

The Mediating Role of Financial Inclusion in the Relationship between Fintech-Based Financial Proposals and Business Growth among Women Entrepreneurs in Coimbatore

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Abstract

Financial technology is increasingly a significant determinant of corporate performance, especially in emerging nations where access to traditional financial services is still challenging. However, the degree of financial inclusion attained largely determines how well fintech-based financial products can assist female entrepreneurs in growing their companies. This study examines the relationship between FinTech-based financial offerings and the growth of women entrepreneurs' enterprises in Coimbatore in relation to financial inclusion. The study offers a conceptual framework that combines metrics of company growth, such as profitability, market expansion, and innovation capability, with FinTech adoption characteristics, such as digital payments, peer-to-peer lending, mobile banking, and crowdfunding. Structural equation modeling is used to evaluate both direct and mediated effects in empirical data gathered from women-led micro, small, and medium-sized companies (MSME's). The results show that FinTech-based financial propositions greatly boost business growth, but that this effect is heavily influenced by financial inclusion factors including financial service quality, usage, and accessibility. The report emphasizes how promoting inclusive FinTech ecosystems, regulatory backing, and digital literacy may significantly empower female entrepreneurs and advance sustainable regional development.

Keywords: Financial technology, Inclusion of finances, women entrepreneurs, business growth, FinTech adoption, Coimbatore, structural equation modeling.

1. Introduction

The worldwide financial environment has changed due to the quick development of financial technology, or Fintech, which is transforming how individuals and businesses get, handle, and use financial resources. Fintech has become a crucial player in facilitating financial inclusion in emerging nations like India, filling in the gaps that have historically kept many groups of people—especially female entrepreneurs—out of official banking sectors. By increasing credit availability, streamlining operations, and promoting equitable economic growth, Fintech—which combines digital platforms, mobile payments, and cutting-edge financial services—has the potential to completely transform entrepreneurship.

This chapter presents the theoretical underpinnings, the importance of Fintech adoption among female entrepreneurs, and the vital role that financial inclusion and technology-based financial ideas have in enabling women to participate in the entrepreneurial ecosystem.

1.1 Background of the Study

The convergence of technology and finance has been the primary driver of India's financial sector's spectacular progress over the past ten years. A transition from traditional banking to more easily accessible, technologically advanced financial services has been made possible by the widespread use of cellphones, internet connectivity, and digital payment methods. Government programs like This shift has been accelerated by Digital India, Jan Dhan Yojana, and the Unified Payments Interface (UPI), which have created an atmosphere that promotes digital trade and entrepreneurship.

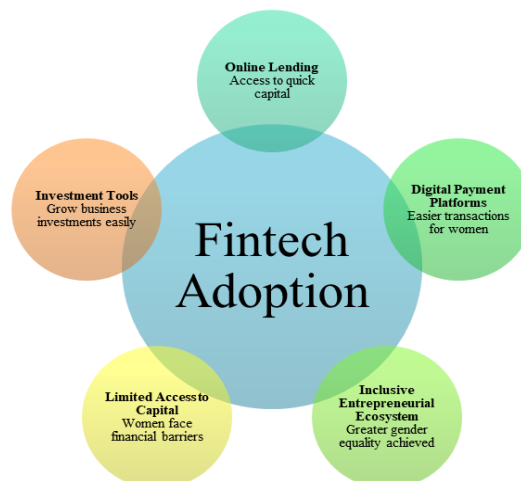
Women in India nevertheless encounter numerous institutional and socioeconomic obstacles that restrict their access to formal financial institutions, notwithstanding these developments. Strict collateral requirements are frequently imposed by traditional financial institutions, making it challenging for women-led businesses to get loans. Further limiting women's access to formal credit and capital markets are cultural norms, gender bias, and a lack of financial understanding. With its creative, affordable, and easily available financial solutions, Fintech stands out in this context as a game-changer, enabling women to go over conventional obstacles and actively engage in the economy.

1.2 Fintech Adoption and Women Entrepreneurship in India

Fintech adoption among Indian women entrepreneurs represents a paradigm shift in the way that business is financed, scaled, and operated. Digital wallets, online credit scoring Mobile banking and peer-to-peer lending are two instances of fintech businesses that have given women greater financial control and access to working capital. These technologies provide financial services that are quicker, more transparent, and focused on the needs of the customer by removing many of the procedural bottlenecks connected to traditional banking.

Furthermore, in order to evaluate creditworthiness, Fintech platforms frequently use alternative data, including social network activity, e-commerce sales, and digital transaction history. For female entrepreneurs without conventional financial documents or collateral, this strategy is especially advantageous. By providing these resources, Fintech companies enable women-owned enterprises to obtain critical funding, so promoting their expansion and long-term viability.

Figure 1. Fintech Empowers Women Entrepreneurs



Fintech use has also accelerated due to the COVID-19 epidemic. Digital financial solutions have become the most popular option for small and medium-sized businesses (MSME's). cornerstone of resilience, as physical access to banks and offices became more restricted. Mobile-based financial services have become more and more popular among women entrepreneurs, especially those who own microbusinesses or the unorganized sector, for business transactions, savings, and payments. Long-term economic empowerment was made possible by this digital shift, which also improved their financial independence and allowed them to join the formal market.

1.3 Importance of Financial Inclusion for Women Entrepreneurs

Gender equality and economic development are greatly aided by financial inclusion. Women are more When individuals have access to financial resources, they are more likely to invest in businesses, education, and community development, which benefits the domestic and national economies. However, reports from both local and international sources show that India's financial inclusion still has a significant gender gap. Many women remain underbanked or unbanked, particularly in rural areas, as a result of socioeconomic inequalities and general lack of financial literacy.

