Eliminating the gender gap: Fintech as a source to empower women of Pakistan

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Declaration

I assure that the thesis report is an original work of mine, and it hasn't been published or presented as a thesis, article, or research paper in any format at any institution in Pakistan or abroad.

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Abstract

Purpose: The aim of this research paper is to evaluate the impact of fintech to empower women of Pakistan.

Approach/Methodology/Design: The information is obtained and collected from different sources like website of World Bank, State Bank of Pakistan, SECP, Pakistan Bureau of Statistics and different scholarly articles. This study used primary data to analyse the relationship between Fintech, financial services and women empowerment in Pakistan.

Research Limitations/Implications: This study will be helpful to empower the women of Pakistan through fintech.

Originality/Value: This study has been conducted in different countries but not in Pakistan.

Keywords: Fintech, Financial services and women empowerment**.**

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Chapter 01

1. INTRODUCTION

1.1. Background of the study

Financial technology, also known as FinTech, is a rapidly growing industry that aims to revolutionize the delivery of financial services. It uses technology to improve the accessibility and efficiency of various financial activities such as banking, investing, borrowing, and insurance. FinTech companies include both start-ups and established financial institutions, as well as technology firms looking to improve or replace traditional financial services. A subset of FinTech companies, known as InsurTech or InsuranceTech, focus specifically on the insurance market. Robo-advisors, a type of automated financial advisor, provide online investment advice with little or no human intervention and are a cost-effective alternative to human advisors. Investment in FinTech has grown exponentially, from $930 million in 2008 to $121.6 billion in 2020, and it is expected to continue to grow as technology advances. FinTech customers can be grouped into four categories: B2B (banks and their business clients), B2C (small enterprises and consumers), and B2C (consumers). The use of technology such as mobile banking, advanced data analytics, and decentralization of access will allow all four groups to engage in new and innovative ways. Prior to the development and adoption of FinTech, business owners and start-ups would have gone to banks for financing and seed capital. If you want to pay by credit card, you need to contract with the lender and install infrastructure such as a card reader with a landline phone. With mobile technology (FintTech), these barriers are no longer an issue and transaction can be done more effectively and efficiently.

1.2. Importance of the study

The discussions surrounding the importance of women's economic inclusion are a result of two major issues: economic inclusion itself and gender equality. According to the World Bank Global Findex in 2017, 56% of the 1.7 billion people in the world who do not have a bank account are women. This representation is alarming, and even more concerning is the fact that the gap between men and women has remained virtually unchanged for the past decade. Despite advancements in technology, science, and human rights, gender equality remains an elusive goal, particularly when it comes to access, usage, and quality of financial products and services. Encouraging women to manage their own financial resources can have a significant impact on poverty reduction, economic growth, and global progress, yet social, economic, and market barriers continue to limit women's access to financial products such as bank accounts and loans. This study focuses on understanding the historical barriers that have limited women's access to financial products and creates a framework based on qualitative research that establishes an ecosystem of variables that can be applied to women's situations in different contexts as a foundation for comparison. The framework was used in a case-comparative approach among Brazil, China, and Kenya and concluded that Fintech does have the potential to promote women's financial inclusion.

The study also looked into the various Fintech solutions that are being developed to promote women's financial inclusion, including mobile banking, digital wallets, and robo-advisers. It found that Fintech companies are able to reach a larger number of women in developing countries, where traditional financial institutions have limited access. This is particularly true for mobile banking solutions, which use technology to overcome the lack of physical infrastructure and provide financial services to remote and underserved areas. Additionally, the use of digital wallets and robo-advisers can

help women manage their finances more effectively, by providing them with access to financial education and tools for budgeting and saving.

Furthermore, this research also highlighted the importance of a supportive ecosystem and regulatory framework in promoting women's financial inclusion. This includes policies that support digital financial services, such as open banking and open APIs, as well as regulations that protect consumers and promote competition. The study also emphasized the need for collaboration between Fintech companies, traditional financial institutions, and government bodies in order to create a sustainable and inclusive financial system that serves the needs of all women.

Overall, this research highlights the potential of Fintech in promoting women's financial inclusion and the importance of addressing the systemic barriers that limit women's access to financial services. By understanding the challenges and opportunities facing women in different contexts, policymakers and practitioners can develop targeted solutions that empower women to take control of their financial resources and improve their economic well-being.

Eliminating the gender gap: Fintech as a source to empower women of Pakistan

In this research paper, we will explore the impact of Fintech on the empowerment of women in Pakistan. As the use of technology in the financial sector continues to grow, Fintech is becoming an increasingly important tool for improving access to financial products and services, particularly for women. The goal of this study is to understand how Fintech can be used to empower women in Pakistan by providing them with greater control over their financial resources and increasing their access to financial services.

The research will focus on the use of Fintech in Pakistan and its impact on women's wealth and financial services. Fintech, as the independent variable, will be examined in terms of its ability to improve access to financial products and services for women. Women's wealth and financial services, as the dependent variable, will be analyzed to understand the extent to which Fintech is able to empower women in Pakistan. The role of mediator in this research paper will be the increase of knowledge and awareness about financial services among women.

The research will employ a quantitative research design, using data from various sources such as surveys, interviews, and secondary data analysis to understand the impact of Fintech on women's financial empowerment in Pakistan. The findings of this research will be used to identify the most effective Fintech solutions for empowering women in Pakistan and to make recommendations for future policy and practice.

Additionally, the research will also focus on understanding the specific barriers that women in Pakistan face in accessing financial services and how Fintech can be used to overcome these barriers. This includes examining the role of cultural and societal norms, lack of education and financial literacy, as well as limited access to physical

financial infrastructure and technology in limiting women's access to financial services.

The research will also explore the potential of various Fintech solutions such as mobile banking, digital wallets, and robo-advisers in promoting women's financial inclusion in Pakistan. It will examine the extent to which these solutions have been

successful in reaching women in rural and remote areas, as well as in addressing the specific financial needs of women such as savings, credit, and insurance.

Furthermore, the research will also look into the regulatory framework and policies supporting the growth of Fintech in Pakistan and its impact on women's financial inclusion. This includes examining the role of government regulations, industry standards, and partnerships between Fintech companies, traditional financial institutions, and government bodies in promoting women's financial inclusion.

Overall, this research aims to provide a comprehensive understanding of the impact of Fintech on women's financial inclusion in Pakistan and to identify the most effective solutions for empowering women in the country. The findings of this research will be useful for policymakers, practitioners and Fintech companies in developing targeted strategies to promote women's financial inclusion in Pakistan.

1.3. Problem Statement

The problem here is that our country is lack of financial resources and awareness and the gender discrimination all these factors affect the empowerment of women of Pakistan. As women are the major part of the economy so it is necessary to provide them with financial services and awareness so when women came to know the uses of fintech e.g. banks, credit cards, work from home resources, online working, digital marketing. And when the ratio of women using financial services will increase it will

automatically reduce the gender gap and this will empower the women and it will affect positively in the economy as well. Through this study we came to know how women can be encouraged to come towards more use of fintech in Pakistan.

Key words: Fintech, Financial services and women empowerment.

1.4. Research Gap

Due to lack of awareness of fintech in Pakistan I want to conduct this study in Pakistan. The gap is that there is less awareness of fintech in Pakistan. Majority organizations are unaware of fintech and women are also unaware of financial technology which contributes in the empowerment of women of Pakistan as well as the economy of Pakistan.

Yes, some researchers have called for more research on the impact of fintech on women's empowerment in Pakistan.

