

Bridging the Gender Gap: Digital Financial Literacy and Its Role in Women’s Empowerment

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KEYWORDS <i>Digital Financial Literacy, Women Empowerment, Financial Knowledge, Social Participation</i>	ABSTRACT This research paper investigates how digital financial literacy shapes women's empowerment in relation to economic independence, social involvement, and decision-making authority. The study captures varying socioeconomic origins and degrees of digital financial awareness based on a survey of 250 women urban and rural areas (Delhi and Meerut (villages nearby) respectively). Participants knowledge and use of digital financial instruments including mobile banking, e-wallets, and online transactions was measured on a standardised questionnaire. Using statistical methods, the gathered data was examined to find if financial literacy improves women's capacity for income control, economic activity participation, and wise financial decision-making. The results show a robust and favourable relationship between digital financial literacy and several dimensions of empowerment, meaning that women who have more financial knowledge are more likely to actively participate in social and economic domains and exercise autonomy in financial concerns. The research draws attention to ongoing hurdles that prevent many women from fully using digital financial services including inadequate access to technology, educational restrictions, and cultural standards. These results highlight how urgently specific rules and training initiatives meant to close the gender disparity in digital financial inclusion are needed. Dealing with these problems helps governments, financial institutions, non-governmental organisations, and other players to create a more inclusive financial environment that improves women's responsibilities in family and community level decision-making.
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1. INTRODUCTION

Digital technology revolutionized financial industries to provide broader access for banking, payments, savings and investments than traditional methods. The implementation of secure digital financial services as quick financial management tools will assist in reducing economic disparities between social classes. Digital financial inclusion has become more prevalent yet women from undeveloped and developing regions face major digital gaps when it comes to financial inclusion. The collection and application of digital financial services face more challenges for women than for men. These problems stem from women's limited financial skills as well as their reduced digital capability and restricted mobile device and internet access and traditional societal limitations on women's financial autonomy (Mokta,2014).

The advancement of women depends increasingly on understanding how to access and operate digital platforms for financial services which include obtaining credit and handling transactions and managing their funds. Financially literate women utilizing digital tools become better suited for sound financial decision-making because they save money for their future while stimulating their family and local economies. Women who achieve financial independence gain both improved decision-making power within their families and enhanced participation in social events as well as better rights for women. Digital financial services remain inaccessible to numerous women since they lack awareness and fear using digital tools (Ahmed,2016).

This investigation examines the effects of both digital tools and financial understanding on women's economic capabilities and social engagement by studying digital financial capabilities in achieving female empowerment. The research evaluates what stands as the primary challenge in digital literacy acquisition for women then recommends workable solutions to address these hurdles.



This study aims to provide insightful analysis for legislators, financial institutions, and companies striving for gender-inclusive financial systems by looking at the degree to which digital financial literacy helps women to become empowered. A better knowledge of this problem will enable focused treatments aiming at increasing women's financial literacy, lowering gender inequalities in digital finance, and so encourage women's more social and financial independence.

2. LITERATURE REVIEW

2.1 *Digital Financial Inclusion*

Digital financial literacy is the capacity of a person to properly apply digital tools and platforms for handling financial transactions, making wise economic decisions, and protecting personal financial information.

The AFI network defines Digital Financial Literacy as “acquiring the knowledge, skills, confidence and competencies to safely use digitally delivered financial products and services, to make informed financial decisions and act in one’s best financial interest per individual’s economic and social circumstance.” Digital financial literacy encompasses electronic savings, online banking, mobile payments, effectively navigating digital platforms etc.

Elements Of Digital Financial Literacy

The World bank and CGAP are actively working to develop digital financial inclusion throughout the globe. They have identified the following four major components for Digital financial inclusion namely, Platforms for digital transactions, Devices, Retail Agents and Financial Services that will be provided through digital platforms.

