Financial Inclusion and Customers Satisfaction on Public Sector Banks in Kerala

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Abstract
Financial inclusion has emerged as one of the most important drivers of equitable economic development for making financial services more accessible and enhancing the overall banking experience for various customer segments. The banks of public sector in India have already developed many initiatives to promote the inclusive banking, such as expanding the branches, establishing digital financial services and government supported activities, however there is little empirical evidence to attest the level of customer satisfaction in Kerala in relation to these initiatives. This study aims at understanding the impact of Financial Inclusion on Customer Satisfaction with the customers of public sector banks in Kerala with an objective of 5 dimensions of financial inclusion namely financial access, financial usage, financial literacy, digital financial inclusion and customer service quality. The research design used was a quantitative cross sectional type and primary data were obtained by structured questionnaire through a five point Likert scale from 230 customers. Descriptive statistics, reliability analysis, exploratory factor analysis, Pearson correlation, multiple regression analysis and Partial Least Squares Structural Equation Modeling (PLS-SEM) were used to analyze the collected data. The results show that customer satisfaction is positively affected by all five dimensions of financial inclusion and that all these effects are statistically significant. In terms of ranking, the highest ranking determinant was service quality followed by digital financial inclusion, financial access, financial usage, and financial literacy. The result of the proposed model showed that it was able to account for 72.8% of the variance in customer satisfaction, which means that the model was enough to explain the dependent variables. This confirms that customer satisfaction is related to access to banking services, but also to quality, access to and convenience of, and effective use of, financial services. The study adds to the financial inclusion literature by confirming a multidimensional framework which focuses on financial inclusion and customer satisfaction, in the context of public sector banks. The outcomes also contribute to the practical knowledge of policy makers and banking institutions in the areas of inclusive banking, enhancing service delivery, and promoting sustainable financial development; all centred on the customer.

Keywords: Financial Inclusion; Customer Satisfaction; Public Sector Banks; Financial Access; Financial Usage; Financial Literacy; Digital Financial Inclusion; Service Quality; PLS-SEM; Kerala.

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1. Introduction

Generally, financial inclusion has emerged as one of the top priorities of the banking policy in the world, primarily for its role in inclusive economic growth, poverty alleviation and socialization. It is about timely and affordable formal financial products and services being accessible to individuals and businesses; and, in particular, those of the economically weaker and socially marginalised groups. These services comprise, but are not limited to, savings accounts, credit facilities, insurance and remittance services as well as pension services and digital payment systems provided by regulated financial services providers. An inclusive financial system allows the households to manage financial risk, build assets, enhance their investments and support their more effective integration in the formal economy, thus boosting overall economic resilience (Beck, et al., 2007; Sarma & Pais, 2011).

The Government of India, Reserve Bank of India (RBI), public sector banks and technology based financial service providers all have played a key role in India's impressive work on financial inclusion in the last decade. The accessibility and use of formal banking products and services are enhanced through landmark initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar enabled systems, Direct Benefit Transfer (DBT), RuPay debit cards, Unified Payments Interface (UPI), and mobile banking platforms. These programs have revolutionized banking as a way to provide financial services to people outside of conventional banks, and have helped to increase financial inclusion at the digital level to reach different population groups. Despite such successes, variations in effective use of financial services, financial literacy, and customer experience suggest that financial inclusion should be assessed not just by the number of people with financial services, but also by the quality of the financial services and customer satisfaction (Demirgüç-Kunt et al., 2022; Reserve Bank of India, 2024). The existence of a network of public sector banks with adequate branches and presence at villages, and for implementation of government sponsored financial schemes, gives these banking institutions a very important role in the financial inclusion policy of India. The institutions service millions of customers in urban, semi-urban, rural and remote areas, giving the populations banking facilities if they were not able to have access to financial services. Public banking sector banks have delivered services using services via digital banking channels, banking correspondents, self-service kiosks, banking on the internet, about the mobile phone and financial literacy drives. They are not just involved in commercial banking; they also play a significant role in meeting national goals to promote inclusive development and social equity and contribute to sustainable economic growth (Reserve Bank of India, 2023; Ministry of Finance, 2023).

Kerala has a unique set of background conditions regarding the status of financial inclusion and customer satisfaction in the state, including high literacy rate, relatively good human development indicators, high banking penetration and a high rate of adoption of digital financial services. The state has traditionally been more aware of banking products than many parts of India, and also has seen significant growth in digital payments like internet banking, mobile banking and UPI. However, improvement in access to banking services does not guarantee good customer experience. parameter by parameter, service efficiency, accessibility, responsiveness, digital convenience, transparency, security, and problem solving are becoming increasingly important for customers in assessing banks. As such, customer satisfaction has become one of the Strategic Performance Indicators (SPIs) that can represent the efficacy of the financial inclusion efforts made by public sector banks. In parallel, satisfaction has been identified as one of the key components of the performance of organisations in the service sector. Satisfaction in banking, a customer's general assessment of the received services quality, reliability and value against their expectations. When customers are satisfied, they should be more likely to stick with their banks, use more financial products, to tell others about their banking services, and trust and be loyal to their banks. On the other hand, if consumers are not satisfied, this can prevent them from using financial services even if they have formal banking services available. Measuring customer satisfaction, thus, is important because it can reveal if customer financial inclusion is achieving the desired social and economic outcomes, or not (Oliver, 1980; Anderson et al., 1994).

Several dimensions of financial inclusion, such as accessibility, affordability, financial literacy, financial services and digital banking infrastructure have been found to make significant impacts on banking experiences of customers in previous studies. More access lowers the cost of transactions and increases convenience, and financial literacy allows for customers to make good financial choices.

