

BARRIERS TO ADOPTION OF INTEREST-FREE BANKING PRODUCTS AND THEIR IMPLICATIONS FOR FINANCIAL INCLUSION A STUDY IN KARNATAKA

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Abstract

This research studies the barriers to the adoption of interest-free banking products in Karnataka and analyzes how these issues impact the financial inclusion. However, interest-free banking is highly associated with inclusive and ethical financial principles, which has a latent to fascinate underserved populations, and its recognition remains inadequate. The research determines the major barriers like misunderstanding about the functioning and nature of such products, regulatory uncertainties, consumers' low awareness, and insufficient availability in financial institutions. Lack of trust and cultural perceptions in non-conventional banking models are highly denoted to the slow adoption. By using integration of primary data and the secondary sources and surveys, the study addresses how these issues are disproportionately affect financially excluded groups like rural populations and small entrepreneurs. The study results recommend encouraging transparent communication, strengthening institutional support, and enhancing financial literacy can substantially improve the acceptance of the consumer. The research highlighting these barriers is not only essential for developing the reach of interest-free banking, but also for improving the broader financial inclusion goals in Karnataka.

Keywords: Interest-Free Banking, Consumer Awareness, Banking Adoption Barriers, Regulatory Challenges, Financial Inclusion.

1. INTRODUCTION

The Banking industry has shown a massive development in complexity and volume since the nationalization of Indian commercial banks. But there are some issues that the banking sector has not able to involve a large amount of the population in basic banking services, this is the main barrier of society. Therefore, there is a requirement for the development of Financial Inclusion as an approach to take the excluded people into the society mainstream. Karnataka has a well-developed financial infrastructure, and it is one of the developed state in India. Karnataka has initiated the deployment of several leading commercial banks, like Syndicate Bank, Corporation Bank, Canara Bank, and Karnataka Bank. In 2018 to 2019, Karnataka ranked in 4th place in banks' gross credit distribution and deposits mobilization in the selected states. Besides the financial infrastructure, the collective credit systems have their own identity in the state through the system of rural credit delivery. But the financial infrastructure availability is not even issued in Karnataka, which leads to the less financial inclusion in semiurban and rural areas [1].

Islamic banking/interest-free is a comparatively new banking product to the financial system of India. India trails the conventional banking system, which synchronizes with the practice of global banking. But currently India does not have a fully independent functional interest-free bank, mainly the viability of interest-free banks is taken into account by several State instrumentalities and government committees [2].

1.1 Background of the Study

Interest has remained as a primary part of India's banking system. The practice of interest-free banking can be traced back to the 1890s in South India. Currently, Interest-free loans are offered by many informal and non-institutional financial agencies in the countryside as well as urban areas. The institutional enhancement of interest-free banking is divided into four major types: No-profit Islamic financial societies (Bait-ul-mals, Welfare societies, and Muslim Funds) listed under the Societies Registration Act; Finance companies & Islamic investment registered under the Companies Act, Person financial association; and Islamic / Interest free credit cooperative societies. In 2005, RBI assigned a committee to analyze the feasibility and prospects of interest-free banks. The final report of the committee concluded that the interest-free banks are not possible in the current regulatory and legal framework, and it has various barriers in adapting these banking products. The committee reported that in order to overcome these issues, interest-free banking should needs a revision in the BR Act and requires separate rules & regulations in the banking sector, and these barriers also affect financial inclusion. Financial inclusion is defined as the process of ensuring access to financial services on time, and sufficient credit required by vulnerable groups like low-income groups and weaker section at a reasonable cost [1, 2].

Currently, financial inclusion become significant for policymakers in India. The requirement for efficient issuance of social targeted subsidies and welfare services has demanded the people's financial inclusion. The achievement of 100 percent financial inclusion has led to two necessary purposes: it issues essential financial resources in the economy of a country; and it encourages the habits of investment and savings of people. Financial Inclusion was first implemented in Karnataka by the RBI regional office, in December 2005. Rural Planning and Credit Department (RPCD) requested the State Level Bankers Committee (SLBC), Karnataka, to implement the first stage of financial inclusion in the state.

The Financial Inclusion initiative in Karnataka was launched in December 2005 by the Regional Office of the Reserve Bank of India (RBI). To facilitate its implementation, the Rural Planning and Credit Department (RPCD) directed the State Level Bankers' Committee (SLBC), Karnataka, to undertake the first phase of the Financial Inclusion programme within the state. [3]. The existing banking laws in India do not explicitly provide a legal framework for interest-free banking. As the current regulatory and legal system is primarily designed around the conventional interest-based banking model, the implementation of interest-free banking may encounter several legal and regulatory challenges. Some of the key legislative and regulatory provisions that pose significant

obstacles to the establishment and operation of interest-free banking in India are discussed below.

Section 19 (2), BR Act: The limitations enacted on banking firms holding shares of another firm may conflict with a musharakah agreement, that is equity partnership.

Section 9, BR Act: Restricts the banks from admitting any immovable property excluding their own use. This may conflict with Istisna or Ijarah (house finance).

Section 5 (a), BR Act: It characterizes banking as accepting, for investment or lending, of money deposit from the people, repayable on demand and withdrawal by draft, cheque, or done against the PLS approach of interest-free banking. In this context, capital is not subjected and guaranteed to profit or loss.

Section 8, BR Act: mainly specifies that no banking company will indirectly or directly deal with bartering or selling or buying of goods. This act is highly conflict to Murabaha concept of interest-free banking that allows banks to enter into purchase and sale agreements [2].

1.2 Problem Statement

India's banking system is predominantly based on an interest-driven model. Although the government has introduced several financial inclusion and welfare schemes, access to affordable credit remains a challenge for many rural and economically disadvantaged populations. In this context, interest-free banking has emerged as an alternative approach that seeks to provide financial services without charging interest, offering repayment arrangements that are more flexible and aligned with borrowers' financial capacity. Despite its potential to enhance financial inclusion and improve access to credit in rural areas, interest-free banking remains largely unexplored in India. In particular, there is limited empirical evidence on its effectiveness, challenges, and impact in the state of Karnataka, highlighting a significant research gap.

