substantially to the model. These findings

suggest that interventions targeting the improvement of Financial Attitude can enhance an individual's digital financial literacy, which is advantageous for managing finances and accessing digital financial services.

Table 4.7.4 presents the coefficients for Financial Attitude (FA) and Digital Financial Literacy (DFL) with Gender as a moderator. In Model 1, all predictor variables, except for Z-score (FA), exhibit statistically significant beta coefficients ($p < 0.05$). This suggests that Gender_Dummy, Z-score (FE), and Z-score (DL) are significant predictors of DFL, while Z-score (FA) may not be. In Model 2, the p-value of Financial Attitude and Gender Interaction Term (DLG_Int) is not statistically significant ($p = 0.069$), indicating that this variable may not significantly predict DFL. The findings indicate that Financial Attitude is an important predictor of DFL, even after considering the influence of Gender. However, the inclusion of the interaction term does not significantly improve the model's predictive ability for DFL. Therefore, interventions aimed at improving Financial Attitude can be beneficial for individuals seeking to enhance their digital financial literacy. It is essential to note that a p-value greater than the alpha level (usually 0.05) suggests that a variable is not statistically significant and may not be a reliable predictor of the dependent variable. Thus, the analysis results imply that Financial Attitude has more influence on DFL than Gender or the interaction between Gender and Financial Attitude.

FE and DFL

Table 4.7.5 presents the model summary for Financial Experience (FE) and Digital Financial Literacy (DFL) with Gender as a moderator. Both Model 1 and Model 2 are accounted-for 32% variability in the DFL, as indicated by their respective R-squared values. However, the Adjusted R-squared value for Model 2 is slightly lower than that of Model 1, suggesting that the inclusion of the Financial Experience and Gender Interaction Term (FEG_Int) in Model 2 does not significantly improve the model's fit. The F Change statistic for

Model 1 achieves a high level of statistical significance (<0.001), affirming its suitability as a predictive model. The inclusion of Gender_Dummy, Z-score (FE), Z-score (FA), and Z-score (DL) in this model yields a dependable forecast for the dependent variable, DFL.

Table 4.7.6 displays the coefficients for the model summary of Financial Experience (FE) and Digital Financial Literacy (DFL) with Gender as a moderator. In Model 1, Z-score (FE), Z-score (DL), and Z-score (FA) exhibit statistically significant beta values, indicating their relationship with DFL. Among them, Z-score (FE) has the highest beta value of 0.433, followed by Z-score (DL) with a beta value of 0.179, and Z-score (FA) with a beta value of 0.128. In Model 2, the inclusion of the Financial Experience and Gender Interaction Term (FEG_Int) does not significantly affect DFL scores. The non-significant beta value for FEG_Int (0.006) and its high significance value (0.920) suggest that it does not contribute significantly to the model's predictive power. However, the other variables in the model, including Z-score (FE), Z-score (DL), Z-score (FA), and Gender_Dummy, maintain their significant relationships with DFL scores. Specifically, Z-score (FE) still holds the highest beta value of 0.430, indicating its strong predictive power for DFL scores. These findings suggest that among the variables included in the analysis, Z-score (FE) and Z-score (DL) are the most influential predictors of DFL scores, with Z-score (FA) and Gender_Dummy also contributing to the model. It is important to note that the effect of the Financial Experience and Gender Interaction Term (FEG_Int) is not statistically significant. These results offer valuable insights into the relationship between financial experience, digital financial literacy, and gender, which can inform policymakers and financial institutions in their decision-making processes.

4.8 Framework with Family Influence as Mediator

In this section, we aim to examine the role of family influence as a potential mediator in the relationship between digital literacy and digital financial literacy. Mediation analysis, a statistical technique using linear regression, allows us to explore whether family influence acts

as an intermediary variable. Through an investigation into the influence of family on the association between DL and DFL, we can obtain insights into the mediating effect and comprehend how family influence may impact the relationship.