Fintech-driven financial inclusion tackles these problems by providing Digital solutions that are accessible, inexpensive, and simple to use while avoiding the challenges of traditional banking. Microlending apps, digital payment systems, and digital credit platforms enable women to save, borrow, and conduct business effectively without depending on traditional banking infrastructure. Additionally, these systems' transparency and ease of use promote trust and long-term use.

For female business owners, financial inclusion includes knowledge, independence, and empowerment in addition to loan availability. In order to make a more significant contribution to India's economic development, women can manage business cash flows, establish credit records, and investigate new markets with the use of inclusive Fintech solutions. Thus, technology-driven financial democratization becomes a crucial tool for inclusive growth and women empowerment.

1.4 Role of Fintech-Based Financial Proposals in Access to Finance

Financial offers based on fintech are crucial in changing the way female businesses obtain funding. Fintech companies create customized financial products that use big data, artificial intelligence, and advanced analytics to meet the particular needs and risk profiles of women-led businesses. Microloans, invoice financing, buy-now-pay-later plans, and digital insurance are common examples of these digital solutions, which together improve financial sustainability and accessibility.

Fintech-based solutions place more emphasis on transaction data, payback patterns, and alternative performance metrics than traditional financial proposals, which mostly rely on collateral and credit history. Because of this inclusivity, women entrepreneurs, particularly those who are starting their businesses for the first time, have more opportunities to raise capital and grow their enterprises. Furthermore, Fintech platforms increase transparency by lowering the likelihood of discrimination and boosting confidence in financial institutions through digital documentation and real-time tracking.

Additionally, in order to create gender-sensitive financial solutions, Fintech companies are working more and more with international agencies, NGOs, and government entities. Women are better ready to make wise financial decisions thanks of programs like mentorship networks, digital training courses, and loan products tailored to their needs. Such programs eventually boost India's entire entrepreneurial environment in addition to reducing the disparity in financial access between genders.

2. Review of Literature

2.1 Overview of Fintech and Digital Financial Services

2.1.1.E. Feyen, J. Frost, L. Gambacorta, H. Natarajan, and M. Saal (2021) investigated Financial services' digital change and the consequences of fintech on market structure and governmental policy. The authors examine how digital advancements, like improved data usage, computer capacity, and connection, are changing financial intermediation by reducing knowledge asymmetries and transaction costs. Financial services are now being unbundled, and new business models such as specialized fintech companies and giant digital corporations that sell financial goods have emerged as a result. Nonetheless, traditional economic factors like network effects, economies of scale, and scope still promote re-bundling and provide big, multi-product suppliers an edge. A possible "barbell" market structure, with a few major firms and numerous specialized suppliers, is highlighted in the report. This presents additional difficulties for competition, financial stability, consumer protection, and data privacy. The authors suggest that To take advantage of the benefits of online banking while reducing related risks, policymakers must modify regulatory perimeters, improve supervisory procedures, and promote cooperation among financial, competition, and data protection authorities.

2.1.2. Karlan et al. (2016) reviewed the literature in detail and examined how digital financial services (DFS) affect low-income households' well-being. Although alternate loan types showed greater promise, they discovered that typical, one-size-fits-all microcredit generally failed to boost average household income or consumption. On the other hand, savings products—especially those with characteristics like reminders or commitment mechanisms—showed notable and repeatable benefits for household welfare, including increased investment, smoothing of consumption, and the empowerment of women. The study also emphasized the significant advantages of digital payments, as demonstrated by Kenya's M-PESA, which enhanced risk-sharing and shock-resistant consumption. The paper continues by outlining fundamental market failures—such as knowledge asymmetries, behavioral biases, and high transaction costs—that limit financial inclusion and underlines that successful financial innovations must address these underlying causes. The authors suggest crucial topics for further study, including how to assist the implementation of advanced savings products, build viable insurance models for the poor, scale secure digital credit, and better connect Considering the needs of women and the most vulnerable groups in financial services.

2.2 Fintech Adoption among Women Entrepreneurs

2.2.1. Florentina Kurniasari and Elissa Dwi Lestari (2024) evaluated, Using the theoretical underpinnings of the Unified Theory of Acceptance and Use of Technology (UTAUT), researchers looked into how financial literacy and FinTech adoption had an impact on Indonesian women-owned small and medium-sized enterprises' (MSME's) operations. 270 women entrepreneurs in traditional marketplaces completed questionnaires as part of the study's quantitative methodology which MSME's -PLS, or structural equation modeling, was utilized to examine. FinTech adoption was found to be significantly and favorably impacted by the three main UTAUT constructs: social influence, performance expectancy, and effort expectancy. Additionally, it was discovered that financial literacy improved the performance of MSME's businesses as well as the adoption of FinTech. One important study finding is that better business performance and financial literacy are positively correlated, with FinTech adoption acting as a mediating variable. The study comes to the conclusion that critical tactics for improving the performance and sustainability of women-led MSME's include raising financial literacy and advocating for user-

friendly, socially approved FinTech platforms. These observations are helpful for business owners, legislators, and financial service providers that want to promote equitable economic growth by assisting female entrepreneurs with financial and digital empowerment.

2.2.2. Gharbi, I., & Kammoun, A. (2023). Creating an Index of Multidimensional Financial Inclusion: An Income-Group Comparison. 16(6), 296, *Journal of Risk and Financial Management*. This study builds a new multidimensional index for 91 countries across various income levels from 2004 to 2020 as an effort to tackle the difficulty of assessing financial inclusion. The authors employ the following methodology to integrate 13 variables across three basic dimensions: financial services availability, access, and utilization principle component analysis (PCA) method to get over the drawbacks of arbitrary weight selection in existing indexes. The resulting index has excellent predictive potential for household-level financial habits, including saving and account keeping, and is reliable and comparable across nations. One important conclusion is that a country's financial inclusion score and income level clearly correlate positively, with high-income countries like Japan and San Marino ranking best and low-income countries like Madagascar ranking lowest. The study comes to the conclusion that this thorough index offers a useful tool for researchers and policymakers to monitor developments and create focused plans, especially for boosting financial literacy, speeding up digitalization, and improving financial infrastructure in developing countries to close the inclusion gap.

