Samdarshi
ISSN: 2581-3986
Vol 16 Issue 2 (July 2023)

A Study on Investigating the Role of Innovation and Technology in Effect of Financial Inclusion on Growth with Reference to Small Finance Banks

Y. Sunil Kumar[1], Sardar Gugloth[2]
[1]Research Scholar, Department of Management Studies, S V U College of Commerce, Management and Computer Science, Sri Venkateswara University, Tirupati, Andhra Pradesh, India.
[2]Professor,Department of Management Studies, S V U College of Commerce, Management and Computer Science, Sri Venkateswara University, Tirupati, Andhra Pradesh, India.
Corresponding Author: Y Sunil Kumar (sunilchowdarymba@gmail.com)

Abstract:
The purpose of this study is to investigate the opinions held by bankers working in both the public and private sectors regarding Financial Inclusion Initiatives that are centered on innovation and technology. The viewpoints of bankers regarding innovation and technology are investigated through the use of dynamic panel data analysis. According to the findings, factors such as financial inclusion, innovation, and technological advancement all have a constructive role to play in the expansion of the economy. Additionally, innovation and technology play a role in enhancing the effects of financial inclusion on economic growth. This implies that efforts should be concentrated on enhancing financial ecosystems through innovation, technology, and infrastructure in order to maximize the positive effects of financial inclusion on economic growth.

Keywords: Finance, Financial Inclusion,Innovation and Technology

Introduction

Before the development of monetary systems, all commercial transactions were conducted through the bartering of various goods and services. The term for this kind of exchange is "barter." The act of directly exchanging one good for a certain quantity of another is what is meant by the term "bartering." It is necessary for there to be a twofold concurrence of desires before a transaction can be completed. A society that does not utilize monetary currency is said to have a barter economy. In addition to this, it is a straightforward economy in which people produce goods either for their own consumption or as a means of exchanging for other items that they want. In prehistoric communities, bartering was a common form of economic exchange. However, it is still carried out in regions where the use of money has not developed to the same extent as in other parts of the world. These kinds of underdeveloped regions can be discovered in a great number of rural areas located in developing nations.

Banking

Banking can be traced all the way back to the beginning of recorded history in its most basic form. The Babylonians developed the concept of a banking system as early as 2000 BC. The practice of lending money on credit was common in ancient Greece and Rome. Prior to the system reaching its full potential in Greece and Rome, credit was initially developed in Assyria, Phoenicia, and Egypt via compensation and transfer orders. Greece and Rome are considered to be the birthplaces of the modern credit system. In Rome, people who worked in finance were referred to as "ArgenntarfiMensarii" or "callybistoe." "TabernoeAryentarioe" were the banks' names. (2008) (Shekhav et al.)

Financial Inclusion's Origins

The United Nations Capital Development Fund (UNCDF) is responsible for the current focus on financial inclusion by outlining its primary objectives, frameworks, and parameters as "access to a range of financial services, including savings, credit, insurance, remittance, and other banking/payment services, at a reasonable cost, for all bankable households and enterprises."

Among the primary aims of inclusive finance, as outlined by the UNCDF, are: Giving everyone who needs it access to low-cost banking services like savings accounts, short- and long-term loans, leasing and factoring, insurance, retirement plans, payments, wire transfers, and remittances.

Sound institutions subject to regular market monitoring and, if necessary, strict prudential regulation as well as internal management systems that meet industry performance standards.
Long-term strategy for ensuring access to financial services through financial and institutional sustainability.
Financial service providers should engage in healthy competition wherever it is possible to do so in order to provide customers with competitive pricing and a wide range of options.
For a developing economy like India's, financial inclusion is crucial because it allows more people to participate in the formal financial system and tap into their full creative potential. (2015) (Mani)