- 1. DTP (Digital transactional platform):** A digital program utilized for the transfer and receipt of funds, as well as the storage of their value. The procedure entails the conveyance of data from a client to a financial institution or non-financial institution authorized to digitally retain the value, utilizing a device.
- 2. Retail agents:** The data is transferred electronically from consumers to banks or non-bank entities via a digital device, which is managed by retail agents. This facilitates the digital transfer of funds. Alternate functions may be carried out by these retail agents in accordance with the guidelines and policies of the respective country.
- 3. Device:** A device can be defined as an implement, such as an operating system terminal or a mobile phone, that transfers the information from a consumer to a bank or non-bank, or vice versa. (Arner et al., 2018)

2.2 *Women Empowerment And Financial Inclusion*

As per UN Commission on the Status of Women (2002) women empowerment is a process by which women gain power and control over their own lives and acquire the ability to make strategic choices. Women’s empowerment covers five facets: a sense of self-worth; the right to make independent choices; access to opportunities and resources; the freedom to control their lives, both domestically and externally; and a will to influence social change for a more equitable social and economic order. Here we have discussed economic empowerment, social empowerment and decision making power.

1. Economic Empowerment

United Nations development programme defined women economic empowerment as “Women’s economic empowerment refers to women's ability to participate in markets, control productive resources and access decent work — as well as their autonomy over their time, bodies and lives. It also includes an increased voice for women, and meaningful involvement in economic decisions at all levels — from households to international institutions.”

Access to finance benefits women by enhancing their decision-making capabilities, increasing self-confidence, and elevating their status within the community (Cheston & Kuhn, 2002).

Irrespective of the significance of financial access, particularly for women, an evident gender disparity in financial inclusion persists. The Reserve Bank of India (RBI, 2015) research underscores the reality of women's financial exclusion. The report notes that states with a greater rural population and a higher proportion of females reflect reasonably lower levels of financial inclusion.

2. Social Empowerment

Beyond only financial gains, digital financial literacy helps women become more socially empowered by raising their involvement in financial decisions and so enhancing their position in home and society affairs.

Digital financial tools provide women safe ways to keep privacy while under control of their financial needs. For many women who come from conventional backgrounds, the practice of male family members making financial decisions constrained economic control. Women gain financial independence by keeping privacy of their earnings using mobile banking coupled with digital payment systems so they may freely make decisions regarding money (Richardson, 2018).

3. Decision Making Power

Financial independence enables women to have enough means to sustain themselves free from depending on others. Female financial decision-making is the ability of women to make choices on investments, finances, and other economic activities



free from outside influence. (Mitra & De, 2024). Women acquire improved domestic financial decision-making capabilities as a result of acquiring digital financial literacy skills.

2.3 BARRIERS TO DIGITAL FINANCIAL INCLUSION FOR WOMEN

1. Limited Access to Technology

Women's access to digital financial services is the gender disparity in mobile ownership. In low- and middle-income countries, women are 16 percent less likely than males to have access to mobile phones and participate in mobile internet, mobile money, and other mobile services. (GSMA, 2022)

2. Educational and Literacy Gaps

Around the globe, women exhibit lower literacy rates compared to men and have reduced access to mobile phones, both of which contribute to their diminished financial education and digital literacy. Their constrained financial and digital knowledge may result in a perceived lack of necessity and reservations towards digital financial services (Bailur & Smertnik, 2021).

3. Cultural and Social Norms

In certain nations, adverse perceptions of women's access to and use of mobile phones may compel families to impose restrictions on this access. In certain situations, women's economic autonomy through the possession of a financial account may be disapproved of and monitored. Inadequate internet and electricity access may compel individuals in isolated rural regions to leave their residences to obtain a signal or charge their mobile devices; this may be unfeasible for women due to societal norms concerning their mobility, safety apprehensions, and the domestic responsibilities they are frequently obligated to fulfil. (World bank, 2022)

Existing literature shows that digital financial literacy empowers women by promoting economic independence, social involvement, and decision-making authority (Mundhe, 2021). Digital financial technologies offer women many options, but technological access, education, and cultural standards continue to hold them back. Targeted financial education, better digital technologies, and legislation that boost women's financial inclusion are needed to address these issues (Mpofu, 2023).

3. OBJECTIVES

3.1 To Examine women's digital financial literacy levels.

3.2 To Analyse how digital financial literacy empowers women in economic, social, and decision-making contexts.

3.3 To Identify and offer solutions for digital financial literacy hurdles for women.

4. HYPOTHESIS

Hypothesis 1 (H1):

- Alternative Hypothesis (H1:1): Higher levels of digital financial literacy are positively correlated with women's economic empowerment.
- Null Hypothesis (H1:0): There is no significant relationship between digital financial literacy and women's economic empowerment.