This research tried to enable solutions and strategies for financial inclusive, and the practices of financial inclusion with interest-free banking mechanisms, results, and processes. The research is practical in its nature, and this approach enables new directives and movement on Karnataka practice of financial inclusion towards 2035.

1.3 Research Gap

The study is limited to Bengaluru & North Karnataka rural and urban areas, and this research is only an assessment of financial inclusion and interest-free banking services, so in this study other concepts also need to be discussed. The research aimed at features like social influence, behavioral intention, performance expectancy, and perceived risk towards adoption of mobile banking. However, this study research scope was restricted to technology-based conventional banking services, including financial inclusion, and it did not highlight interest-free banking products, which are attracting significant interest in the Islamic banking sector. Additionally, this research did not analyze the awareness levels, product accessibility, trust in interest-free financial principles, and regional beliefs that impact the interest-free banking products adoption in Karnataka. These aspects

substantially impact the involvement of financially excluded people in the financial system, a significant gap exists in the consideration of adopting interest-free banking products and their implications for financial inclusion in Karnataka.

1.4 Research Objectives

- RO1: To identify the major barriers affecting adoption of interest-free banking products.
- RO2: To examine the influence of identified barriers on customers' adoption intention.
- RO3: To assess the relationship between adoption of interest-free banking products and financial inclusion.
- RO4: To provide recommendations for enhancing financial inclusion through interest-free banking.

1.5 Research Questions

- 1) What barriers prevent customers from adopting interest-free banking products?
- 2) Which barriers significantly influence adoption intention?
- 3) How does adoption contribute to financial inclusion?

2. LITERATURE REVIEW

2.1 Interest-Free Banking: Concept and Evolution

The role of banking is essential today and has been since ancient times. Currently, a new alternative in banking is being developed on a global scale: Islamic or interest-free banking. In India, several high committees are performed a chosen faith based on the financial exclusion, and the recommendation of interest-free banking is a viable solution. The research [4] tried to investigate the working of interest-free banking, and analyze their catalogue in the India's regulatory and legal framework. The research attempted to determine the significant step taken by the India to implement interest-free banking, and it also thoroughly analyzed the interest-free banking.

Islamic Banking is also defined as interest-free banking, which works in strict adherence to Islamic or Sharia law, distinguishing itself from conventional banking by the exclusion of interest and involvement in unethical business movements. The research [5] enables a thorough overview of interest-free banking principles like risk sharing, uncertainty, prohibition of uncertainty & speculation, and profit & loss sharing. Additionally, this research analyzed the different features that set interest-free banking apart from traditional banking, which highlights the social responsibilities and ethical framework are significant in interest-free banking. The stability and growth of interest-free banking have increased in the global market, mainly during economic declines, which emphasizes its latent as a feasible alternative to conventional banking systems.

The research [6] analyzed interest-free banking as a path to implementing inclusive and ethical financial system, by using a case study method. The study examined the interest-free banking principles, like social responsibility, profit & risk sharing, and restriction of

interest, sustainable economic growth, financial inclusion, and denoted to ethical conduct. Through a case study, the research implemented a qualitative analysis of managing interest-free financial institutions. The study also determined the challenges, benefits, and practical strategies in deploying interest-free banking, and it also mainly investigated the growth of interest-free banking system.

Study results showed that interest-free banking improves stakeholder trust, transparency, it also developed the social sustainability and organizations. The research highlighted the significance of combining principles of ethical principles into current banking practices, and enabled suggestions for researchers, practitioners, and policymakers to strengthen their financial systems.

2.2 Interest-Free Banking Products

Interest-Free Banking are highly related with the Islamic Finance, this is the system that restricts the paying or charging of interest. Rather, it depends on profit-and-loss model, asset-back transaction, and ethical models to guarantee the economic justice.

In the study, interest-free / Islamic banking sector is progressively emerging as an application area of alternative finance. The research [7] determined the key aspects of Islamic banking and their leading services & products, and it explained the historical development is this banking sector globally. The research aimed to examine the distribution of services and products. The study findings indicated that this sector desires extremely less risky areas like murabahah ijarah, due to its diversified & developed services and products. While it results in advancing the sector's resilience. The product resources are assigned to production and investment, which highlights the requirement for real economy to increase based on these Interest-Free banking services and products.

The study [8] focused on studying customer awareness towards the interest-free banking products. The main aim is to highlight these concerns and draw the attention of regulators, consumers, policy makers, and researches. It also evaluated the feasibility and scope of Islamic banking in Indian scenario. The data were gathered from several states of India. The research utilized perceptual mapping and factor analysis techniques.

Religious binding is developing the emphasis and increasing disposable income of financial inclusion, that generate high scope for interest-free banking, enabling requiring improvements in the banking laws. The study indicated that most of the respondents are aware of the interest-free banking mechanism. The study also determined the aspects like needs of Islamic banking products, awareness of Shariah law, structure of interest-free banking, and financial requirements that highly impact consumer perception.

2.3 Financial Inclusion in India

Finance plays a vital role in promoting economic development and improving societal well-being. A robust financial system is essential not only for developing and underdeveloped economies but also for achieving sustainable and inclusive growth. Financial inclusion contributes to equitable economic development by ensuring that affordable and appropriate financial services are accessible to all sections of society,

particularly vulnerable populations such as low-income households and economically weaker groups who have limited access to formal banking services. In this study[9], the authors tried to understand the financial inclusion and its significance for entire enhancement of nation and society economy. The research aimed at processes that adopted by several Indian banks to attain the main goals of financial inclusion for the inclusive growth of India, and examines the past years' achievements and progress. The study data were gathered through online resources, NABARD reports, and reports of Reserve Bank of India, Articles, and several research journals.

Inclusive growth is only achieved through a proper mechanisms that directs all the resources from top to bottom. Financial inclusion is a model that creates alternative methods to encourage banking practices among rural people. Because all over the world, India has a high amount of rural people. Financial inclusion is focused on enabling financial and banking services to all people in a transparent, fair, and reasonable manner at an affordable price. Families with low income have limited access to bank accounts, which makes it difficult for them to save and plan financially for the future. The research [10] tried to examine the outline of financial inclusion in India.