Review of Literature:
Finance-driven growth strategies in developing countries depend on poverty reduction and financial inclusion.1 Financial inclusion improves capital and risk distribution across income levels and social groups, according to many studies (Perotti and Claessens(2007), Gaysset and Neaime(2018), Allen et al. 2020). When financial services are easier to access, households consume more, save more, produce more, have more income equity, and live better.
However, Demirguc-Kunt et al. (2017) found that 1.7 billion adults without bank accounts are not connected to the financial system. Most live in extremely poor areas. Global policymakers must increase financial inclusion to achieve economic growth, poverty reduction, and other goals. This plan's success depends on identifying factors that may hinder or facilitate linkages and obstacles throughout this complex process. Social and cultural factors (e.g., Mitchell and Lusardi, 2014; Carpena et al., 2019) and physical infrastructure impediments (e.g., a lack of bank branch supply; Matray andCélerier, 2019) impede access to literacy-based groups (Shepherd andShariar, 2019).
This study examines how innovation and technology affect financial services availability, a major infrastructure barrier. Recent empirical research suggests technology may help overcome infrastructure-based financial inclusion barriers. Lee et al. (2021) noted that rural areas need mobile banking. Digital technology promotes financial inclusion despite the national level, there are differences in regulations, infrastructure, culture, and financial literacy. We examine macroeconomic financial inclusion and digital technology using innovation diffusion theory. These processes are aided by the financial market ecosystem. We use global data to determine how digital technology accelerates financial inclusion.
According to Ernst and Young (2017), mobile phone and internet technology has improved the cost and delivery of retail banking and consumer finance services.3 Consumers get simplified, low-cost individualized products and financial services.
Accessibility, cost, the growth of the banking industry, and efficiency all play a role in the effect that financial products and services have on the economy. Profits from investments and efforts to even out consumers' spending are especially helpful for those with low incomes, including women, farmers, the elderly, and those in developing countries. Fintech, according to Heng and Tok (2022), narrowed the digital divide between the rural poor, the wealthy, and the poor. Incorporating sociocultural factors and social norms into the technological improvement of financial services products is difficult, but the gender digital divide was not investigated in this study. even though fintech firms with more gender diversity perform better. High digital inclusion indexes are more likely to supplement traditional services than low or medium traditional inclusion indexes (Khera et al., 2021). Low-income people are more likely to switch to digital services (Khera et al., 2021). Central banks have launched several pilot projects to study CBDCs' potential to foster new services, increase efficiency, and reduce the wealth gap between rich and poor communities. CBDCs are still used despite their reputational and cybersecurity risks. The International Finance Corporation's 2017 annual report found that developed economies led emerging markets in financial services digitization.4 Digital technologies enable widespread financial services, which is the problem.
The diffusion theory of innovation helps explain the introduction of new financial services products at lower economic and social costs through technological advancement. One's openness to new ideas and methods also changes. Sharma and Lenka(2017), Acharya and Sethi(2018), and Ghosh (2011), have found that financial inclusion boosts economic growth and find that financial inclusion boosts economic growth.
Despite many empirical studies, the role of innovation and technology in financial inclusion's impact on growth has been neglected. This paper's study of how financial inclusion affects growth—subject to innovation and

technology—contributes to both the theoretical and empirical literature on finance and growth. These findings can inform population-specific policy initiatives to boost financial inclusion growth.

Research Methodology

Inferential statistics from the quantitative methodology were used to check the hypotheses. For the purpose of Using confirmatory factor analysis and structural equation modelling academics in rural India are spreading the word about the benefits of financial inclusion services. The adoption of technology is positively impacted by social influence factors in rural India. Those who have experience with the tools and resources of the financial technology industry are more likely to achieve their objectives.

A confirmatory factor analysis was instrumental in the early stages of this study in order to identify variables influencing adoption of financial innovations. At this point in the investigation, we used statistical tests to establish whether or not the correlation was significant. Structural equation modeling was the most widely used statistical method for hypothesis testing.

Objectives of the Study:

To study the Role of Innovation and Technology in effect of Financial Inclusion on Growth.

Hypothesis of the Study:

H0: ConstructsBanks are encouraging the formation of Self Help Groups (SHGs) in order to promote financial inclusion S11, The bank has a clear vision for INCLUSIX, a financial inclusion index,S13, Banks utilise information and communication technology to ensure maximum access in the service area (ICT) S15, The bank has Bio- Metric ATM facilities to its rural customers S16, The bank provides biometric ATMs to its rural clientele S17 and The bank provides customers with KCC/GCC/OD facilities S19, have no significantimpact on Innovation & Technology.