Hypothesis 2 (H2):

- Alternative Hypothesis (H2:1): Digital financial literacy significantly enhances women's decision-making power.
- Null Hypothesis (H2:0): Digital financial literacy has no significant effect on women's decision-making power.

Hypothesis 3 (H3):

- Alternative Hypothesis (H3:1): Socioeconomic factors, such as income and education, influence the relationship between digital financial literacy and women's empowerment.
- Null Hypothesis (H3:0): Socioeconomic factors do not have a significant moderating effect on the relationship between digital financial literacy and women's empowerment.

5. RESEARCH DESIGN

This study adopts a cross-sectional quantitative research design to examine the relationship between digital financial literacy and women's empowerment. A cross-sectional approach was chosen as it allows for the collection of data at a single point in time, providing a clear snapshot of current digital financial literacy levels among women and how they influence economic independence, social participation, and decision-making power.

A quantitative method was selected because it enables the study to gather measurable data from a large group of participants, ensuring that the findings are statistically reliable and can be analysed objectively. The study relies on structured surveys to



collect information, as this method allows for consistency in responses and facilitates easy comparison of data across different groups.

5.1 Population and Sampling

5.1.1 Target Population

The study focuses on women aged 18 to 60 years from both urban and rural areas. This age range was chosen because it includes women who are likely to be responsible for financial decisions in their households, whether independently or jointly.

5.1.2 Sampling Method

A stratified random sampling technique was used to ensure diversity in the sample. This method divides the target population into different groups, or "strata," based on key factors such as location (urban/rural), education level, income level, and employment status. Within each stratum, participants were selected randomly to ensure fair representation.

4.3.1 Sample Size

A total of 250 women participated in the study. The sample was divided equally between urban and rural areas to allow for a balanced comparison of how digital financial literacy differs across geographical settings.

Table 1: Sample Distribution by Location

Location	Number of Participants
Urban	125
Rural	125
Total	250

5.2 Data Collection Methods

4.3.2 5.2.1 Primary Data Collection

The study relied on structured questionnaires as the primary tool for data collection. The questionnaire was designed to gather information on the following key areas:

1. Digital Financial Literacy:

- Awareness and use of digital financial tools (e-wallets, mobile banking, online transactions).
- Ability to understand financial terms and interpret digital financial information.
- Confidence in performing financial transactions online (Misra et al.,2021).

2. Economic Empowerment Indicators:

- Control over income and savings.
- Access to credit and investment opportunities.
- Financial decision-making ability within the household (Hasan et al.,2023).

3. Social and Decision-Making Empowerment:

- Participation in financial discussions within the family.
- Ability to make independent financial choices (Hess et al.,2021).
- Influence over household financial planning.

4.3.3 5.2.2 Questionnaire Design

The questionnaire was divided into four sections:

- Demographic Information: Age, education level, income, employment status, and location.
- Digital Financial Literacy Assessment: Multiple-choice and scale-based questions to measure financial knowledge and digital tool usage.
- Economic and Social Empowerment: Questions measuring financial independence, social participation, and decision-making power.
- Barriers and Challenges: Open-ended and structured questions to identify difficulties women face in accessing and using digital financial tools.



The questionnaire was pre-tested on a small group of 30 women to check for clarity and ease of understanding. Based on feedback, minor adjustments were made to simplify complex financial terms.

6. RESULTS AND ANALYSIS

6.1 Descriptive Statistics

4.3.4 6.1.1 Digital Financial Literacy Levels

The study assessed participants' digital financial literacy by measuring their ability to use mobile banking, online transactions, and digital payment systems effectively. The findings indicate:

- 65% of respondents had a moderate level of digital financial literacy, meaning they could perform basic digital financial transactions but lacked advanced financial knowledge.
- 20% of women were highly literate, displaying proficiency in digital financial services, secure online transactions, and educated financial judgements.

15% lacked digital financial literacy, rendering them unable to use digital financial instruments.