Financial inclusion has emerged as a key driver of economic growth and poverty reduction. It aims to provide affordable and accessible banking and financial services to underserved and economically disadvantaged populations. By expanding access to formal financial services, financial inclusion promotes inclusive economic development, reduces income disparities, and enhances the overall well-being of society. Consequently, it has become a fundamental pillar of sustainable economic growth and social development.

The study [11] focused to analyze the effect of financial inclusion on economic growth over seven years in India. Secondary data is examined by the multiple regression model, and it is utilized as a main statistical tool. Research findings found a significant and positive effect of the number of credit deposits and bank branches on the GDP of the country, whereas these effects are perceived in the context of ATM development on Indian GDP.

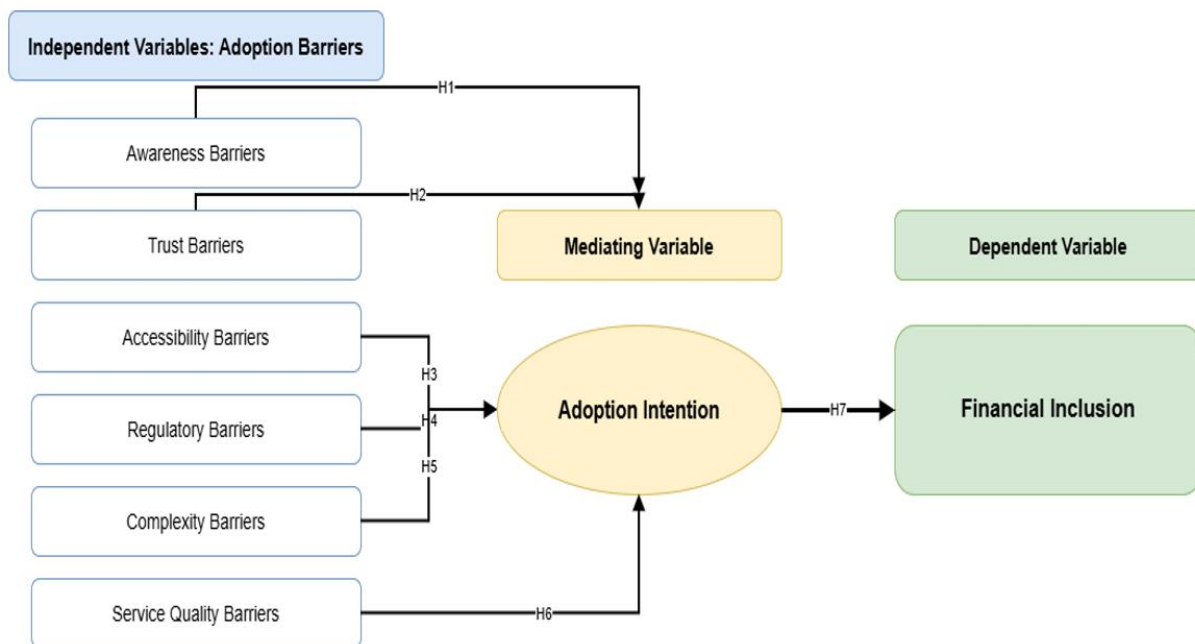
2.4 Barriers Identified in Literature

The presence of interest-free banking services has a strong statistically positive impact on general socio-economic behaviors. Making banking services easier to access and use is a significant step toward ensuring everyone can participate in the economy. Likewise, psychological and social barriers have a substantial positive relationship, which showed that mitigating or tackling these barriers can develop financial inclusion practices, but their existence may also leads to intrinsic issues in adopting the interest-free banking behavior.

Psychological and social barriers display a strong relationship with the socio-economic practices and sustainable development. This indicated that we need to deal with the cultural, behavior, and perceptual barriers to gain benefits from interest-free banking, and overcoming these barrier is also essential for broader acceptance and effectiveness [12].

The study [13] analyzed the level of adoption and awareness of financial inclusion, and examined the effect on digital banking on affordability and accessibility of the interest-free banking process, and identified some barriers that are hindering effective involvement. Major issues like poor internet connectivity, lack of digital literacy, fear of cybercrimes, and limited assistance from the banking institutions are analyzed in this study. Barriers like limited access, lack of awareness, mistrust in digital platforms, fear of fraud, and technical difficulties are also identified in the study.

2.5 Conceptual Framework



2.6 Hypothesis

- H1: Awareness barriers significantly affect adoption intention.
- H2: Trust barriers significantly affect adoption intention.
- H3: Accessibility barriers significantly affect adoption intention.
- H4: Regulatory barriers significantly affect adoption intention.
- H5: Complexity barriers significantly affect adoption intention.
- H6: Service quality barriers significantly affect adoption intention.
- H7: Adoption intention significantly influences financial inclusion.

3. RESEARCH METHODOLOGY

3.1 Research Design

The study will adopt a **quantitative, descriptive and explanatory research design**.

The descriptive approach will be used to identify the barriers affecting the adoption of interest-free banking products, while the explanatory approach will examine the influence of these barriers on adoption intention and financial inclusion.

Research Approach

- Deductive Approach
- Cross-sectional Survey Design
- Quantitative Research Method

3.2 Study Area

The study will be conducted in the state of Karnataka.