For example, Asad Baig, Zeeshan Hasan, and Amna Arshad state in their report "Women's Financial Inclusion in Pakistan: Status and Challenges" that "despite the growth of digital financial services in Pakistan, there is limited research on the impact of these services on women's financial inclusion and empowerment." This implies that the authors believe that more research in this area is required to fully understand the impact of fintech on women's financial empowerment in the country.

1.5. Research Questions

1. What is the impact of Fintech on women empowerment in Pakistan?

2. What is the mediating role of financial services between the relationship of women empowerment?

1.6. Research Objectives

1. To investigate the impact of fintech on women empowerment of Pakistan.
2. To study the mediating role of financial services in the relationship between fintech and the women of Pakistan.

1.7. Research Significance

Research significance shows why the research being done is important. It highlights all the important factors that would be discussed in the research Prior to this very less research has been done on the topic of women empowerment in Pakistan using Fintech. This research is important for empowerment of women of Pakistan and for the development of the country as well as for the economic development. Since women make up the majority of the workforce, it is important to give them with financial services and education. Therefore, it is important for women to be aware of how fintech, such as banks, credit cards, work-from-home resources, online working, and digital marketing, may be used. And as the proportion of women utilising financial services rises, the gender gap will automatically close, it will help in empowering women and having a positive impact on the economy. Through this study, we learned how to motivate women in Pakistan to use fintech more frequently.

Chapter 02

2. Literature Review

2.1. FinTech

Fintech is defined as the integration of finance and technology, and it is rapidly changing the nature of financial products, services, marketing, and institutions worldwide. The concept of fintech is an innovative approach to enhancing financial services by leading new business or business models, depending on the specific business situation. Uber, for example, is a true illustration of fintech operation, as the organization uses innovative thinking and technology to provide transportation services for customers and taxi management (financial assistance) in many urban centers (Leong & Sung, 2018).

Fintech refers to distributors and innovators in the financial industry who use the internet and automated information processing to bring about new business models that promise flexibility, efficiency, higher security, and opportunities than traditional financial service models (Lee, 2015; Gomber, Koch, & Siering, 2017). Some scholars have found that the idea of fintech is not new, as it can be traced back to July 1866 when the first transoceanic transmission of mail occurred (Razzaque, Hamdan, & Cummings, 2019). The emergence of monetary innovation has radically transformed monetary commerce, from the development of payment cards in the 1950s, to the emergence of ATMs in the 1960s, to electronic exchanges in the 1970s, and the advancement of web-based business action plans in the 1990s (Bhardwaj, Sinha, & Buddy, 2018).

The term "fintech" was coined in the mid-1990s by Citicorp when they developed a project called "Financial Services Technology Complex" to support technology cooperation in the financial services industry (Kutler, 1993; Pushmann, 2017).

However, it was not until 2014 that the word fintech gained public attention and has been used to describe the development of technologies, ecosystems, and platforms that enable and facilitate further access to financial services and procedures, making them more efficient and inexpensive for a larger number of people (Imran, 2014).

Fintech promises to transform the banking and financial services industry by significantly reducing costs, expanding service delivery, and providing a more stable market and industry environment (Iman, 2019). It is important to note that strict regulations at the public, territorial, and global levels restrict the financial sector (Lee & Shin, 2018). However, fintech is recognized as one of the major advancements happening at a rapid pace and driven by innovation and data consistency.

Fintech, a term obtained by combining the two words finance and technology, is defined as a multidisciplinary field that combines finance and management of technology and innovation (Leong & Sung, 2018). Another fintech concept is an innovative idea of using fintech solutions to enhance financial services to lead a new business or business model depending on the specific business situation. This understanding of FinTech can describe Uber as a true illustration of FinTech operation, i.e., on the basis of an organization that devises imaginative thinking using innovation (transportation services for customers) and further develops the requirement of taxi management (financial assistance) in many urban centers. Uber gives a simple estimate and provides upfront payment (Leong & Sung, 2018). This understanding of fintech describes the connection of internet-based technology (cloud computing, mobile internet) with the business operations of financial services, such as banking transactions, financial lending, etc. FinTech refers to distributors and innovators in the financial industry that use the Internet and automated information processing through ubiquitous communication to bring about new business models that promise flexibility, efficiency, higher security, and opportunities than traditional financial service models (Lee, 2015; Gomber, Koch, & Siering, 2017).

Some scholars have found that the idea of FinTech is not new (Razzaque, Hamdan, & Cummings, 2019), as they followed it until July 1866 when the association was established. Transoceanic transmission occurred as the first mail on August 16, 1958. At that time, the association not only reduced the time of correspondence between North America and Europe, but also allowed worldwide cable improvements. The

emergence of monetary innovation has radically transformed monetary commerce, from the development of payment cards in the 1950s, to the emergence of ATMs in the 1960s, to electronic exchanges. In the 1970s, the rise of the PC in the 1980s, also in the 1990s the advancement of web-based business action plans (Bhardwaj, Sinha, & Buddy, 2018).

As for the term FinTech, it is almost certainly referenced in the mid-1990s, in a "Brilliant Card Discussion" recently created by the head of Citicorp, John Reed (Kutler, 1993; Pushmann, 2017). The term "Financial Technology" was coined when Citicorp developed a project called "Financial Services Technology Complex", which supports technology cooperation in the financial services industry. It was not until 2014 that the word FinTech gained public attention

2.2. Financial Services

According to Musabegovic, zer, Djukovic and Jovanovic (2019), fintech companies are the ones that have penetrated the use of technology for financial solutions such as banking, payments and personal financial management. According to the European Parliament Research Service (EPRA 2017), FinTech is characterized by companies using technology-based frameworks to provide monetary and operating elements directly or attempting to make the system a more efficient financial system, which incorporates remittance frameworks, innovative monetary review sections, protection, store and loan, operating speculation and crowdfunding (SUMEDREA, 2019). According to Magnuson (2018), there are seven key technology areas for FinTech innovations: blockchain, consulting robots, peer-to-peer (P2P) networks, data analytics, mobile transactions, and the Internet of Things (IoT). According to (Chen et al. 2019), here is the brief meaning of each FinTech classification: Cybersecurity refers to the equipment and programs used to obtain and protect financial security and protect against ransomware or electronic theft. Key innovations include encryption, encryption, authentication, and biometrics, such as the MasterCard biometric card.

Mobile Banking: is the means by which it is possible to make payments via mobile devices such cell phones as well as using digital wallets and smartphone walled. For mobile transactions, two good examples are Apple Pay and PayPal.

Data Analytic; The technology and techniques used in data analytics allow for the analysis of using technologies like big data, data, either transactions or consumer financial data, machine learning and artificial intelligence. Bloomberg Social is a practical example. Analytics of Sentiment.

Blockchain: is an essential application for financial services with pervasive recording technologies; including digital currency, smart transaction and work verification like Bitcoin, Visa B2B Connect. Robotic advice is a means by which a computer system or program provides automated financial advice to a client or portfolio manager, including artificial intelligence, big data, and machine learning,

Peer To Peer. Distributed is any product, stages or frameworks that permits client to-client monetary exchanges introduced by advances, for example, Crowdfunding and P2P loaning.

Internet Of Things (IoT) refers to the innovations that connect with all the gadgets that gathers information and convey it progressively through the internet.