The findings from the mediation analysis, as shown in Tables 4.8.1 and 4.8.2, provide insight into the correlation among DL, FI, and DFL. Table 4.8.1 provides a summary of the model, indicating that DL explains only a small portion of the variance in DFL, as reflected by an R-squared value of 0.103. This suggests that additional variables may influence DFL outcomes. Moving to Table 4.8.2, we observe that while the standardized regression coefficient (Beta) for DL is 0.658, indicating a strong positive relationship with DFL, the Beta for FI is merely 0.037, implying a weak influence on DFL. Moreover, the p-value for FI is 0.526, exceeding the typical threshold of 0.05, signifying that FI is an insignificant predictor of DFL in this context. Consequently, we can conclude that DL significantly predicts DFL, whereas FI does not. To summarize, the findings suggest that while DL has a moderate influence on DFL, it still plays a meaningful role as a predictor, emphasizing the significance of digital literacy in fostering digital financial literacy. Conversely, the study indicates that family influence has a minimal effect on DFL, implying that other factors may be more relevant in shaping financial literacy outcomes.

Table 4.8.3 presents a summary of the model, demonstrating that the predictor variable financial attitude (FA) has a significant impact on DFL. The R-squared value of 0.194 indicates that approximately 19.4% of the variability in DFL can be explained by FA, which is mediated by FI. However, according to Table 4.8.4, the standardized regression coefficients (Beta) for FI and FA are 0.011 and 0.301, respectively, with p-values of 0.863 and 0.005. This indicates that FI is an insignificant predictor of DFL, while FA significantly predicts DFL. In other words, although FI has a minimal impact on DFL, FA plays a crucial role in predicting DFL. The findings suggest that financial education programs aimed at improving DFL may benefit

from emphasizing the importance of financial attitudes and behaviours, rather than solely relying on family influence. These results can guide financial education policies and programs targeting diverse individuals to enhance their financial literacy and well-being.

Table 4.8.5 presents the model summary for the mediation impact on financial experience (FE) and DFL. The R-squared value of 0.223 in Table 4.8.5 indicates that approximately 22.3% of the variance in DFL is explained by FE, which is mediated by FI. The table also provides the standard error of the estimate for the model. In contrast, Table 4.8.6 presents the coefficients of the mediation impact on FA and DFL, including the unstandardized coefficients, standardized coefficients (Beta), t-values, p-values, and 95% confidence intervals for the coefficients. The table reveals that the standardized regression coefficients (Beta) for FI and FA are -0.054 and 0.526, respectively, with p-values of 0.331 and <0.001, falling within the 95% confidence interval. These results suggest that FI is an insignificant mediator of DFL, while FE is a significant predictor of DFL, albeit with a small effect size. To summarize, Tables 4.8.5 and 4.8.6 provide crucial insights into the mediation impact on FE and DFL, as well as the coefficients of the mediation impact on FA and DFL. The results indicate that while FE significantly affects DFL, FI does not significantly predict DFL.

4.9 Mediated Moderation

The Mediated Moderation Framework aims to explore the relationships between multiple variables, such as digital literacy, financial attitude, financial experience, gender, and family influence. The aim of this analysis is to examine how the mediator (family influence) and moderator (gender) influence the relationship between the independent variables (digital literacy, financial attitude, and financial experience) and the dependent variable (digital financial literacy). By comprehending these associations, we can obtain a more profound insight into the factors that influence digital financial literacy and identify effective approaches for enhancing financial education and literacy among diverse groups of individuals. In this

section, we present our final model and discuss the significant findings that emerged from our analysis.

