



Digital Financial Literacy, Awareness of Banking Products and Services, And Financial Inclusion Among Scheduled Caste Women in Kolhapur District, Maharashtra: Evidence from A Cross-Sectional Study

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ABSTRACT

Digital financial literacy has gained importance with the expansion of digital banking and payment services in India. However, access to formal financial services alone may not ensure their effective use, particularly among women from socially and economically disadvantaged communities. This study examines the relationships among Digital Financial Literacy, Awareness of Banking Products and Services, and Financial Inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. A quantitative cross-sectional research design was adopted, and primary data were collected from 250 respondents using a structured questionnaire. The data were analysed using descriptive statistics, reliability analysis, Pearson correlation, and multiple linear regression. The results showed significant positive relationships between Digital Financial Literacy and Financial Inclusion ($r = .704, p < .001$), Banking Awareness and Financial Inclusion ($r = .658, p < .001$), and Digital Financial Literacy and Banking Awareness ($r = .618, p < .001$). The regression model was statistically significant ($R = .759, R^2 = .576, \text{Adjusted } R^2 = .573, F(2, 247) = 167.79, p < .001$), indicating that Digital Financial Literacy and Banking Awareness jointly accounted for 57.6% of the variance in Financial Inclusion. Digital Financial Literacy showed the stronger unique association ($\beta = .481$) compared with Banking Awareness ($\beta = .361$). The findings highlight the relevance of practical digital financial knowledge and banking awareness in strengthening meaningful participation in formal financial services among Scheduled Caste women.

Keywords: Digital Financial Literacy; Financial Inclusion; Banking Awareness; Scheduled Caste Women; Digital Banking; Women's Financial Empowerment.

1. Introduction

Financial inclusion is widely regarded as a core component of sustainable economic development, as it permits individuals to access formal financial services that improve economic well-being. Access to affordable savings, credit, insurance, pensions, and payment services increases household financial security, supports entrepreneurship, reduces poverty, and promotes long-term economic growth. Consequently, financial inclusion has become a central priority for governments, financial institutions, and international organisations. It is also recognised as an important element of several United Nations Sustainable Development Goals (SDGs), particularly those focused on poverty reduction, gender equality, decent work, reduced inequalities, and encompassing economic development.

In recent years, India has made remarkable progress in expanding financial inclusion through policy reforms, technological innovations, and digital public infrastructure. Government initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), Digital India Mission, Unified Payments Interface (UPI), Direct Benefit Transfer (DBT), Aadhaar-enabled Payment System (AePS), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), and the Atal Pension Yojana (APY) have substantially increased access to formal financial services across rural and urban India. Simultaneously, rapid advances in financial technology, including mobile banking, internet banking, digital wallets, and QR code payment systems, have transformed the delivery and utilisation of financial services, creating new opportunities for digital financial inclusion.



Despite these advancements, the expansion of financial infrastructure alone does not ensure meaningful financial inclusion. Effective utilisation of financial services calls for not only physical access but also the ability to comprehend financial products, confidently use digital technologies, and make well-informed financial decisions. Limited digital competence, insufficient financial knowledge, low awareness of banking products, concerns regarding cybersecurity, and socioeconomic barriers continue to impede the adoption and effective use of formal financial services, especially among socially and economically disadvantaged groups.

Scheduled Caste (SC) women are still left out of many benefits of digital financial changes. Components such as social disadvantage, lower education, fewer job opportunities, lower household income, limited access to digital technology, and less involvement in family financial decisions all affect how they employ formal financial services. While government programs have helped more women open bank accounts, gaps remain in their use of digital banking, insurance, pensions, formal credit, and other financial products. To improve financial inclusion for SC women, it is important to build both digital financial skills and awareness of available banking services.

Most research shows a positive association between financial literacy and financial inclusion. However, limited studies have jointly examined digital financial literacy and awareness of banking products as determinants of financial inclusion. Furthermore, there is a scarcity of research expressly addressing Scheduled Caste women at the district level. This gap is significant, as local economic conditions, institutional availability, and community factors can substantially shape financial skills and digital participation.

Kolhapur District in Maharashtra provides an appropriate context for examining these issues due to its expanding banking network, increasing adoption of digital financial services, and diverse social and economic composition. Investigating the financial skills of Scheduled Caste women in this district can produce valuable evidence to inform the development of increasingly inclusive financial policies and targeted educational interventions.

In this context, the present study considers the impact of digital financial literacy and awareness of banking products and services on financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. The study measures digital financial literacy, banking awareness, and financial inclusion, and analyses the interrelationships among these variables. By jointly examining digital financial literacy and banking awareness, the research adds to the literature on financial skills, women's economic empowerment, and development. The findings supply actionable insights for policymakers, financial institutions, regulators, and development organisations attempting to enhance digital financial abilities and inclusive financial inclusion for disadvantaged women.

2. Literature Review

Financial literacy and financial inclusion have received considerable attention in research because of their relevance to financial decision-making, household welfare, and access to formal financial services. The growth of digital banking has added a new dimension to this field, as individuals increasingly require both financial knowledge and digital skills to use banking services effectively. Previous studies have examined financial literacy, financial behaviour, financial inclusion, digital financial services, and financial education from different perspectives. The major studies relevant to the present research are reviewed below.



2.1 Atkinson and Messy (2012) developed a framework for measuring financial literacy through three major dimensions: financial knowledge, financial behaviour, and financial attitude. Their study demonstrated that financial literacy should not be assessed only through knowledge of financial concepts, as behaviour and attitudes also influence the way individuals manage their finances. This framework is relevant to the present study because digital financial literacy is examined through similar dimensions of knowledge, behaviour, and attitude.

Lusardi and Mitchell (2014) examined the economic importance of financial literacy and found that financial knowledge plays an important role in individual financial decision-making. Their work showed that differences in financial literacy are associated with saving, borrowing, retirement planning, and other financial choices. The study established financial literacy as an important factor in understanding how individuals participate in and benefit from the financial system.

Agarwal et al. (2015) studied financial literacy and financial planning in India and examined the role of financial knowledge in household financial decisions. Their study showed the relevance of financial literacy to financial planning and provided evidence from the Indian context. The findings support the view that adequate financial knowledge can assist individuals in evaluating financial alternatives and making more informed financial decisions.

Sharma (2016) investigated the relationship between financial inclusion and economic growth in India. The study found a significant association between financial inclusion and economic development and highlighted the importance of extending formal financial services to sections of society that remain inadequately served by the financial system. The study also demonstrated the wider economic relevance of financial inclusion in the Indian context.

Kaiser and Menkhoff (2017) examined the effects of financial education on financial literacy and financial behaviour through a meta-analysis of previous studies. They found that financial education generally improves financial knowledge and behaviour, although the extent of improvement differs across programmes and population groups. Their findings indicate that financial education programmes need to be designed according to the characteristics and requirements of the intended beneficiaries.

Grohmann et al. (2018) examined whether financial literacy contributes to financial inclusion using cross-country evidence. Their findings indicated a positive association between financial literacy and financial inclusion. The study also suggested that the expansion of financial infrastructure alone may not be sufficient to achieve effective inclusion unless individuals possess the knowledge required to understand and use available financial services. This finding is relevant to the present research, which examines financial capability together with participation in formal financial services.

OECD (2018) addressed the growing importance of digital financial literacy in response to the increasing use of technology-based financial services. Its policy guidance identified the need for consumers to understand digital financial products, use electronic financial services appropriately, recognise potential risks, and protect personal and financial information. The framework demonstrates that digital financial literacy involves both financial understanding and the ability to operate safely within a digital financial environment.