Digital payments are the result of a digitized financial system and include online payment systems as well as electronic money transfer methods. This includes both internet and mobile payments, as well as the use of cryptocurrencies as mobile apps, such as Benefit Pay or B-Wallet are two examples of applications. Thanks to these paperless digital currency transactions, you no longer need to carry a credit card (Razzaque et al. 2019). Forty prepaid payment instruments (PPIs) and ten remittance aggregators have been licensed to operate in India (KPMG, 2016). PUPs start with rail tagging, bill payments, recovery and micropayments and gradually capture a larger share of customers' wallets by providing convenient and secure options for businesses. small payments and movements, and creates touchpoints for stacking and withdrawing cash, acts as a correspondent bank, thus participating in another arrangement of specialized organizations to assist support this low-volume and high-volume operation. According to PWC (2015) "for a period of less than 18 months, PPI accounted for just over half of all IMPS exchanges between banks and non-banks

in regards to IMPS change and interoperability, PPI deserves get a lot of credit to promote the expansion of nearly eight overlays in prepaid exchanges" (Appendix 1). fintech will increase, it will automatically reduce the rate of gender discrimination.

2.3. Fintech In Pakistan

Fintech has reshaped the monetary area on a worldwide scale, and its extraordinary potential is likewise found in creating economies. Pakistan, being the world's 6th most populated country, is a money-based economy with 85% of its populace being monetarily prohibited. The high banking framework costs go about as an obstruction to the dissemination of monetary administrations past a little part of the populace. As of now, a couple fintech's work in the nation, and those are basically in the created urban communities of Lahore, Karachi and Islamabad. This slow development and the lack of FinTech's in Pakistan is an outcome of interest in this area just at the nearby level, and thusly deficient. The fintech environment in the nation is stumbled by dangers to information security and licensed innovation, inconvenience drawing in the right ability and client base, what's more, vulnerability in future guideline, which beats business visionaries down from wandering into the fintech climate (Shahid et al. 2016).

Pakistan is a growing nation that places a high priority on technological improvement for its continued growth and development. (Rizvi, 2018) With its high proportion of teens, rising use of smart phones and the internet, customer preference for e-commerce, ability to conduct digital transactions, and capacity for financial systems to absorb innovation, Pakistan has the potential to be a significant region for Fintech growth. But because of their alleged concern of underlying risks, people are extremely hesitant to adopt new technology the negative effects and potential risks of using cutting-edge technology. Despite the fact that One could undervalue the apparent dangers associated with financial technology prospects number of potential Fintech remedies. As a result of these risks, the digitalized corporate activities could be risky

as there haven't been any widespread international laws for using financial technology (Treleaven, 2015).Emerging hazards, such as those related to cyber security and data privacy, prevent several countries from implementing financial technology. Intellectual strength, reluctance to attract a strong and talented clientele, and regulatory uncertainties (Shahid et al.,2016).

Challenges Fintech Faces: (Rizvi, 2018) hosted the PwC Global Fintech Report (2017), which presents barriers faced by financial institutions and businesses around the world Fintech. The key difficulties that Fintechs look for are cultural and board differences (55%), management gaps (48%), contrast in action plans (40%), functional issues (36%) and IT similarity (34%). Among other company officials, IT security is a significant test (58%) and administrative vulnerability (54%). The growth and productivity achieved in currency exchange by Fintech in created economies has prompted us to introduce the game elements that prevent individuals from creating the economy to adopt it. (Rizvi, 2018) reports that Pakistan ranks 6th in terms of population and cash exchange consideration with around 85% of individuals still expressing a rejection of the currency. Individuals in Pakistan have a positive and attractive potential for adopting monetary innovation, but the distinction is made in terms of risk factors including strategic betting, cyber protection risk, functional betting and administrative loopholes take precedence. The report of the "State Digital and Financial Integration Project" in 2017 indicated that Pakistan was involved in the 16th out of 26 countries to test Fintech, suggesting a situation where compromise could be made.

ABACUS is a management consultancy firm that provides solutions, technical systems, and outsourced financial service), AUTOSOFT Dynamics is a firm that provides consultancy and regarding bank products, and INNOVS technical systems and provisions are just a few of the different types of Fintech that have been documented in Pakistan (Rizvi, 2018). offered to commercial banks through connections with consultancy services, outsourced services. Smart phone purchases are conducted using Easypaisa, Fonepay, and KARLOCOMPARE (Internet applications for Customized financial transactions, MONET (systematic operations and e-payment transaction processes), and TPS (provision of cards and e-payment solutions and management of operations). the new fintech, which includes BATWA

(start-up offering mobile wallet services), FINJA (free, frictionless choices for systematic payments),ONELOAD, PAYLOAD, RED BUFFER (mobile), rapid payments, development of the SimSim web application and online financial services, as well as e-payment options), and STOCKSFM (a provide information to a network for managing their financial investments through investors. The other businesses included start-ups, banks, and ASKARI BANK LIMITED (provide branchless digital financial services) is one example of a telecommunication. Internet banking), BANK ALFALAH (offers this service), and CAREEM (Careem Pay and Careem) Wallet, CREDITFIX (which provides digital loans), HBL (Konnect), Jazz Cash (which provides branchless banking products), and KEENU MCB Bank, Meezan Bank, Standard Chartered, Telenor Micro, and (Wallet) EasyPaisa from Finance Bank, Tez Fin from Tez Financial Services, and TPS from TPS (Software House and Providers) Ufone (pay/Upaisa), UBL Bank (UBL OMNI), and solutions for digital payments. These businesses assist online and mobile financial services, digital wallets, payment gateways, and microlending.

2.4. Women empowerment and Fintech

In business world, where cash relates to societal position and power, fintech furnishes women with the chance to participate in the economy. It, most importantly, empowers women to add to overseeing financial assets inside the family a space that has been and keeps on being overwhelmed by men.

The monetary world has been generally overwhelmed by men and on the off chance that we make a stride back we'll understand that we deal with our funds with a male viewpoint. There's a high potential in fintech to foster monetary items with a ladies' viewpoint, explicitly thought for them. Simply by including new viewpoints, may we have the option to change things and engage ladies. In our daily interpersonal interactions, our emotional intelligence has become extremely important. By relying on these emotional skills, we have brought fresh ideas and methods to the table. These new methods have changed how firms are made, or how they were operated. There were decisions made. It's crucial for us women to express our worth and share our voices, but we must first recognise our own worth in terms of what we can contribute

and what we have to say to the desk. To do that, each of us must establish and adhere to our own set of values, principles, and other guidelines them. (Polly jean Harrison,2021).

At that time, a national strategy was developed to support women in Bahrain and set goals and measures. The Supreme Council for Women was established in 2011 with the vision of "equal partnerships to create a sustainable and competitive society" to ensure women's participation in society. One of the most important goals has been achieved. Awarding Princess Sabika Binto by the Kingdom of Bahrain Ibrahim al-Harifa, an honour for the advancement of women in Bahrain, has begun to be encouraged and supported by women in Bahrain to empower them in their successful role in society. A woman working in Bahrain symbolizes the belief that she was successful. This award supports public and private services and exclusive organizations to promote, empower and guarantee women's success. It increases the proportion of women in managerial positions and ensures that policies gain the support of all relevant ministries and public and commercial organizations for equality and non-discrimination against women (awards and initiatives). （H. Y.

