

The Role of Information and Communication Technology (ICT) in Financial Inclusion

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Abstract: Finance is one of the effective tool in spreading economic opportunities. Wider access to adequate and timely finance helps both the producers and public in raising their welfare status. Banks are playing vital role accelerating financial inclusion through innovative technology. As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination and quickly. The Information and Communication Technology (ICT) can be used to promote services like: mobile banking, e-money, and pre-paid cards, which are offered by the commercial banks for promoting financial inclusion. The majority of the studies on this are only at macro level but not at the micro level with empirical studies. Those studies focused on business strategies and technology aspects. But, the present study focused on enumerating the need of the status of financial inclusion at rural households. The study covered the geographical area of Krishna District, in Andhra Pradesh. The main thrust of the study is to examine the status of financial inclusion in public and the need to achieve the good economic status in the society. The study highlighted the factors that can aid in achieving financial inclusion for inclusive growth in Krishna District.

Keywords: Financial Inclusion, Information and communication technology, Economy, Finance, Krishna District, India.

I. Introduction

Financial inclusion is delivering banking services at an affordable cost to the vast sections of disadvantaged and low income groups. The main objectives are to connect people with banking system and to give people access to payment and credit system. Financial inclusion has been a challenge to the rural development initiatives undertaken by the government of India. The increasing gap between demand and supply of financial services has led to the 'exclusion' of large number of rural population from formal financial institutions. Therefore, financial inclusion assumes greater importance with each passing day.

II. Review Of Literature

According to Indian institute of banking and finance, "financial inclusion is delivery of banking services at an affordable cost ('no frills' accounts,) to the vast sections of disadvantaged and low income group". Financial inclusion as the process of ensuring access to financial services timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost. As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination is the prime objective of the public policy."According to Dr. K.C. Chakrabarty, financial Inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups Dr. Arindam Laha, and Dr. Pravat Kumar said that, measuring financial inclusion is a complex process. It is desirable to capture the regional variations in the extent of financial inclusion in India exploring both the dimensions of demand and supply for financial inclusion. Mobile banking, e-money, and pre-paid cards are examples of financial innovations that are growing rapidly and often cited for holding great potential for the expansion of financial inclusion globally. L.M.Ganesan (2011) described that, in financial inclusion programme, the reputation of banks is the greatest risk. Hence, a proper system of issuing identity cards to BC / its controlling functionaries and to CSPs should be put in place. The FI server should immediately be connected to the bank's CBS server for on-line transactions and effective MIS. The key technologies in non-BC model are mobile banking, bank on wheels, integrated ITeS. According to Dheena dhayalan (2010), financial inclusion has the potential to improve the standards of life of the poor and the disadvantaged. Research reveals that development of financial system contributes to economic growth (Rajan R. G., and L. Zingales, 2003). Punnathara C.J, (2006) described that, 'Real Time' means the processing of instructions at the time they are received rather than at some later time. 'Gross Settlement' means the settlement of funds transfer instruction occurs individually. Gupta, (2011) said, "ICT solutions are required

to capture customer details and facilitate unique identification, ensure reliable and uninterrupted connectivity to remote areas. Some notable financial inclusion schemes such as: Direct Benefit Transfer (DBT), RuPay card, USSD-based mobile banking benefited directly without any delay.

Need For The Study

The literature review revealed that, there is a gap in the literature and there are no much studies found on the role of ICT in financial inclusion at rural households in Krishna District, Andhra Pradesh. The majority of the studies are only at macro level but not at the micro level with empirical evidence. Those studies focused on business strategies and technology aspects. In this regard, the present study assures importance and enumerating the need of the financial inclusion at rural households. The main thrust of the study is to examine the status of financial inclusion in Krishna District, Andhra Pradesh, and the need to consider the economic strategies to achieve overall goal.

Research Problem

Even after years of implementing mass banking in the country, committed to extend services of financial intermediaries to the poorest of the poor and downtrodden, a vast majority of rural households are excluded from formal banking service forced to remain in the grip of non-formal agencies. Financial inclusion measures in India have led to physical expansion in the country. Unfortunately, the expansion has not brought about the necessary change in the backward and rural areas. Because of this, the rural population is facing severe financial problems and social problems. To address these problems there is a need to identify how far the financial services are reached to public, which are yet to reach a vast majority of the population in rural and backward areas.