3.3 Target Population

The target population consists of:

- Existing bank customers
- Potential users of interest-free banking products
- Customers aware of Islamic/interest-free banking concepts
- Individuals from both urban and rural areas of Karnataka

3.4 Sampling Technique

Sampling Method

Purposive Sampling combined with **Convenience Sampling**

3.6 Variables of the Study

Independent Variables (Barriers)

- 1) Awareness Barrier
- 2) Trust Barrier
- 3) Accessibility Barrier
- 4) Regulatory Barrier
- 5) Complexity Barrier
- 6) Service Quality Barrier

Mediating Variable

- Adoption Intention

Dependent Variable

- Financial Inclusion

4. DATA ANALYSIS AND INTERPRETATION

Table 1: Demographic Analysis

Age	Frequency	Percent
Less than 25 years	19	11.90
25 - 35 years	62	38.80
36 - 45 years	39	24.40
46 - 55 years	29	18.10
Above 55 years	11	6.90
Gender	Frequency	Percent
Male	105	65.60
Female	55	34.40
Occupation	Frequency	Percent
Business Owner	28	17.50
Farmer	27	16.90
Salaried Employee	46	28.80
Self Employed	26	16.30
Student	24	15.00
Others	9	5.60
Education	Frequency	Percent
School	24	15.00
Diploma	10	6.30
Undergraduate	83	51.90
Post graduate	36	22.50
Doctorate	7	4.40
Residence	Frequency	Percent
Rural	20	12.50
Semi-Urban	70	43.80
Urban	70	43.80
Bank_Account	Frequency	Percent
Yes	154	96.30
No	6	3.80
Heard_IFB	Frequency	Percent
Yes	117	73.10
No	43	26.90
Used_IFB	Frequency	Percent
Yes	41	25.60
No	119	74.40
Aware_No_Interest	Frequency	Percent
Yes	87	54.40
No	73	45.60
Interested_Learn_More	Frequency	Percent
Yes	141	88.10
No	19	11.90
Total	160	100.00

The demographic analysis of 160 respondents provides useful insights into the characteristics of persons involved in study on challenges of adopting interest-free banking products in Karnataka. The age distribution of the respondents shows that the largest percentage of respondents (38.8%) are in the 25-35 years age group and the next

largest group (24.4%) is in the 36-45 years age category. 18.1% of the respondents are in the age group of 46-55 years. 11.9% of the respondents are below 25 years while just 6.9% are over 55 years. This implies that the study is mostly focused on the economically active and financially engaged group of individuals who are more prone to make decisions about banking and investment. In terms of gender distribution, 65.6% of the respondents were male and 34.4% were female. Nevertheless, despite the higher male participation, the presence of female respondents gives a holistic perspective of consumer awareness and adoption of interest-free banking products in all sections of society.

The highest proportion of respondents were salaried workers (28.8%), followed by firm owners (17.5%), farmers (16.9%), self-employed individuals (16.3%), students (15.0%) and others (5.6%). The variation in the representation of occupation indicates that the perceptions of interest free banking products have been captured from individuals with varying sources of income and financial requirements. In terms of educational profile, most of the respondents (51.9%) have an undergraduate degree while 22.5% have postgraduate credentials. 15.0% have an education level at school, 6.3% have a diploma and 4.4% have a PhD. The respondents had a reasonably high level of education, indicating their capacity to understand banking concepts, but there is still a need to improve their awareness of interest-free banking products.

In terms of residential distribution, equal proportion of respondents belongs to urban (43.8%) and semi-urban (43.8%) areas while just 12.5% belong to rural areas. This implies that the poll reflects the opinions of respondents who are mostly from the regions with more access to banking infrastructure and financial services. The data shows that 96.3% of respondents had a bank account, a high level of participation in the formal banking system. But despite the wide availability of financial services, only 73.1% know that there are interest-free banking products, while 26.9% do not know about their existence. Interestingly, just 25.6% have ever used interest free banking products and 74.4% have never used them.

The wide gap between awareness and actual usage points to big barriers to adoption, even if the level of financial inclusion now is rather high. Furthermore, only 54.4% of the respondents know that interest free financial products do not run on interest, but rather without interest and interest disbursement and 45.6% of the respondents lack this basic understanding. This finding indicates a severe lack of understanding of basic banking principles of interest free banking which may lead to lower acceptance rates. However, a good finding is that 88.1% of respondents had a want to learn more about interest-free banking products, compared to just 11.9% who do not have interest.

This shows great scope of future acceptance if the necessary awareness campaign, consumer education activities and promotional methods are undertaken. The demographic analysis reveals that while financial inclusion through traditional banking is relatively high, limited awareness, understanding and actual utilization of interest-free banking products still exist, indicating a need for concentrated educational and institutional efforts in Karnataka.

Table 2: Correlation Analysis

Correlations	Awareness Barriers	Trust Barriers	Accessibility Barriers	Regulatory Barriers	Complexity Barriers	Service quality Barriers	Adoption Intention	Financial Inclusion
Awareness Barriers	1	.866**	.910**	.913**	.890**	.881**	.675**	.910**
Trust Barriers	.866**	1	.778**	.830**	.741**	.816**	.681**	.763**
Accessibility Barriers	.910**	.778**	1	.940**	.894**	.862**	.674**	.879**
Regulatory Barriers	.913**	.830**	.940**	1	.913**	.911**	.704**	.870**
Complexity Barriers	.890**	.741**	.894**	.913**	1	.856**	.644**	.851**
Service quality Barriers	.881**	.816**	.862**	.911**	.856**	1	.725**	.826**
Adoption Intention	.675**	.681**	.674**	.704**	.644**	.725**	1	.617**
Financial Inclusion	.910**	.763**	.879**	.870**	.851**	.826**	.617**	1

The Awareness Barriers have a strong positive association with Regulatory Barriers ($r = 0.913$), Accessibility Barriers ($r = 0.910$), Complexity Barriers ($r = 0.890$), Service Quality Barriers ($r = 0.881$) and Trust Barriers ($r = 0.866$). The finding suggests that lack of knowledge is strongly related to consumers' perceptions of regulatory uncertainty, limited availability, complicated procedures, worse service quality, and lack of trust in interest-free banking products.

Accessibility Barriers are extremely significantly associated with Regulatory Barriers ($r = 0.940$), the strongest association among the independent variables. This implies that consumers who are aware of regulatory challenges are also likely to experience accessibility challenges. The result indicates that institutional and infrastructural factors have a combined impact on customer perceptions. Significant association was found between Regulatory hurdles and Complexity barriers (0.913) and between Regulatory obstacles and Service Quality Barriers (0.911) suggesting the interrelation between operational and policy-related limits.

The connection between the barrier variables and Adoption Intention is favorable and statistically significant for all categories. Service Quality Barriers correlated most with Adoption Intention ($r = 0.725$) followed by Regulatory Barriers ($r = 0.704$), Trust Barriers ($r = 0.681$), Awareness Barriers ($r = 0.675$), Accessibility Barriers ($r = 0.674$) and Complexity Barriers ($r = 0.644$).