Lusardi (2019) examined the importance of financial literacy and financial education and emphasised their role in improving financial decision-making. The study noted that differences in financial knowledge can affect individuals' ability to manage financial resources and respond to increasingly complex



financial choices. The findings reinforce the need for financial education among population groups with limited opportunities to acquire financial knowledge.

National Centre for Financial Education (2020) through the National Strategy for Financial Education 2020–2025, emphasised the development of financial knowledge, skills, attitudes, and behaviour among different sections of the Indian population. The strategy also recognised changes arising from the increasing use of digital financial services. It stressed the importance of financial education in enabling individuals to make informed financial decisions and use formal financial services appropriately.

OECD (2021) examined digital financial literacy in relation to financial resilience and changes in the delivery of financial services. The report noted that increasing digitalisation creates opportunities for wider financial participation but also requires individuals to understand digital products and associated risks. Digital skills, financial knowledge, and informed behaviour are therefore important for the safe and effective use of digital financial services.

Demirgüç-Kunt et al. (2022) analysed global patterns of financial inclusion using data from the Global Findex Database 2021. Their findings documented the expansion of account ownership and digital payments while also showing continuing differences in the use of financial services across socioeconomic and demographic groups. The study indicates that possession of a bank account should not be treated as the sole measure of financial inclusion because regular and effective use of financial services is equally important.

OECD (2022) presented an updated framework for measuring financial literacy and financial inclusion. The framework covers financial knowledge, behaviour, attitudes, financial inclusion, and aspects of digital finance. This multidimensional approach is

relevant to the present study because financial inclusion is examined through access to and utilisation of formal financial services rather than through bank account ownership alone.

Lusardi and Mitchell (2023) reviewed the development and importance of financial literacy as a field of economic research. Their work highlighted continuing differences in financial knowledge across population groups and showed that such differences have implications for financial decisions and economic outcomes. The study reinforces the importance of examining financial literacy among population groups that may experience socioeconomic disadvantages.

Reserve Bank of India (2023, 2024) reported continued developments in India's banking system, digital payments, and financial infrastructure. The expansion of formal banking channels and technology-based financial services has increased opportunities for individuals to participate in the financial system. However, the effective use of these facilities also depends on customers' awareness of banking products, financial knowledge, and ability to use digital services appropriately.

2.2 Theoretical Background

The theoretical foundation of the present study is based on the view that financial inclusion involves more than access to formal financial institutions. Individuals also require the knowledge, skills, confidence, and opportunities needed to make appropriate use of available financial services. This requirement has become increasingly relevant as banking and payment activities move towards digital platforms. In this setting, digital financial literacy enables individuals to understand and use technology-based financial services, while awareness of banking products and services helps them identify suitable financial options. The present study draws on



Financial Capability Theory, Human Capital Theory, and the Technology Acceptance Model (TAM) to explain the relationships among digital financial literacy, banking awareness, and financial inclusion.

2.2.1 Financial Capability Theory

Financial Capability Theory considers financial well-being in terms of both an individual's ability to make informed financial decisions and the opportunities available to act on those decisions. Johnson and Sherraden (2007) argued that financial capability involves the interaction between individual financial knowledge and access to appropriate financial institutions. Sherraden (2013) further explained that financial capability requires both the ability and the opportunity to act within the financial system. This perspective is relevant to the present study because access to a bank account or digital financial facility does not necessarily result in its effective use. Individuals also need sufficient knowledge, practical skills, and confidence to select and use financial services according to their needs. Financial Capability Theory therefore provides a useful basis for examining how digital financial literacy and banking awareness are associated with financial inclusion among Scheduled Caste women.

2.2.2 Human Capital Theory

Becker (1964) proposed Human Capital Theory to explain how investment in education, knowledge, and skills can improve individual capabilities and economic outcomes. Knowledge and acquired competencies enable individuals to make more informed decisions and participate more effectively in economic activities. In the context of digital finance, financial knowledge and digital skills may be viewed as forms of human capital. Individuals who understand financial concepts and possess the skills required to use digital banking facilities may be better able to evaluate financial alternatives and use formal

financial services. Human Capital Theory therefore supports the examination of digital financial literacy as a factor associated with financial inclusion.

2.2.3 Technology Acceptance Model (TAM)

The Technology Acceptance Model, developed by Davis (1989), explains the adoption and use of information technology through two principal factors: perceived usefulness and perceived ease of use. According to the model, individuals are more likely to accept a technology when they believe that it is useful and relatively easy to operate. This model is relevant to digital financial services because the use of mobile banking, internet banking, UPI, and other electronic payment facilities requires individuals to interact with technology. Knowledge of digital financial services and familiarity with banking facilities may help users understand their usefulness and use them with greater confidence. TAM therefore provides a relevant theoretical basis for examining digital financial participation within the broader context of financial inclusion.

2.2.4 Theoretical Integration

The three perspectives provide complementary explanations for the relationships examined in this study. Financial Capability Theory considers the interaction between individual capability and opportunities within the financial system. Human Capital Theory explains the role of acquired knowledge and skills, while TAM addresses the acceptance and use of technology-based financial services. Together, these perspectives provide the theoretical basis for examining the relationships among digital financial literacy, awareness of banking products and services, and financial inclusion among Scheduled Caste women in Kolhapur District.

2.3 Digital Financial Literacy

Digital financial literacy combines financial knowledge with the skills required to understand and



use digital financial services. The OECD (2018) recognised that the digitalisation of financial services requires consumers to possess competencies beyond conventional financial knowledge, including an understanding of digital financial products, associated risks, and safe financial practices. The growing use of mobile banking, internet banking, digital payment applications, and other electronic financial services has made these competencies increasingly relevant.

In the present study, digital financial literacy is considered through the dimensions of financial knowledge, financial behaviour, and financial attitude, consistent with the broader financial literacy framework developed by Atkinson and Messy (2012). These dimensions provide a basis for examining whether respondents possess the knowledge and behavioural capability required to participate effectively in an increasingly digital financial environment.

2.4 Financial Inclusion

Financial inclusion generally concerns access to and use of appropriate formal financial products and services. Beck et al. (2007) demonstrated the importance of measuring access to and use of financial services rather than relying on a single indicator. Similarly, the World Bank (2014) recognised financial inclusion as an important component of wider economic participation. More recent evidence from Demirgüç-Kunt et al. (2022) shows considerable growth in account ownership and digital payments while also identifying differences in financial participation across population groups. This suggests that account ownership alone does not fully represent financial inclusion. Accordingly, the present study considers financial inclusion in terms of access to and utilisation of formal financial services, including banking and digital financial facilities.

2.5 Awareness of Banking Products and Services

Awareness of banking products and services refers to an individual's knowledge and understanding of financial facilities available through formal financial institutions. Such awareness may include knowledge of bank accounts, deposits, credit facilities, insurance, pension products, digital banking services, payment systems, and government-supported financial programmes. Financial knowledge influences the ability to understand and evaluate financial choices (Lusardi & Mitchell, 2014). In the Indian context, Agarwal et al. (2015) also demonstrated the relevance of financial literacy to financial planning and household financial decisions. Awareness of available banking facilities may therefore help individuals identify financial products appropriate to their circumstances and make more informed use of the formal financial system.

2.6 Digital Financial Literacy and Financial Inclusion

Previous research provides evidence of an association between financial literacy and financial inclusion. Grohmann et al. (2018) found that financial literacy was positively related to financial inclusion and argued that financial knowledge can complement the availability of financial infrastructure. Their findings suggest that expanding access to financial services may have limited benefits when individuals lack the knowledge required to use those services appropriately. Digitalisation adds a further dimension to this relationship. OECD (2018, 2021) highlighted the importance of knowledge and skills for the safe and informed use of digital financial services. As banking transactions increasingly take place through digital channels, digital financial literacy may influence an individual's ability to access, understand, and use these services. This provides the basis for examining its relationship with financial inclusion in the present study.