Research Objectives

The research aims to cover the following objectives:

1. To identify the awareness of financial inclusion approaches in disadvantaged groups.
2. To identify the extent of services like mobile banking, e-money, and pre-paid cards are offered by the commercial banking sector.
3. To highlight the factors that can aid in achieving financial inclusion for inclusive growth in Krishna District.
4. To analyze the issues and challenges involved in using ICT in financial inclusion.
5. To identify the strategies for creating awareness and educating rural people on access to financial services.

Research Hypothesis

H1: Majority of people in the society are not aware of the ICT services.

H2: ICT services (like mobile banking, pre-paid cards, ATM, smart cards, kisan credit cards) are not effectively being reached to rural areas of Krishna District.

III. Research Design And Methodology

Research methodology is a way to systematically solve the research problem. It consists of different steps that are generally adopted by the researcher to study research problem. The rural people living in Krishna District constitute the population for the study.

Scope Of The Study:

In this study, 150 households at Krishna District were selected as sample and questionnaire is executed.

Sampling

An integral component of research design is the sampling plan. Especially it addresses three questions: who to survey (sample unit) how many to survey (sample size) and how to select them (sampling procedure).

Sampling Method

Non-Random Sampling, Convenient Sampling is used here.

Sampling Tool

Questionnaire was used as a tool for the collection of data.

Sample Size

The size of the sample is 150.

IV. Data Analysis

Data is analysed by using the statistical techniques like ANNOVA and Chi-Square test.

Hypothesis Testing

The study sets the following hypotheses to measure the relationship between the awareness of different ICT services (i.e. credit card, bank a/c, business loan, advice about managing debts, investment advice, financial counselling) between male and female also among different age groups; it analyzes how effectively the ICT services (i.e. Mobile Banking, Pre-paid Cards, ATM, Smart Cards and Kisan Credit cards) are being reached to the rural areas of Krishna District.

Hypothesis 1: Majority Of People In The Society Are Not Aware Of The Ict Services

For this hypothesis ANOVA test is used to establish the relationship between the gender and the awareness of the usage of ICT services. ANOVA measures the mean variance among more than two independent samples.

H1: THERE IS A DIFFERENCE BETWEEN THE AWARENESS OF ICT SERVICES AMONG DIFFERENT AGE GROUPS IN KRISHNA DISTRICT

H1.a: There is a difference between the awareness of Credit Card usage among different age groups in Krishna District

H1.b: There is a difference between the awareness of Bank a/c usage among different age groups in Krishna District

H1.c: There is a difference between the awareness of taking a Business Loan among different age groups in Krishna District

H1.d: There is a difference between the awareness about taking advice about managing debts among different age groups in Krishna District

H1.e: There is a difference between the awareness of taking investment advice among different age groups in Krishna District

Table 4.1: There is a difference between the awareness of ICT services among different age groups in Krishna District- ANOVA Test

		Sum of Squares	df	Mean Square	F	Sig.
Credit Card	Between Groups	1.334	2	.667	.988	.375
	Within Groups	99.259	147	.675		
	Total	100.593	149			
Bank a/c	Between Groups	.127	2	.064	.153	.859
	Within Groups	61.346	147	.417		
	Total	61.473	149			
Taking a Business Loan	Between Groups	.041	2	.020	.036	.965
	Within Groups	83.799	147	.570		
	Total	83.840	149			
Advice about Managing Debts	Between Groups	.003	2	.001	.002	.998
	Within Groups	82.191	147	.559		
	Total	82.193	149			
Investment Advice	Between Groups	.000	2	.000	.000	1.000
	Within Groups	76.000	147	.517		
	Total	76.000	149			
Financial Counselling	Between Groups	.316	2	.158	.372	.690
	Within Groups	62.278	147	.424		
	Total	62.593	149			
ICT is useful Electronic Channel for accessing the Financial Services	Between Groups	.116	2	.058	.093	.911
	Within Groups	92.077	147	.626		
	Total	92.193	149			

H1.A: There Is A Difference Between The Awareness Of Credit Card Usage Among Different Age Groups In Krishna District

The above table shows the analysis of awareness of using ICT Channel for accessing the Financial Services among different age groups in Krishna District. The statistic shows that mean square between the groups is 0.667, within the group is 0.675. The F-value is 0.988& the asymmetric significance value (P-value) is 0.375. According to the statistic table, the P-value is insignificant because it is greater than the level of

significance at 5% ($P > 0.05$). Hence the alternative hypothesis can be rejected. And null hypothesis can be accepted