The findings indicate that customer perceptions of service quality, regulations, trust, awareness, accessibility and complexity are important factors affecting their likelihood of using interest-free banking products. The research also shows strong positive link between barrier features and Financial Inclusion.

Awareness Barriers had the highest link with Financial Inclusion ($r = 0.910$), followed by Accessibility Barriers ($r = 0.879$), Regulatory Barriers ($r = 0.870$), Complexity Barriers ($r = 0.851$), Service Quality Barriers ($r = 0.826$) and Trust Barriers ($r = 0.763$). Furthermore, Adoption Intention is positively correlated with Financial Inclusion ($r = 0.617$), which suggests that a high tendency to adopt the interest-free banking products is associated with a high level of participation in the formal financial system.

Table 3: Regression Analysis

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	137.379	6	22.897	31.959	.000b
Residual	109.614	153	0.716		
Total	246.994	159			
Coefficients ^a	B	Std. Error	Beta	t	Sig.
(Constant)	1.047	0.247		4.234	0.00
Awareness Barriers	-0.175	0.178	-0.177	-0.98	0.33
Trust Barriers	0.272	0.111	0.289	2.442	0.02
Accessibility Barriers	0.176	0.177	0.175	0.994	0.32
Regulatory Barriers	0.058	0.194	0.066	0.302	0.76
Complexity Barriers	-0.003	0.139	-0.003	-0.022	0.98
Service quality Barriers	0.397	0.126	0.437	3.149	0.00
a Dependent Variable: Adoption Intention					

The influence of knowledge barriers, trust barriers, accessibility barriers, regulatory barriers, complexity barriers and service quality barriers on consumers' willingness to use interest free banking products was studied using multiple regression analysis. The regression model is statistically significant as evidenced by the F-value of 31.959 and a significance level of $p < 0.001$. This shows that the specified barrier variables together account for a considerable variance in the adoption intention of the respondents. Therefore, this model may be used to predict the intention of clients to choose interest free banking products. The coefficient of analysis shows that Trust Barriers has a significant effect on the adoption intention ($\beta = 0.289$, $p = 0.02$). The findings show that customer trust has an important role in shaping consumer willingness to adopt interest-free banking services. Higher adoption rates are projected due to enhanced transparency, credibility and customer confidence in interest-free financial services.

Similarly, Service Quality Barriers is the most significant predictor of adoption intention ($\beta=0.437$, $p<0.001$). The large coefficient shows that customers attach importance to the quality of financial services, punctuality, efficiency, customer help, and service. Improvement in service quality is expected to boost consumers' willingness to embrace interest-free banking products dramatically. In the regression model, Awareness Barriers ($p = 0.33$), Accessibility Barriers ($p = 0.32$), Regulatory Barriers ($p = 0.76$) and Complexity Barriers ($p = 0.98$) are not statistically significant for adoption intention. These features may be related to intention to adopt, however individually they are not significant when considered along with other predictors. This means that their influence might be similar to the effect of more powerful factors like as trust and service quality, or can be indirect via these factors.

Table 4: Reliability Analysis

Construct	No of Items	Cronbach Alpha
Awareness Barrier	3	0.842
Trust Barrier	3	0.821
Accessibility Barrier	3	0.789
Future Adoption Intention	3	0.792
Financial Inclusion Perception	3	0.816

The Awareness Barrier construct has the most reliable score of Cronbach's Alpha at 0.842, indicating a high internal consistency of the three questions used to measure the construct. Trust Barrier has a good reliability with an Alpha score of 0.821 which shows that the items are a good representation of the respondents' views on impediments to the acceptance of interest free banking products. The Financial Inclusion Perception construct has a Cronbach's Alpha score of 0.816 suggesting a good dependability and that the questions measure the respondents' perception of financial inclusion equally. Similarly, Future Adoption Intention has Alpha value of 0.792 and Accessibility Barrier has Alpha value of 0.789. These numbers are somewhat lower than the previous constructions but still above the needed criteria, thereby confirming good internal consistency.

Hypothesis

H1: Awareness Barriers Significantly Affect Adoption Intention

	<u>AdoptionIntention</u>					
Awareness Barriers	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	0	12	0	0	0	12
Disagree	6	10	0	0	0	16
Neutral	0	0	0	0	15	15
Agree	0	0	12	15	22	49
Strongly Agree	0	0	10	12	46	68
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	212.498a	16	0.00			
Likelihood Ratio	177.428	16	0.00			

Chi-square analysis was used to evaluate the influence of knowledge barriers on consumers' preference to adopt interest-free banking products. The data show Pearson Chi-square value of 212.498 with 16 degrees of freedom and p-value of 0.000, demonstrating a statistically significant association between awareness hurdles and adoption intention.

The p-value is less than the conventional significance level of 0.05; thus, the null hypothesis is rejected. Hence, it can be said that the knowledge barriers have a substantial effect on the consumers' willingness to adopt the interest-free banking products. The cross tabulation clearly shows a pattern in the respondents' opinions. Among those who strongly agree to the awareness barriers, most of them (46 respondents) also strongly want to adopt.

The ones that just agree to the awareness barriers largely fall into the agree and highly agree groups of adoption intention. On the other hand, the adopters who reject awareness barriers are mostly found in the disagree or strongly disagree groups for adoption intention. This suggests that the respondents' perception of awareness-related issues is closely connected to their adoption decisions.

The findings reveal that information has a substantial effect on the willingness of customers to think about interest-free banking products. Lack of knowledge of the product features, poor promotion and lack of understanding of the ideas of interest free banking may dissuade potential customers from adopting such financial services. Adoption intention will certainly improve due to educating clients, improving their financial literacy, and effective marketing initiatives.