2.3 Financial Inclusion: Concept, Dimensions, and Relevance

2.3.1. Deepak Mishra, Vinay Kandpal, Naveen Agarwal, and Barun Srivastava (2024) completed a comprehensive assessment titled “Financial Inclusion and Its Ripple Effects on Socio-Economic Development.” The study thoroughly reviewed 325 academic publications to look into the complex ways that financial inclusion affects socioeconomic growth, particularly in developing countries like India. The authors stressed that social stability is promoted by financial inclusion, which is defined as having access to appropriate and competitively priced financial products and services, gender equality, entrepreneurship, and poverty alleviation, all of which serve as drivers for sustainable development. The findings demonstrated the importance of women's empowerment, self-help groups (SHGs), and digital infrastructure in fostering equitable growth. In addition to enhancing personal financial well-being, the authors concluded that financial inclusion fosters stability and economic progress in the country.

2.3.2. Moufakkir and Mohammed (2021) examined the connection between expanding financial inclusion and utilizing financial technology, or FinTech. They point out that FinTech's primary value proposition—offering affordable, easily accessible services through digital channels—aligns with the necessary elements of a profitable business plan and directly tackles important obstacles to financial inclusion. Although FinTech by itself cannot address all systemic problems, such as inadequate infrastructure or insufficient financial literacy, the study finds that its strategic implementation, particularly in areas with high mobile penetration but low banking rates, shows great promise for promoting universal financial accessibility. To build a more secure and equitable financial ecosystem, the authors suggest that future initiatives concentrate on encouraging cooperation between FinTech companies, conventional financial institutions, and governments.

2.4 Relationship between Fintech Adoption and Financial Inclusion

2.4.1. Hamza Khatri et al. (2025) investigated the relationship between Fintech and financial inclusion, with a focus on the role that digital financial literacy (DFL) plays as a mediator in developing countries.

The study used the Technology Acceptance Model (TAM) as a theoretical framework to examine how Fintech developments, including peer-to-peer lending, digital wallets, and mobile payments—improve disadvantaged groups' access to financial services. A standardized questionnaire was filled out by 153 respondents, and the data was evaluated using structural equation modeling, or MSME's. The findings demonstrate that by increasing digital financial literacy, Fintech considerably increases financial inclusion both directly and indirectly. One important enabler that has been shown to help people better comprehend and use digital financial systems is digital literacy. The study comes to the conclusion that attaining universal and equitable financial access—especially for marginalized groups—requires fusing Fintech advances with digital literacy programs. To optimize Fintech's potential for equitable financial growth, practical suggestions include creating user-friendly platforms, encouraging cross-sector cooperation, providing supportive regulatory frameworks, and supporting digital literacy campaigns.

2.4.2. Marus Eton et al. (2021) carried out a study looking at the connection between financial inclusion and the expansion of MSME's in Uganda, specifically concentrating on the Lango sub-region. The study sought to determine the contributions made by MSME's, the obstacles they encounter, the manner in which financial inclusion facilitates their growth, as well as the statistical relationship between financial inclusion and MSME's' growth. The study concluded that financial inclusion contributes significantly yet insufficiently to the growth of MSME's based on data collected from 320 MSME's owners using a cross-sectional survey design. fierce competition from both domestic and international companies, a small market, and obstacles in obtaining and utilizing financial services because of their high pricing, complexity, and even rude treatment by financial providers were among the main issues noted. The study states that although financial inclusion is significant, its effects are limited. It suggests that financial service providers lower the cost of capital, increase public awareness of services that are accessible, and promote reasonably priced digital financial solutions. In order to better withstand market challenges, MSME's are also urged to innovate and increase the competitiveness of their products.

2.5 Relationship between Financial Inclusion and Business Growth

2.5.1. Wafa Khémiri, Ahmed Chafai, and Faizah Alsulami (2023) carried the research entitled "Financial Inclusion and Sustainable Growth in North African Firms: A Dynamic-Panel-Threshold Approach." Between 2007 and 2020, the study looked at the connection between long-term business success and financial inclusion in North African countries, including Egypt, Morocco, and Tunisia. The authors demonstrated a nonlinear relationship between financial inclusion and company growth using a Dynamic Panel Threshold Regression (DPTR) model. When financial inclusion is poor, company growth is constrained by limited access to capital, information, and financial instruments. Conversely, more financial inclusion encourages sustainable growth; but, beyond an optimal level may lead to inefficiencies and increased risks, which would restrict the company's success. The findings underline that North African states still exhibit poor levels of financial inclusion, which inhibits firms' potential to attain long-term sustainability. The study comes to the conclusion that in order to promote equitable growth and preserve financial stability, authorities should increase access to high-quality financial services and fortify regulatory frameworks. Businesses should also carefully manage their access to financing in order to prevent excessive debt and guarantee sustainable development.

2.5.2. Zaher Abdel Fattah Al-Slehat (2023) examined how, within the context of Jordan's commercial banking industry, The relationship between financial technology (fintech) and financial inclusion is mediated via digital marketing. A descriptive analytical approach was used to collect data from 375

bank employees who answered a questionnaire. Next, SmartPLS 3's structural equation modeling (MSME's) was used to analyze the data. The findings demonstrated that fintech greatly enhances financial inclusion and digital marketing. Furthermore, the connection between financial inclusion and fintech was found to be partially mediated by digital marketing, indicating that while fintech directly promotes inclusion, its effectiveness is enhanced by targeted digital marketing operations. According to the report, in order to maximize financial inclusion, commercial banks should adopt cutting-edge tactics that make use of technological innovation and digital marketing within a supporting fintech environment. Activating digital marketing tools to draw in and keep clients, training staff in fintech applications, and cultivating an advanced technology ecosystem to optimize outreach and inclusion results are some of the recommendations.