DL, FI and DFL Moderated by Gender

The results of the moderation analysis, examining the impact of gender on the mediated model for digital literacy (DL) and digital financial literacy (DFL), are presented in Table 4.9.1. The aim of this study is to explore the relationship between DL, financial attitude (FI), family influence (FI), gender, and DFL using a framework of mediated moderation. The R-squared value of 0.1225 suggests a significant moderation by gender on DL and DFL, with family influence acting as a mediator. Examining the standardized regression coefficient values, we find that DL, FI, and gender have coefficients of 0.6649, 0.0381, and -0.240, respectively. The p-values associated with DL, FI, and gender are 0.000, 0.5060, and 0.0525. The calculated p-value for the interaction term is 0.1966. The findings demonstrate a significant connection between DL and DFL, which is influenced by gender. This implies that gender plays a pivotal role in shaping the relationship between DL and DFL, emphasizing the significance of customized financial education programs that cater to the unique needs of different genders.

FA, FI and DFL Moderated by Gender

In Table 4.9.2, the results of the moderation impact of gender on the mediated model examining the relationship between FA and DFL are displayed. The aim of this analysis is to explore the relationship between FA, family influence (FI), gender, and DFL, with gender acting as a moderator. With an R-squared value of 0.0600, the findings indicate a significant moderation effect of gender on the FA-DFL relationship, mediated by family influence. Analysing the standardized regression coefficients, we observe values of 0.3221 for FA, -0.0127 for FI, and -0.1739 for gender. The associated p-values for FA, FI, and gender are 0.0026, 0.8388, and 0.1738, respectively, within a 95% confidence interval. Additionally, the p-value for the interaction term is reported as 0.0481. These results highlight a significant

association between FA and DFL, which is significantly influenced by gender. This underscores the importance of gender-specific considerations when designing financial education programs aimed at enhancing digital financial literacy.

FE, FI and DFL Moderated by Gender

Table 4.9.3 presents the results of mediated moderation framework in context of FE and DFL. The R-squared value of 0.2396 signifies that gender plays a crucial role in moderating the association between FE and DFL through the mediation of FI. Analysing the standardized regression coefficients, we observe values of 0.5257 for FE, -0.0516 for FI, and -0.1515 for gender. The corresponding p-values for FE, FI, and gender, based on a 95% confidence interval, are 0.0000, 0.3455, and 0.1873, respectively. Moreover, the p-value for the interaction term is 0.0539, indicating a significant relationship between FE and DFL that is influenced by gender. Upon further examination, it was discovered that family influence (FI) does not act as a mediator between FE and DFL. Instead, gender emerges as the significant moderator, implying that gender shapes the relationship between FE and DFL. Specifically, the results suggest that the link between FE and DFL is stronger for males compared to females. To summarize, this study's findings underscore the significant role of gender in moderating the relationship between family environment and dispositional flow, when mediated by family influence. These results have important implications for understanding the impact of gender on the connection between family environment and dispositional flow.

Chapter 5: Discussion and Conclusion

5.1 Introduction

The concluding chapter of this report functions as an extensive summary, providing a comprehensive overview of the research conducted, a detailed discussion and interpretation of the study's findings, and an exploration of their implications. Furthermore, this chapter highlights the importance of the study in addressing the geographical gap regarding digital financial literacy, particularly in the context of Pakistan. It evaluates the effectiveness of digital financial literacy in facilitating the adoption of digital financial services within the country. In summary, this chapter outlines the potential directions for future research and offers concluding remarks that summarize the key findings and implications of the study.

5.2 Summary of Findings

Our study aimed to investigate the mediation effect of family influence on the relationship between digital literacy, financial attitude, financial experience (independent variables), and digital financial literacy (dependent variable), with the moderating role of gender. Specifically conducted among university students, our research provided valuable insights into their level of digital financial literacy and the factors that influence it. By utilizing a mediated moderation framework, our study not only filled a gap in the existing literature on digital financial literacy but also brought new perspectives to the field. The results of our study unveiled noteworthy and positive associations between digital literacy, financial attitude, financial experience, and digital financial literacy among individuals. Specifically, individuals with higher levels of digital literacy and greater exposure to financial domains exhibited higher levels of digital financial literacy. Nevertheless, our observations revealed that FA did not demonstrate a significant influence on DFL, implying that one's perspective on finance may not necessarily play a role in their understanding and proficiency with digital financial tools.