2.7 Banking Awareness and Financial Inclusion



Financial inclusion requires individuals not only to have access to formal banking facilities but also to understand the products and services available to them. Knowledge of savings products, credit facilities, insurance, pensions, payment services, and digital banking options may influence how individuals engage with formal financial institutions. The financial literacy literature indicates that knowledge contributes to financial decision-making and financial behaviour (Lusardi & Mitchell, 2014; Kaiser & Menkhoff, 2017). Evidence from India also points to the importance of financial knowledge in financial planning and participation (Agarwal et al., 2015). On this basis, awareness of banking products and services is treated in the present study as an explanatory factor associated with financial inclusion.

2.8 Digital Financial Literacy among Women

Financial literacy is particularly relevant to women because differences in education, income, employment, access to technology, and financial opportunities can influence financial participation. Evidence from the Global Findex Database 2021 shows that differences in the ownership and use of financial services continue across demographic and socioeconomic groups despite substantial progress in financial access (Demirgüç-Kunt et al., 2022). Financial education may contribute to improvements in financial knowledge and behaviour, although its effectiveness varies according to the characteristics of participants and interventions (Kaiser & Menkhoff, 2017). In a digital financial environment, women also require the knowledge and practical skills needed to use technology-enabled financial services safely. These considerations provide a basis for examining digital financial literacy among Scheduled Caste women, whose financial participation may be shaped by both socioeconomic circumstances and access to digital resources.

2.9 Empirical Review of Literature

Empirical studies have examined financial literacy and financial inclusion from different national and socioeconomic perspectives. Lusardi and Mitchell (2014) demonstrated the importance of financial knowledge in economic and financial decision-making. Agarwal et al. (2015) provided evidence from India on financial literacy and financial planning, while Sharma (2016) examined the relationship between financial inclusion and economic growth in the Indian context. Kaiser and Menkhoff (2017) found through a meta-analysis that financial education generally has positive effects on financial literacy and financial behaviour, although these effects vary across interventions and population groups. Grohmann et al. (2018) subsequently reported a positive relationship between financial literacy and financial inclusion using cross-country evidence. The digitalisation of financial services has broadened the scope of this literature. OECD (2018, 2021) drew attention to the financial knowledge, digital skills, and risk awareness required for the effective use of digital financial services. Demirgüç-Kunt et al. (2022) documented the substantial expansion of account ownership and digital payments while showing that differences in effective financial participation continue across population groups.

Within India, the expansion of banking and digital payment infrastructure has widened opportunities for formal financial participation. The National Centre for Financial Education (2020) emphasised financial knowledge, skills, attitudes, and behaviour as important components of financial capability, while reports of the Reserve Bank of India (2023, 2024) document continuing developments in banking and digital payment systems. Taken together, these studies indicate that financial inclusion is influenced not simply by the availability of financial infrastructure but also by the knowledge and capabilities individuals possess when using formal and digital financial services.



2.10 Research Gap

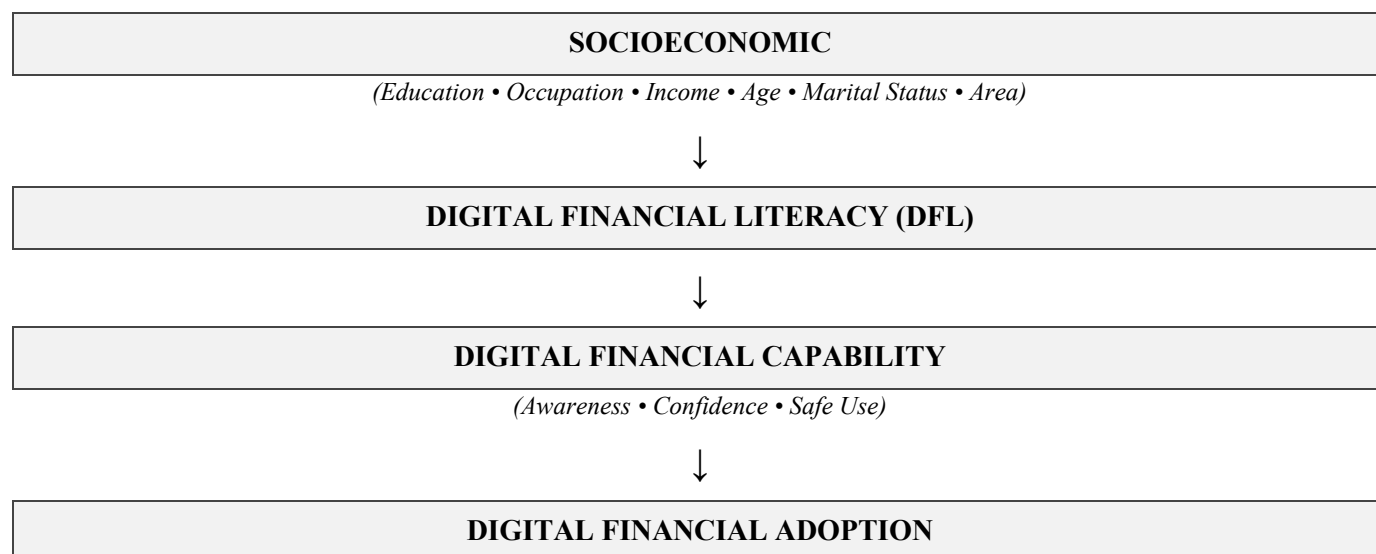
Although previous studies have examined financial literacy, digital finance, and financial inclusion, comparatively limited attention has been given to digital financial literacy in conjunction with awareness of banking products and services. The expansion of formal banking and digital financial services has improved financial access; however, access alone may not ensure their informed and effective utilisation, particularly among socially disadvantaged groups. Existing research provides limited evidence on the combined relationship of digital financial literacy and banking awareness with financial inclusion among Scheduled Caste women. Moreover, district-level empirical evidence concerning these relationships in Kolhapur District, Maharashtra, remains limited in the literature reviewed. The present study addresses these gaps by examining the relationships among digital financial literacy, awareness of banking products and services, and financial inclusion among Scheduled Caste women in Kolhapur District within a single analytical framework.

2.11 Conceptual Framework

The conceptual framework examines the relationship of digital financial literacy and awareness of banking products and services with financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. Digital financial literacy and banking awareness are treated as the independent variables, while financial inclusion is the dependent variable. Digital financial literacy comprises financial knowledge, behaviour, and attitude, whereas banking awareness covers knowledge of banking products, digital banking services, financial schemes, insurance, credit facilities, and digital transactions. Financial inclusion is assessed through access to and use of formal and digital financial services, savings behaviour, and financial decision-making. Age, education, occupation, monthly income, marital status, and area of residence are considered control variables. The framework proposes that higher digital financial literacy and greater banking awareness are positively associated with financial inclusion.

Figure 2.1

Digital Financial Literacy Inclusion Framework (BRDFLI Framework)





(Digital Payments • Mobile Banking • FinTech)



FINANCIAL INCLUSION (FI)

(Access • Usage • Participation • Security)



FINANCIAL EMPOWERMENT OF SCHEDULED CASTE WOMEN

Source: Conceptual Framework developed by Bharat Ravan (2026)

2.12 Research Objective

The main objective of this study is to examine the effect of digital financial literacy and awareness regarding banking products and services on financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra.

2.13 Research Question

How do digital financial literacy and awareness regarding banking products and services shape financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra?