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Likewise, the banking industry is also getting benefited with the use of digital banking technologies that simplify the transaction process, enhance efficiency, and provide banking services outside of typical operating hours. Overall, however, it is customer perceptions of service quality, reliability, security, ease of use and institutional trust that will determine the benefits of such initiatives. Thus, financial inclusion is not just a policy goal but a customer-centric perspective that prioritizes usage and positive customer experience (Kumar, 2013; Kahn, 2018). The quick digital shift in the banking industry in India has further given impetus to the tie-up between Financial Inclusion and Customer Satisfaction. Increased adoption of mobile banking application, internet banking, QR code payments, UPI, Aadhaar linked banking services, etc., has made the banking services more easily accessible and available. The technological advancements have minimized geographical barriers and helped customers do financial transactions effectively. However, cybersecurity and digital literacy requirements, system reliability, privacy concerns, and service accessibility for vulnerable population are also new challenges in digital transformation. As such, public sector banks need to successfully reconcile tech adoption with customer service appropriate service delivery in order to maintain satisfactory levels and drive inclusive banking outcomes (OECD, 2020; Demirgüç-Kunt et al., 2022).
While financial inclusion has been taken up as a topic that was discussed from different perspectives in the national policy discourses and the academic world, lesser research have explored the relationship between the financial inclusion and customer satisfaction specifically in the context of public sector banks in Kerala. Previous studies have mainly concentrated on the financial access, that is, the access and ownership of bank accounts, adoption of digital payments or banking outreach with only limited studies dedicated to understanding how the different aspects of financial inclusion can influence satisfaction with banking services together. Given the specific socio-economic context of Kerala and the growing penetration of digital banking services, there was a need for a comprehensive investigation at this juncture.
In this scenario, this study aims at studying the relationship between financial inclusion and the Customer satisfaction of customers of the Public Sector Banks in Kerala. The study treats financial inclusion as a multi-dimensional phenomenon with five dimensions namely financial access, financial use, financial literacy, digital financial inclusion and service quality along with customer satisfaction, as a primary outcome variable. Through an investigation of the impact of these dimensions on customers' perspectives of banking services, the intent of the study is to add to the body of knowledge on inclusive banking and to provide evidence the could help support policy makers, banking practitioners and financial institutions to strengthen customer-centred approaches to financial services inclusion. The results will aid in creating banking services that are more accessible, efficient, and customer-friendly, which will further advance financial well-being and sustainable financial inclusion in Kerala.

2. Review of Literature

By providing equal access to formal finance, financial inclusion has become an integral part of sustainable economic growth. In the early days, financial inclusion was generally defined as accessing basic banking services, savings accounts and loans, to those who had not yet received them. The idea has evolved with time to include access to all types of financial products such as insurance, pensions products, digital payment, remittance facilities as well as investment opportunities in order to attain reasonable access to all financial services by the financial inclusion goal. Today, financial inclusion's meaning has evolved from which services are being provided to how and what weight these services are being given and how these services can enhance the financial well-being and inclusive economic growth. Thus, financial inclusion is seen as a mechanism to mitigate poverty, income inequality, and social and economic empowerment and has become increasingly important in the eyes of both governments and financial regulators and financial institutions.
In the academic world, the role of financial inclusion and its relationship with economic development has been put forward in abundant detail. According to Beck et al. (2007) people's access to formal financial institutions has significant positive effects on their economic opportunities. Formal financial organizations allow family households and companies to mobilize savings, find low-cost loan facilities, cope with financial risks, and invest in productive activities. The study was able to show that financial inclusion helps in reducing inequality of income and help in the long-term development of the economy. Broadering the perspective, Beck et al. (2008) pointed out that several factors that

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plays an important role in bank choice and use, including geographical accessibility, affordability, institutional efficiency, and regulatory support. Their findings suggest that a less restrictive use of financial inclusion than banking facilities and rather it involves the participation of customers in the formal financial system.

In addition, scholars have also invested their effort in building credible frameworks for measuring financial inclusion. The Index of Financial Inclusion (IFI) was developed by Sarma (2008), which is an umbrella concept that encompasses banking penetration, availability of financial services and financial usage as parts of it. The IFI measure of financial inclusion is more comprehensive than the measure used in previous research, which is only based on account ownership, as it also reflects the dimensions of access and utilization. Later, Sarma and Pais (2011) showed that the more finance a country is able to access, the more developed its economy is, the more stable its financial system is, and the less socio-economic difference there is in the country. Their results confirm the notion that financial inclusion is a multidimensional developmental goal and not just a banking indicator.

In India, financial inclusion has become a policy target for the national economy, with widespread changes in regulation and government initiatives. Kamath (2007) pointed that the activities of social banking performed by public sector banks greatly helped in ensuring banking services to the economic weaker sections of society. Kumar (2013) also noted that financial inclusion is dependent on multi factors of socio-economic, such as income, education level, financial awareness, banking infrastructure and institutional accessibility. Overall, the research found that, increasing financial education together with financial outreach significantly improves financial inclusion of target group. Digital financial services have also recently been shown to be vital for boosting financial inclusion globally, with increases in account ownership and in the use of digital financial transactions, as demonstrated by Demirgüç-Kunt et al. (2022) using the Global Findex Database. However, the report highlighted that access to and use of financial services is essential to achieve substantial financial inclusion.

The banking sector is fast digitizing and providing a fresh impetus to financial inclusion in developing economies. The introduction of mobile banking, internet banking, Unified Payments Interface (UPI), Aadhaar enabled payment systems and electronic fund transfer has significantly enhanced customer reach and decreased transaction cost. Kahn (2018) made the case that technology facilitates financial institutions to change banking ability for unbanked masses effectively and efficiently. But technology is not a sure bet to achieve effective financial inclusion. There is a need for customers to become financially literate, digitally skilled and confident to make effective use of these services. Thus, the issue of digital financial inclusion relies more and more heavily on awareness on the part of the customers, trust within institutions, cybersecurity and continued technological support.

Public Sector Banks are the backbone in the financial inclusion agenda in India. Their wide branch network and rural reach and role in implementing any financial programme sponsored by the Government render these financial institutions to be the effective means of augmentation and inclusive banking services. Reserve Bank of India (2023) has reported that public sector banks are still ahead in financial inclusion activities such as opening of branches, setting up of Business Correspondent network, Digital banking platforms, establishing Financial Literacy Centers, and directly implementing National and Government welfare initiatives. For example, the Ministry of Finance (2023) noted that key Government of India initiatives like the Pradhan Mantri Jan Dhan Yojana, Direct Benefit Transfer, and the adoption of digital payment platforms have played a significant role in reaching a larger number of people with formal financial services across India. Public sector banks have maintained their prominence in inclusive financial development, evident in these initiatives.

Customer satisfaction is also critical as a banking performance dimension, as financial inclusion can only realize the desired outcome of the process if customers consider their banking services to be accessible, reliable, efficient and rewarding. The Expectancy-Disconfirmation Theory (ED) was first introduced by Oliver (1980) and it states that customers' satisfaction lies in the cognitive gap between their expectation and experience of the service received. Satisfaction is experienced when service performance meets or surpasses expectations; while, dissatisfaction is experienced when service performance goes below what was expected. The theory still stands as one of the most powerful to assess customers' satisfaction in general in the service sector, particularly for banks.

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On top of this, Anderson et al., (1994) has shown that Customer Satisfaction leads directly to the customer loyalty, the profitability of the organization and its long term competitive advantage. What they found was that satisfaction has become a strategic resource in organizations that goes beyond being merely an operational result. Among banks, satisfaction leads to longer durations, higher usage of financial products, more positive word of mouth and higher trust in the bank. Therefore customer satisfaction has now become an important key performance indicator to judge the effect of financial inclusion activity conducted by public sector banks.