H1: ConstructsBanks are encouraging the formation of Self Help Groups (SHGs) in order to promote financial inclusion S11, The bank has a clear vision for INCLUSIX, a financial inclusion index,S13, Banks utilise information and communication technology to ensure maximum access in the service area (ICT) S15, The bank has Bio- Metric ATM facilities to its rural customers S16, The bank provides biometric ATMs to its rural clientele S17 and The bank provides customers with KCC/GCC/OD facilities S19, havesignificantimpact on Innovation & Technology.

Sample Design

Both the sample population and the population of interest had utilized financial inclusion services. With over 130 billion people on the planet, a comprehensive survey is obviously impossible. As a result, random samples are no longer the norm. Respondents for the sample frame were drawn at random from four cities in the Indian state of Andhra Pradesh: Kurnool, Kadapa, Anantapur, and Chittor. Four hundred people filled out the survey. Due to respondents' lack of familiarity with Google Forms, we used closed-ended questionnaires to gather information between January and June of 2023.

Data Collection Method

Primary information, such as surveys, played an important role in the process of data collection. Using stratified sampling techniques, the primary data was collected in rural India. The results of a pilot study of mobile money and other financial technology users were used to validate a structured questionnaire. The survey employed a Likert scale, nominal scales, and rank-order scales to increase the scalability of the data collected.

Data Analysis and Interpretation (Innovation & Technology)

The following table lists the constructs that were utilised to create the Innovation & Technologyvariable.

Constructs inInnovation & Technology

Factor	Code	Variable
Financial Inclusion Tools	S11	Banks are encouraging the formation of Self Help Groups (SHGs) in order to promote financial inclusion.
	S13	The bank has a clear vision for INCLUSIX, a financial inclusion index.
	S15	Banks utilise information and communication technology to ensure maximum access in the service area (ICT)
	S16	The bank has Bio- Metric ATM facilities to its rural customers
	S17	The bank provides biometric ATMs to its rural clientele.
	S19	The bank provides customers with KCC/GCC/OD facilities.

H0: Constructs S11, S13, S15, S16, S17, S19 have no significantimpact on Innovation & Technology.
H1: Constructs S11, S13, S15, S16, S17, S19 have significant impact on Innovation & Technology.

CFA-Innovation & Technology Model Fit Indicators

	$\chi2$	DF	P	Normed $\chi2$	GFI	AGFI	NFI	TLI	CFI	RMR	RMSEA
Innovation & Technology	22.517	9	0.007	2.502	0.960	0.907	0.811	0.784	0.870	0.092	0.092

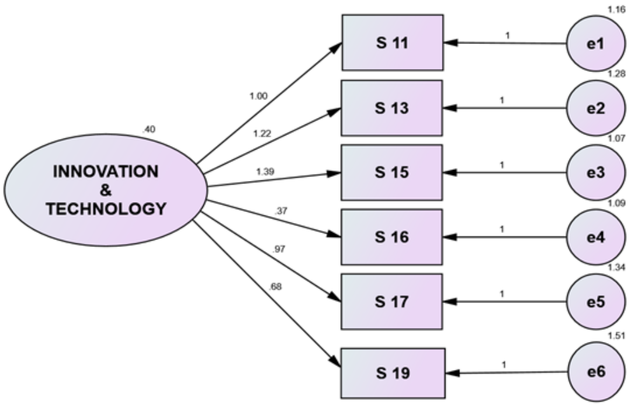
All of the attributes had a substantial impact on the latent constructs. The value of the fit indices indicates that the measuring model fits the data reasonably well. The regression coefficients are shown in Table.

Table Innovation & Technology/Regression Coefficients

Factor	Construct	Estimate	Regression Coefficient	C R	P
Innovation & Technology	S11	1.000	0.140	2.859	0.004
	S13	1.222	0.279	4.381	0.000
	S15	1.392	0.308	4.524	0.000
	S16	0.371	0.165	2.241	.0250
	S17	0.967	0.242	3.991	0.000
	S19	0.681	0.216	3.159	0.002

The constructs S16 (The bank has Bio- Metric ATM facilities to its rural customers) have a value for the regression coefficient that is less than 0.4. As a result, these one notion had no impact on Innovation & Technology.