Mohamed et al 2021)

Financial inclusion empowers a person to gather investment funds and work on their useful limit. This is vital for women strengthening as women by and large experience inconsistent divisions of work and need command over monetary assets and monetary instruments. Monetary strengthening of women makes a far-reaching influence locally in light of the fact that they tend to reinvest their cash to improve their lives. According to a recent study, mobile savings have improved the socioeconomic standing of women. Women business owners in two locations in Tanzania now have access to M-Pawa, a mobile savings platform. Additionally, some women received 12-week training concurrently on improving their business skills. Women in the M-Pawa group saved three times as much each week as those in the control group, and nearly five times as much as those in the M-Pawa plus business training group. In Africa, a fintech organization utilizes innovation to total information for all encompassing profiling of clients and helps reserve schooling for young ladies. The information incorporates an understudy's family data and participation record, which assists them with recognizing young ladies at the gamble of exiting school and delivery reserves uniquely reserved to keep them from exiting. Portable stages like

Better Mama, Better Pikin (BMPB) in Nigeria offer miniature reserve funds alongside wellbeing and life coverage administrations for explicit lifecycles, like hopeful mothers. It should be noted, nonetheless, that fintech isn't the panacea for financial inclusion for women. There are a few issues that plague the course. Women more than men face obstructions to cell phone possession. In this manner, alongside fintech, there should be a balanced methodology which incorporates further developing framework at a large-scale level, giving financial inclusion at a meso level, and an adjustment of the demeanour and backing by the public authority and formal financial area at a miniature level. India can embrace smoothed out, redid stages that incorporate an orientation focal point to address explicit issues of ladies at various lifecycles. (Sruti Jain, 2019).

We have seen that there are no areas where women are off limits, and WIFBH plays an important role in closing gender gaps and normalizing women's participation in traditionally male-dominated areas such as finance This program advances women and gives them greater authority in the male-dominated industry within the fintech sector. As a result, (LATTICE 80 2019) and Miss Kaya worked to publish a list of FinTech's top 100 women in 2019, with two Bahraini women creating the list. (H.Y. Mohamed et al.)

China Family Panel Studies (CFPS) information. Their discoveries show that fintech advancement is decidedly related with family pay, and the constructive outcome is bigger for provincial families than the metropolitan partner, recommending a harmless distributive effect. As respects cross-country studies, Asongu and Nwachukwu (2018), utilizing an example of 93 nations, presumed that the utilization of cell phones to cover bills or to send/get cash is fundamentally and adversely connected with pay imbalance yet just in upper-centre pay nations. All the more as of late, Demir et al. (2020) found that while fintech essentially decreases imbalance at all quantiles of the disparity dissemination, these impacts are basically connected with higher-pay nations. At long last, Chinoda et al. (2021).

First, fintech can leverage digital financial tools to increase access to and usage of financial services, benefiting populations who have been disproportionately excluded from the traditional financial system (Sahay et al., 2020). According to the World Bank Group's latest Global Findex report, more than 1 billion women still do not use or have access to the financial system, and more than 70% of women-owned SMEs go to finance. Access is inadequate or not at all. (World Bank, 2017; Demirguc -Kunt,

2018). The development of FinTech services made possible by FinTech promises more convenience, privacy and security for women who traditionally do not have or do not have a bank account.

2.5. Research Framework

This study has been divided into three variables and the correlation of these three variables is explained by the following framework.
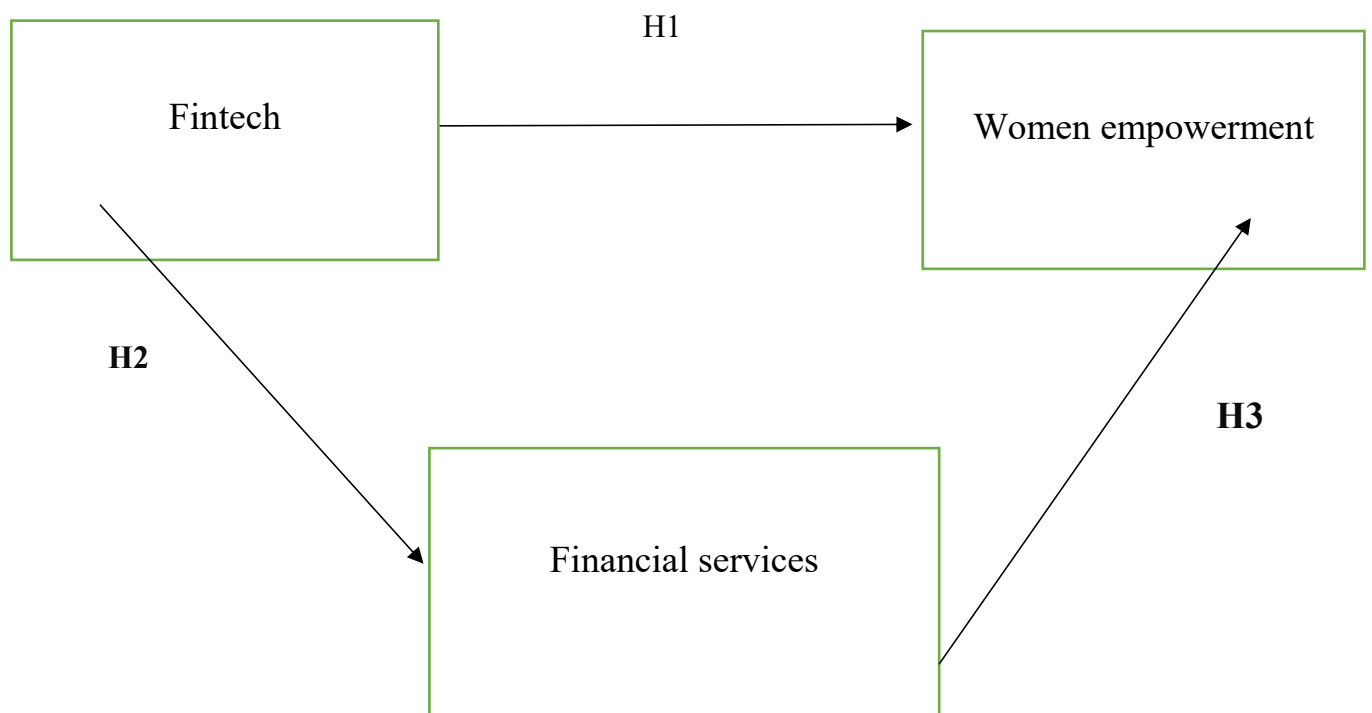
2.6. Hypothesis

The following hypothesis are developed on the basis of previous research on fintech related to financial services and women empowerment of Pakistan.

H1: The impact of fintech in empowering women of Pakistan.

H2: Fintech increases the access to financial services.

H3: Fintech leads to financial services which increase women empowerment.

H2: Fintech increases the access to financial services.

H3: Fintech leads to financial services which increase women empowerment.

Chapter 03

3.METHODOLOGY

This chapter describes the research methods used which outlines the exact process used to answer the questions in this report. The methodology chapter outlines the rationale for the survey, the goals and objectives of the survey, the philosophy of the survey, the approach to the survey, the choices and duration of the method, and concludes the methods and limitations of data collection

.3.1. Research Type

This study employs the qualitative and quantitative research method, and mixed research method. Which is a systematic empirical investigation of a phenomenon. It entails the creation of hypotheses, the development of measurement tools and procedures, dependent and independent variables, empirical data collecting, modelling, and analysis.

3.2. Research Rationale

A thorough review of the Fintech literature indicated that there are insufficient articles that focus on women's career advancement to date in Pakistan, implying that this is a relatively underdeveloped subject. Therefore, the aim of this study is to fill a gap in the current literature by examining the hurdles and enablers to career advancement in Fintech.