2.6 Mediating Role of Financial Inclusion in Fintech Adoption–Growth Link

2.6.1. I. N. Ananzeh, L. Khalaf, and D. Khalawi (2025) examined, using a comparative study, The contribution of financial inclusion and fintech to the economic growth of middle- and high-income countries. The research employed panel regression analysis with indicators such as internet availability, Bank branches, the quantity of depositors, and automated teller machines (ATMs) to determine how these factors affect the Human Development Index (HDI), a gauge of economic progress. Better human development is associated with higher levels of digital financial access and technological adoption, according to the data, which revealed a favorable correlation between HDI and important features of Fintech and financial inclusion. However, the fact that HDI was found to be negatively impacted by inflation highlights how crucial price stability is for long-term economic growth. According to the study, digital financial technology and financial inclusion greatly contribute to economic development, with middle- and high-income countries contrasting significantly. It was proposed that in order to boost societal well-being and economic growth, middle-income nations should give priority to the advancement of financial technology and put laws in place that encourage financial inclusion.

2.6.2. Olusegun and Nuhu (2024) examined how Nigerian women's financial inclusion is affected by financial technology (FinTech). The study examined Using an unbalanced panel dataset of 1,314 microfinance banks from 2012 to 2020, this study examines the effects of different FinTech payment platforms, including Point of Sale (POS), Web Payments (WEBT), Mobile Payments (MOBP), Automated Teller Machines (ATM), and Nigerian Inter-bank Payments (NIP). Women typically choose to use more secure FinTech platforms, such mobile and interbank payments, rather than those that are vulnerable to fraud and cyberattacks, like point-of-sale (POS) and web-based systems. The study also showed that women's financial inclusion is positively impacted by microfinance banks' size, smaller loan amounts, and reduced financial risks. To improve women's financial inclusion and encourage more of them to use FinTech solutions, the authors suggest tightening cybersecurity laws and starting focused awareness initiatives.

2.7 Empirical Studies on Women Entrepreneurs and Fintech-Based Lending

2.7.1. I. J. Shithii and M. S. Akter (2024) examined how women's Fintech adoption facilitates financial inclusion and the subsequent contribution to sustainable development. Interestingly, effort expectancy was shown to be negligible, possibly as a result of the high educational attainment of the sample. The study discovered a significant correlation between utilizing fintech to achieve financial inclusion and the Sustainable Development Goals (SDGs) 8 (great jobs and economic growth) and 9 (industry, innovation,

and infrastructure). The authors draw the conclusion that specific regulations that increase digital financial literacy and highlight the benefits of fintech can effectively advance women's financial inclusion and support sustainable economic growth.

2.7.2. Lasmini, R. S., Bakar, M. H., Rahim, H., & Rafien, N. S. M. (2025). A conceptual review of how financial technology aids in the growth of female business owners. This study uses a conceptual analysis based on Mansor's Model (2005) to investigate how financial technology plays a crucial role as an environmental element in the development of female entrepreneurs. The authors propose that some FinTech innovations, including blockchain, mobile payments, and crowdfunding, may act as enablers that favorably impact women entrepreneurs' decision-making processes. By employing a library-based methodology, the study methodically examines the body of literature to create three conceptual models that each emphasize how one of these technologies might promote the growth of entrepreneurs. The study comes to the conclusion that in order for women entrepreneurs to succeed, they need to adjust to the technological changes in their surroundings. It also strongly suggests that governments and female entrepreneurs use these new technologies to accomplish more general developmental objectives. The results are anticipated to support the development of strategic approaches and focused training programs, which will ultimately improve the sustainability and performance of women-led MSME's and support the expansion of the national economy.

2.8 Conceptual Framework and Hypothesis Development

2.8.1. Jacklyne Ashubwe et al. (2025) examined the potential for digital loans to assist Kenyan women health entrepreneurs and the disparities between genders in financial inclusion. An analysis of loan data revealed that women-owned enterprises received lower initial traditional loan amounts than those owned by males or partnerships; this difference did not exist for digital loans. Interestingly, more than half of women-led enterprises that used digital loans saw notable growth, indicating a connection link increased digital earnings and the utilization of digital loans. In light of the study's conclusions, digital loans have a great deal of potential to boost financial inclusion for female health entrepreneurs by removing conventional obstacles, but in order to fully realize their potential, better information sharing and trust-building are required.

2.8.2. Jabareen (2009) suggested a novel qualitative approach to developing conceptual frameworks for comprehending phenomena connected to interdisciplinary knowledge bases. According to the author, a "concept" is defined by its constituent parts, and A "conceptual framework" is an arrangement of connected ideas that, when taken as a whole, provide a comprehensive understanding of a reality. The suggested approach, known as "conceptual framework analysis," is an eight-step theorization process that draws from the grounded theory method and use transdisciplinary texts as its empirical data source. By creating a conceptual framework for sustainable development and outlining its seven key ideas, the author demonstrated this approach. This approach's flexibility, adaptability, and focus on comprehending rather than forecasting phenomena are its merits. However, a drawback is that, depending on how they interpret the same phenomenon, various researchers may develop distinct conceptual frameworks for it.

3. Research Methodology

3.1 Research Design

The study uses a quantitative research approach with a descriptive and causal research strategy to examine the connections between financial inclusion, business growth, and the use of Fintech by female

entrepreneurs in Coimbatore. Examining whether financial inclusion acts as a mediator in the relationship between Fintech-based financial products and business growth.