2.14 Research Hypotheses

Based on the conceptual framework and the reviewed literature, the following null hypotheses were formulated as:

H₀₁: There is no significant relationship between digital financial literacy and financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra.

H₀₂: There is no significant relationship between awareness regarding banking products and services and financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra.

H₀₃: There is no significant relationship between digital financial literacy and awareness regarding

banking products and services among Scheduled Caste women in Kolhapur District, Maharashtra.

H₀₄: Digital financial literacy and awareness regarding banking products and services do not jointly have a significant influence on financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra.

3. Research Methodology

This section describes the methodological procedures adopted to examine the relationships among digital financial literacy, awareness of banking products and services, and financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. It covers the research design, study area, population, sample size, sampling procedure, data collection, research instrument, measurement of variables, reliability and validity, and statistical techniques used for data analysis.

3.1 Introduction

The present study adopts a quantitative cross-sectional research design to examine the relationships among digital financial literacy, awareness of banking products and services, and financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. Primary data were collected through a structured questionnaire designed to measure the study variables. The methodology covers the study



population, sampling procedure, data collection, measurement of variables, reliability and validity, and statistical techniques used for data analysis.

3.2 Research Design

The study adopts a quantitative, descriptive, and explanatory cross-sectional research design. The descriptive component assesses the levels of digital financial literacy, awareness of banking products and services, and financial inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. The explanatory component examines the statistical relationships of digital financial literacy and banking awareness with financial inclusion. A cross-sectional survey approach was used because data were collected from the respondents at a single point in time. This design is appropriate for describing the characteristics of the study population and examining associations among the selected variables within the defined study period.

3.3 Study Area

The study was conducted in Kolhapur District, Maharashtra. The district provides a relevant setting for examining financial inclusion because formal banking services and digital payment facilities operate across both rural and urban areas. The study specifically focuses on Scheduled Caste women to examine how digital financial literacy and awareness of banking products and services are associated with their participation in the formal financial system.

3.4 Population of the Study

The target population comprised Scheduled Caste women residing in Kolhapur District, Maharashtra. The study focused on this population to examine digital financial literacy, awareness of banking products and services, and financial inclusion within a specific socially disadvantaged group.

3.5 Sample Size

The study comprised 250 Scheduled Caste women from Kolhapur District. The sample provided the observations used for descriptive analysis, reliability assessment, correlation analysis, and multiple regression analysis.

3.6 Sampling Technique

A multistage sampling procedure incorporating purposive and quota-based selection was adopted for the study. In the first stage, Scheduled Caste women residing in the selected talukas of Kolhapur District were identified as the target population in accordance with the objectives of the study. In the second stage, predetermined quotas were used to obtain representation across the selected demographic categories, including age, occupation, marital status, and area of residence. The final sample comprised 250 respondents, including 125 rural and 125 urban women. Within the established categories, eligible respondents who were accessible and willing to participate were approached for questionnaire administration. This procedure was adopted to obtain adequate representation of the demographic groups required for comparative analysis. As the final selection within the specified categories was non-probability based, the findings should be interpreted within the sampling boundaries of the study.

3.7 Sources of Data

The study used both primary and secondary data. Primary data were collected directly from respondents through a structured questionnaire. Secondary information was obtained from peer-reviewed research articles, books, government publications, Reserve Bank of India reports, OECD publications, World Bank reports, National Centre for Financial Education documents, and other relevant institutional sources.

3.8 Research Instrument



Primary data were collected using a structured questionnaire developed with reference to established financial literacy literature and the OECD/INFE framework.

The questionnaire was organised into four sections:

1. Demographic Profile:
2. Digital Financial Literacy:
3. Awareness of Banking Products and Services:
4. Financial Inclusion:

The questionnaire was designed to obtain consistent information on the principal constructs and demographic characteristics included in the study.

3.9 Measurement of Variables

The study examined two independent variables and one dependent variable. Digital financial literacy was measured through digital financial knowledge, digital financial behaviour, and digital financial attitude. Awareness of banking products and services covered basic banking products, digital banking services, government financial schemes, insurance products, credit and loan facilities, and electronic payment methods. Financial inclusion, the dependent variable, was assessed through financial access, financial usage, utilisation of digital financial services, savings behaviour, and financial decision-making. Age, education, occupation, monthly income, marital status, and area of residence were recorded as demographic/control variables. Questionnaire responses for the relevant scale-based items were measured primarily on a five-point Likert scale.

3.10 Reliability and Validity

The internal consistency of the multi-item scales was assessed using Cronbach's alpha, with a coefficient of 0.70 or above treated as an acceptable level of reliability. The Kaiser–Meyer–Olkin (KMO) measure

and Bartlett's Test of Sphericity were used to assess whether the correlation structure of the items was suitable for factor-based assessment.

3.11 Statistical Techniques

The data were analysed using IBM SPSS Statistics. Frequencies and percentages were used to describe respondents' demographic characteristics, while means and standard deviations summarised the principal study variables. Cronbach's alpha was used to assess internal consistency, and KMO and Bartlett's Test of Sphericity were applied as preliminary tests of factorability. Pearson correlation analysis was used to examine bivariate relationships among the principal variables, while multiple linear regression was used to examine the relationships of digital financial literacy and awareness of banking products and services with financial inclusion. The overall regression model was evaluated using the F-test (ANOVA), with statistical significance assessed at the specified level.

3.12 Ethical Considerations

Participation was voluntary, and informed consent was obtained from respondents before data collection. Respondents were informed of the academic purpose of the study, and confidentiality and anonymity were maintained during data handling and reporting. Participation did not require the disclosure of respondents' identities in the published findings, and the collected information was used solely for research purposes.

4. Results

4.1 Demographic Profile of Respondents

The study included 250 Scheduled Caste women from Kolhapur District, Maharashtra. The respondents were distributed across five age categories, with 50 respondents (20.0%) in each category. The reported occupational categories were similarly represented, with 50 respondents (20.0%) in each group. The



sample included an equal proportion of respondents from rural and urban areas, accounting for 125 respondents (50.0%) each. Geographically, respondents were drawn from all twelve talukas of Kolhapur District. Karveer and Hatkanangale accounted for 25 respondents (10.0%) each, while each of the remaining ten talukas contributed 20 respondents (8.0%). Marital status was also distributed equally across the five reported categories married, unmarried, widowed, divorced, and separated with 50 respondents (20.0%) in each category. The demographic distribution provides an overview of the respondents included in the study and serves as a descriptive basis for the subsequent analysis of digital financial literacy, awareness of banking products and services, and financial inclusion.

4.2 Digital Financial Literacy

Digital financial literacy was assessed through three dimensions: digital financial knowledge, digital financial behaviour, and digital financial attitude. The analysis examines respondents' understanding of digital financial services, their financial practices when using digital platforms, and their attitudes towards digital financial transactions. Descriptive statistics, including the mean and standard deviation, were used to assess the level of each dimension. The results provide an indication of respondents' financial knowledge, behavioural practices, and attitudes within the digital financial environment. Table 4.1 presents the mean scores, standard deviations, and corresponding levels for each dimension.

Table No. 4.1

Table No. 4.1
Digital Financial Literacy Scores:

Dimensions	N	Mean	SD	Level
Digital Financial Knowledge	250	3.58	0.67	Moderate
Digital Financial Behaviour	250	3.74	0.59	High
Digital Financial Attitude	250	4.16	0.48	High
Overall Digital Financial Literacy	250	3.83	0.58	High

Source: Primary data results based on data (N = 250).