H1.B: There Is A Difference Between The Awareness Of Bank A/C Usage Among Different Age Groups In Krishna District

The above table shows the analysis of awareness of using ICT Channel for accessing the Financial Services among different age groups in Krishna District. The statistic shows that mean square between the groups is 0.064, within the group is 0.417. The F-value is 0.153& the asymmetric significance value (P-value) is 0.859. According to the statistic table, the P-value is insignificant because it is greater than the level of significance at 5% ($P > 0.05$). Hence the alternative hypothesis can be rejected. And null hypothesis can be accepted

H1.C: There Is A Difference Between The Awareness Of Taking A Business Loan Among Different Age Groups In Krishna District

The above table shows the analysis of awareness of using ICT Channel for accessing the Financial Services among different age groups in Krishna District. The statistic shows that mean square between the groups is 0.020, within the group is 0.570. The F-value is 0.036& the asymmetric significance value (P-value) is 0.965. According to the statistic table, the P-value is insignificant because it is greater than the level of significance at 5% ($P > 0.05$). Hence the alternative hypothesis can be rejected. And null hypothesis can be accepted

H1.D: There Is A Difference Between The Awareness About Taking Advice About Managing Debts Among Different Age Groups In Krishna District

The above table shows the analysis of awareness of using ICT Channel for accessing the Financial Services among different age groups in Krishna District. The statistic shows that mean square between the groups is 0.001, within the group is 0.559. The F-value is 0.002& the asymmetric significance value (P-value) is 0.998. According to the statistic table, the P-value is insignificant because it is greater than the level of significance at 5% ($P > 0.05$). Hence the alternative hypothesis can be rejected. And null hypothesis can be accepted

H1.E: There Is A Difference Between The Awareness Of Taking Investment Advice Among Different Age Groups In Krishna District

The above table shows the analysis of awareness of using ICT Channel for accessing the Financial Services among different age groups in Krishna District. The statistic shows that mean square between the groups is 0.000, within the group is 0.517. The F-value is 0.000& the asymmetric significance value (P-value) is 1.000. According to the statistic table, the P-value is insignificant because it is greater than the level of significance at 5% ($P > 0.05$). Hence the alternative hypothesis can be rejected. And null hypothesis can be accepted

HYPOTHESIS 2: Ict Services (Like Mobile Banking, Pre-Paid Cards, Atm, Smart Cards, And Kisan Credit Cards) Are Not Effectively Being Reached To Rural Areas Of Krishna District

H2a: Branchless Banking is not effectively being reached to rural areas of Krishna District

H2b: Mobile Banking is not effectively being reached to rural areas of Krishna District

H2c: Agent/Correspondent banking is not effectively being reached to rural areas of Krishna District

H2d: Biometric ATM is not effectively being reached to rural areas of Krishna District

H2e: Prepaid Cards/Smart Cards are not effectively being reached to rural areas of Krishna District

Table 4.2: ICT services are not effectively being reached to rural areas of Krishna District –ANOVA Test

		Sum of Squares	df	Mean Square	F	Sig.
Branchless Banking	Between Groups	.654	3	.218	.404	.750
	Within Groups	78.679	146	.539		
	Total	79.333	149			
Mobile Banking	Between Groups	1.028	3	.343	1.077	.361
	Within Groups	46.445	146	.318		
	Total	47.473	149			
Agent/Correspondent Banking	Between Groups	.900	3	.300	.556	.645
	Within Groups	74.988	139	.539		
	Total	75.888	142			
Biometric ATM	Between Groups	1.243	3	.414	.908	.439
	Within Groups	66.650	146	.457		
	Total	67.893	149			
Prepaid Cards/Smart Cards	Between Groups	.374	3	.125	.146	.932
	Within Groups	125.199	146	.858		
	Total	125.573	149			
Kisan Credit Cards	Between Groups	.943	3	.314	.593	.621
	Within Groups	77.351	146	.530		
	Total	78.293	149			

H2A: Branchless Banking Is Not Effectively Being Reached To Rural Areas Of Krishna District