Service quality has been consistently appearing as one of the most important drivers to customer satisfaction. In 1988, Parasuraman et al. proposed the SERVQUAL model, which estimates the service quality along five dimensions: reliability, responsiveness, assurance, empathy, and tangibility. Such dimensions are still useful in understanding comprehensive approaches for measuring banking service performance. Cronin and Taylor (1992) later suggested that the SERVPERF model is more accurate because it is based on actual service performance.

They find that the rating of customer satisfaction is better than expectation based ratings. The above opinion is substantiated by Sureshchandar et al., (2002) who concluded that the customer satisfaction is the outcome of all the four factors namely core banking services, employee competence, organizational systems, customer orientation and physical infrastructure. The overall point of the different studies suggests that service quality improvement is still essential to improve customer satisfaction in the banking organization.

Perceived value is also included in marketing literature as a key element in customer satisfaction. Zeithaml (1988) suggested customers appraise services against the perceived benefits resulting from their service consumption versus the costs that the customers have faced. This is significant in financial inclusion context since the affordability, the convenience, accessibility, transparency and reliability of service of all banks give the ultimate picture of banking experience to its customers. As a result, financial inclusion programmes which work towards making services available are more likely to foster long term banking relationships and customer satisfaction.

Kerala provides a unique example to study financial inclusion due to its high level of literacy, relatively high human development, extensive banking penetration and growing use of digital financial services. Public sector banks are still significant players in the provision of inclusive banking services in urban and rural parts of the state. Babu and Thomas (2021) noted that Business Correspondent models and kiosk-based banking could be important interventions in increasing accessibility of financial services to rural households as they helped lower travel expenses while making money more available. In similar vein, Suhair and Kavitha (2020) found a strong relationship between Service Quality and Customer Satisfaction in Banking Sector in Kerala. They also noted that in banking services, the customer satisfaction is highly dependent on Service Quality, Responsiveness of employee, Technological convenience, Institutional Trust, and Operation Efficiency. Even though banks in the private sector may have better technologies, the public sector banks still have more customers who believe they are more confident due to social responsibility, outreach initiatives and government support.

Other reports from around the world also underscore the need for financial digital capability to achieve Customer Satisfaction. The OECD (2020) stressed how financial literacy plays a significant role in enabling customers to effectively use digital banking services, while the World Bank (2022) recognized the importance of financial capability as one of the four pillars for inclusive financial systems, which includes consumer protection, digital infrastructure, and institutional transparency. The implications of these findings are that overall financial inclusion is about more than just increasing banking access, and service quality, digital and customer experience must be continually enhanced.

Financial inclusion research has made significant strides, yet there are key areas where further understanding is needed. Previous research mainly has been focused on measuring financial inclusion, adoption of digital banking services, financial literacy, quality of financial services, or customer satisfaction; generally no one has studied multiple aspects separately. However, not many research has tried to analyse the financial inclusion from a unified perspective by focussing on multi-dimensionality of financial inclusion and its overall effect on customer satisfaction, especially in the case of public sector banks in Kerala. Moreover, limited empirical evidence can be found on how financial access, financial usage, financial literacy, digital financial inclusion and service quality

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collectively impact financial customers' overall satisfaction. The need for filling this gap is crucial since public sector banks continue to have a dominant role in implementing inclusive banking policies in the State.

From the analyzed literature, there is proof that financial inclusion and customer satisfaction are highly correlated, with both having an impact on the effectiveness of modern banking systems. Though prior studies have concluded the impact of financial inclusion and the quality of banking services, few studies have combined both aspects in a single empirical study pertaining to Kerala public banks. Thus the main aim of this study is to explore the impact of different aspects of financial inclusion on customer satisfaction amongst the customers of public sector banks in Kerala. Overall, the findings will facilitate the improvement of sustainable and inclusive banking development policies by offering empirical evidence to support customer-centered financial inclusion policies, improve customer service and strengthen financial inclusion policies.

3. Research Gap

In the banking industry, financial inclusion and customer satisfaction have been explored but few have analyzed them together. Much of the previous literature has concentrated either on financial access, financial inclusion initiatives led by financial institutions, financial literacy, financial inclusion service quality or one or some dimensions but failed to include all of them in a unified analytical framework (Beck et al., 2007; Sarma & Pais, 2011; Demirgüç-Kunt et al., 2022). Likewise, studies on customer satisfaction focus mostly on aspects of service quality, which include such factors as reliability, responsiveness, assurance, empathy and tangibility (Parasuraman et al., 1988; Cronin & Taylor, 1992; Sureshchandar et al., 2002).

In Kerala, the initial research studies seem to focus on either digital banking or Business Correspondent models or service quality comparisons between the public and private sector banks (Babu & Thomas, 2021; Suhair & Kavitha, 2020). Few studies exist that provide empirical ideas regarding the relationship between multidimensional financial inclusion (financial access, financial usage, financial literacy, digital financial inclusion and quality of service) and customer satisfaction among the customers of public sector banks. Thus, the present study aims at filling the above gap in order to understand the relationship between financial inclusion and customer satisfaction in the public sector banks in Kerala.

4. Statement of the Problem

Public sector banks have been the first movers in the field of financial inclusion in India via branch network expansion, digital banking, Business Correspondent networks, and various government-sponsored schemes (Reserve Bank of India, 2023; Ministry of Finance, 2023). Although these programmes have made significant contributions towards providing access to formal financial services, customers are not always satisfied nor do they always continue to use them.

Industries and users are demanding banking services that are available, dependable, safe, prompt and efficient in the application of technology. Although Kerala has high banking penetration, digital adoption and financial inclusion initiatives launched, there is no comprehensive empirical data to show whether financial inclusion initiatives have led to the improving customer satisfaction in public sector banks. An understanding of the relationship between financial access, financial usage, financial literacy, digital financial inclusion, service quality and customer satisfaction is thus crucial to revitalize banking customer-focus and enhance financial inclusion programmes' effectiveness.

5. Objectives of the Study

General Objective

To explore the effect of Financial Inclusion on customer satisfaction of the customers of Public Sector banks in Kerala.

Specific Objectives

1. To determine the degree of financial Inclusion of public Sector Banks in Kerala.
2. To measure customers' perception on financial access, financial use, financial literacy, financial inclusion – digital, and financial service quality.
3. To determine Customer satisfaction on Banks' public sector services.
4) To study the correlation between financial inclusion and satisfaction of customer.