In order to gather data from a specific group at one time, the researcher employed a cross-sectional survey method. A suitable method for assessing proposed relationships is structural equation modeling, or MSME's.

The conceptual framework's theoretical underpinning is the notion that the use of fintech enhances financial inclusion, which in turn motivates female entrepreneurs to grow their companies. Financial inclusion is a mediating factor that channels the influence of Fintech-based financial solutions on entrepreneurial outcomes.

Independent Variable (IV): Fintech-Based Financial Proposals

MV (Mediating Variable): Financial Inclusion

Dependent Variable (DV): Business Growth

The following theories were developed in light of the theoretical framework and literature review:

H₁: Fintech-based financial proposals have a significant positive effect on financial inclusion among women entrepreneurs.

H₂: Financial inclusion has a significant positive effect on business growth among women entrepreneurs.

H₃: Fintech-based financial proposals have a significant positive effect on business growth.

H₄: Financial inclusion mediates the relationship between Fintech-based financial proposals and business growth.

3.4 Variables and Measurement Scales

3.4.1 Fintech-Based Financial Proposals (Independent Variable)

This variable indicates the proportion of female business owners who make use of digital financial services like crowdfunding, online payment gateways, e-wallets, and digital lending platforms, and mobile banking.

A five-point Likert scale, which was modified from earlier Fintech adoption research, was used for measurement (One indicates significant disagreement, and five indicates great approval).

Crucial dimensions include of:

- Accessibility of Fintech platforms
- Digital loan application and approval convenience
- Transaction security and trust
- Perceived usefulness of Fintech products
- Cost and time efficiency

3.4.2 Financial Inclusion (Mediating Variable)

The extent to which formal financial services were broadly accessible, often used, and of high quality served as a gauge of financial inclusion. The scale was based on the World Bank's Global Findex and RBI financial inclusion index components.

Included dimensions:

- Access to savings and credit facilities
- Awareness of digital finance schemes
- Usage frequency of digital financial tools
- Financial literacy and capability

3.4.3 Business Growth (Dependent Variable)

Business expansion is the enhancement of an entrepreneur's firm performance as a result of improved financial accessibility and efficiency brought about by Fintech services.

Included were measurement indicators:

- Increase in sales turnover and customer base
- Expansion of business scale
- Profitability growth
- Innovation in products or services
- Market competitiveness

Five-point Likert scales were used to validate each concept, guaranteeing comparability and internal consistency.

3.5 Sampling Design and Data Collection

3.5.1 Population and Sampling Technique

The target category included small and medium-sized enterprises (MSME's) in Tamil Nadu's Coimbatore District that were managed and controlled by women entrepreneurs. Women who have embraced at least one Fintech service—such as digital banking, digital lending, or mobile payments—were the study's primary emphasis.

Purposive sampling was used to make sure that only Fintech platform users who were actively using them were included. Retail, textiles, food, services, and manufacturing were among the business sectors that were stratified in order to guarantee diversity in the sample.

3.5.2 Sample Size and Location

According to Cochran's formula and SEM analysis guidelines (Hair et al., 2021), each indicator variable needed at least ten responses. After being checked for completeness, 392 valid responses out of the 420 questionnaires that were issued were kept.

Coimbatore city and the nearby taluks of Pollachi, Sullur, and Mettupalayam were the sites of the survey.

A **structured questionnaire** was developed, divided into four sections:

Section A: Demographic information (age, education, business type, years in operation, Fintech usage duration)

Section B: Items measuring Fintech-based financial proposals

Section C: Items assessing financial inclusion levels

Section D: Items evaluating business growth outcomes

To guarantee clarity and dependability, the questionnaire was pre-tested with 30 participants (pilot research). A few minor adjustments were made to improve the questions' phrasing and flow.

When reliability was tested using Cronbach's Alpha, all constructs were determined to be over the acceptable threshold of 0.70.

Validity was assessed through:

Content Validity: Verified after expert evaluation by two Fintech specialists and three academicians.

Construct Validity: confirmed by AMOS/PLS-SEM Confirmatory Factor Analysis (CFA).

Convergent Validity: Values for Average Variance Extracted (AVE) were more than 0.5.

Discriminant Validity: The Fornell-Larcker criterion was used to establish.

3.8 Data Analysis Techniques

The target category included small and medium-sized enterprises (MSME’s) in Tamil Nadu's Coimbatore District that were managed and controlled by women entrepreneurs.

First, descriptive statistics were used to give a general picture of the demographics of the respondents and to illustrate overall trends in the adoption of fintech-based financial offerings by female entrepreneurs. This stage made it easier to comprehend the fundamental patterns and profiles found in the data that was gathered.

The direction and magnitude of the relationships among the primary research variables were then examined using correlation analysis. Before more in-depth modeling, this bivariate study shed light on the relationships that already existed.

The proposed connections between fintech adoption, financial inclusion, and company growth were then tested using SmartPLS and AMOS and structural equation modeling (SEM). SEM offered a robust framework for assessing financial inclusion's mediation role by enabling the calculation of the overall, indirect, and direct effects.

Finally, to thoroughly evaluate the indirect effects and their confidence intervals, To perform mediation analysis, Hayes' Process Model 4 was utilized and bootstrapping procedures (5,000 resamples). This method provided statistical inference regarding the magnitude and importance of these effects while confirming the mediation pathways.

4. Data Analysis and Results

To assess the ways in which fintech-based financial solutions and business expansion are mediated by financial inclusion, both directly and indirectly. For descriptive and correlational statistics, SPSS (v26) was used, while SmartPLS 4 was used for structural equation modeling (SEM) and mediation testing.

Analysis was done on 392 verified responses. Table 4.1 provides an overview of respondents’ demographic characteristics.