Introducing gender as a moderator variable in the second model demonstrated that the effects of digital literacy, financial experience, and financial attitude on digital financial literacy remained consistent with the findings of the first model. However, we observed that the interaction between gender and financial attitude strengthened the relationship between financial experience and digital financial literacy. This suggests that gender plays a role in shaping the association between financial attitude and digital financial literacy. In the third model, which introduced family influence as a mediator variable, the results followed a similar pattern to the previous models. The main effects of digital literacy, financial experience, and financial attitude on digital financial literacy remained consistent. Notably, the mediation effect of family influence was found to be significant. This suggests that family influence not fully mediates the relationship between these variables and DFL. For instance, the positive impact of financial experience on digital financial literacy is mediated by family influence, indicating that individuals with greater financial experience often receive more support and encouragement from their families, leading to higher levels of digital financial literacy. To summarize, our study provides valuable insights into the complex dynamics of digital financial literacy by examining the mediation effect of family influence and the moderating role of gender. The findings highlight the significance of digital literacy, financial experience, and family support in fostering digital financial literacy among individuals. These findings have practical implications for designing targeted interventions and educational programs aimed at promoting digital financial literacy, ultimately enhancing individuals' financial well-being.

5.3 Implications of Findings

The study's findings hold significant implications for policymakers, financial educators, and financial service providers. The results highlight the need for comprehensive approaches in financial education programs aimed at enhancing digital financial literacy (DFL). Rather than focusing solely on family influence, these programs should prioritize the importance of

cultivating positive financial attitudes and behaviours. Policymakers and educators can collaborate to create targeted initiatives in digital literacy, ensuring individuals acquire the essential skills and knowledge to utilize digital financial services effectively. Moreover, the findings underscore the crucial role of family influence in shaping DFL in Pakistan. Financial educators and service providers can collaborate with families to foster favourable financial behaviours and attitudes, thereby bolstering DFL. Recognizing the stronger relationship between family influence and DFL among females, policymakers and stakeholders should particularly concentrate on promoting DFL among women. By considering these implications, policymakers, financial educators, and service providers can create tailored interventions and policies that address the specific needs of individuals and communities, leading to improved DFL outcomes. Ultimately, these efforts contribute to enhancing financial well-being and empowerment among the population.

5.4 Limitations of the study

While this study provides a comprehensive analysis of the factors influencing digital financial literacy (DFL) in Pakistan, it is important to recognize the limitations that may affect the generalizability and representativeness of the findings. Firstly, the study's focus on a specific population in a particular geographic region may restrict the applicability of the results to other populations and regions. Therefore, caution should be exercised when extrapolating these findings to broader contexts. Secondly, employing a convenience sampling method may have restricted the representation of varied viewpoints, potentially impacting the study's external validity. To overcome this limitation, future research could employ alternative sampling techniques or target specific groups to ensure a more representative sample. Thirdly, this study did not investigate the impact of additional variables, such as age, income, education, and technology accessibility, on DFL. Investigating the interplay between these factors and digital literacy, financial attitude, financial experience, and family influence would provide a

more comprehensive understanding of the development of DFL. Future research endeavours should consider incorporating these variables to enrich the knowledge in this area. Lastly, the study did not examine the impact of DFL on financial outcomes, such as savings, investments, and debt management. Investigating this relationship would yield valuable insights into how DFL translates into real-world financial behaviours. To advance our comprehension of the relationship between DFL and financial outcomes, it is crucial for future research to address this gap. Despite these limitations, our study offers valuable insights into the factors that influence DFL and holds implications for policymakers, financial educators, and financial service providers aiming to promote financial literacy and well-being. By considering these insights, stakeholders can design targeted interventions and policies to enhance DFL among the population.