H2: Trust Barriers Significantly Affect Adoption Intention

Trust Barriers	Adoption Intention					Total
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Strongly Disagree	0	12	0	0	0	12
Disagree	0	10	6	0	0	16
Neutral	6	0	0	0	15	21
Agree	0	0	6	12	6	24
Strongly Agree	0	0	10	15	62	87
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	213.674a	16	0.00			
Likelihood Ratio	184.826	16	0.00			

A chi-square test was conducted to test the effect of trust barriers on the consumers' willingness to embrace interest-free banking products. The results show a Pearson Chi-square of 213.674 with 16 degrees of freedom and p-value of 0.000, which means that there is a statistically significant link between trust hurdles and adoption intention. > The p-value is less than 0.05; hence, the null hypothesis is rejected.

Hence, trust barriers significantly influence the consumers' choice to choose interest-free banking products. The cross-tabulation also supports this finding since there is a strong association between the respondent's trust evaluation and their intention to adopt.

Most of the respondents strongly agree with the importance of trust-related elements are in the strong agree category of adoption intention (62 respondents), and the respondents who agree with trust-related factors are in the agree and strong agree categories. Those with lower levels of trust tend to be concentrated in the disagree or strongly disagree categories for intention to adopt.

This trend demonstrates a strong correlation between consumer trust and the desire to accept interest-free banking alternatives. The findings indicate that trust is an important determinant for customer acceptance of interest-free banking.

Potential customers may not use these commodities due to concerns about the honesty of financial organizations, transparency of banking activities, commitment to interest-free principles and reliability of financial services. The bank should clearly communicate, engage in ethical banking practices and efficiently manage its customer relationships to build client confidence.

H3: Accessibility Barriers Significantly Affect Adoption Intention

	Adoption Intention					
Accessibility Barriers	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	0	12	0	0	0	12
Disagree	6	10	0	0	0	16
Neutral	0	0	0	0	9	9
Agree	0	0	6	21	31	58
Strongly Agree	0	0	16	6	43	65
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	218.350a	16	0.00			
Likelihood Ratio	180.154	16	0.00			

Chi-square analysis was used to test the influence of accessibility constraints on consumers' willingness to accept interest-free banking products. The results indicate that the Pearson Chi-square value is 218.350 with 16 degrees of freedom and the p-value is 0.000 which implies a statistically significant relationship between accessibility barriers and adoption intention. The p-value is less than the significance level of 0.05 and so the null hypothesis is rejected. Therefore, it is true that the limits imposed by accessibility significantly affect consumers' choice to adopt interest-free banking products. The cross-tabulation reveals a strong relationship between accessibility barriers and intention to adopt. Among respondents who strongly agreed with accessibility related difficulties, the majority (43 respondents) also highly supported adoption intention. Conversely, individuals who see accessibility constraints are more likely to belong to the agree (21 respondents) and strongly agree (31 respondents) groups for adoption intention. On the other hand, people who strongly disagree or disagree with accessibility barriers are typically associated to the lower levels of adoption intention. This distribution shows a strong link between the perception of accessibility by customers and the willingness to embrace interest-free banking products. The findings imply that accessibility is vital to influence customer adoption decisions. The inclination of customers to utilize these products is affected by such elements as the existence of interest-free banking branches, availability of financial services, ease of use of digital platforms, proximity of service locations and availability of banking information. The limited availability may dissuade people from using the interest free banking services even while they recognize the benefits.

H4: Regulatory Barriers Significantly Affect Adoption Intention

	Adoption Intention					
Regulatory Barriers	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	0	22	0	0	0	22
Disagree	6	0	0	0	0	6
Neutral	0	0	0	0	9	9
Agree	0	0	6	15	22	43
Strongly Agree	0	0	16	12	52	80
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	335.240a	16	0.00			
Likelihood Ratio	192.491	16	0.00			

A Chi-square test of independence was conducted to determine the significant association between legislative restrictions and consumers' propensity to use interest-free banking products. The results showed a Pearson Chi-square value of 335.240 with degree of freedom of 16 and p value of 0.000 which indicates a highly substantial link between regulatory barriers and adoption intention.

The null hypothesis is rejected due to the p-value being less than the 0.05 level of significance. Therefore, it is confirmed that regulatory limits have a significant impact on the consumers' choice to choose interest-free banking products. The cross-tabulation shows a substantial association between respondents' opinions on regulatory constraints and their intention to adopt.

Among the respondents who strongly acknowledged the existence of regulatory barriers, the majority (52 respondents) also strongly intended to adopt, whereas those who only agreed with the regulatory barriers were mainly classified into the agree (15 respondents) and strongly agree (22 respondents) categories regarding adoption intention.

On the other hand, individuals who strongly disapprove and disagree with regulatory constraints are concentrated largely in the lower categories of desire to adopt. This distribution clearly shows that the regulatory opinions are strongly related to the consumers' adoption decisions.

The results suggest that regulatory challenges, including lack of clear policies, weak legal framework, uncertainty about compliance and lack of institutional support for interest-free banking products, have a significant impact on customer confidence and their willingness to adopt such financial services. If customers see the regulatory environment as transparent, supportive and effective in protecting their financial interests, they are more likely to choose for interest-free banking.

H5: Complexity barriers significantly affect adoption intention

	Adoption Intention					
Complexity Barriers	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	0	12	0	0	0	12
Disagree	6	10	0	0	0	16
Neutral	0	0	0	6	15	21
Agree	0	0	0	15	10	25
Strongly Agree	0	0	22	6	58	86
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	243.400a	16	0.00			
Likelihood Ratio	201.463	16	0.00			

Chi-square analysis was used to evaluate the effect of complexity barriers on customer willingness to embrace interest free banking products. The results show Pearson Chi-square of 243.400 at 16 degree of freedom and p-value of 0.000 which indicates statistically significant relationship between complexity barriers and desire to adopt. Given

that the p-value is less than the significance level of 0.05, the null hypothesis is rejected and it is concluded that complexity barriers have a significant effect on the likelihood of customers using interest-free banking products.

The cross tabulation shows a good link between perceived difficulty and willingness to adopt. Of those strongly agreeing that complexity hurdles exist, the majority (58 responses) also report a strong wish to adopt. On the other hand, most of the people who just agree that there are complexity hurdles are in agree (15 respondents) and strongly agree (10 respondents) groups in relation with adoption intention. Most of the respondents who have a neutral view of complexity barriers are in the agree and strongly agree categories for adopting intention.