3.3. Research Philosophy

Interpretivism, on the other hand, is a research philosophy that emphasizes the subjective nature of knowledge and the importance of understanding the meaning of social phenomena from the perspective of the individuals involved (Quinlan et al., 2015). This approach is often used in qualitative research and is considered more appropriate for this study as it aims to understand the experiences and perceptions of women in the Fintech industry.

Fintech, or financial technology, is a rapidly growing industry that is transforming the way financial services are delivered and consumed. According to Lee (2015), fintech refers to the use of technology to enhance and disrupt traditional financial services, such as banking, lending, and payments. The use of fintech solutions, such as mobile banking and online lending platforms, has the potential to increase financial inclusion and improve access to financial services for women. However, research has shown that there is a significant gender gap in the fintech industry, with women underrepresented in leadership positions and in the use of fintech services (Vargas and Santos, 2021; Mayoux, 2011).

This study aims to explore the barriers and facilitators to women's career progression in the fintech industry. Through qualitative research methods, such as interviews and focus groups, the study will gather data on the experiences and perceptions of women in the fintech industry. By using an interpretivist approach, this study aims to understand the meaning and context of these experiences and perceptions and to identify ways to improve the representation and participation of women in the fintech industry.

3.4. Data collection

In this study, secondary data was collected from various sources such as the World Bank, State Bank of Pakistan, SECP, Pakistan Bureau of Statistics, and scholarly articles to analyze the relationship between Fintech, financial services, and women's empowerment in Pakistan. As this topic had not been previously studied, an exploratory research approach was adopted. Additionally, an online survey was distributed to a target audience of individuals who were familiar with Fintech and had

prior knowledge of it. The survey was distributed to 250 participants and received 213 responses, which were used as the sample for this research.

This study utilized secondary data from various sources such as the World Bank, State Bank of Pakistan, SECP, Pakistan Bureau of Statistics, and scholarly articles to analyze the relationship between Fintech, financial services, and women empowerment in Pakistan. Given that this topic has not been previously researched, an exploratory approach was adopted for this study. A questionnaire was also distributed online to a purposeful sample of 250 individuals who had prior knowledge and understanding of Fintech. Out of the 250 participants, 211 responses were collected and used for the research.

3.5. Research design

In this study we used descriptive research design. The research method in this study is quantitative and qualitative because we have used both primary and secondary data. Secondary data is defined as data which is already been collected and gathered for analysis. The objective is to investigate the cause and effect between independent, dependent and mediator variables.

3.6. Data Methodology

This study will use PLS-SEM software, I will run regression and correlation to substantiate my hypothesis. I will use primary data and it would be on questionnaire based. In questionnaire I will be use (PEU) Cheng et al. and Wang et al. to measure the financial services and fintech. And for women empowerment I would use Cumulative women empowerment index (CWEI) Hafsa Batool et al. (2021). to measure the empowerment of women of Pakistan. Survey Development In the Survey Development Process, online questionnaire has been distributed between the prospects to assess their opinions, beliefs, preferences and attitudes towards Fintech in

the famous cities of Pakistan, Islamabad and Rawalpindi. Questions are composed on

different variables used in a graphical model.

Chapter 04

4. Analysis & Results

4.1 Introduction

The data analysis and results chapter describes in detail the results of data analysis. PLS-SEM analysis, which includes measurement assessment and structural model. The measurement model established the construct's validity and realibility. The structural model determines the importance of the hypothesis relationship.In this study , there were 250 questionnaire out of which 213 respondent has respond. The participants are from twin cities (Islamabad, Rawalpindi)After the data was collected PLS was used to analyze the variables and generate results according to the Hypothesis.To assess the relationship between predictors and the dependent variable, various hypotheses were proposed.

H1: The impact of fintech in empowering women of Pakistan.

H2: Fintech increases the access to financial services.

H3: Fintech leads to financial services which increase women empowerment.

4.2 Demographics

A survey was conducted online consisting of different questions that could answer our marketing research problem. The questionnaire was distributed among 250 respondents out of which 213 responded. There were a few questions determine the demographics of the people. The first one was Gender in which around 47% of the sample was males and 47% of the sample was females. The second was regarding their marital status and around 47% of people

were single and 44% were married in the sample. Moreover, 54% of people who responded had age between 20 and 30 years and 29% were between 31 and 40 years

of age. Out of the whole sample, 60% people had 16 years of education and above mostly were students.

Demographics

Variables	Catagories	No.	%
Gender	Male	99	46.5
	Female	100	46.9
	Other	14	6.6
	Total	213	100
Age	20-30	115	54
	31-40	61	28.6
	41-50	24	11.3
	Over 50 year	13	6.1
	Total	213	100
Education	Less than inter	28	13.1
	Intermediate	63	29.6
	Bachelors	60	30.5
	Masters	57	26.8

	Total	213	100
Marital status	Single	100	46.9
	Married	93	43.7
	Prefer not to say	20	9.4
	Total	213	100

5. PLS-SEM Evaluation

5.1 Measurement Model

The measurement model investigate the measurement characteristics of the latent model by demonstrating how they have been evaluated using observable variables.In this study we have used 3 variables;fintech,women's empowerment,and financial services.To measure the reliability and validity of the items we have used SmartPLS.
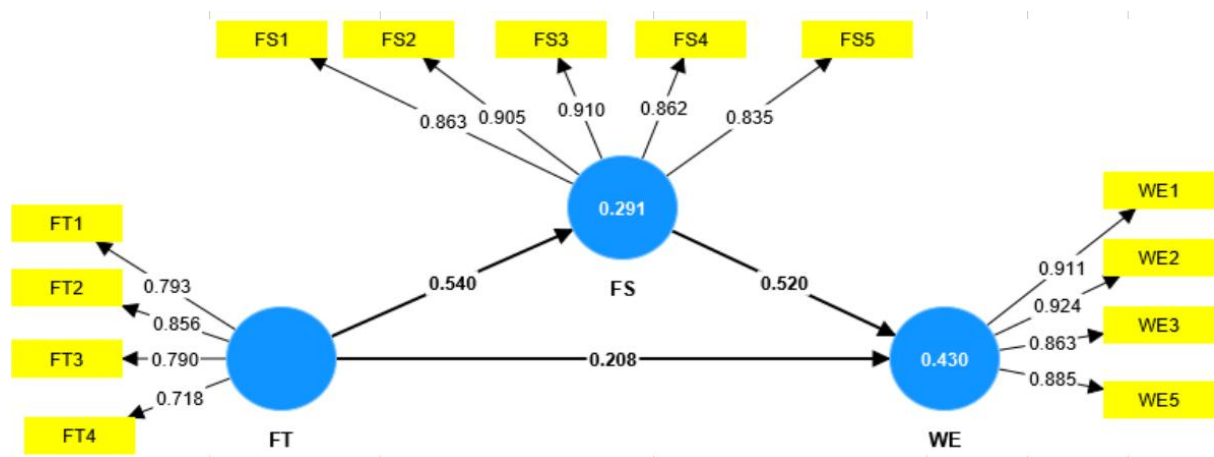

Figure1. PLS algorithm analysis of the measurement model

i) Internal Consistency and Convergent Validity

The researcher employed the PLS algorithm using SmartPLS software, with a maximum of 300 iterations and a path weighting scheme, to evaluate the measurement model (outer model). The outer loadings were required to be greater than 0.708, indicating that the items account for more than 50% of the variation in a construct and that item dependability is acceptable. Byrne (2016) suggests that values greater than 0.6 are also acceptable. The results indicated that all values were above 0.708, indicating that all variables have a significant impact on one another.

