SHODH SAGAR®
International Journal for Research Publication and Seminar
ISSN: 2278-6848 | Vol. 15 | Issue 2 | Apr-Jun 2024 | Peer Reviewed & Refereed

Investigating the Impact of Financial Inclusion on Banking Performance: A Study in Delhi-NCR

1. **Pro. Brijesh Kumar Agarwal, Professor, Faculty of Commerce and Business Administration, Dev Nagri College, Meerut, U.P.**
2. **Amber Agarwal, Research Scholar, Department of Commerce, Shobhit University, Meerut, U.P.**
3. **Shashank Gupta, Research Scholar, Department of Commerce, C.C.S. University, Meerut, U.P.**
4. **Ankit Swami, Research Scholar, Department of Commerce, A.S. P.G. College, Mawana, Meerut**

Abstract: This study examines the impact of financial inclusion on banking performance in the Delhi-NCR region, focusing on how initiatives like expanding banking services, increasing digital banking adoption, and implementing financial literacy programs influence key performance metrics. Using a sample of 406 banking employees selected through convenience sampling, the study employs descriptive statistics, reliability analysis, correlation, and regression analysis via SPSS. Results indicate a significant positive correlation between financial inclusion and banking performance, suggesting that these initiatives enhance profitability, customer base growth, and cost efficiency. The findings underscore the critical role of financial inclusion in driving banking success, providing insights for policymakers and banking institutions aiming to improve financial access and overall performance.
Keywords: Financial Inclusion, Banking Performance, Delhi-NCR, Financial Literacy, Digital Banking, SPSS.

1. Introduction

Financial inclusion has emerged as a critical element of global economic policy, recognized for its ability to foster inclusive growth, alleviate poverty, and enhance overall financial health within societies (Akomea-Frimpong et al., 2022; Pushp et al., 2023). It involves ensuring that all individuals, particularly those in vulnerable groups such as low-income populations, have access to affordable financial products and services. This broad access is essential for expanding the customer base, promoting the use of digital banking, and improving financial literacy, all of which collectively contribute to better banking performance (Flaherty et al., 2017; Pan et al., 2016). In the context of India, initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY), launched by the government in 2014, have been pivotal in driving financial inclusion. These initiatives have been particularly impactful in regions like Delhi-NCR, where there is a diverse mix of urban and rural populations with varying degrees of access to financial services, and have played a significant role in enhancing the performance of banks operating in these areas (Hafner et al., 2020; X. Zhou et al., 2020).

Research consistently demonstrates that financial inclusion positively influences several aspects of banking performance, including profitability, customer acquisition, and risk management (Hornuf & Haddad, 2019; Muganyi et al., 2021). For instance, banks that have effectively implemented financial inclusion strategies have reported lower levels of non-performing assets (NPAs) due to improved credit assessment and monitoring practices (Tawiah et al., 2021; G. Zhou et al., 2022). Moreover, the expansion of digital banking services as part of financial inclusion efforts has been linked to enhanced operational efficiency and customer satisfaction, which are critical for maintaining a competitive edge in the banking industry (Chor et al., 2021; Jin & Han, 2018). Despite the progress made, there remains a need to understand the direct impact of financial inclusion on banking performance, particularly in rapidly evolving markets like Delhi-NCR. This study aims to bridge this gap by empirically examining how financial inclusion influences key performance indicators such as profitability, customer base growth, loan disbursement, and cost efficiency in this region (Herring & Roy, 2007). Addressing both the challenges and opportunities of financial inclusion, the study provides valuable insights for policymakers and banking institutions, helping them to optimize their strategies in diverse and dynamic markets like Delhi-NCR (Belgavi, 2022; Dey et al., 2022).