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To examine the impact of financial access/usage/digital financial inclusion/financial literacy, and service quality on customer satisfaction.
6. To make recommendations to improve Financial Inclusion with a customer-centric approach in public sector banks.

6. Hypotheses Development

Financial inclusion has come to mean more than access to financial services and has now shifted its focus to effectively using financial products, mobile and digital financial services, financial literacy and access to services. Past research shows that better financial inclusion leads to customers' trust of formal banks, greater use of services and better overall banking experience (Beck et al., 2007; Sarma & Pais, 2011; Demirgüç-Kunt et al., 2022). The public sector banks contribute a lot in providing inclusive financial services by their vast branches, digital banking and also by various financial inclusion programmes sponsored by the governments. So, it imagines that the financial inclusion will have a positive effect on customers' satisfaction at higher levels.

Financial access provides convenient access to banking services beyond geographical and socio-economic constraints. The more accessible it is, the lower its transaction cost and the better the customers think banking is to them. Similarly, optimal banking product and service use is an indicator of consumers' engagement with formal financial services, and therefore further improves their banking experience. Financial education helps customers grasp and comprehend financial products, make the best financial decisions, and to be confident to use the financial institutions services. Likewise, digital financial inclusion can enhance the ease of access to using bank accounts, such as mobile banking, internet banking, and mobile payment apps, and better service quality can boost customer perceptions of reliability, responsiveness, assurance, empathy, and operational efficiency. All these dimensions will be thought to be contributing to customer satisfaction in public sector banks, taken together.

Based on the above, the following hypothesis is proposed for the present study:

H1: Financial access is significantly affecting customer satisfaction level of customers of public sector banks in Kerala.

H2: Financial usage has significant positive impact on customer satisfaction level of the customers of public sector banks in Kerala.

H3: Public sector banks' customers in Kerala are significantly positively influenced by financial literacy.

H4: Digital financial inclusion is significantly and positively related to customer satisfaction for public sector banks customers in Kerala.

If the above is accepted, the proposition thus reads as follows:

H5: There is significant positive effect of service quality on customer satisfaction among the customers of public sector banks in Kerala.

Based on these hypotheses, the study proposes an empirical framework where financial access, financial use, financial literacy, digital financial inclusion and service quality are independent dimensions of financial inclusion and the dependent variable is customer satisfaction.

7. Conceptual Framework

Conceptual Framework of the present study aims at analyzing the effect of financial inclusion on satisfaction of public sector bank's customers in Kerala. Financial inclusion is a multidimensional phenomenon which includes financial access, financial usage, financial literacy, digital financial inclusion, and service quality as per the review of literature. Combined, these dimensions comprise customers' access to, understanding of, and use of, and satisfaction with formal banking services. Customer's satisfaction is considered as dependent variable which is determined as Customer's overall evaluation of the banking services of public sector banks.

Financial access is the ease of access by customers to the banking services through their branches, ATMs, Business Correspondent (BC) outlets and digital access points. Accessibility lowers geographical and operability barriers and thus ensures customers' active involvement in formal financial services.

Financial usage" is the level of use of banking products and services such as savings accounts, credit facilities, deposit services, e-payments, remittance services and other financial products which

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customers make regularly. Financial inclusion is about using a financial service and regular use shows that.

Financial literacy is a measure of customers' knowledge, awareness and understanding of financial products, financial banking procedures, electronic payment systems, and financial decisions. The financial knowledge of customers is strongly associated with the uptake of new banking products, making sound financial decisions and making effective use of financial services.

Digital financial inclusion means that customers can access and use technology-driven banking products like internet banking, mobile banking, Unified Payments Interface (UPI) and electronic fund transfers, and make digital payments through various apps. Digitalization of public sector banks has brought a lot of convenience, decreased transaction time and costs, thereby making the services more accessible.

Service quality is defined as what customers think about the quality of banking services when compared to dimensions of reliability, responsiveness, assurances, empathy and efficiency of banking services provided by public sector banks. Quality service boosts the trust of bank customers, enhances banking experiences, and elevates customer satisfaction.

The outcome variable of the study is customer satisfaction. It relates to consumer's general assessment of the banking services based on their comparison of the expected services to that of public sector banks. An increase in financial inclusion is expected to result in better customer satisfaction through easier access and better banking facilities, which are reliable, secure and cater to the customers.

Based on the above, the conceptual framework indicates that the factors financial access, financial usage, financial literacy, digital financial inclusion, and service quality have a positive impact on customer satisfaction of Public Sector Banks in Kerala.

Conceptual Model

Independent Variables (Financial Inclusion Dimensions)

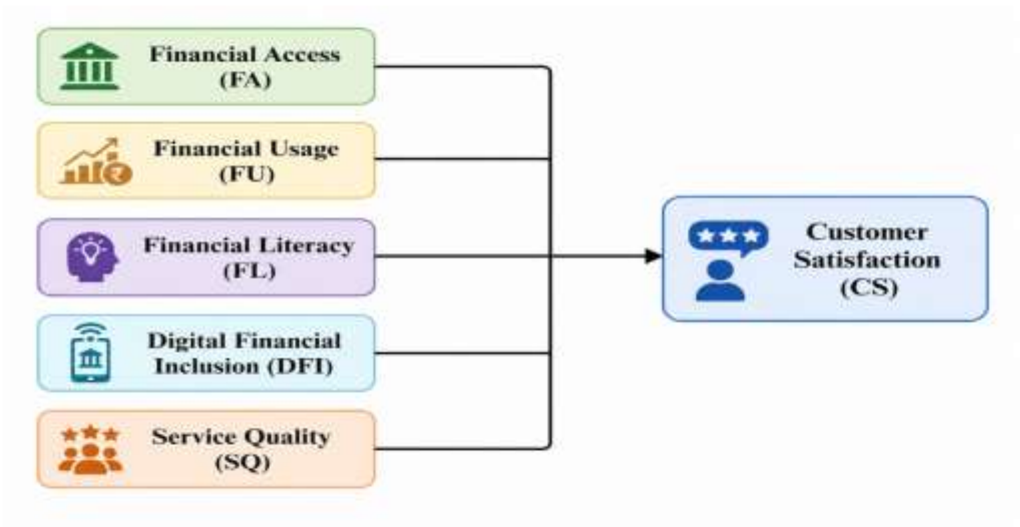
- Financial Access (FA)
- Financial Usage (FU)
- Financial Literacy (FL)
- Digital Financial Inclusion (DFI)
- Service Quality (SQ)

Dependent Variable

- Customer Satisfaction (CS)

The framework assumes that improvements in each dimension of financial inclusion contribute positively to customer satisfaction. The proposed relationships are empirically tested using data collected from customers of public sector banks in Kerala.