Table 4.1: Demographic Profile of Respondents (n = 392)

Variable	Category	Frequency	Percentage (%)
Age	Below 30 years	78	19.9
	31–40 years	152	38.8
	41–50 years	118	30.1
	Above 50 years	44	11.2
Education	Secondary	60	15.3
	Undergraduate	186	47.4
	Postgraduate	122	31.1
	Others (Diploma/Professional)	24	6.2
Type of Business	Retail/Trading	160	40.8
	Services	112	28.6
	Manufacturing	72	18.4
	Others	48	12.2
Years in Business	<3 years	94	24.0
	3–7 years	176	44.9

	>7 years	122	31.1
Fintech Usage Period	<1 year	76	19.4
	1–3 years	168	42.9
	>3 years	148	37.7

According to the findings, the majority of respondents had undergraduate or graduate degrees and were between the ages of 31 and 45. Approximately 45% of those surveyed had operated their businesses for three to seven years, indicating a modest level of entrepreneurial maturity.

Interestingly, more than 80% reported using Fintech-based platforms for a minimum of one year, indicating a growing trend among Coimbatore's female entrepreneurs.

4.3 Descriptive Statistics of Study Variables

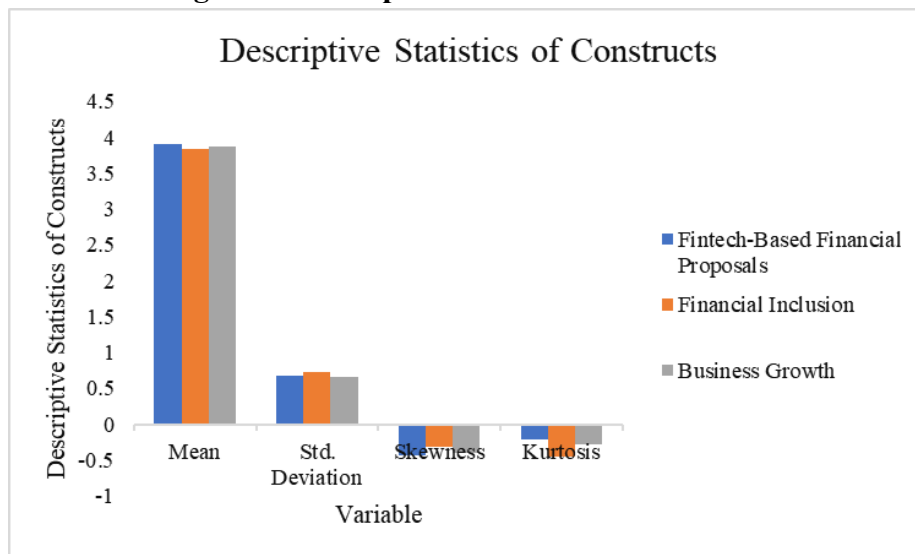
To comprehend the three main constructs' central tendency and variation, descriptive statistics were computed.

Table 4.2: Descriptive Statistics of Constructs

Variable	Mean	Std. Deviation	Skewness	Kurtosis
Fintech-Based Financial Proposals	3.91	0.68	-0.43	-0.21
Financial Inclusion	3.84	0.72	-0.32	-0.45
Business Growth	3.88	0.66	-0.41	-0.28

Strong agreement among respondents regarding Fintech advantages, inclusivity, and growth results was indicated by mean scores above 3.8 for all factors. Skewness and kurtosis values were within ± 1 , suggesting that the data was normal enough for MSME's analysis.

Figure 2. Descriptive Statistics of Constructs



4.4 Assessment of Measurement Model

The discriminant validity of the measurement model, convergent validity, and reliability were evaluated.

4.4.1 Reliability Analysis

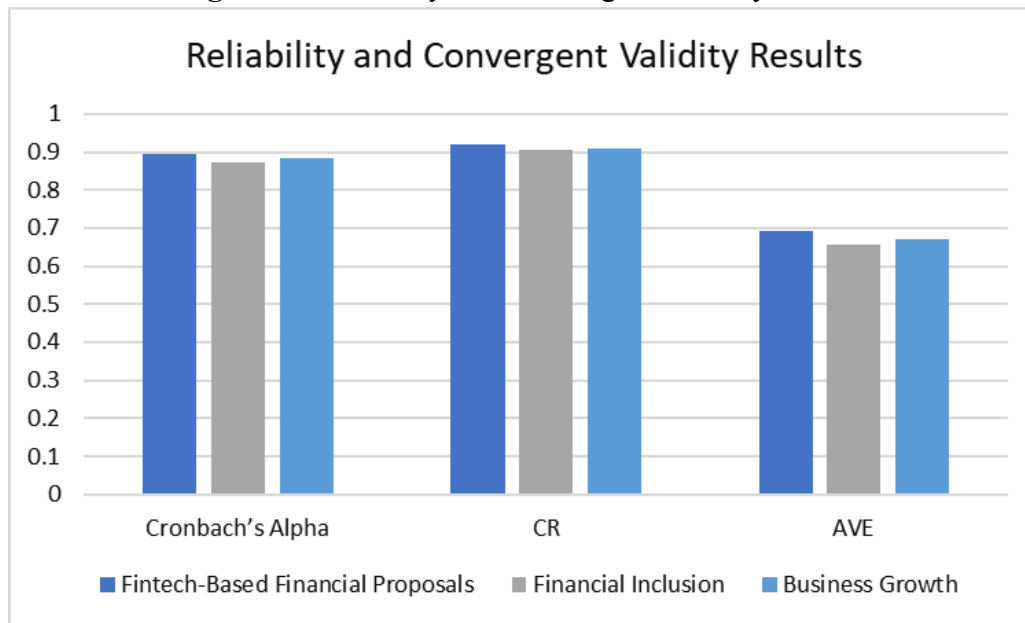
Composite Reliability (CR) and Cronbach's Alpha values over 0.70 indicated internal consistency.