On the other hand, those who strongly disagree and disagree with complexity hurdles are mostly associated with lower levels of adoption intention. This distribution confirms a significant relationship between perceived complexity and consumers' willingness to use interest free banking products. The results suggest that the perceived complexity of interest-free banking products such as the difficulty in understanding the features of the products, unfamiliarity with financial jargons, complex application procedures and uncertainty about the way they work, play a significant role in customers' adoption decisions. Clients may be hesitant to adopt the goods even when they see the potential benefits if they have difficulty in understanding or using the financial products.

H6: Service Quality Barriers Significantly Affect Adoption Intention

	Adoption Intention					
Service quality Barriers	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	0	16	0	0	0	16
Disagree	6	6	0	0	0	12
Neutral	0	0	0	0	9	9
Agree	0	0	10	0	12	22
Strongly Agree	0	0	12	27	62	101
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	247.716a	16	0.00			
Likelihood Ratio	189.211	16	0.00			

The effects of service quality barriers on the consumers' tendency to embrace interest-free banking products were determined using a Chi-square analysis. The results show that the Pearson Chi-square is 247.716 with 16 degrees of freedom and the p-value is 0.000. This implies that there is a statistically significant relationship between service quality hurdles and adoption intention.

The p-value is less than the significance level of 0.05, thus the null hypothesis is rejected. It can be concluded that the impediment to service quality greatly influences consumers' decisions to accept interest-free banking products. The crosstab shows a strong relationship between the respondents' perception of service quality and their willingness to adopt. Respondents who highly approve the consideration of service quality also highly

support the adoption intention (62 respondents), yet there is a good number of respondents (27 respondents) who also fall into the agree category.

In terms of adoption intention, those who agree with service quality obstacles are mostly neutral (10 respondents) and strongly agree (12 responses). However, those who strongly agree and disagree on service quality constraints are mostly in the lower categories of adoption intention. The trend shows a significant relationship between perceived service quality and consumers' inclination to use interest-free banking products. The findings show that service quality is an important element determining customer adoption.

Prompt customer service, staff competence, responsiveness, reliability, ease of transactions, effective complaint management and overall quality of banking services are elements that have a significant impact on consumers' faith in interest-free banking products. Poor quality of service may discourage potential buyers, whilst better services may enhance customer happiness and facilitate adoption of the product.

H7: Adoption Intention Significantly Influences Financial Inclusion

	Adoption Intention					
Financial Inclusion	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Strongly Disagree	0	12	0	0	0	12
Disagree	6	9	0	0	1	16
Neutral	0	0	0	0	15	15
Agree	0	1	13	9	33	56
Strongly Agree	0	0	9	18	34	61
Total	6	22	22	27	83	160
Chi-Square Tests	Value	df	p value			
Pearson Chi-Square	198.928a	16	0.00			
Likelihood Ratio	159.407	16	0.00			

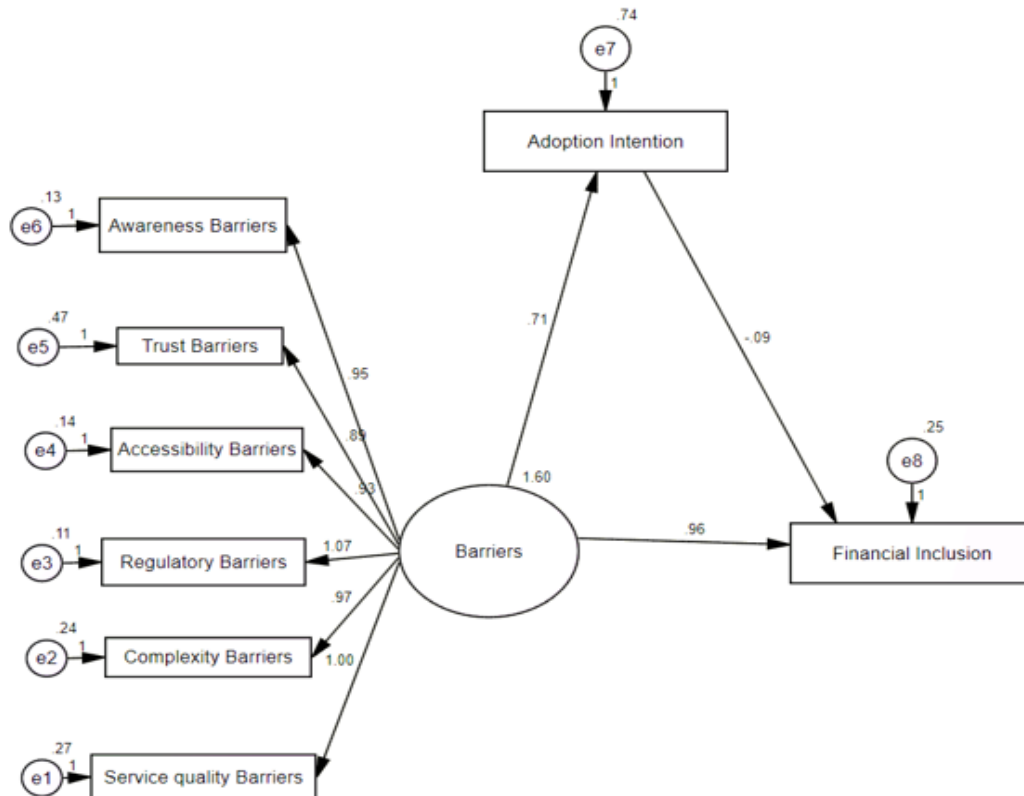
To examine the effect of adoption intention on financial inclusion among the respondents of Karnataka, Chi-square analysis was carried out. The results show that the Pearson Chi-square statistic is 198.928 with 16 degrees of freedom and the p-value is 0.000 which means that there is a strong link between adoption intention and financial inclusion. Since the p-value is less than the significance level of 0.05, the null hypothesis is rejected. So, the adoption intention has a significant effect on financial inclusion. This relationship is further shown in the cross-tabulation.