5.5 Future Research Directions

This study has offered valuable insights into the influence of digital literacy, financial attitude, financial experience, family influence, and gender on digital financial literacy, as well as the mediating role of family influence in these relationships. However, there are still numerous unexplored aspects in this research domain. Future studies could investigate the effects of these factors on digital financial literacy in diverse populations and regions. For instance, research could delve into the impact of culture, socioeconomic status, and age on shaping digital financial literacy. Furthermore, it would be beneficial for future research to evaluate the effectiveness of interventions designed to enhance digital financial literacy. These interventions may include financial education programs, online resources, and mobile applications. Conducting studies to assess the impact of these interventions on digital financial literacy and its correlation with financial outcomes would be valuable. Moreover, investigating the influence of digital financial literacy on long-term financial behaviors and outcomes would

provide a deeper understanding of its significance and help shape future financial education policies and programs.

5.6 Conclusion

To summarize, this study offers valuable insights into the determinants of digital financial literacy in Pakistan. The findings suggest that financial education programs targeting digital literacy and financial attitudes could be advantageous, especially for women who may encounter additional barriers in utilizing digital financial services. Policymakers, financial educators, and service providers can play a role in ensuring equal access and benefits of digital financial services for individuals, irrespective of their gender or socioeconomic status. Although the study had limitations, it provides significant contributions to understanding the factors influencing digital financial literacy and holds implications for future research and interventions.

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Appendix A - Tables

Table 4.6.1

Model Summary of DL, FA, and FE and DFL

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.523[a]	.273	.264	.71726	.273	28.097	3	224	<.001
a. Predictors: (Constant), DL, FA, FE									

Table 4.6.2

Coefficients of DL, FA, and FE and DFL

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.375	.513		-.730	.466
	FE	.437	.066	.400	6.673	<.001
	FA	.121	.090	.079	1.347	.179
	DL	.462	.121	.222	3.805	<.001
a. Dependent Variable: DFL						

Table 4.7.1

Model Summary of DL-DFL and Gender

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.565[a]	.320	.307	.68829	.320	25.947	4	221	<.001
2	.565[b]	.320	.304	.68985	.000	.002	1	220	.969
a. Predictors: (Constant), Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL)									
b. Predictors: (Constant), Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL), DLG_Int									

Table 4.7.2

Coefficients of DL-DFL and Gender

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.021	.051		59.162	<.001		
	Z-score (DL)	.151	.049	.179	3.107	.002	.929	1.077
	Z-score (FA)	.109	.048	.128	2.250	.025	.952	1.050
	Z-score (FE)	.362	.049	.433	7.434	<.001	.908	1.102
	Gender_Dummy	-.310	.116	-.149	-2.674	.008	.996	1.004
2	(Constant)	3.021	.051		59.021	<.001		
	Z-score (DL)	.150	.053	.178	2.836	.005	.786	1.273
	Z-score (FA)	.109	.049	.128	2.244	.026	.950	1.052
	Z-score (FE)	.362	.049	.433	7.407	<.001	.905	1.106
	Gender_Dummy	-.310	.117	-.149	-2.655	.009	.982	1.018
	DLG_Int	.005	.132	.002	.039	.969	.830	1.205
a. Dependent Variable: DFL								

Table 4.7.3

Model Summary of FA-DFL and Gender

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.565[a]	.320	.307	.68829	.320	25.947	4	221	<.001
2	.574[b]	.330	.314	.68469	.010	3.332	1	220	.069
a. Predictors: (Constant), Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL)									
b. Predictors: (Constant), Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL), FAG_Int									