Table 4.3: Reliability and Convergent Validity Results

Construct	Cronbach’s Alpha	CR	AVE
Fintech-Based Financial Proposals	0.896	0.919	0.692
Financial Inclusion	0.873	0.906	0.657
Business Growth	0.885	0.911	0.669

According to According to Fornell and Larcker (1981), any Average Variance Extracted (AVE) Convergent validity was shown by values greater than 0.5.

Figure 3. Reliability and Convergent Validity Results



4.4.2 Discriminant Validity

The Fornell–Larcker criterion confirmed discriminant validity.

Table 4.4: Discriminant Validity (Fornell–Larcker Criterion)

Construct	Fintech	Financial Inclusion	Business Growth
Fintech	0.832		
Financial Inclusion	0.621	0.810	
Business Growth	0.587	0.659	0.818

The associated inter-construct correlations were smaller than the diagonal values, which are the square roots of AVE, indicating distinct constructs.

4.5 Structural Model Assessment

The suggested connections the structural model used PLS- MSME's to test the relationships between the constructs. The model fit indices were adequate:

SRMR = 0.048, NFI = 0.927, R² (Financial Inclusion) = 0.386, R² (Business Growth) = 0.471.

These values indicate a strong model with acceptable predictive power.

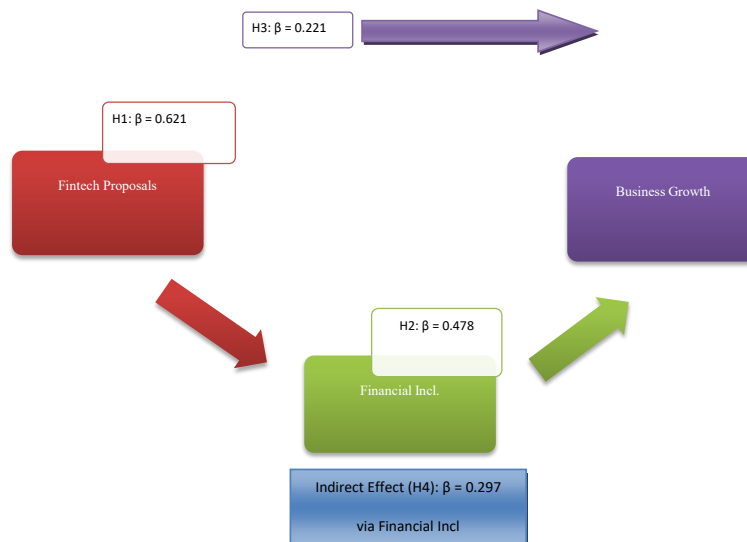
4.6 Hypothesis Testing Results

Table 4.5: Path Coefficients and Hypothesis Testing

Hypothesis	Path	β (Beta)	t-value	p-value	Result
H ₁	Fintech → Financial Inclusion	0.621	11.83	0.000	Supported
H ₂	Financial Inclusion → Business Growth	0.478	9.42	0.000	Supported
H ₃	Fintech → Business Growth	0.221	4.15	0.000	Supported
H ₄	Fintech → Financial Inclusion → Business Growth	0.297	7.68	0.000	Supported

The adoption of Fintech both directly and indirectly boosts corporate growth through financial inclusion, as all paths were statistically significant ($p < 0.001$).

Figure 4. Hypothesis Testing & Mediation Analysis



4.7 Mediation Analysis

To further validate the mediating effect, Five thousand Hayes Process Model 4 samples (bootstrapping) were used.

Table 4.6: Mediation Analysis (Indirect Effects)

Path	Indirect Effect	BootLLCI	BootULCI	Mediation Type
Fintech → Financial Inclusion → Business Growth	0.297	0.216	0.384	Partial Mediation

The mediation effect is statistically significant because 0 is not included in the confidence interval (LLCI–ULCI). The partial mediation suggests that although Fintech directly boosts company expansion, its bigger influence comes from expanding financial inclusion.

The findings show that by increasing access to digital loans, online payment methods, and e-wallets, Fintech-based financial propositions greatly enhance financial inclusion among female entrepreneurs. Women who were frequent Fintech platform users reported having more access to working capital and being able to scale their businesses. Additionally, the association between Fintech and growth was shown

to be mediated by financial inclusion, indicating that inclusive financial ecosystems are necessary to convert Fintech adoption into quantifiable business outcomes rather than relying solely on digital tools.

4.9 Hypothesis Testing

Hypothesis	Statement	Result
H ₁	Fintech-based financial proposals → Financial Inclusion	Supported
H ₂	Financial Inclusion → Business Growth	Supported
H ₃	Fintech-based financial proposals → Business Growth	Supported
H ₄	Financial Inclusion mediates the relationship between Fintech and Business Growth	Supported

All validated hypotheses, demonstrating the conceptual model's resilience.

According to this result, Fintech adoption promotes financial inclusion, which in turn propels company growth among Coimbatore's female entrepreneurs. The ability of financial inclusion in an effort to moderate the connection between economic empowerment and technological innovation highlights its critical function as a transmission channel. The findings' interpretation, theoretical contributions, and policy implications for Fintech providers, regulators, and initiatives that help women entrepreneurs are covered in the next chapter.

5. Discussion and Implications

5.1 Interpretation of Key Findings

The study looked into how financial inclusion acted as a mediator in the interaction between Fintech-based financial propositions and the expansion of women entrepreneurs' businesses in Coimbatore. According to the findings, financial inclusion is a crucial mediating factor and that Fintech adoption affects company growth both directly and indirectly. According to this research, although digital financial technologies make financial services accessible, their true influence manifests when business owners become more involved in inclusive financial systems that foster their expansion and sustainability.