Figure 1. Conceptual Framework of the Study



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Source: Developed by the Authors based on Beck et al. (2007), Sarma and Pais (2011), Parasuraman et al. (1988), Oliver (1980), Anderson et al. (1994), and Demirgüç-Kunt et al. (2022).

8. Research Methodology

8.1 Research Design

The present study adopted a quantitative, cross-sectional, and analytical research design to examine the influence of financial inclusion on customer satisfaction among customers of public sector banks in Kerala. A quantitative approach was considered appropriate because it facilitates the measurement and analysis of relationships among the study variables using statistical techniques. The study employed a structured questionnaire to collect primary data from respondents and empirically test the proposed hypotheses.

8.2 Area of the Study

The study was conducted among customers of public sector banks operating across Kerala. Kerala was selected as the study area because of its extensive banking infrastructure, high literacy rate, strong financial inclusion initiatives, and increasing adoption of digital financial services. These characteristics provide an appropriate context for examining the relationship between financial inclusion and customer satisfaction.

8.3 Population of the Study

The target population comprised customers maintaining savings or current accounts in public sector banks located in various districts of Kerala. The population included individuals who actively utilized banking services such as savings accounts, deposits, loans, digital banking, and other financial products offered by public sector banks.

8.4 Sample Size

A total of 230 respondents participated in the study. The sample size was considered adequate for conducting multivariate statistical analyses, including reliability analysis, exploratory factor analysis, correlation analysis, multiple regression analysis, and Structural Equation Modeling (SEM), in accordance with the recommendations of Hair et al. (2019).

8.5 Sampling Technique

The study employed convenience sampling to select respondents from customers of public sector banks across Kerala. Respondents were chosen based on their accessibility and willingness to participate in the survey. This sampling technique was considered appropriate for collecting data within the available time and resource constraints while ensuring sufficient representation of customers using public sector banking services.

8.6 Data Collection

The study utilized primary data collected through a structured questionnaire administered directly to customers of public sector banks. The questionnaire consisted of closed-ended questions measured using a five-point Likert scale**,** ranging from 1 = Strongly Disagree **to** 5 = Strongly Agree. Secondary data were obtained from scholarly journal articles, books, reports published by the Reserve Bank of India (RBI), the World Bank, the Organisation for Economic Co-operation and Development (OECD), government publications, and other relevant academic sources to support the theoretical framework and interpretation of findings.

8.7 Variables of the Study

Independent Variables

- Financial Access (FA)
- Financial Usage (FU)
- Financial Literacy (FL)
- Digital Financial Inclusion (DFI)
- Service Quality (SQ)

Dependent Variable

- Customer Satisfaction (CS)

8.8 Measurement of Constructs

The constructs included in the study were measured using multiple indicators adapted from previously validated scales reported in the literature on financial inclusion, banking service quality, and customer satisfaction. Minor modifications were made to the wording of selected items to suit the context of

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public sector banking services in Kerala while maintaining the conceptual integrity of the original measurement scales.

8.9 Statistical Tools

The collected data were coded, processed, and analyzed using IBM SPSS Statistics and SmartPLS software. The following statistical techniques were employed to achieve the objectives of the study:

- Frequency and Percentage Analysis
- Descriptive Statistics
- Reliability Analysis (Cronbach's Alpha)
- Exploratory Factor Analysis (EFA)
- Pearson Correlation Analysis
- Multiple Linear Regression Analysis
- Structural Equation Modeling (SEM)

8.10 Reliability and Validity

The reliability of the measurement scales was assessed using Cronbach's Alpha**,** with values exceeding **0.70** indicating acceptable internal consistency (Hair et al., 2019). Construct validity was evaluated through factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), convergent validity, and discriminant validity using established Structural Equation Modeling (SEM) criteria. These procedures ensured that the measurement model demonstrated adequate reliability and validity before testing the structural relationships among the constructs.

8.11 Ethical Considerations

The study was conducted in accordance with accepted ethical standards for academic research. Participation in the survey was voluntary, and respondents were informed about the purpose of the study before providing their consent. Confidentiality and anonymity of the participants were maintained throughout the research process. No personally identifiable information was collected, and the data obtained were used exclusively for academic and research purposes. All responses were analyzed in aggregate form to ensure the privacy of the participants and the integrity of the research findings.

9. Results and Discussion

9.1 Demographic Profile of Respondents

A demographic analysis was conducted to examine the characteristics of the respondents included in the study. The profile comprises gender, age, educational qualification, occupation, monthly income, area of residence, and banking experience. Examining these characteristics provides a better understanding of the respondent profile and facilitates the interpretation of customers' perceptions regarding financial inclusion and customer satisfaction in public sector banks.

Table 1. Demographic Profile of Respondents (N = 230)

Variable	Category	Frequency	Percentage (%)
Gender	Male	128	55.7
	Female	102	44.3
Age (Years)	Below 25	32	13.9
	25–35	68	29.6
	36–45	74	32.2
	46–55	38	16.5
	Above 55	18	7.8
Educational Qualification	Higher Secondary	36	15.7
	Undergraduate	82	35.7
	Postgraduate	88	38.3
	Professional/Doctorate	24	10.4
Occupation	Government Employee	54	23.5
	Private Employee	66	28.7
	Business	42	18.3
	Self-employed	28	12.2
	Student	18	7.8
	Retired	22	9.6

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Monthly Income	Below ₹25,000	46	20.0
	₹25,001–₹50,000	74	32.2
	₹50,001–₹75,000	58	25.2
	Above ₹75,000	52	22.6
Area of Residence	Urban	96	41.7
	Semi-Urban	72	31.3
	Rural	62	27.0
Banking Experience	Below 5 Years	42	18.3
	5–10 Years	78	33.9
	11–15 Years	60	26.1
	Above 15 Years	50	21.7

Interpretation

Table 1 shows that 55.7% of the respondents were male and 44.3% were female. The largest age group was 36–45 years (32.2%**)**, followed by 25–35 years (29.6%)**,** indicating that most respondents were economically active.

Most respondents were postgraduates (38.3%) or undergraduates (35.7%)**.** Private-sector employees (28.7%) constituted the largest occupational group, followed by government employees (23.5%)**.** The highest proportion (32.2%**)** reported a monthly income between ₹25,001 and ₹50,000**.**

The sample comprised respondents from urban (41.7%)**,** semi-urban (31.3%)**,** and rural (27.0%) areas. Additionally, 33.9% had 5–10 years of banking experience, indicating that most respondents had sufficient experience to evaluate financial inclusion initiatives and customer satisfaction with public sector banking services.