Table 4.7.4

Coefficients of FA-DFL and Gender

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.021	.051		59.162	<.001		
	Z-score (DL)	.151	.049	.179	3.107	.002	.929	1.077
	Z-score (FA)	.109	.048	.128	2.250	.025	.952	1.050
	Z-score (FE)	.362	.049	.433	7.434	<.001	.908	1.102
	Gender_Dummy	-.310	.116	-.149	-2.674	.008	.996	1.004
2	(Constant)	3.021	.051		59.485	<.001		
	Z-score (DL)	.154	.048	.183	3.190	.002	.928	1.078
	Z-score (FA)	.071	.052	.084	1.358	.176	.804	1.244
	Z-score (FE)	.367	.049	.440	7.576	<.001	.904	1.107
	Gender_Dummy	-.320	.115	-.154	-2.774	.006	.993	1.007
	FAG_Int	.241	.132	.110	1.825	.069	.842	1.187
a. Dependent Variable: DFL								

Table 4.7.5

Model Summary of FE-DFL and Gender

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.565[a]	.320	.307	.68829	.320	25.947	4	221	<.001
2	.565[b]	.320	.304	.68984	.000	.010	1	220	.920
a. Predictors: (Constant), Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL)									
b. Predictors: (Constant), Gender_Dummy, Z-score (FE), Z-score (FA), Z-score (DL), FEG_Int									

Table 4.7.6

Coefficients of FE-DFL and Gender

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.021	.051		59.162	<.001		
	Z-score (D L)	.151	.049	.179	3.107	.002	.929	1.077
	Z-score (FA)	.109	.048	.128	2.250	.025	.952	1.050
	Z-score (FE)	.362	.049	.433	7.434	<.001	.908	1.102
	Gender_Dummy	-.310	.116	-.149	-2.674	.008	.996	1.004
2	(Constant)	3.021	.051		59.029	<.001		
	Z-score (DL)	.151	.049	.179	3.099	.002	.924	1.082
	Z-score (FA)	.109	.049	.128	2.246	.026	.946	1.057
	Z-score (FE)	.359	.054	.430	6.690	<.001	.748	1.337
	Gender_Dummy	-.310	.116	-.149	-2.670	.008	.994	1.006
	FEG_Int	.013	.125	.006	.101	.920	.822	1.217
a. Dependent Variable: DFL								

Table 4.8.1

Model Summary of DL-DFL and Family Influence

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.321[a]	.103	.095	.79523
a. Predictors: (Constant), DL, FI				

Table 4.8.2

Coefficients of DL-DFL and Family Influence

Coefficients[a]											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	.274	.546		.502	.616	-.802	1.351			
	FI	.037	.058	.040	.635	.526	-.077	.150	.049	.042	.040
	DL	.658	.131	.317	5.020	<.001	.400	.917	.318	.317	.317
a. Dependent Variable: DFL											

Table 4.8.3

Model Summary of FA-DFL and Family Influence

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194[a]	.038	.029	.82367
a. Predictors: (Constant), FA, FI				

Table 4.8.4

Coefficients of FA-DFL and Family Influence

Coefficients[a]											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	2.123	.322		6.605	<.001	1.490	2.757			
	FI	-.011	.063	-.012	-.173	.863	-.134	.113	.049	-.012	-.011
	FA	.301	.105	.197	2.866	.005	.094	.508	.193	.188	.187
a. Dependent Variable: DFL											

Table 4.8.5

Model Summary of FE-DFL and Family Influence

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.472[a]	.223	.216	.74028
a. Predictors: (Constant), FE, FI				

Table 4.8.6

Coefficients of FE-DFL and Family Influence

Coefficients[a]											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	1.728	.233		7.403	<.001	1.268	2.188			
	FI	-.054	.055	-.059	-.974	.331	-.162	.055	.049	-.065	-.057
	FE	.526	.066	.481	7.982	<.001	.396	.656	.468	.470	.469
a. Dependent Variable: DFL											