Digital financial platforms have lowered the obstacles that formerly restricted women entrepreneurs' access to financing, as seen by the favorable relationship between Fintech-based financial propositions and financial inclusion. Online payment methods, digital loans, and mobile banking have streamlined financial transactions, increased transparency, and expedited capital availability. These developments provide business owners greater control over their finances, allow them to run their companies more effectively, and lessen their reliance on traditional banking systems, which frequently require time-consuming processes or collateral.

Business growth was also found to be strongly and favorably impacted by financial inclusion. Women entrepreneurs can plan for business expansion, diversify their investments, and enhance operational stability if they have regular financial items' accessibility. Their capacity to borrow, save, buy insurance, and put profits back into profitable ventures is improved by having access to official financial systems. Therefore, financial inclusion serves as a fundamental factor that propels long-term business performance and empowerment rather than only referring to access to financing.

Fintech adoption and corporate growth are correlated, in part, through financial inclusion, according to the mediation analysis. According to this, Fintech has a greater long-lasting effect when it is utilized to increase entrepreneurs' involvement in the traditional financial sector, even while it directly enhances business results through efficiency, cost reduction, and digital integration. As a result, financial inclusion acts as a conduit that transforms the adoption of Fintech into observable results for business development.

5.2 The Role of Financial Inclusion as a Mediator

Financial inclusion's mediation function offers a crucial connection between economic empowerment and technology. Financial tools are made available to women entrepreneurs through fintech adoption, but the true transformation occurs when they actively employ these tools to efficiently manage digital payments, credit, and savings. In addition to providing access to capital, financial inclusion helps women develop the credibility and financial discipline that are essential for growing their businesses.

This link highlights the importance of using and understanding financial systems meaningfully; access alone is insufficient. During economic downturns, entrepreneurs that gain confidence in digital financial instruments are more likely to maintain their operations, reach a wider audience, and reinvest revenues. Therefore, the basis that Fintech adoption uses to transform into quantifiable business growth is strengthened by financial inclusion.

5.3 Fintech-Based Financial Proposals and Business Growth

The study's findings indicate that Fintech-based banking offers greatly accelerate the expansion of businesses. Mobile wallets, crowdfunding platforms, payment gateways, and digital loans give business owners flexibility, quicker access to credit, and lower transaction costs. Coimbatore's female entrepreneurs, especially those running small and medium-sized businesses, claimed better record-keeping, better cash flow management, and more business opportunities via digital platforms.

By incorporating companies into online and mobile ecosystems, these financial technologies also make it easier to reach markets. Entrepreneurs can engage in e-commerce, reach a larger consumer base, and handle cross-border transactions more skillfully by implementing Fintech platforms. In addition to boosting profitability, this shift from conventional cash-based operations to digital ecosystems has strengthened company resilience, particularly in times of economic turmoil.

5.4 Theoretical Implications

From a theoretical perspective, the paper lays out a systematic connection between financial inclusion, Fintech adoption, and company expansion. It shows that Fintech adoption serves as an enabling factor that promotes the relationship between financial inclusion and acts as a developmental pathway leading to business success. The model created in this study shows how financial inclusion and technology adoption are interrelated processes that support women's advancement as entrepreneurs.

The results demonstrate that Fintech's influence extends beyond practicality of use and promotes more general objectives of empowerment, inclusivity, and sustainable business. The fact that mediation is present highlights the fact that financial inclusion is a prerequisite for converting technical benefits into financial rewards rather than a result of Fintech adoption. This theoretical viewpoint contributes to our understanding of how digital financial ecosystems might promote grassroots, inclusive economic development.

5.5 Practical and Policy Implications

The results have important practical implications for lawmakers, business owners, and financial service providers. The results highlight how crucial it is for female entrepreneurs to adopt Fintech technologies as instruments to improve corporate efficiency and financial management. Encouraging financial planning and training programs for digital literacy would allow people to use Fintech platforms with knowledge.

According to the findings, Fintech companies should create services that are economical, easy to use, and available to female entrepreneurs with different degrees of digital expertise. Creating individualized credit

assessment models, flexible payback plans, and vernacular interfaces can increase client retention and adoption rates.

These insights can be used by financial regulators and policymakers to strengthen programs for financial inclusion that put gender equality first. Increasing the number of women's involvement in digital banking requires ensuring the availability of digital infrastructure, advancing awareness campaigns, and assisting with financial literacy programs. Small-scale female entrepreneurs can benefit from increased credit flow through collaborations between government agencies, microfinance organizations, and Fintech platforms, which will enable them to achieve long-term business success.

Policies for digital financial inclusion should also prioritize pricing, data security, and consumer protection in addition to increasing access. Promoting cooperation between Fintech companies and conventional banks can also result in hybrid models that better support women entrepreneurs in local economies like Coimbatore by fusing the advantages of both systems—financial credibility and technology innovation.

6. Conclusion

Financial inclusion is a key mediating component that converts technology access into real economic empowerment, and the use of Fintech greatly boosts the expansion of Coimbatore's female entrepreneurs' businesses. The findings indicate that while Fintech solutions such as digital loans, online payments, and mobile banking improve accessibility and efficiency, their full impact is revealed when female entrepreneurs actively participate in inclusive financial systems that support financial literacy, credit access, and trust in digital finance. Therefore, financial inclusion serves as the link that transforms the adoption of Fintech from a technological breakthrough into a vehicle for development that promotes sustainability and growth. The report highlights that in order to guarantee equal participation, policy and institutional initiatives should prioritize enhancing digital literacy, affordability, and security in addition to expanding access to digital money. In developing areas like Coimbatore, empowering female entrepreneurs through Fintech-based financial inclusion can boost local economies, improve entrepreneurial resilience, and advance gender-inclusive development more broadly.

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