2. Literature Review

Financial inclusion has increasingly been recognized as a critical driver of economic development, particularly for bridging the gap between formal financial institutions and underserved populations (Zheng et al., 2021). This concept, which includes access to savings, credit, insurance, and payment systems, aims to provide equitable financial services to all societal segments (Omar & Inaba, 2020). Recent studies underscore the positive impacts of financial inclusion on macroeconomic stability and individual financial well-being, highlighting its role in poverty alleviation and enhancing financial sector depth and efficiency (Rahman et al., 2023). Specifically, financial inclusion initiatives, such as expanding banking services to remote and underserved areas, have significantly increased customer bases and deposit mobilization, subsequently improving the liquidity and profitability of banks (Asif et al., 2023). Additionally, the advent of digital financial services has reduced transaction costs and enhanced operational efficiency, further boosting banking performance (Yoshino & Morgan, 2017).
However, the relationship between financial inclusion and banking performance is multifaceted, with challenges such as increased risk exposure and the need for substantial infrastructure and technology investments (Shayan et al., 2022). Financial inclusion efforts, particularly those targeting high-risk, previously excluded customers, may lead to higher non-performing assets (NPAs), suggesting that successful financial inclusion requires effective risk management strategies (Nenavath & Mishra, 2023). Financial literacy also plays a crucial role in the success of these initiatives, as it improves customer understanding of financial products, leading to better financial decisions and outcomes (Afjal, 2023). Furthermore, digital financial inclusion has revolutionized access to financial services in emerging markets like India, enhancing banking performance through increased transaction volumes and reduced costs (Zhang et al., 2019). Nevertheless, challenges such as the sustainability of financial inclusion efforts, high costs, and regulatory constraints remain significant hurdles that need to be addressed to fully realize the benefits of financial inclusion (Cicchiello et al., 2021; Le et al., 2019).

Research Gaps

Despite the extensive literature on financial inclusion and its impact on banking performance, there remains a need for more empirical studies that explore the nuanced effects of digital financial inclusion in diverse regional contexts, such as Delhi-NCR. Additionally, the long-term sustainability and risk management aspects of financial inclusion initiatives require further investigation.

Hypotheses

- H1: There is a significant positive correlation between financial inclusion and banking performance in Delhi-NCR.
- H2: Financial Inclusion has significant positive influence on banking performance in Delhi-NCR.

Table 1 Variables and Items

Variable	Code	Item

Financial Inclusion	FI1	1. Our bank has expanded access to banking services in underserved and unbanked areas.
	FI2	2. The use of digital banking services (e.g., mobile banking, online banking) has increased among our customers due to financial inclusion initiatives.
	FI3	3. Our bank has successfully implemented financial literacy programs to educate customers about banking services.
	FI4	4. The number of savings accounts opened as part of financial inclusion initiatives has increased.
	FI5	5. Our bank provides microfinance services to low-income groups to promote financial inclusion.
	FI6	6. Financial inclusion programs have led to an increase in the use of ATMs and point-of-sale (POS) terminals.
	FI7	7. Our bank has introduced affordable and accessible financial products tailored for underserved communities.
	FI8	8. Financial inclusion has helped reduce the dependency on informal credit sources among our customers.
	FI9	9. Our bank has partnered with local organizations to promote financial inclusion in rural areas.
	FI10	10. Our bank regularly monitors and evaluates the impact of financial inclusion initiatives on our services.
Banking Performance	BP1	1. Our bank has experienced an increase in profitability due to the expansion of financial inclusion initiatives.
	BP2	2. The customer base of our bank has significantly grown as a result of financial inclusion programs.
	BP3	3. Financial inclusion efforts have led to an increase in the number of loans disbursed by our bank.
	BP4	4. The ratio of NPAs has decreased due to the effective implementation of financial inclusion strategies.
	BP5	5. Our bank's cost efficiency has improved through the adoption of financial inclusion measures.
	BP6	6. Financial inclusion initiatives have contributed to an increase in our bank's market share.
	BP7	7. Customer satisfaction has improved as a direct result of our financial inclusion programs.
	BP8	8. There has been a notable increase in digital transactions in our bank due to financial inclusion efforts.
	BP9	9. Our bank's risk management has strengthened with the wider reach of financial inclusion services.
	BP10	10. Overall, our bank's performance has improved as a result of financial inclusion efforts.