In conclusion, this research has provided new insights on the potential of Fintech to empower women in Pakistan by increasing their access to financial services. The findings of the study suggest that Fintech can play a vital role in reducing gender discrimination and promoting women's social, economic and political empowerment. However, it is important to note that more research is needed to fully understand the

impact of Fintech on women's empowerment in different cultural, economic and political contexts.

Outer Loadings

Variables	FS	FT	WE
FS1	0.86		
FS2	0.90		
FS3	0.91		
FS4	0.86		
FT1	0.83		
FT2		0.79	
FT3		0.85	
FT4		0.79	
WE1		0.71	
WE2			0.91
WE3			0.92
WE4			0.86
W5			0.88

Note: FS=Financial Services, FT=Fintech, WE=Women Empowerment

Figure 2. Outer Loading table

Cronbach's alpha A, Composite reliability (CR), and Average Variance Extracted are used to determine convergent validity (AVE). The table below shows the convergent validity of our study.

ii)Convergent Validity

Variables	Cronbach's alpha	Composite reliability(rho_a)	Composite reliability(rho_c)	Average variance extracted (AVE)
FS	0.924	0.935	0.942	0.766
FT	0.798	0.802	0.861	0.625
WE	0.918	0.921	0.942	0.803

Note: FS=Financial Services, FT=Fintech, WE=Women Empowerment

Figure 3. Convergent Validity

The above table shows that the CR, cronbach's alpha, and roh A for all variables meet the 0.7 above internal consistency reliability criteria.The AVE must be greater than 0.5. The above table shows that the convergent validity values are within an acceptable range of internal consistency and convergent validity.

iv)Fornell and Larcker Criterion

Fornell-Larcker (1981) criterion has been widely used to assess the degree of shared variance between the model's latent variables. The convergent validity of the measurement model can be assessed using the Average Variance Extracted (AVE) and Composite Reliability criteria.This table shows the validity of all the variables which are used for testing.

FORNELL AND LARCKER

	FS	FT	WE
Financial Services	0.924		
Fintech	0.798	0.791	
Women Empowerment	0.918	0.489	0.896

Figure 5. Construct Reliability and Validity (Forner and Larcker Criterion)

v) Discriminanat Validity

The discriminant validity assessment seeks to ensure that a reflective construct has the strongest relationships with its own indicators (e.g., in comparison to any other construct) in the PLS path model (Hair et al., 2022).

This metric indicates how much the variables differ from one another. SmartPLS demonstrates discriminant validity across three different criteria. A measurement model has discriminating validity when the square root of the construct's AVE exceeds the inter item correlation. It demonstrates that a construct's related items vary more than other things. The first is "Fornell and Lacker," and the second is "Cross Loading," but neither is considered reliable. The third criterion, HTMT (Hetrotrait-Monotrait ratio), is regarded as reliable for discriminant validity."HTMT is the mean of all correlations of indicators measuring different constructs, relative to the geometric mean of the average correlations of indicators measuring the same construct". This measure's values should be less than 0.9, indicating that the variables differ from one another.

Discriminant Validity with Hetrotrait-Monotrait Ratio (HTMT)

Variables	FS	FT	WE
Financial Services	1		
Fintech	0.618		
Women empowerment	0.678	0.568	1

Figure 6. Discriminant Validity with Hetrotrait-Monotrait Ratio (HTMT)

In this study, all of the HTMT values generated by SmartPLS were less than 0.9 (indicating that the model is satisfactory), as shown in the table above.

6. Structural Model

The PLS-PM structural equation model is divided into two parts: measurement models and structural models. The measurement models depict the connections between observed data and latent variables. The structural model depicts the connections between the latent variables.
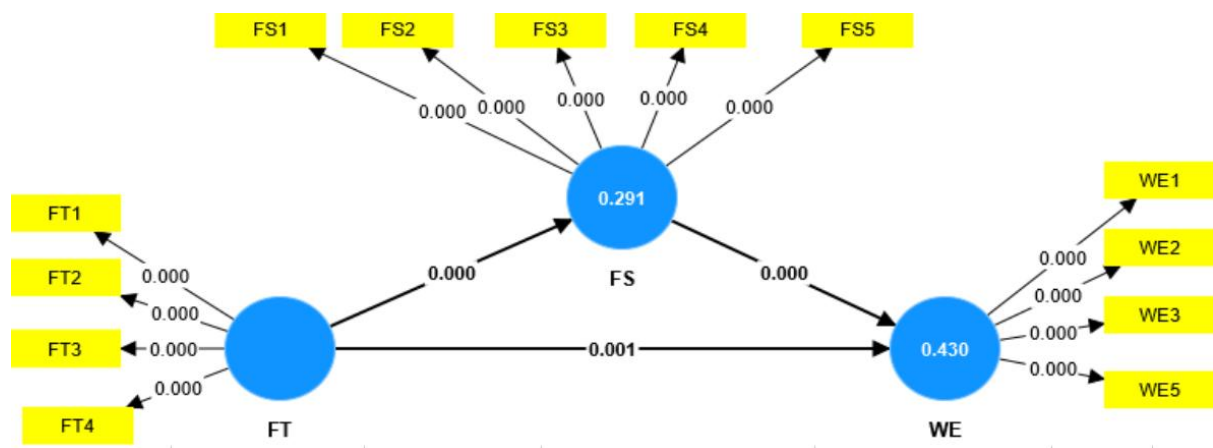

Figure.7 Assesment of the structural model

6.1 Goodness of Fit

The goodness-of-fit test is a statistical hypothesis test that determines how closely observed data matches expected data. Goodness-of-Fit tests can help determine whether a sample is normal, whether categorical variables are related, or whether random samples are from the same distribution.In the current study, the coefficient of determination (R2), effect size (F2), and standardised root mean square residual (SRMR) are used to assess the goodness of fit. According to the findings of the analysis, Fintech, Financial Services, and Women   Empowerment have a high squared multiple correlation (SMC; R2).

	Saturated Model	Estimated Model
SRMR	0.078	0.078

Figure. 8 Goodness-of-Fit

6.2 Hypothesis testing

The hypothesis was tested using the bootstrapping technique, and the model's path coefficient, t-values, and p-values were calculated. The minimum sample size for bootstrapping is 1000. (Hair Jr et..,2017). Hair et al., (2011); Wetzels et al., (2009) state that a path coefficient value of at least 0.1 is required to account for a specific impact within the model.In this study all the values are derived from bootstrapping the samples. The model's values are listed in the table below.

Hypothesis	Variables	CoefficientB	Sample mean (SM)	Standard deviation (STDV)	Tstatistics	P values
H1	FS->WE	0.52	0.521	0.078	6.686	0
H2	FT->FS	0.54	0.543	0.048	11.356	0
H3	FT->WE	0.208	0.209	0.065	3.181	0.001

Figure. 9 Hypothesis Testing Results

In this study all the variables in the table above, Fintech, Women Empowerment and Financial Services all have t-values higher than 1.96.So H1, H2,and H3 are accepted.

6.3 Explanatory power of the model

R-Square values indicate the model's explanatory power. R-Square values range between 0 and 1. The closer the value is to one, the better the predictive accuracy, and vice versa. The values of this model are shown in the table below.

	R-Square	R-Square Adjusted
FS	0.291	0.288
WE	0.43	0.425

Figure. 10 R-Square

6.4 Effect Size f2

The f value of 0.02 shows a small effect, the f value of 0.15 shows the medium effect and f2 value of 0.35 shows a large effect (Cohen et al..,1998).The result shows that Fintech have substantial effect on women empowerment f2=0.02, whereas the effect size of fintech on financial services has small effect f2=0.00 and fintech have direct impact on women empowerment f2=0.1.