A large proportion of respondents who strongly endorsed adoption intention agreed (33 respondents) or strongly agreed (34 respondents) with financial inclusion. Similarly, the respondents with positive levels of adoption intention are in the agree and strongly agree categories of financial inclusion. In contrast, individuals who strongly oppose or disagree with the urge to adopt are typically associated with lower levels of financial inclusion. This distribution demonstrates a clear and statistically significant relationship between

consumers' willingness to use interest-free banking products and their perception of financial inclusion.

The findings suggest that the customers with a higher intention to use the interest-free banking products have a higher tendency to participate in the formal financial system and access a wider spectrum of financial services. Greater adoption intention leads to greater access to banking products, encourages frequent financial transactions, enhances savings and investment opportunities and provides financial inclusion to previously financially underprivileged or excluded people. Therefore, increasing clients' willingness to accept interest-free banking products may be an important factor in advancing financial inclusion.

Structural Equation Model



Variable 1	Variable 2	Estimate	S.E.	C.R.	P
Adoption Intention	Barriers	0.71	0.059	12.021	0.00
Service quality Barriers	Barriers	0.899	0.049	11.066	0.00
Complexity Barriers	Barriers	0.97	0.044	21.876	0.00
Regulatory Barriers	Barriers	1.07	0.041	26.054	0.00
Accessibility Barriers	Barriers	0.933	0.039	24.126	0.00
Trust Barriers	Barriers	0.893	0.053	16.995	0.00
Awareness Barriers	Barriers	0.952	0.039	24.407	0.00
Financial Inclusion	Adoption Intention	-0.092	0.049	-1.877	0.06
Financial Inclusion	Barriers	0.959	0.057	16.841	0.00

The Structural Equation Modeling (SEM) results discuss the relationship between barriers, adoption intention, and financial inclusion in the context of interest-free banking products. The findings suggest that all the six observable dimensions well match the latent construct Barriers, with each component displaying a positive and statistically significant loading ($p < 0.001$). This supports that the key obstacles in the acceptance of interest free banking products by customers in Karnataka include lack of information, trust, accessibility, regulatory concerns, complexity and restrictions in the quality of service. Regulatory Barriers had the highest standardized estimate among the barrier dimensions (Estimate = 1.070, C.R. = 26.054, $p < 0.001$), suggesting that regulatory challenges form the most prominent component of the entire barrier construct. The next impediments are Complexity impediments (Estimate = 0.970), Awareness Barriers (Estimate = 0.952), Accessibility Barriers (Estimate = 0.933), Service Quality Barriers (Estimate = 0.899) and Trust Barriers (Estimate = 0.893). The high critical ratios of all constructs imply that each barrier has a considerable contribution to the overall perception of obstacles of interest-free banking products.

The structural model results reveal that Barriers have a positive and significant effect on Adoption Intention (Estimate = 0.710, C.R. = 12.021, $p < 0.001$). This suggests that the perceived barriers have a strong impact on the intention of customers to adopt and confirms that barriers are an important variable in the proposed conceptual framework. The model also examines the effect of Adoption Intention on Financial Inclusion. The path coefficient is negative and statistically not significant (Estimate = -0.092, C.R. = -1.877, $p = 0.06$). The p-value is higher than the significant value of 0.05. This means the SEM data does not support the relationship between adoption intention and financial inclusion. This suggests that although there is a willingness to adopt, the full effect of the barrier construction does not lead to an improved financial inclusion. Other factors may influence or moderate this link. Barriers, on the other hand, have a strong and substantial direct effect on Financial Inclusion (Estimate = 0.959, C.R. = 16.841, $p < 0.001$). This conclusion indicates that the identified barriers have a considerable influence on financial inclusion. This suggests that reducing barriers related to knowledge, trust, availability, regulation, complexity and service quality are important in order to enhance access and use of interest-free banking services.

5. FINDINGS AND SUGGESTIONS

The study found that although 96.3% of the respondents possessed bank accounts, only 25.6% had actually used interest-free banking products, indicating a considerable gap between financial inclusion and the adoption of alternative banking services. Nearly three-fourths of the respondents had heard about interest-free banking, but only 54.4% understood its core principle of operating without interest, demonstrating a significant awareness gap. Correlation analysis revealed that awareness, accessibility, regulatory, trust, complexity, and service quality barriers were all significantly associated with adoption intention and financial inclusion. Regression analysis identified service quality and trust as the strongest predictors of adoption intention, while awareness, accessibility, regulatory, and complexity barriers were not individually significant when examined

together. Chi-square analysis confirmed that all proposed hypotheses (H1–H7) were statistically significant, indicating that each barrier significantly influences adoption intention and that adoption intention is associated with financial inclusion. However, the Structural Equation Model showed that although barriers significantly affected adoption intention and financial inclusion, the direct relationship between adoption intention and financial inclusion was not statistically significant, suggesting the presence of additional mediating or contextual factors. Based on these findings, it is recommended that banks and policymakers strengthen consumer awareness through financial literacy campaigns, improve transparency to enhance customer trust, simplify banking procedures, enhance service quality, expand accessibility in rural and semi-urban regions, and establish a supportive regulatory framework for interest-free banking. Collaborative efforts among financial institutions, regulatory authorities, and educational organizations will improve consumer confidence and facilitate wider adoption of interest-free banking products, thereby contributing to inclusive and sustainable financial development in Karnataka.

6. CONCLUSION

The study concludes that interest-free banking products possess considerable potential to support financial inclusion in Karnataka; however, their adoption remains constrained by multiple consumer and institutional barriers. While awareness, trust, accessibility, regulatory issues, complexity, and service quality collectively influence consumers' willingness to adopt these products, trust and service quality emerged as the most influential determinants. The findings indicate that improving awareness alone is insufficient unless accompanied by reliable services, transparent banking practices, and supportive regulatory mechanisms. Although customers exhibit strong interest in learning about interest-free banking, limited practical exposure and institutional support continue to hinder widespread acceptance. Therefore, strengthening customer education, enhancing banking infrastructure, improving service quality, and introducing clear policy support are essential for increasing adoption. Addressing these barriers will not only promote the growth of interest-free banking but also contribute significantly to achieving broader financial inclusion and sustainable economic development in Karnataka.

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