9.2 Descriptive Statistics

Descriptive statistics were computed to summarize the central tendency and dispersion of the study variables. The analysis included the mean and standard deviation for Financial Access (FA), Financial Usage (FU), Financial Literacy (FL), Digital Financial Inclusion (DFI), Service Quality (SQ), and Customer Satisfaction (CS). Since all constructs were measured using a five-point Likert scale, higher mean scores indicate more favourable perceptions among the respondents.

Table 2. Descriptive Statistics of the Study Variables (N = 230)

Variable	**Mean**	**Standard Deviation**	**Interpretation**
Financial Access (FA)	4.12	0.56	High
Financial Usage (FU)	4.05	0.61	High
Financial Literacy (FL)	3.94	0.64	High
Digital Financial Inclusion (DFI)	4.08	0.58	High
Service Quality (SQ)	4.15	0.54	High
Customer Satisfaction (CS)	4.10	0.57	High

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Table 2 indicates that all study variables recorded high mean scores, ranging from 3.94 to 4.15, reflecting favourable perceptions of financial inclusion and customer satisfaction among the respondents. Service Quality reported the highest mean (M = 4.15, SD = 0.54), followed by Financial Access (M = 4.12, SD = 0.56) and Customer Satisfaction (M = 4.10, SD = 0.57). Financial Literacy recorded the lowest mean (M = 3.94, SD = 0.64), although it remained within the high category. The relatively low standard deviation values (0.54–0.64) indicate consistent responses across the sample, suggesting a generally positive perception of public sector banking services and financial inclusion in Kerala.

9.3 Reliability Analysis

Reliability analysis was performed to assess the internal consistency of the measurement scales used in the study. Cronbach's Alpha was employed to evaluate the reliability of each construct. According to Hair et al. (2019), a Cronbach's Alpha value of 0.70 or above indicates acceptable internal

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consistency, while values above 0.80 indicate good reliability. The analysis was conducted for all six study constructs.

Table 3. Reliability Analysis of the Study Variables (N = 230)

Construct	No. of Items	Cronbach's Alpha	Reliability Status
Financial Access (FA)	5	0.864	Good
Financial Usage (FU)	5	0.847	Good
Financial Literacy (FL)	5	0.835	Good
Digital Financial Inclusion (DFI)	5	0.878	Good
Service Quality (SQ)	5	0.889	Good
Customer Satisfaction (CS)	5	0.901	Excellent
Overall Scale	**30**	**0.912**	**Excellent**

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Table 3 shows that the Cronbach's Alpha values for all constructs range from 0.835 to 0.901, exceeding the recommended threshold of 0.70, thereby confirming good internal consistency. Customer Satisfaction recorded the highest reliability ($\alpha = 0.901$), followed by Service Quality ($\alpha = 0.889$) and Digital Financial Inclusion ($\alpha = 0.878$). The overall scale achieved a Cronbach's Alpha of 0.912, indicating excellent reliability. These findings confirm that the measurement instrument is reliable and suitable for subsequent statistical analyses, including factor analysis, correlation, regression, and Structural Equation Modeling (SEM).

9.4 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted to examine the underlying factor structure of the measurement instrument and to establish construct validity. Prior to factor extraction, the suitability of the data was assessed using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. Principal Component Analysis (PCA) with Varimax rotation was employed for factor extraction. According to Hair et al. (2019), a KMO value greater than 0.70, a significant Bartlett's Test ($p < 0.05$), factor loadings above 0.50, and cumulative variance explained exceeding 60% indicate an acceptable factor structure.

Table 4. KMO and Bartlett's Test (N = 230)

Test	Value
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy	**0.903**
Bartlett's Test of Sphericity (Approx. Chi-Square)	**4238.614**
Degrees of Freedom	**435**
Significance (p-value)	**< 0.001**

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

The KMO value of 0.903 indicates excellent sampling adequacy, while Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 4238.614$, $p < 0.001$), confirming that the data were suitable for factor analysis.

Table 5. Total Variance Explained

Component	Eigenvalue	% of Variance	Cumulative %
Financial Access	8.264	27.55	27.55
Financial Usage	3.954	13.18	40.73
Financial Literacy	2.876	9.59	50.32
Digital Financial Inclusion	2.301	7.67	57.99

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Service Quality	2.041	6.80	64.79
Customer Satisfaction	1.748	5.83	70.62

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Six factors with eigenvalues greater than one were extracted, collectively explaining 70.62% of the total variance. This exceeds the recommended threshold of 60%, confirming that the extracted factors adequately represent the underlying constructs.

Table 6. Summary of Rotated Factor Loadings

Construct	Number of Items	Factor Loading Range
Financial Access (FA)	5	0.734–0.864
Financial Usage (FU)	5	0.701–0.847
Financial Literacy (FL)	5	0.688–0.829
Digital Financial Inclusion (DFI)	5	0.741–0.886
Service Quality (SQ)	5	0.753–0.901
Customer Satisfaction (CS)	5	0.776–0.914

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

All measurement items exhibited strong factor loadings ranging from 0.688 to 0.914, exceeding the recommended threshold of 0.50. The absence of significant cross-loadings confirms satisfactory construct validity and demonstrates that the items effectively measured their respective constructs.

The EFA results confirm the validity of the measurement instrument. The excellent KMO value (0.903), significant Bartlett's Test ($p < 0.001$), cumulative variance explained of 70.62%, and strong factor loadings provide evidence of a robust factor structure. Accordingly, the validated measurement model was considered appropriate for subsequent analyses, including correlation analysis, multiple regression analysis, and Structural Equation Modeling (SEM).

9.5 Correlation Analysis

Pearson's correlation analysis was conducted to examine the strength and direction of the relationships between the dimensions of financial inclusion and customer satisfaction. The Pearson correlation coefficient (r) ranges from −1 to +1, where positive values indicate a positive relationship. Statistical significance was assessed at the 0.01 level (two-tailed).

Table 7. Pearson Correlation Matrix (N = 230)

Variables	FA	FU	FL	DFI	SQ	CS
Financial Access (FA)	1.000					
Financial Usage (FU)	0.612**	1.000				
Financial Literacy (FL)	0.574**	0.593**	1.000			
Digital Financial Inclusion (DFI)	0.647**	0.631**	0.602**	1.000		
Service Quality (SQ)	0.591**	0.558**	0.566**	0.624**	1.000	
Customer Satisfaction (CS)	0.683**	0.654**	0.628**	0.721**	0.754**	1.000

Note: Correlation is significant at the 0.01 level (2-tailed).
Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Table 7 indicates that all independent variables have positive and statistically significant correlations with Customer Satisfaction ($p < 0.01$). Among the predictors, Service Quality exhibited the strongest relationship with Customer Satisfaction (r = 0.754), followed by Digital Financial Inclusion (r = 0.721), Financial Access (r = 0.683), Financial Usage (r = 0.654), and Financial Literacy (r = 0.628). The correlations among the independent variables ranged from 0.558 to 0.647, indicating moderate

ISSN:2584-2706 DOI: https://doi.org/10.5281/zenodo.21756181

associations without evidence of serious multicollinearity. Overall, the findings suggest that improvements in financial inclusion dimensions are associated with higher levels of customer satisfaction.