Chapter 05

DISCUSSION, LIMITATIONS AND CONCLUSION

5. Discussion

5.1 Fintech

Fintech is a really important component while considering women empowerment. Around 72% of participants said that they were aware of the term Fintech. Moreover 72% respondents said that Fintech can empower women in Pakistan and it has great impact on it. As Pakistan is a developing country much has to be done here in order to improve FinTech. But apart from this 60% of the respondents knew a woman who had been empowered by FinTech. This shows how mush Fintech has influenced women across Pakistan. The majority of respondents also thought that Fintech can be made more accessible to women in Pakistan.

5.2 Corruption

As corruption is a major concern in Pakistan as well as financial corruption. It has become very important to take care of all the public and private finances. This can be done by the introduction of FinTech. As the questionnaire was circulated and the respondents were asked weather Fintech can help reduce corruption to this 70% respondents agreed. As corruption is a major concern when financial services are being used.

5.3 Challenges Faced by Women

Women in Pakistan face many challenges when it comes to using FinTech. When asked by the participants that weather women face challenges or difficulties while using Fintech to which almost 62% participant agreed. These challenges can be due to the lack of education regarding fintech. Another reason for this can be the lack of IT infrastructure in the country. This may also be due to the lack of mobile or tech expertise. Most of the financial transition are mostly being done by manual system.

5.4 Government Support towards Fintech

Government plays a vital role when it comes to development of new technologies and start-ups. As 80% of the respondents agreed to this. Yes, the government should support fintech companies that are empowering women in Pakistan as they can help to increase financial inclusion and improve the economic well-being of women in the country. This can be accomplished through providing funding, tax incentives, and other forms of support to fintech companies that are working to increase access to financial services for women in Pakistan. Additionally, the government can also help to create a favourable regulatory environment for fintech companies to operate in, which can further promote the growth and development of these companies.

5.5 Role of private sector in supporting fintech companies that are empowering women in Pakistan

78% of the repondents agreed to this that private sector plays an important role in empowering women in Pakistan as most of the financial institutions are privately owned. Fintech companies provide financial services such as mobile banking and digital payments, which can increase financial inclusion for women who may not have access to traditional banking services. Private investors and venture capital firms can provide funding for these companies, allowing them to expand their reach and impact. Additionally, partnerships between fintech companies and traditional financial institutions can also help to increase access to financial services for women in Pakistan. In addition to providing funding and partnerships, the private sector can also play a role in promoting and raising awareness of the benefits of fintech for women in Pakistan. This can include initiatives such as training programs and education campaigns to increase digital literacy and financial literacy among women. Furthermore, private sector companies can also implement policies and initiatives that promote gender equality and women's empowerment within their own organizations, which can help to create a more supportive environment for women in the fintech industry. Overall, the private sector can play a crucial role in supporting fintech companies that empower women in Pakistan by providing funding, partnerships, and promoting awareness, which helps to increase financial inclusion and opportunities for women.

5.6 Government and Fintech Start-ups

75% of the respondents agreed to this as mostly start-ups fail due to lack of support from the government in countries like Pakistan. It depends on the specific context and goals of the government. In general, governments can support fintech startups by creating a favorable regulatory environment, providing funding or tax incentives, and promoting education and awareness about the industry. However, it's important for the government to also consider potential risks, such as increased financial instability or decreased competition, when making decisions about supporting fintech startups. Additionally, government can also support fintech startups by providing access to relevant data and infrastructure, such as through open-data initiatives or partnerships with existing financial institutions. This can help to lower barriers to entry for new startups and increase competition in the market.

Furthermore, government can support Fintech startups by providing a clear and stable regulatory framework that supports innovation while protecting consumers. This can help to build trust and confidence in fintech products and services, encouraging more people to use them and thereby promoting greater financial inclusion.

In summary, government support for fintech startups can take many forms, including funding, tax incentives, regulatory clarity, data access, and more. It is important for governments to carefully consider the potential benefits and risks of supporting fintech startups and strike a balance that promotes innovation while protecting consumers.

5.7 Fintech and Financial Inclusion

This was a very important question in the questionnaire as it directly showed the impact of financial inclusion on fintech.Almost 72% of the respondents agreed to this that fincncial inclusion has a direct impact on Fintech. Fintech has the potential to increase financial inclusion by providing access to financial services to individuals and businesses that may not have had access to them in the past. This can be achieved through the use of mobile technology and online platforms, which can make it easier for people in remote or underserved areas to access banking services. Additionally,

many fintech companies specialize in providing financial services to underbanked populations, such as small businesses and low-income individuals. However, it's important to note that there could be challenges as well, like lack of digital literacy, internet access, and security issues. Fintech can also help reduce costs for financial services, making them more accessible to a broader range of people. This can be achieved through the use of digital platforms, which can reduce the need for physical infrastructure and staff, and through the use of data and analytics, which can help financial institutions to better understand and serve their customers. Additionally, fintech companies can leverage the latest technology, such as blockchain and artificial intelligence, to create new and innovative financial products and services that can help to increase financial inclusion.

However, it's important to note that fintech alone cannot solve the problem of financial inclusion. It must be supported by other initiatives such as financial education and digital literacy programs, as well as government policies and regulations that promote financial inclusion. It's also important to ensure that fintech solutions are inclusive and accessible to all, regardless of their background or financial status.

Overall, fintech has the potential to greatly increase financial inclusion, but it must be implemented thoughtfully and in partnership with other initiatives in order to have the greatest impact.

5.8 Financial services and Gender Based Violence

Almost 72% of respondents agreed to this that financial services help reduce gender based violence. Digital financial services, such as mobile banking and online lending, can potentially help address gender-based violence by providing women with greater financial autonomy and independence. This can include access to credit, savings, and other financial tools that can enable them to build assets, establish credit histories, and gain control over their financial lives. Additionally, digital financial services can provide women with a safe and secure means of conducting financial transactions, which can help protect them from abuse and exploitation. However, it's important to note that these services alone are not sufficient to address the complex issue of gender-based violence, and must be part of a larger set of policies and programs that

aim to empower and protect women. In addition to providing women with greater financial autonomy and independence, digital financial services can also help address gender-based violence by providing victims with secure and confidential means of reporting abuse and seeking help. For example, mobile banking and online lending platforms can include features that allow users to discreetly flag transactions or messages that may be related to abuse. Additionally, some digital financial services providers have partnerships with organizations that provide support and resources to victims of gender-based violence.

Furthermore, digital financial services can also help to improve women's economic opportunities and reduce their vulnerability to violence. For example, access to credit and savings can help women start or expand their own businesses, which can provide them with a source of income and financial independence. This can also enable women to have greater control over their time and resources, which can reduce their vulnerability to abuse.

In conclusion, digital financial services can play an important role in addressing gender-based violence by providing women with greater financial autonomy and independence, secure and confidential means of reporting abuse, and improved economic opportunities. However, it's important to note that these services must be part of a larger set of policies and programs that aim to empower and protect women and address the root causes of gender-based violence.

5.9 Challenges in implementing financial services

Almost 75% of the participants agreed to the fact that they face challenges when implementing financial services.

There are several challenges in implementing digital financial services, including:

1. Lack of digital infrastructure and connectivity in some areas, which can make it difficult for people to access digital financial services.