Table 4.9.1

Mediated Moderation Model of DL-DFL

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.3500	.1225	.6241	7.7841	4.0000	223.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	.3732	.5144	.7256	.4688	-.6404	1.3869
DL	.6649	.1308	5.0821	.0000	.4071	.9227
FI	.0381	.0571	.6662	.5060	-.0745	.1507
Gender	-.2400	.1231	-1.9497	.0525	-.4825	.0026
Int_1	-.1552	.1198	-1.2952	.1966	-.3913	.0809

Table 4.9.2

Mediated Moderation Model of FA-DFL

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.2449	.0600	.6686	3.5572	4.0000	223.0000	.0078

Model						
	coeff	se	t	p	LLCI	ULCI
constant	2.0244	.3164	6.3980	.0000	1.4009	2.6479
FA	.3221	.1058	3.0452	.0026	.1137	.5306
FI	-.0127	.0622	-.2037	.8388	-.1353	.1100
Gender	-.1739	.1274	-1.3643	.1738	-.4250	.0773
Int_1	-.2488	.1252	-1.9873	.0481	-.4956	-.0021

Table 4.9.3

Mediated Moderation Model of FE-DFL

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.4895	.2396	.5408	17.5692	4.0000	223.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	1.5475	.1846	8.3828	.0000	1.1837	1.9113
FE	.5257	.0656	8.0094	.0000	.3963	.6550
FI	-.0516	.0546	-.9455	.3455	-.1591	.0559
Gender	-.1515	.1145	-1.3227	.1873	-.3771	.0742
Int_1	-.2159	.1114	-1.9382	.0539	-.4353	.0036