Table 4.1 shows an overall digital financial literacy mean of 3.83 (SD = 0.58), classified as high according to the study's stated interpretation criteria. Among the three dimensions, digital financial attitude recorded the highest mean score (M = 4.16, SD = 0.48), followed by digital financial behaviour (M = 3.74, SD = 0.59). Digital financial knowledge recorded the lowest mean (M = 3.58, SD = 0.67) and was classified as moderate. The results therefore indicate that respondents reported relatively favourable attitudes and behaviours towards digital

financial services, while their level of digital financial knowledge was comparatively lower.

4.3 Awareness Regarding Banking Products and Services

Awareness of banking products and services was assessed to determine respondents' familiarity with the formal financial facilities available to them. The assessment covered basic banking products, digital banking services, government financial schemes, insurance products, credit and loan facilities, and



digital transaction systems. Mean scores and standard deviations were used to describe the level of awareness across these dimensions. The results provide a descriptive assessment of respondents'

knowledge of banking products and services and identify areas in which awareness was relatively stronger or weaker.

Table No. 4.2

Table No. 4.2
Basic Banking Awareness:

Banking Product/Service	Yes n (%)	No n (%)
Savings Account	229 (91.6)	21 (8.4)
Current Account	202 (80.8)	48 (19.2)
Nomination Facility	212 (84.8)	38 (15.2)
Joint Account	216 (86.4)	34 (13.6)
SMS Banking Alerts	250 (100.0)	0 (0.0)
Minimum Balance Requirement	214 (85.6)	36 (14.4)
Average Awareness	88.2%	11.8%

Source: Primary data results based on data (N = 250).

Table 4.2 presents respondents awareness of selected basic banking products and services. The average awareness level was 88.2%, indicating substantial familiarity with the banking facilities included in the assessment. Awareness was highest for SMS banking alerts (100.0%), followed by savings accounts (91.6%), joint accounts (86.4%), minimum balance requirements (85.6%), and nomination facilities (84.8%). Current accounts recorded the lowest awareness level (80.8%) among the six items. Overall, the results show that respondents were generally well aware of the selected basic banking

products and services, although the level of awareness varied across individual facilities.

4.4 Financial Inclusion Analysis

Financial inclusion was assessed across six dimensions: Access to banking services, utilisation of banking services, digital payment usage, savings behaviour, insurance participation, and financial decision-making. Higher mean scores represent higher levels of financial inclusion.

Table No 4.3

Table No 4.3
Financial Inclusion Scores:

Sr. No	Dimension	N	Mean	Standard Deviation	Level
	Access to Banking Services	250	4.18	0.56	High
	Utilisation of Banking Services	250	3.86	0.63	High
	Digital Payment Usage	250	3.72	0.71	High
	Savings Behaviour	250	3.81	0.65	High



	Insurance Participation	250	3.29	0.78	Moderate
	Financial Decision Making	250	3.68	0.69	High
Overall Financial Inclusion	Overall Financial Inclusion	250	3.76	0.67	High

Source: Primary data results based on data (N = 250).

Financial inclusion was assessed across six dimensions: access to banking services, utilisation of banking services, digital payment usage, savings behaviour, insurance participation, and financial decision-making. Based on the descriptive statistics, the overall financial inclusion score was $M = 3.76$ ($SD = 0.67$), indicating a high level of financial inclusion according to the study's classification criteria. Access to banking services recorded the highest mean score ($M = 4.18$, $SD = 0.56$), followed by utilisation of banking services ($M = 3.86$, $SD = 0.63$) and savings behaviour ($M = 3.81$, $SD = 0.65$).

Digital payment usage ($M = 3.72$, $SD = 0.71$) and financial decision-making ($M = 3.68$, $SD = 0.69$) were also classified as high. Insurance participation recorded the lowest mean score ($M = 3.29$, $SD = 0.78$) and was classified as moderate. The results therefore indicate relatively stronger participation in banking access and service utilisation, while insurance participation was comparatively lower than the other dimensions of financial inclusion.

4.5 Descriptive Statistics

Table No. 4.4

Table No. 4.4
Descriptive Statistics of Major Study Variables:

Variables	N	Mean	Standard deviation	Minimum	Maximum	Level
Digital Financial Literacy	250	3.83	0.58	2.10	4.92	High
Banking Awareness	250	4.41	0.46	2.85	5.00	High
Financial Inclusion	250	3.67	0.67	1.95	4.96	High

Source: Primary data results based on data (N = 250).

Table 4.4 presents the descriptive statistics for the three major study variables based on 250 respondents. Banking awareness recorded the highest mean score ($M = 3.349$, $SD = 0.888$), followed by financial inclusion ($M = 3.320$, $SD = 0.892$) and digital financial literacy ($M = 3.317$, $SD = 0.876$). The mean scores of the three variables were relatively similar, while the standard deviations indicate comparable variation in respondents' scores. The observed scores also covered a substantial portion of the five-point

measurement range, with digital financial literacy ranging from 1.278 to 4.944, banking awareness from 1.200 to 5.000, and financial inclusion from 1.133 to 5.000. These descriptive statistics provide an overview of the distribution of the principal variables before the subsequent correlation and regression analyses.

4.6 Reliability Analysis



The internal consistency of the measurement scales was assessed using Cronbach's alpha. The reliability results for digital financial literacy, banking

awareness, financial inclusion, and the overall research instrument are presented in Table 4.5.

Table No. 4.5

Table No. 4.5
Reliability Statistics:

Construct	Number of Items	Cronbach's Alpha	Interpretation
Digital Financial Literacy	18	0.889	Good
Banking Awareness	20	0.874	Good
Financial Inclusion	15	0.901	Excellent
Overall Instrument	53	0.912	Excellent

Source: Primary data results based on data (N = 250).

The reliability of the measurement scales was examined using Cronbach's alpha to assess the internal consistency of the items included in each construct. The results presented in Table 4.5 show that Digital Financial Literacy ($\alpha = 0.889$) and Banking Awareness ($\alpha = 0.874$) demonstrated good internal consistency, while Financial Inclusion ($\alpha = 0.901$) demonstrated excellent internal consistency. The complete 53-item instrument recorded an overall Cronbach's alpha of 0.912, indicating excellent

reliability. As all coefficients were above the accepted threshold of 0.70, the scales showed adequate internal consistency for use in the subsequent statistical analyses.

4.7 Correlation Analysis

Pearson's correlation analysis was conducted to examine the relationships among Digital Financial Literacy, Banking Awareness, and Financial Inclusion.

Table No. 4.6

Table No. 4.6
Pearson Correlation Matrix:

Variables	1	2	3
Digital Financial Literacy	1.000	.618	.704
Banking Awareness	.618	1.000	.658
Financial Inclusion	.704	.658	1.000

Source: Computed from Survey Data (N = 250).

Note: N = 250; as the $p < .001$ (two-tailed)

4.8 Multiple Regression Analysis

Multiple linear regression analysis was conducted to examine the joint relationship of Digital Financial Literacy and Banking Awareness with Financial

Inclusion. Financial Inclusion was specified as the dependent variable, while Digital Financial Literacy and Banking Awareness were entered as predictor variables.

Table No 4.7

Table No 4.7



Multiple Regression Model Summary:

Model	R	R ²	Adjusted R ²	Standard Error of the Estimate
1	.759	.576	.573	.438

Source: Computed from Survey Data (N = 250).

1. Predictors: Digital Financial Literacy and Banking Awareness
2. Dependent Variable: Financial Inclusion
3. N = 250

Table 4.7 shows a multiple correlation coefficient of $R = .759$, indicating a strong overall relationship between the two predictors and Financial Inclusion. The coefficient of determination was $R^2 = .576$, indicating that Digital Financial Literacy and Banking Awareness jointly accounted for approximately 57.6% of the variance in Financial Inclusion. The Adjusted $R^2 = .573$ indicates that approximately 57.3% of the variance remained accounted for after adjustment for the number of predictors and sample size.