2. Limited financial literacy and digital literacy, which can make it difficult for people to understand and use digital financial services.

3. Limited trust in digital financial services, which can make it difficult to get people to adopt and use them.

4. Lack of regulatory framework and oversight, which can make it difficult to ensure the safety and security of digital financial transactions.

5. Privacy and security concerns, which can make it difficult to protect sensitive financial and personal information in a digital environment.

6. Complexity of integration with existing systems and processes, which can make it difficult to implement digital financial services in a seamless and efficient way.

7. Limited access to financial services for certain segments of population, such as low-income or rural population.

8. High operational costs: Developing and maintaining digital financial services can be expensive and may not be feasible for some financial institutions or governments.

9. Cybersecurity risks: Digital financial services are vulnerable to cyber-attacks, which can result in loss of personal and financial information, disruption of services, and reputational damage.

10. Data protection: There is a challenge of protecting sensitive personal and financial information of customers, and ensuring compliance with data protection regulations.

11. Interoperability: Digital financial services need to be able to interact with other systems, such as government systems and other financial institutions, which can be challenging to achieve.

12. Integration with traditional banking systems: Many financial institutions still rely on traditional banking systems and processes, and integrating digital financial services with these systems can be difficult and time-consuming.

13. Scalability: As digital financial services become more popular and widely adopted, they need to be able to scale to handle increased usage and transaction volume.

14. Fraud and money laundering: Digital financial services are vulnerable to fraudulent activities and money laundering, which can result in financial losses and reputational damage.

5.10 Fintech and Poverty level among women in Pakistan

Fintech has the potential to help reduce poverty levels among women in Pakistan by increasing access to financial services and resources. This can include digital banking and mobile money services, as well as other financial tools such as microfinance and loans. By providing women with access to these resources, they may be better able to start and grow small businesses, improve their financial literacy, and manage their finances more effectively. However, It also depends on the implementation, regulation and the market. Additionally, fintech can also help to increase the financial inclusion of women in Pakistan, as many women in the country currently do not have access to traditional banking services. This can be due to a variety of factors, such as lack of education and awareness, cultural barriers, and lack of access to physical banking locations. Fintech can help to overcome these barriers by providing digital and mobile banking services that can be accessed from anywhere

It's also important to note that fintech alone is not a panacea, rather it should be part of a broader strategy that also addresses the systemic issues that contribute to poverty, such as lack of education and job opportunities, discrimination and cultural barriers.

However, with the right implementation and support, fintech can play a significant role in helping to reduce poverty levels among women in Pakistan and improve their overall economic well-being.

5.11 Conclusion

In conclusion, fintech has the potential to be a powerful tool for empowering women in Pakistan by eliminating the gender gap in financial inclusion. Through the use of mobile technology and digital financial services, women can access financial services and opportunities that were previously out of reach. This includes things like opening bank accounts, obtaining loans, and making investments. By providing women with greater financial autonomy, fintech can help to promote gender equality and economic growth in Pakistan.

Additionally, fintech can also provide women with the means to establish and grow their own businesses, thereby increasing their economic independence and empowering them to become financially self-sufficient. This can also have a positive impact on their families and communities by creating jobs and driving economic growth.

Furthermore, fintech can also help to increase financial literacy among women, which is critical for making informed financial decisions. This includes understanding the benefits and risks of different financial products and services, as well as the importance of budgeting, saving and investing for the future.

Overall, fintech has the potential to be a transformative force for women in Pakistan, by breaking down barriers to financial inclusion and empowering them to take control of their own financial futures. It is important for the government, private sector, and other stakeholders to work together to create an enabling environment for fintech to flourish and to ensure that women are able to fully participate in and benefit from this technological revolution.

Additionally, it is important to ensure that the fintech services and products being offered are tailored to the specific needs and circumstances of women in Pakistan. This includes designing services that are user-friendly and accessible, even for those

who may have limited literacy or digital skills. It also means providing services in local languages, and ensuring that they are available in remote and underserved areas where many women live and work.

Another important consideration is data security and privacy. As women in Pakistan may be at a higher risk of financial exploitation or fraud, it is crucial to ensure that their personal and financial information is protected and kept secure. This includes implementing robust data security measures and educating women about how to protect themselves from fraud and scams.

Finally, it is important to note that fintech alone cannot fully eliminate the gender gap in financial inclusion in Pakistan. A comprehensive approach is needed, which includes addressing cultural and societal barriers that may prevent women from accessing financial services, as well as providing education and training to improve their financial literacy and digital skills.

In summary, fintech has the potential to be a powerful tool for empowering women in Pakistan by eliminating the gender gap in financial inclusion. However, it is important to ensure that these services are designed with the specific needs of women in mind, data privacy and security are protected, and that it is part of a comprehensive approach that addresses cultural and societal barriers.

Fintech has the potential to empower women in a variety of ways. For example, fintech services such as mobile banking and digital payments can make it easier for women to access financial services, as they may not need to travel to a physical bank branch or have a bank account. Additionally, fintech services can help women to manage their finances more easily, such as budgeting and saving tools.

Fintech services can also help women to start and grow their own businesses, by providing access to financing and other business services. Furthermore, fintech companies are increasingly focused on providing financial services tailored to women's needs, such as microfinance and savings products.

However, it's important to note that the use of fintech services by women is still low and varies by country. In some cases, women may not have access to smartphones or the internet, and therefore cannot access fintech services. Additionally, cultural and social barriers may prevent women from using fintech services, such as lack of trust in new technologies or lack of financial literacy.

Therefore, to fully empower women with fintech, it is important to focus on building digital literacy, providing education and training, and removing cultural and social barriers. Additionally, it is important to ensure that fintech services are accessible to everyone, regardless of location or income level.

Overall, fintech has the potential to empower women in many ways, but it is important to address the limitations and challenges to ensure that the technology is inclusive and accessible for all.

5.12 Limitations

One limitation of research on women empowerment and fintech is that it is often focused on developing countries and may not apply to developed countries. Additionally, many studies have a small sample size, which limits the generalizability of the findings. Furthermore, the data that is available on women's financial inclusion and technology usage may not be accurate or comprehensive.

Another limitation is that many studies on women empowerment and fintech focus on the use of mobile money and digital financial services, and do not consider other forms of technology that may also be important for women's empowerment.

Another limitation is that much of the research on women empowerment and fintech is based on cross-sectional data, which does not allow for the examination of causal relationships between the use of technology and women's empowerment. Longitudinal data would be needed to establish causality.

Additionally, most of the research on women empowerment and fintech is focused on the use of mobile money and digital financial services, and does not consider other

forms of technology, such as digital platforms and online lending, that may also be important for women's empowerment.

Another limitation is that many studies on women empowerment and fintech do not take into account other factors that may influence women's use of technology, such as socio-economic status, education level, and access to information and resources.

Another limitation is that research on women empowerment and fintech often fails to consider the potential negative consequences of technology on women. For example, the increased use of digital financial services may lead to increased surveillance and control of women's financial activities by their partners or other family members. Additionally, women may face greater security risks when using digital financial services, such as fraud and hacking.

Another limitation is that research on women empowerment and fintech often fails to consider the specific needs and preferences of different groups of women. For example, older women, rural women, and women with disabilities may have different needs and barriers to accessing and using technology.

Lastly, research on women empowerment and fintech is often conducted by researchers and organizations based in developed countries and may not fully capture the perspectives and experiences of women in developing countries. It's important to have more research that is conducted by local researchers and organizations in order to have a deeper understanding of the local context.

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