Distribution of Digital Financial Literacy Levels Among Respondents

Digital Financial Literacy Level	Percentage of Respondents
High Literacy	20%
Moderate Literacy	65%
Low/No Literacy	15%

4.3.5 6.1.2 Economic Empowerment and Financial Control

The research study examined at how well digital financial literacy helps women manage their personal finances. The results show:

1. 45% of highly literate women report independent financial control, including managing savings, investments, and household costs.
2. 20% of women with low digital financial literacy had financial autonomy, demonstrating a considerable literacy gap in financial decision-making ability.

Financial Independence Based on Digital Financial Literacy

Digital Financial Literacy Level	Percentage with Independent Financial Control
High Literacy	45%
Low Literacy	20%

6.2 Regression Analysis

Regression analysis was used to evaluate the impact of digital financial literacy on women's empowerment. The findings provide statistical support for the study's hypothesis.

4.3.6 6.2.1 Relationship Between Digital Financial Literacy and Economic Empowerment

A significant positive correlation exists between digital financial literacy and economic empowerment ($p < 0.01$, $\beta = 0.45$).

- This signifies that an enhancement in women's digital financial literacy correlates with an improvement in their capacity to earn, save, and independently handle finances.

Regression Analysis of Digital Financial Literacy and Economic Empowerment

Variable	Beta Coefficient (β)	Significance (p-value)
Digital Financial Literacy \rightarrow Economic Empowerment	0.45	$p < 0.01$

4.3.7 6.2.2 Impact of Digital Financial Literacy on Decision-Making Power



Digital financial literacy significantly influences women's decision-making power inside households ($p < 0.05$, $\beta = 0.37$). This indicates women possessing enhanced financial literacy exhibited increased participation in home budgeting, investment choices, and significant financial planning.

Digital Financial Literacy and Household Decision-Making

Variable	Beta Coefficient (β)	Significance (p-value)
Digital Financial Literacy → Decision-Making Power	0.37	$p < 0.05$

4.3.8 6.2.3 Moderating Effect of Socioeconomic Factors

- The study examined the impact of socioeconomic characteristics, including income and education, on the correlation between digital financial literacy and women's empowerment.
- Research indicates that the influence of digital financial literacy is more pronounced among women with elevated income and educational attainment, suggesting that these variables contribute to improved financial confidence and decision-making capabilities.

Moderation Effect of Socioeconomic Factors

Moderator	Effect on Digital Financial Literacy and Empowerment
Higher Income	Stronger influence on empowerment
Higher Education	Increased confidence in financial decision-making

7. SUMMARY FINDINGS

- Women's economic empowerment is positively correlated with digital financial literacy—literate women are more likely to handle their money on their own.
- Women who are more financially literate have more influence over financial decisions made in the home, underscoring the importance of education in achieving financial independence.
- The degree to which digital financial literacy empowers women is influenced by socioeconomic characteristics like income and education, indicating that financial education initiatives should also take the overall state of the economy into account.
- These results highlight how crucial it is to raise women's digital financial literacy in order to improve their overall financial well-being, economic independence, and decision-making power.

8. IMPLICATIONS AND RECOMMENDATIONS

- Improved access to digital services- Initiatives must be taken for availability of various digital services conveniently. Apps for less educated women should be encouraged.
- Integrated literacy programmes- Governments and financial institutions needed to provide community-oriented financial education programs adjusted to the diverse literacy and income levels of women.
- Endorse gender inclusive policies- Policymakers should prioritise closing the gender gap in financial inclusion by encouraging financial institutions to offer women-friendly banking services.
- Promote financial independence- Families and communities must endorse women's proactive involvement in financial decision-making, thereby eradicating cultural barriers which constrain their financial participation.

9. CONCLUSION

The results of this study offer important new perspectives on how digital financial literacy could support women's empowerment in spheres including social, financial, and decision-making ones. Higher digital financial literacy is confirmed statistically by the correlation with more financial independence, more decision-making power, and general economic empowerment. The study also emphasises, though, the influence of socioeconomic elements in forming this link as well as the ongoing obstacles preventing women's effective use and use of digital financial instruments. Further this research has limitations such as its restriction to a small geographical area. In other rural locations, the data insights may vary, aiding in the identification of additional problem areas.



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