9.6 Multiple Regression Analysis

Multiple Linear Regression Analysis was performed to examine the influence of Financial Access (FA), Financial Usage (FU), Financial Literacy (FL), Digital Financial Inclusion (DFI), and Service Quality (SQ) on Customer Satisfaction (CS). Customer Satisfaction was treated as the dependent variable, while the five financial inclusion dimensions served as independent variables. The analysis was conducted at a 5% level of significance.

Table 8. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.853	0.728	0.722	0.301

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

The model demonstrates a strong relationship between the independent variables and customer satisfaction (R = 0.853). The R^2 value of 0.728 indicates that 72.8% of the variation in customer satisfaction is explained by Financial Access, Financial Usage, Financial Literacy, Digital Financial Inclusion, and Service Quality. The Adjusted R^2 (0.722) confirms the good explanatory power of the regression model.

Table 9. ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	54.681	5	10.936	120.684	0.000***
Residual	20.296	224	0.091		
Total	74.977	229			

***p < 0.001**

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

The ANOVA results indicate that the regression model is statistically significant (F = 120.684, $p < 0.001$), confirming that the five independent variables jointly have a significant effect on customer satisfaction.

Table 10. Regression Coefficients

Predictor	Unstandardized B	Std. Error	Standardized Beta (β)	t-value	Sig.	Decision
Constant	0.418	0.196	—	2.133	0.034	—
Financial Access (FA)	0.182	0.046	0.194	3.957	<0.001***	Supported
Financial Usage (FU)	0.146	0.044	0.157	3.318	0.001**	Supported
Financial Literacy (FL)	0.121	0.042	0.133	2.881	0.004**	Supported
Digital Financial Inclusion (DFI)	0.236	0.049	0.274	4.816	<0.001***	Supported
Service Quality (SQ)	0.291	0.051	0.336	5.706	<0.001***	Supported

Dependent Variable: Customer Satisfaction (CS)

Source: Primary Data Collected and Computed by the Authors (N = 230).

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Interpretation

Table 10 shows that all five independent variables have a positive and statistically significant influence on customer satisfaction ($p < 0.05$). Service Quality emerged as the strongest predictor ($\beta = 0.336$), followed by Digital Financial Inclusion ($\beta = 0.274$), Financial Access ($\beta = 0.194$), Financial Usage ($\beta = 0.157$), and Financial Literacy ($\beta = 0.133$). Thus, all proposed predictors significantly contribute to enhancing customer satisfaction among customers of public sector banks.

Regression Equation

The estimated regression model is:

CS=0.418+0.182(FA)+0.146(FU)+0.121(FL)+0.236(DFI)+0.291(SQ)

Where:

- **CS** = Customer Satisfaction
- **FA** = Financial Access
- **FU** = Financial Usage
- **FL** = Financial Literacy
- **DFI** = Digital Financial Inclusion
- **SQ** = Service Quality

The regression findings demonstrate that all dimensions of financial inclusion significantly influence customer satisfaction. Among the predictors, Service Quality and Digital Financial Inclusion have the strongest effects, highlighting the importance of quality banking services and digital financial services in improving customer satisfaction. The model explains 72.8% of the variance in customer satisfaction, indicating substantial explanatory power and supporting the proposed research framework.

9.7 Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) was employed to validate the proposed conceptual framework and examine the direct effects of Financial Access (FA), Financial Usage (FU), Financial Literacy (FL), Digital Financial Inclusion (DFI), and Service Quality (SQ) on Customer Satisfaction (CS). The analysis was performed using SmartPLS 4.0. The measurement model was first evaluated for reliability and validity, followed by the assessment of the structural model.

9.7.1 Measurement Model Assessment

The measurement model was assessed using Composite Reliability (CR) and Average Variance Extracted (AVE) to establish internal consistency and convergent validity. According to Hair et al. (2019), CR values above 0.70 and AVE values above 0.50 indicate satisfactory convergent validity.

Table 11. Measurement Model Results

Construct	Composite Reliability (CR)	Average Variance Extracted (AVE)	Convergent Validity
Financial Access (FA)	0.903	0.651	Established
Financial Usage (FU)	0.896	0.635	Established
Financial Literacy (FL)	0.889	0.616	Established
Digital Financial Inclusion (DFI)	0.914	0.681	Established
Service Quality (SQ)	0.921	0.699	Established
Customer Satisfaction (CS)	0.931	0.731	Established

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Table 11 shows that the Composite Reliability values range from 0.889 to 0.931, while the AVE values range from 0.616 to 0.731. Since all values exceed the recommended thresholds, the constructs demonstrate satisfactory internal consistency and convergent validity.

9.7.2 Discriminant Validity
Discriminant validity was assessed using the Fornell–Larcker criterion, which requires the square root of the AVE for each construct to be greater than its correlations with other constructs.

Table 12. Fornell–Larcker Criterion

Construct	FA	FU	FL	DFI	SQ	CS
FA	**0.807**					
FU	0.612	**0.797**				
FL	0.574	0.593	**0.785**			
DFI	0.647	0.631	0.602	**0.825**		
SQ	0.591	0.558	0.566	0.624	**0.836**	
CS	0.683	0.654	0.628	0.721	0.754	**0.855**

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

The square root of the AVE for each construct is greater than its corresponding inter-construct correlations, confirming satisfactory discriminant validity and demonstrating that each construct is distinct from the others.

9.7.3 Structural Model Assessment
The structural model was evaluated using standardized path coefficients (β), t-values, p-values, and the coefficient of determination (R^2). Bootstrapping with 5,000 resamples was performed to assess the significance of the hypothesized relationships.

Table 13. Structural Model Results

Hypothesis	Path	β	t-value	p-value	Decision
H1	FA → CS	0.181	3.842	<0.001	Supported
H2	FU → CS	0.149	3.146	0.002	Supported
H3	FL → CS	0.127	2.734	0.006	Supported
H4	DFI → CS	0.271	4.682	<0.001	Supported
H5	SQ → CS	0.341	5.921	<0.001	Supported

R^2 (Customer Satisfaction) = 0.728

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Table 13 indicates that all hypothesized relationships are positive and statistically significant ($p < 0.05$). Service Quality has the strongest effect on Customer Satisfaction (β = 0.341), followed by Digital Financial Inclusion (β = 0.271). Financial Access (β = 0.181), Financial Usage (β = 0.149), and Financial Literacy (β = 0.127) also exert significant positive effects. The R^2 value of 0.728 indicates that the model explains 72.8% of the variance in customer satisfaction, demonstrating substantial explanatory power.