Figure: Model -Innovation & Technology



As a result of the foregoing, it can be inferred that all of the constructs have a stronger impact on the banks' Innovation & Technology operations. This encompassesBanks are encouraging the formation of Self Help Groups (SHGs) in order to promote financial inclusion, The bank has a clear vision for INCLUSIX, a financial inclusion index, Banks utilise information and communication technology to ensure maximum access in the service area (ICT), The bank has Bio- Metric ATM facilities to its rural customers, The bank provides biometric ATMs to its rural clientele and The bank provides customers with KCC/GCC/OD facilities.

Findings:

1. Bankers have a positive outlook on awareness and information. They believe the process of raising awareness and disseminating information is proceeding effectively.
2. They have a positive opinion of the bank's FI tools. It demonstrates that banks are employing financial inclusion strategies effectively.
3. The discovery is made that bankers have a positive outlook on innovation and technology. This indicates the success of the banks' innovation and technology-related efforts.

Suggestions

1. More public education programs are going to be implemented so that people have a better understanding of banking.
2. In order to achieve financial inclusion, customer benefits need to be expanded. In order to advance the cause of financial inclusion, banks may enhance their Business Correspondent and Business Facilitator models.
3. Lottery kiosks, pharmacies, gas stations, and grocery stores are all potential Business Correspondents that can help increase inclusion.
4. It will be possible to provide better services by utilizing more sophisticated banking procedures.
5. Enhance the level of customer service provided by banks. Enhance their existing support services by providing financial counseling and education to the general public.
6. Effective customer relationship management (CRM) can be an asset in the fight against challenges involving people.
7. There are obstacles in the path to gaining social capital. By combining CSR and bank corporate governance, it is possible to solve the problem.
8. Mobile banking has the potential to broaden financial inclusion, particularly among the financially excluded rural poor. The use of mobile banking combined with the implementation of G2P (government-to-person) payment systems can be of assistance.
9. Farmers who have adequate insurance coverage can better mitigate the effects of adverse weather, diseases, and crop losses.
10. Every Panchayat needs to have a physical presence (a location with bricks and mortar).
11. Encourage financial inclusion that is not motivated by profit and work to shift the mentality of bankers. It should be commercial, but it shouldn't take advantage of the weak, the ignorant, or the poor.
12. Models that are tailored to a particular region should be prioritized over adopting a universal approach.
13. The government of India intends to provide families living below the poverty line with mobile phones. Make use of it for mobile banking, and enlist its assistance with various financial responsibilities. The person who deposits funds should be sent an SMS message (Short Message Service) each time BC collects and deposits funds.

Conclusion:

India's poverty-fighting strategy relies on financial inclusion. To achieve this goal, the government should create a more adaptable environment in which financial institutions can explore the innovations needed to serve low-income individuals while making a profit. In India, financial exclusion is real. Since banks are increasingly seeing financial inclusion as a business opportunity in a growth-friendly environment, this is a blessing in disguise. It also hinders financial inclusion.

Andhra Pradesh public sector banks are making progress on financial inclusion. Andhra Pradesh banks are successfully promoting financial inclusion in economically marginalized communities. Bankers also provide

other financial services well. PSB's success in Kerala's financial services sector shows that banks can handle modern financial services. Andhra Pradesh PSBs provide the same services to their customers. These banks aim to provide consistent Financial Inclusion products in rural, urban, and semi-urban areas. Banks' PMJDY activities are pointless. Additionally, bank staff experience affects service quality.
Banks consistently provide high-quality financial services. Banking improves customer service and trust. Customers value these organizations' financial capabilities and the bank's customer service. The study found that Andhra Pradesh residents know little about financial services before opening a PSB account. After opening a bank account, the balance quickly rises to incomprehensible levels. Managing an account helps students understand the bank's services. The researcher may find that the individual's awareness of financial services increases after opening an account.