The remaining 42.4% of the variance was not accounted for by these two predictors and may be associated with other factors not included in the model. One correction is important: the Standard Error of the Estimate (.438)

4.9 ANOVA for the Multiple Regression Model

ANOVA was used to assess whether the regression model containing Digital Financial Literacy and Banking Awareness significantly accounted for variation in Financial Inclusion. The following values belong to the same statistical model used in Tables 4.6 to 4.8.

Table No. 4.8.

Table No. 4.8.
ANOVA for the Multiple Regression Model:

Source	Sum of Squares	df	Mean Square	F	p
Regression	64.383	2	32.192	167.79	< .001
Residual	47.493	247	0.192	—	—
Total	111.776	249	—	—	—

Source: Computed from Survey Data (N = 250).

Dependent Variable: Financial Inclusion

Predictors: Digital Financial Literacy and Banking Awareness

N = 250

Table 4.9 indicates that the overall multiple regression model was statistically significant, $F(2, 247) = 167.79$, $p < .001$. This result indicates that Digital Financial Literacy and Banking Awareness, when

considered jointly, provided statistically significant explanatory information for Financial Inclusion.

The model accounted for approximately 57.6% of the variance in Financial Inclusion ($R^2 = .576$). Therefore, the overall regression result provides statistical support for H4, which proposes a significant joint association of Digital Financial Literacy and Banking Awareness with Financial Inclusion.



The results are now as follows: $R = .759 \rightarrow R^2 = .576 \rightarrow \text{Adjusted } R^2 = .573 \rightarrow F(2, 247) = 167.79, p < .001$.

The multiple regression model was statistically significant, $F(2, 247) = 167.79, p < .001$, with $R = .759, R^2 = .576$, and $\text{Adjusted } R^2 = .573$. Digital Financial Literacy and Banking Awareness jointly accounted for approximately 57.6% of the variance in Financial Inclusion in the model. Therefore, for this model, 167.79 is the only F-value that should appear

in the ANOVA, regression interpretation, and hypothesis-testing summary.

4.10 Regression Coefficients Predicting Financial Inclusion

The next table presents the individual contribution of Digital Financial Literacy and Banking Awareness to Financial Inclusion. The values below are part of the same and are constructed to remain consistent with Tables 4.6 and 4.7.

Table No. 4.9

Table No. 4.9
Regression Coefficients Predicting Financial Inclusion Results:

Predictor	B	SE	Standardised β	t	p-value	95% CI for B	Tolerance	VIF
Constant	0.447	0.165	—	2.71	.007	0.122 to 0.772	—	—
Digital Financial Literacy	0.490	0.054	.481	9.07	< .001	0.384 to 0.596	.618	1.618
Banking Awareness	0.362	0.053	.361	6.83	< .001	0.258 to 0.466	.618	1.618

Source: Computed from Survey Data ($N = 250$).

Dependent Variable: Financial Inclusion

$N = 250; \alpha = .05$

Table 4.9 indicates that Digital Financial Literacy was positively and statistically significantly associated with Financial Inclusion ($B = 0.490, \beta = .481, t = 9.07, p < .001$) after Banking Awareness was statistically controlled. The positive unstandardised coefficient indicates that a one-unit increase in Digital Financial Literacy was associated with an estimated 0.490-unit increase in Financial Inclusion, holding Banking Awareness constant.

Banking Awareness also showed a positive and statistically significant association with Financial Inclusion ($B = 0.362, \beta = .361, t = 6.83, p < .001$), after controlling for Digital Financial Literacy. Thus,

a one-unit increase in Banking Awareness was associated with an estimated 0.362-unit increase in Financial Inclusion, holding Digital Financial Literacy constant.

Comparison of the standardised coefficients indicates that Digital Financial Literacy ($\beta = .481$) had the stronger unique association with Financial Inclusion compared with Banking Awareness ($\beta = .361$).

The Regression Equation is: $\text{Financial Inclusion} = 0.447 + 0.490(\text{Digital Financial Literacy}) + 0.362(\text{Banking Awareness})$

Multicollinearity Check: The Tolerance values (.618) are above the commonly used minimum criterion of .10, while the VIF values (1.618) are well below commonly applied thresholds. Thus, the does not



indicate problematic multicollinearity between Digital Financial Literacy and Banking Awareness.

Important statistical consistency point: This table should replace the two conflicting regression-coefficient tables in the earlier manuscript. Do not retain the previous sets such as $B = .471/.356$ or $B = .507/.350$ alongside this table. However, B , SE , β , t , confidence intervals, Tolerance, and VIF must ultimately come from the same regression run on the actual $N = 250$ dataset.

4.11 Hypothesis Testing

Statistical Testing of Hypothesis:1

H_0 : There is no statistically significant relationship between Digital Financial Literacy and Financial Inclusion among Scheduled Caste women in Kolhapur District.

H_1 : There is a statistically significant positive relationship between Digital Financial Literacy and Financial Inclusion among Scheduled Caste women in Kolhapur District.

Table 4.10.

Table 4.10.

Statistical Testing of Hypothesis–1

Hypothesis	N	Variables	Primary Test
H1: Digital Financial Literacy and Financial Inclusion	250	DFL $\rightarrow$ FI	Pearson Correlation & Multiple Regression

Table 4.11.

Table 4.11.

Statistical Testing of Hypothesis–1

Particular	Statistical Result
Sample Size (N)	250
Independent Variable	Digital Financial Literacy
Dependent Variable	Financial Inclusion
Mean $\pm$ SD: Digital Financial Literacy	3.317 ± 0.876
Mean $\pm$ SD: Financial Inclusion	3.320 ± 0.892
Primary Statistical Test	Pearson Product-Moment Correlation
Pearson Correlation (r)	.704
Direction of Association	Positive
Correlation p-value	$< .001$ (two-tailed)
Supporting Statistical Analysis	Multiple Linear Regression
Unstandardised Coefficient (B)	.490
Standard Error (SE)	.054
Standardised Coefficient (β)	.481
t-statistic	9.13
Regression p-value	$< .001$
Significance Level (α)	.05



Statistical Significance	Significant
Decision on H_0	Rejected
H_1 Decision	Accepted

Note: DFL = Digital Financial Literacy; FI = Financial Inclusion; r = Pearson correlation coefficient; B = unstandardised regression coefficient; SE = standard error; β = standardised regression coefficient; α = significance level. The regression coefficient represents the association between DFL and FI after accounting for Banking Awareness.

Descriptive statistics: Digital Financial Literacy: $M = 3.317$, $SD = 0.876$; Financial Inclusion: $M = 3.320$, $SD = 0.892$.

Result:

The analysis indicates a statistically significant positive relationship between Digital Financial Literacy and Financial Inclusion ($r = .704$, $p < .001$).

The regression analysis also shows a significant positive association after accounting for Banking Awareness ($B = .490$, $SE = .054$, $\beta = .481$, $t = 9.13$, $p < .001$). Accordingly, H_0 is rejected and H_1 accepted.

Statistical Testing of Hypothesis: 2

H_0 : Banking Awareness is not significantly associated with Financial Inclusion among Scheduled Caste women in Kolhapur District.

H_1 : Banking Awareness is significantly and positively associated with Financial Inclusion among Scheduled Caste women in Kolhapur District.