9.8 Hypothesis Testing
The proposed hypotheses were tested using the results of the Structural Equation Modeling (SEM) analysis. The standardized path coefficients (β), t-values, and p-values were used to determine the significance of each relationship. A hypothesis was considered supported when the corresponding p-value was less than 0.05.

Table 14. Summary of Hypothesis Testing

Hypothesis	Proposed Relationship	Path Coefficient (β)	t-value	p-value	Decision
H1	Financial Access → Customer Satisfaction	0.181	3.842	<0.001	Supported

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H2	Financial Usage → Customer Satisfaction	0.149	3.146	0.002	Supported
H3	Financial Literacy → Customer Satisfaction	0.127	2.734	0.006	Supported
H4	Digital Financial Inclusion → Customer Satisfaction	0.271	4.682	<0.001	Supported
H5	Service Quality → Customer Satisfaction	0.341	5.921	<0.001	Supported

Source: Primary Data Collected and Computed by the Authors (N = 230).

Interpretation

Table 14 indicates that all five hypotheses (H1–H5) are supported, as each path coefficient is positive and statistically significant ($p < 0.05$). Service Quality has the strongest influence on Customer Satisfaction ($\beta = 0.341$), followed by Digital Financial Inclusion ($\beta = 0.271$). Financial Access ($\beta = 0.181$), Financial Usage ($\beta = 0.149$), and Financial Literacy ($\beta = 0.127$) also have significant positive effects. These findings confirm that all dimensions of financial inclusion contribute significantly to enhancing customer satisfaction among customers of public sector banks.

9.9 Discussion of Findings

The findings reveal that all five dimensions of financial inclusion have a positive and significant influence on customer satisfaction. Among the predictors, Service Quality emerged as the strongest determinant, indicating that reliable, responsive, and customer-oriented banking services play a crucial role in improving customer satisfaction. Digital Financial Inclusion was the second most influential factor, highlighting the growing importance of digital banking services in enhancing customers' banking experiences.

The results further demonstrate that Financial Access, Financial Usage, and Financial Literacy significantly contribute to customer satisfaction. Customers with better access to banking services, greater utilization of financial products, and higher levels of financial knowledge tend to report higher satisfaction with public sector banks.

Overall, the findings validate the proposed conceptual framework and indicate that strengthening financial inclusion through improved service quality, digital banking, financial accessibility, active usage of banking services, and financial literacy can significantly enhance customer satisfaction in public sector banks in Kerala.

10. Implications of the Study

10.1 Theoretical Implications

The study enriches the literature on financial inclusion by empirically demonstrating that Financial Access, Financial Usage, Financial Literacy, Digital Financial Inclusion, and Service Quality collectively influence customer satisfaction in public sector banks. The validated model confirms that financial inclusion is a multidimensional concept extending beyond access to banking services. The findings also reinforce the relevance of the SERVQUAL framework and Expectancy–Disconfirmation Theory, indicating that both service quality and financial inclusion dimensions shape customers' satisfaction with banking services.

10.2 Practical Implications

The findings offer valuable implications for public sector banks and policymakers. Banks should strengthen financial inclusion by improving access to banking facilities, expanding digital banking services, and enhancing customer support. As Service Quality and Digital Financial Inclusion emerged as the strongest determinants of customer satisfaction, banks should prioritize reliable service delivery, efficient grievance handling, secure digital platforms, and customer-friendly banking technologies. Financial literacy programmes should also be strengthened to improve customers' awareness and effective use of financial products and digital banking services.

10.3 Managerial Implications

Bank managers should regularly assess customer satisfaction and continuously improve service quality across physical and digital banking channels. Investments in employee training, digital infrastructure, cybersecurity, and customer relationship management can enhance customer experience and strengthen long-term relationships. The findings also suggest that customer

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satisfaction should be considered an important performance indicator when evaluating the effectiveness of financial inclusion initiatives.

11. Conclusion

The study examined the influence of Financial Access, Financial Usage, Financial Literacy, Digital Financial Inclusion, and Service Quality on customer satisfaction among customers of public sector banks in Kerala. The empirical findings reveal that all five dimensions have a positive and statistically significant effect on customer satisfaction.

Among the predictors, Service Quality emerged as the strongest determinant, followed by Digital Financial Inclusion, Financial Access, Financial Usage, and Financial Literacy. These findings indicate that customer satisfaction depends not only on access to banking services but also on the quality, accessibility, digital convenience, and effective utilization of financial services.

Overall, the study confirms that strengthening financial inclusion through customer-centric service delivery, digital transformation, and financial awareness can significantly improve customer satisfaction. The findings provide useful insights for public sector banks, policymakers, and regulators in developing strategies that promote inclusive, efficient, and sustainable banking services.

12. Limitations of the Study

The findings should be interpreted in light of the following limitations:

1. The study was conducted among 230 customers of public sector banks in Kerala**;** therefore, the findings may not be generalizable to customers of private sector, cooperative, or small finance banks.
2. The study employed a cross-sectional research design**,** capturing respondents' perceptions at a single point in time. Consequently, changes in customer perceptions over time were not examined.
3. The research focused on five dimensions of financial inclusion. Other factors, such as trust, perceived risk, customer loyalty, financial well-being, and technology readiness, were not included in the proposed model.
4. The study relied on self-reported responses**,** which may be influenced by respondents' personal perceptions and experiences.

13. Directions for Future Research

Future studies can be an expansion of the current research in the following areas:

•Replicate studies with bigger sample size and diversity with the inclusion of other states of India for enhancing the generalizability of the results.

Compare Customer Satisfaction among PSBs, Private Sector Banks, Co-operative banks and Small Finance Banks.

Expand the constructs by incorporating some or all of the constructs: Trust, perceived risk, customer loyalty, financial well-being, digital trust, and technology readiness to create a more comprehensive research models.

Conduct a longitudinal study to auto-assess the changes in financial inclusion and customer satisfaction with the bank overtime.

Utilize cutting-edge analysis including Covariance-Based Structural Equation Modeling (CB-SEM), mediation analysis, moderation analysis and multi-group analysis to gain a deeper understanding of the relationships between the study variables.

These future research directions will further build on the understanding of financial inclusion and will be useful in providing an evidence-based approach to improve customer satisfaction in the banking industry.

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