Appendix B - Figures

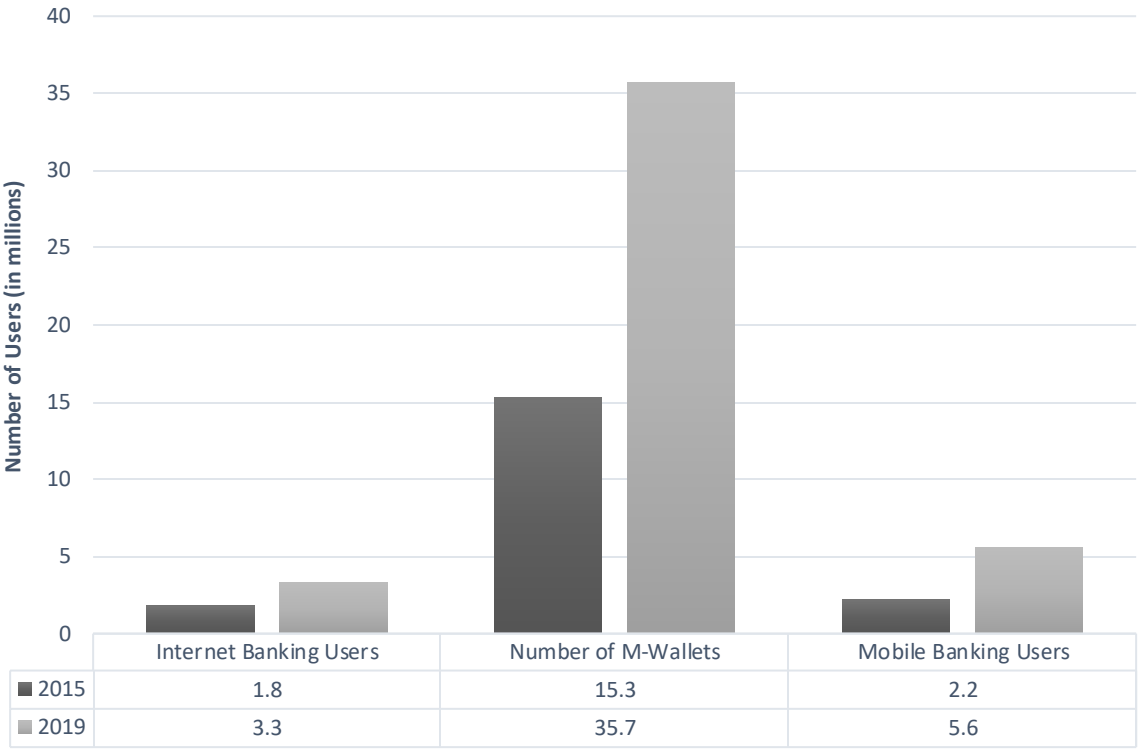

Figure 1.2 - *Trends in Digital Financial Services in Pakistan*

Appendix C – Questionnaire

Part One

Demographics

		Male	*Female*	*Other*		
1.	Gender	1 ☐	2 ☐	3 ☐		
		17 - 20	***21 – 24***	***> 25***		
2.	Age	1 ☐	2 ☐	3 ☐		
		Freshman	***Sophomore***	***Junior***	***Senior***	***Graduate***
3.	University Standing	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Part Two

Digital Financial Literacy

		Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1.	I have a good understanding of digital payment products, such as e-debit, e-credit, e-money, mobile/internet banking, and e-wallet.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2.	I have a good understanding of digital asset management products, such as Zindagi App.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3.	I have a good understanding of digital loan products, such as Readycash by Jazzcash.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4.	I have a good understanding about digital insurance product, such as SLIC Digital, Easypaisa Insurance.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
5.	I have a good understanding of customer rights and protection as well as procedures for service complaints from digital financial providers.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
6.	I have experience in using digital payment products, such as Jazzcash, Easypaisa, Sadapay, Banking Apps.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
7.	I have experience using fintech products and services for financing (loans) and investments, such as banking apps (UBL Digital, Al Meezan Investments).	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
8.	I have experience in using fintech products and services for asset management, such as Binance, Al Meezan Investments.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
9.		1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

	I have awareness about the potential financial risks of using fintech, such as the legality of fintech providers, interest rates, and transaction fees.					
10.	I have the ability to manage financial activities through digital platforms, such as managing costs for using digital financial transactions.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
11.	I have good control over financial activities using digital platforms by evaluating expenses on the platform.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Part Three

Digital Literacy

Technological Skill

1.	I know how to bookmark a website I like so I can view it later	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2.	I know how to download/save a photo I found online	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3.	I know how to download information I found online	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4.	I know how to connect always to a Wi-Fi network from smartphone, no matter the device or where I am	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
5.	I know how to use shortcut keys (e.g., CTRL+C for copy)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
6.	I do not like downloading apps for smartphones as I find difficult to learn how to use them	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
7.	If I want to install new programs on my computer, I will ask someone to do it for me because I do not know.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Critical Skill

1.	I know how to compare different sources to decide if information is true	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2.	I know how to determine if the information I find online is reliable	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3.	I know how to compare different apps in order to choose which one is most reliable and secure	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4.	I know how to identify the author of the information and evaluate their reliability	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
5.	If I meet someone online, I know how to check if their profile is real	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Financial Attitude

1.	I believe that taking out a loan is the way I would buy my next automobile	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2.	I believe that I will always carry some sort of financial debt during my lifetime	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3.	I believe that I will not be financially secure in the future	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4.	I believe that how I spend my money reflects my values	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
5.	I believe that personal finances do not affect relationships with others	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
6.	I believe that personal savings will be a primary source. of my income after retirement	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
7.	I believe that insurance coverage is related to my financial security	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
8.	I believe that learning about personal finance is a high priority for me	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Financial Experience

1.	I hold emergency savings	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2.	I do financial records	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3.	I have experience in managing personal assets	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4.	I have investing experience on stock market	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
5.	I have savings experience in non-bank financial institutions such as, mutual funds	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Part Four

Family Influence

1.	I make financial decisions based on what my parent(s) have done in similar situations	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
2.	When it comes to managing money, I look to my parent(s) as my role models	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
3.	My parent(s) are role models for me about how to manage financial matter	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
4.	My parent(s) have a positive influence on me when it comes to managing money	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