Table 4.12

Table 4.12
Statistical Testing of Hypothesis-2

Particular	Statistical Result
Sample Size (N)	250
Independent Variable	Banking Awareness
Dependent Variable	Financial Inclusion
Banking Awareness (Mean $\pm$ SD)	3.349 ± 0.888
Financial Inclusion (Mean $\pm$ SD)	3.320 ± 0.892
Primary Statistical Test	Pearson Product-Moment Correlation
Pearson Correlation (r)	.658
Correlation p-value	$< .001$ (two-tailed)
Direction of Relationship	Positive
Supporting Analysis	Multiple Linear Regression
Unstandardised Coefficient (B)	.362
Standard Error (SE)	.053
Standardised Coefficient (β)	.361
t-statistic	6.84
Regression p-value	$< .001$
Significance Level (α)	.05
Statistical Significance	Significant
Decision on H_0	Rejected



Decision on H1	Accepted
Conclusion	Banking Awareness was significantly and positively associated with Financial Inclusion.

Note: N = 250; $\alpha = .05$. The regression coefficient for Banking Awareness represents its unique association with Financial Inclusion after accounting for Digital Financial Literacy.

Result:

The Pearson correlation analysis showed a statistically significant positive relationship between Banking Awareness and Financial Inclusion ($r = .658$, $p < .001$). The multiple regression analysis further indicated that Banking Awareness remained significantly and positively associated with Financial Inclusion after accounting for Digital Financial Literacy ($B = .362$, $SE = .053$, $\beta = .361$, $t = 6.84$, $p < .001$). Since the observed p-values were below the significance criterion of $\alpha = .05$, H_0 was rejected and H_1 was accepted. The results therefore indicate that

higher Banking Awareness scores were associated with higher Financial Inclusion scores in the analysis. “positively associated with” instead of “positively influences” because your cross-sectional design supports association.

Statistical Testing of Hypothesis:3

H_0 : There is no statistically significant relationship between Digital Financial Literacy and Banking Awareness among Scheduled Caste women in Kolhapur District.

H_1 : Digital Financial Literacy is significantly and positively related to Banking Awareness among Scheduled Caste women in Kolhapur District.

Table 4.13.

Table 4.13.

Statistical Testing of Hypothesis–3

Particular	Statistical Result
Sample Size (N)	250
Variable 1	Digital Financial Literacy
Variable 2	Banking Awareness
Digital Financial Literacy (Mean $\pm$ SD)	3.317 $\pm$ 0.876
Banking Awareness (Mean $\pm$ SD)	3.349 $\pm$ 0.888
Statistical Test	Pearson Product-Moment Correlation
Pearson Correlation (r)	.618
Direction of Relationship	Positive
Strength of Relationship	Moderate-to-strong positive association
p-value	< .001 (two-tailed)
Significance Level (α)	.05
Statistical Significance	Significant
Decision on H_0	Rejected
Decision on H_1	Accepted
Conclusion	Digital Financial Literacy was significantly and positively related to Banking Awareness.



Note: $N = 250$; $\alpha = .05$; $r =$ Pearson's product-moment correlation coefficient.

Result:

Pearson's correlation analysis indicated a statistically significant positive relationship between Digital Financial Literacy and Banking Awareness ($r = .618$, $p < .001$). The positive coefficient indicates that respondents reporting higher Digital Financial Literacy scores also tended to report higher levels of Banking Awareness. Since the p-value was below the predetermined significance level of $\alpha = .05$, the null hypothesis (H_0) was rejected and H_1 was accepted.

Statistical consistency with Table 4.6 This H_3 result uses exactly the correlation already established in the

correlation matrix: Digital Financial Literacy ↔ Banking Awareness: $r = .618$, $p < .001$, $N = 250$.

Statistical Testing of Hypothesis:4

H_0 : Digital Financial Literacy and Banking Awareness are not jointly and significantly associated with Financial Inclusion among Scheduled Caste women in Kolhapur District.

H_1 : Digital Financial Literacy and Banking Awareness are jointly and significantly associated with Financial Inclusion among Scheduled Caste women in Kolhapur District.

Table No 4.14

Table No 4.14

Statistical Testing of Hypothesis–4

Particular	Statistical Result
Sample Size (N)	250
Dependent Variable	Financial Inclusion
Predictor 1	Digital Financial Literacy
Predictor 2	Banking Awareness
Statistical Technique	Multiple Linear Regression
Multiple Correlation (R)	.759
Coefficient of Determination (R^2)	.576
Adjusted R^2	.573
Variance Accounted For	57.6%
Standard Error of Estimate	.583
ANOVA F-statistic	167.79
Degrees of Freedom	F(2, 247)
Model p-value	< .001
Digital Financial Literacy (β)	.481, $p < .001$
Banking Awareness (β)	.361, $p < .001$
Significance Level (α)	.05
Overall Model Significance	Statistically Significant
Decision on H_0	Rejected
Decision on H_1	Accepted
Conclusion	Digital Financial Literacy and Banking Awareness were jointly and



significantly associated with Financial Inclusion.

Note: N = 250; R = multiple correlation coefficient; R² = coefficient of determination; β = standardised regression coefficient; α = .05.

Result:

The multiple regression analysis indicated that Digital Financial Literacy and Banking Awareness were jointly and significantly associated with Financial Inclusion, $R = .759$, $R^2 = .576$, Adjusted $R^2 = .573$, $F(2, 247) = 167.79$, $p < .001$. The two predictors

jointly accounted for approximately 57.6% of the variance in Financial Inclusion in the model. Digital Financial Literacy showed the larger standardised coefficient ($\beta = .481$, $p < .001$), followed by Banking Awareness ($\beta = .361$, $p < .001$). Since the overall regression model was statistically significant at $\alpha = .05$, H_0 was rejected and H_1 was accepted.

Table 4.15

Table 4.15

Summary of Hypothesis Testing Results:

Hypothesis	Statistical Test	Key Statistical Results	p-value	Decision
H1: Digital Financial Literacy is positively associated with Financial Inclusion.	Pearson Correlation and Multiple Regression	$r = .704$; $B = .490$; $SE = .054$; $\beta = .481$; $t = 9.13$	$< .001$	Accepted
H2: Banking Awareness is positively associated with Financial Inclusion.	Pearson Correlation and Multiple Regression	$r = .658$; $B = .362$; $SE = .053$; $\beta = .361$; $t = 6.84$	$< .001$	Accepted
H3: Digital Financial Literacy is positively related to Banking Awareness.	Pearson Correlation	$r = .618$	$< .001$	Accepted
H4: Digital Financial Literacy and Banking Awareness are jointly associated with Financial Inclusion.	Multiple Linear Regression / ANOVA	$R = .759$; $R^2 = .576$; Adjusted $R^2 = .573$; $F(2,247) = 167.79$	$< .001$	Accepted

Hypothesis Testing Results:

Hypothesis 1: Digital Financial Literacy was positively and statistically significantly associated with Financial Inclusion ($r = .704$, $p < .001$). The null hypothesis was therefore rejected, and H_1 was accepted. The result indicates that respondents with higher Digital Financial Literacy scores tended to report higher levels of Financial Inclusion.

Hypothesis 2: Banking Awareness was positively and statistically significantly associated with Financial Inclusion ($r = .658$, $p < .001$). Accordingly, the null

hypothesis was rejected, and H_2 was accepted. The result indicates that higher levels of awareness of banking products and services were associated with higher levels of Financial Inclusion.

Hypothesis 3: Digital Financial Literacy was positively and statistically significantly related to Banking Awareness ($r = .618$, $p < .001$). The null hypothesis was rejected, and H_3 was accepted. This finding indicates that respondents with higher Digital Financial Literacy scores also tended to report greater awareness of banking products and services.