The above table shows the analysis of branchless banking being effectively reached to the rural areas of Krishna District. The statistic shows that mean square between the groups is 0.218, within the group is 0.539. The F-value is 0.404 & the asymmetric significance value (P-value) is 0.750. According to the statistic table, the P-value is insignificant because, it is greater than the level of significance at 5% ($P > 0.05$). Hence, the alternative hypothesis can be rejected. And null hypothesis can be accepted

H2B: Mobile Banking Is Not Effectively Being Reached To Rural Areas Of Krishna District

The above table shows the analysis of mobile banking being effectively reached to the rural areas of Krishna District. The statistic shows that mean square between the groups is 0.343, within the group is 0.318. The F-value is 1.077 & the asymmetric significance value (P-value) is 0.361. According to the statistic table, the P-value is insignificant because, it is greater than the level of significance at 5% ($P > 0.05$). Hence, the alternative hypothesis can be rejected. And null hypothesis can be accepted

H2C: Agent/Correspondent Banking Is Not Effectively Being Reached To Rural Areas Of Krishna District

The above table shows the analysis of Agent/Correspondent Banking being effectively reached to the rural areas of Krishna District. The statistic shows that mean square between the groups is 0.300, within the group is 0.539. The F-value is 0.556 & the asymmetric significance value (P-value) is 0.645. According to the statistic table, the P-value is insignificant because, it is greater than the level of significance at 5% ($P > 0.05$). Hence, the alternative hypothesis can be rejected. And null hypothesis can be accepted

H2D: Biometric Atm Is Not Effectively Being Reached To Rural Areas Of Krishna District

The above table shows the analysis of Biometric ATM being effectively reached to the rural areas of Krishna District. The statistic shows that mean square between the groups is 0.414, within the group is 0.457. The F-value is 0.908 & the asymmetric significance value (P-value) is 0.439. According to the statistic table, the P-value is insignificant because, it is greater than the level of significance at 5% ($P > 0.05$). Hence, the alternative hypothesis can be rejected. And null hypothesis can be accepted

H2E: Prepaid Cards/Smart Cards Are Not Effectively Being Reached To Rural Areas Of Krishna District

The above table shows the analysis of Prepaid Cards/Smart Cards being effectively reached to the rural areas of Krishna District. The statistic shows that mean square between the groups is 0.125, within the group is 0.858. The F-value is 0.146 & the asymmetric significance value (P-value) is 0.932. According to the statistic table, the P-value is insignificant because, it is greater than the level of significance at 5% ($P > 0.05$). Hence, the alternative hypothesis can be rejected. And null hypothesis can be accepted.

V. Findings & Suggestions

- There is a significant relationship between male & female population and different age groups of people in Krishna District and the awareness of ICT services such as (Branchless Banking, Mobile Banking, Biometric ATM, Agent/Correspondent Banking, and Kisan Credit Cards).
- The people use various financial products/services such as bank a/c, debit cards, kisan credit cards, as they can avail government subsidies, to manage & protect against the risk of being exploited by the money lenders, theft of money, to save their money in a safe place, as they trust the financial service providers.
- 50% of respondents do not use financial services because the financial services information is not available.
- 52% of respondents do not use ICT services because it is very expensive.
- 64.7% of respondents are neutral towards lack of money being the reason not to use the financial services.
- 60.7% of respondents do not use financial services because they lack proper documentation required to use the ICT services.

VI. Suggestions

Based on the grey areas identified on the basis of findings of the study the following suggestions are made:

- To increase awareness and interest in products offered under various schemes of FIs, increase in advertisement in local language, on radio and television, and in print media, with local icons and artists as brand ambassadors of the campaign, could help in building public confidence. In this context, role of mobile phones and reach of mobile banking is immensely promising.
- Common consumer knowledge in rural areas about dialling to a toll-free number should be leveraged to provide introduction to financial literacy as well as instructing people on steps to use mobile banking. The banks should educate their staff and BCs about latest developments in mobile banking, and mandate them to promote these facilities during financial literacy campaigns in rural areas.

VII. Conclusion

This study has been undertaken to study the financial inclusion program in the areas within Krishna district. Business correspondents should be employed in villages and trained in advance for promoting financial inclusion program. Banks need to open more branches within rural areas and create more awareness about banking services among rural people by telling them about the benefits of the banking services. Financial inclusion requires efforts on the parts of three parties- RBI, all the banks as well as general public for its better progress.

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