References:

1. Richard Blundell et al. “Initial conditions and moment restrictions in dynamic panel data models”, Journal of Econometrics, Volume 87, Issue 1, November 1998, Pages 115-143
2. L.S. Carvalho et al. “The effect of saving on risk attitudes and intertemporal choices”, Journal of Development Economics, Volume 120, May 2016, Pages 41-52, https://doi.org/10.1016/j.jdeveco.2016.01.001
3. Jose De Gregorio et al. “Financial development and economic growth”, World Development, Volume 23, Issue 3, March 1995, Pages 433-448, https://doi.org/10.1016/0305-750X(94)00132-I
4. Siong Hook Law et al., “Does too much finance harm economic growth?” Journal of Banking & Finance, Volume 41, April 2014, Pages 36-44, https://doi.org/10.1016/j.jbankfin.2013.12.020
5. Simon. Neaime et al. “Financial Inclusion and Stability in MENA: evidence from Poverty and Inequality”, Finance Research Letters, Volume 24, March 2018, Pages 230-237, https://doi.org/10.1016/j.frl.2017.09.007.
6. S. Prina, “Banking the poor via savings accounts: evidence from a field experiment”, Journal of Development Economics, Volume 115, July 2015, Pages 16-31, https://doi.org/10.1016/j.jdeveco.2015.01.004
7. A. Sarmiento, “Seven lessons from the e-Peso pilot plan: the possibility of a Central Bank digital currency”, Latin American Journal of Central Banking, Volume 3, Issue 2, June 2022, 100062, https://doi.org/10.1016/j.latcb.2022.100062
8. A.Z.M. Shahriar, “Exposure to intimate partner violence and repayment of microcredit: evidence from field experiments in Bangladesh”, Journal of Banking & Finance, Volume 72, November 2016, Pages 1-14, https://doi.org/10.1016/j.jbankfin.2016.07.012
9. A.Z.M. Shahriar, “Gender differences in entrepreneurial propensity: evidence from matrilineal and patriarchal societies”,Journal of Business Venturing, Volume 34, Issue 6, November 2019, 105945, https://doi.org/10.1016/j.jbusvent.2019.06.006
10. U M Gopal Krishna, (2020), “Profitability Analysis of Public and Private Sector banks in India – A Fundamental Approach”, Journal of Mechanics of Mechanics Continua and Mathematical Sciences, Special Issue, No.-5, January (2020) pp 159-170. https://doi.org/10.26782/jmcms.spl.5/2020.01.00014,
11. U M Gopal Krishna (2020). “Problem and Supporting System of Aged People in Sugali Tribes Chittor District, Andhrapradesh”, in International Journal of Scientific & Technology Research (IJSTR), Volume-09, Issue-2, pp 2277-8616, Impact Factor 7.466, February- 2020.
12. U M Gopal Krishna (2022). “Employee Stress And Its Impact On Employee Performance Among Women Employees In Mysore District”, Nat. Volatiles &Essent. Oils,, Volume-8 Issue-4, January 2021.
13. U M Gopal Krishna (2021). “An Analysis of the Lack of Large Scale Entrepreneurship in IT Industries of India”. International Journal of Aquatic Science, Volume-12, Issue-01, pp 14-27, July - 2021.
14. U M Gopal Krishna (2022), “TRASE Model for Performance & Workload Management – Academic Scenario” ‘Turkish Journal of Physiotherapy and Rehabilitation’, Volume-32, Issue-03, ISSN 2651-4451 | e-ISSN 2651-446X, pp 39622 - 39631, January – 2022.

15. U M Gopal Krishna (2017), "Self-Help Groups for Women Empowerment in the Present Scenario – A Overview" International Journal of Engineering Technology Science and Research (IJETSR), Volume 4, Issue9, September 2017, pp 491 – 500, ISSN 2394-3386.
16. Schuetz, Sebastian, and ViswanathVenkatesh. 2020. Blockchain, Adoption, and Financial Inclusion in India: Research Opportunities. International Journal of Information Management 52: 101936.
17. Rathod, Saikumar, and Shiva Krishna Prasad Arelli. 2013. Aadhaar and Financial Inclusion: A Proposed Framework to Provide Basic Financial Services in Unbanked Rural India. In Driving the Economy through Innovation and Entrepreneurship. New Delhi: Springer New Delhi, pp. 731–44.
18. Reddy, Amith Kumar. 2021. Impact of E-Banking on Customer Satisfaction. PalArch's Journal of Archaeology of Egypt/Egyptology 18: 4220–31.
19. Russell, James A. 1980. A circumplex model of affect. Journal of Personality and Social Psychology 39: 1161–78.