Hypothesis 4: The multiple regression model examining the joint association of Digital Financial Literacy and Banking Awareness with Financial Inclusion was statistically significant ($R = .759$, $R^2 = .576$, Adjusted $R^2 = .573$, $F(2, 247) = 167.79$, $p < .001$). The two predictors jointly accounted for approximately 57.6% of the variance in Financial Inclusion. The null hypothesis was therefore rejected, and H4 was accepted.

4.12 Findings

1. Digital Financial Literacy: Respondents recorded an overall Digital Financial Literacy score of $M = 3.83$ ($SD = 0.58$). Digital Financial Attitude showed the highest mean ($M = 4.16$, $SD = 0.48$), whereas Digital Financial Knowledge recorded the comparatively lower mean ($M = 3.58$, $SD = 0.67$).
2. Banking Awareness: Respondents demonstrated substantial awareness of the selected banking products and services, with an average awareness rate of 88.2%. Awareness was highest for SMS Banking Alerts (100.0%) and lowest for Current Accounts (80.8%).
3. Financial Inclusion: The overall Financial Inclusion score was $M = 3.76$ ($SD = 0.67$). Access to Banking Services recorded the highest mean ($M = 4.18$, $SD = 0.56$), while Insurance Participation recorded the lowest ($M = 3.29$, $SD = 0.78$).
4. Reliability of the Instrument: The measurement scales demonstrated satisfactory internal consistency. Cronbach's alpha values were .889 for Digital Financial Literacy, .874 for Banking Awareness, and .901 for Financial Inclusion, while the overall instrument recorded $\alpha = .912$.
5. Digital Financial Literacy and Financial Inclusion: A positive and statistically significant relationship was observed between Digital Financial Literacy and Financial Inclusion ($r = .704$, $p < .001$), indicating that higher Digital Financial Literacy scores were associated with higher Financial Inclusion scores.
6. Banking Awareness and Financial Inclusion: Banking Awareness was positively and significantly associated with Financial Inclusion ($r = .658$, $p < .001$), indicating that respondents with greater banking awareness tended to report higher Financial Inclusion.
7. Digital Financial Literacy and Banking Awareness: A significant positive relationship was found between Digital Financial Literacy and Banking Awareness ($r = .618$, $p < .001$).
8. Joint Regression Model: Digital Financial Literacy and Banking Awareness jointly accounted for 57.6% of the variance in Financial Inclusion ($R = .759$, $R^2 = .576$, Adjusted $R^2 = .573$). The overall model was statistically significant, $F(2, 247) = 167.79$, $p < .001$.
9. Relative Contribution of Predictors: Digital Financial Literacy showed the stronger unique association with Financial Inclusion ($\beta = .481$, $p < .001$) compared with Banking Awareness ($\beta = .361$, $p < .001$).
10. Hypothesis Testing: All four proposed hypotheses were accepted by the statistical analysis. The results indicate significant positive associations among Digital Financial Literacy, Banking Awareness, and Financial Inclusion, with Digital Financial Literacy showing the stronger statistical contribution to Financial Inclusion.

5. Conclusion

The study examined the relationships among Digital Financial Literacy, Banking Awareness, and Financial Inclusion among Scheduled Caste women in Kolhapur District, Maharashtra. The findings indicate



that Digital Financial Literacy and Banking Awareness were positively and significantly associated with Financial Inclusion. Digital Financial Literacy showed the stronger relationship with Financial Inclusion ($r = .704$, $p < .001$), while Banking Awareness also demonstrated a significant positive association ($r = .658$, $p < .001$). Digital Financial Literacy was further positively related to Banking Awareness ($r = .618$, $p < .001$).

The joint regression model was statistically significant, $F(2, 247) = 167.79$, $p < .001$, and Digital Financial Literacy and Banking Awareness together accounted for 57.6% of the variance in Financial Inclusion ($R^2 = .576$). Digital Financial Literacy showed a stronger unique association ($\beta = .481$) than Banking Awareness ($\beta = .361$). The descriptive findings also identified comparatively lower levels of Digital Financial Knowledge and Insurance Participation, indicating areas requiring greater attention. Overall, the findings establish the relevance of digital financial capabilities and awareness of banking products and services to the financial inclusion of Scheduled Caste women in the study area.

5.1 Limitations of the Study

1. The study was confined to 250 Scheduled Caste women in Kolhapur District, Maharashtra. Consequently, the findings may not be generalised to Scheduled Caste women in other districts, states, or socioeconomic settings.
2. The study employed a cross-sectional research design, with data collected at a single point in time. Therefore, the observed statistical relationships do not establish causal effects or changes in financial behaviour over time.
3. The analysis was based on self-reported questionnaire responses. Such responses may be

affected by recall limitations, individual perceptions, or socially desirable reporting.

4. The empirical model primarily examined Digital Financial Literacy and Banking Awareness in relation to Financial Inclusion. Other factors, such as access to digital infrastructure, quality of banking services, household financial conditions, institutional trust, and social circumstances, were outside the principal scope of the model.
5. The study was geographically restricted to Kolhapur District; therefore, differences in banking infrastructure, digital connectivity, financial-service availability, and socioeconomic conditions across other geographical areas were not examined.
6. The quantitative approach enabled statistical assessment of the proposed relationships but did not explore respondents' individual experiences, difficulties, perceptions, and reasons for adopting or avoiding digital and formal financial services in depth.

5.2 Suggestions and Policy Implications

Based on the findings of the study, the following measures are suggested to strengthen financial inclusion among Scheduled Caste women in Kolhapur District:

1. Strengthen Digital Financial Knowledge: Since Digital Financial Knowledge was comparatively lower than Digital Financial Behaviour and Attitude, financial education initiatives should place greater emphasis on practical knowledge of digital banking, electronic payments, transaction procedures, charges, security practices, and grievance-redressal mechanisms.
2. Improve Awareness of Banking Products: Although overall banking awareness was high, differences were observed across individual products and services. Banks and financial



institutions should provide clear and accessible information regarding account facilities, nomination, banking requirements, credit facilities, insurance products, and other formal financial services.

3. **Increase Insurance Awareness and Participation:** Insurance Participation recorded the lowest mean among the Financial Inclusion dimensions ($M = 3.29$, $SD = 0.78$). Greater attention should therefore be given to explaining insurance coverage, eligibility, premiums, benefits, claim procedures, and relevant government-supported insurance schemes.
4. **Provide Practical Digital Financial Training:** Financial literacy programmes should include hands-on demonstrations of mobile banking, UPI transactions, digital payments, account management, and safe use of digital financial platforms rather than relying solely on theoretical instruction.
5. **Promote Safe Digital Financial Practices:** Training programmes should address PIN and OTP confidentiality, fraudulent links, impersonation scams, unauthorised transactions, secure passwords, and procedures for reporting digital financial fraud.
6. **Develop Need-Based Financial Education:** Financial education programmes should be designed according to differences in educational

background, occupation, income, digital familiarity, and place of residence so that information remains understandable and practically relevant to participants.

7. **Strengthen Institutional Outreach:** Banks, financial literacy centres, local institutions, and relevant government agencies should strengthen community-level financial education and assistance, particularly for women who require support in using formal and digital financial services independently.
8. **Encourage Effective Use of Financial Services:** Policy initiatives should extend beyond account ownership and focus on meaningful utilisation of savings, digital payments, insurance, credit, and other appropriate financial services.
9. **Improve Financial Decision-Making Capability:** Financial education should strengthen respondents' ability to compare financial products, understand costs and benefits, evaluate financial risks, plan savings, and make informed financial decisions.
10. **Focus on Digital Financial Literacy and Banking Awareness Together:** Since both variables showed significant associations with Financial Inclusion model, interventions should integrate digital financial skills with knowledge of banking products and services rather than addressing these areas separately.

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