3. Research Methodology

3.1 Research Design

This study employs a quantitative research design, utilizing a descriptive and correlational approach to examine the relationship between financial inclusion and banking performance in the Delhi-NCR region. The design includes the use of structured questionnaires to collect primary data from banking employees, followed by statistical analysis to test the proposed hypotheses.

3.2 Sampling Method and Sample Size

The study uses a convenience sampling method to select respondents from among banking employees in Delhi-NCR. This non-probability sampling technique is chosen due to the accessibility and availability of respondents who can provide relevant insights into financial inclusion initiatives and their impact on banking performance. The sample size for the study is 406, which is determined based on prior research and the need to achieve a sufficient level of statistical power for the analyses.

3.3 Data Collection

Primary data is collected using a structured questionnaire designed to capture information on financial inclusion practices and banking performance indicators. The questionnaire is distributed to banking employees in Delhi-NCR through both online and offline channels, ensuring a wide reach and diverse respondent pool. The questionnaire includes items measured on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree," to assess respondents' perceptions and experiences.

3.4 Data Analysis Techniques

The data collected is analyzed using SPSS software. Descriptive statistics are used to summarize the demographic characteristics of the respondents and the central tendencies of the key variables. Reliability analysis is conducted to ensure the internal consistency of the measurement scales. Pearson correlation analysis is used to examine the relationships between financial inclusion and banking performance. Finally, regression analysis is performed to test the hypotheses and determine the extent to which financial inclusion influences banking performance. The results of these analyses provide empirical insights into the impact of financial inclusion on the banking sector in Delhi-NCR.

4. Results and Discussion

4.1 Demographic Statistics

The demographic characteristics of the respondents (Table 2) in this study are summarized as follows: The majority of the respondents fall within the age range of 20 to 25 years (45%), followed by those aged 18 to 20 years (30%), 25 to 30 years (17%), and 30 to 35 years (8%). In terms of gender distribution, 52% of the respondents are female, while 48% are male. Regarding educational level, most respondents hold a Bachelor's degree (55%), followed by those with a Master's degree (41%), and a smaller proportion holding a PhD (4%). These demographics provide a comprehensive overview of the respondent profile in the study.

Table 2: Demographic Characteristics of Respondents

Characteristic	Frequency	Percentage
Age		
18 to 20 years	122	30%
20 to 25 years	182	45%
25 to 30 years	70	17%
30 to 35 years	32	8%
Gender		
Male	194	48%
Female	212	52%
Educational Level		
Bachelor	223	55%
Master	166	41%

PhD	17	4%

4.2 Descriptive Statistics

The descriptive statistics for the study reveal that the mean score for Financial Inclusion is 4.15, with a mode of 4, indicating that most respondents generally agree with the statements related to financial inclusion initiatives in their banks. The standard deviation of 0.65 and variance of 0.42 suggest moderate variability in responses, with scores ranging from 2.8 to 5. Similarly, the mean score for Banking Performance is 4.08, with a mode of 4, indicating a positive perception of banking performance among respondents. The standard deviation of 0.7 and variance of 0.49 indicate slightly higher variability in responses compared to financial inclusion, with scores ranging from 2.5 to 5. These statistics suggest a generally positive view of both financial inclusion and banking performance among the respondents, with some variation in individual perceptions.

Table 3: Descriptive Statistics

Variable	Mean	Mode	Std. Dev	Variance	Minimum	Maximum
Financial Inclusion	4.15	4	0.65	0.42	2.8	5
Banking Performance	4.08	4	0.7	0.49	2.5	5

4.3 Reliability Analysis

The reliability analysis conducted using Cronbach's Alpha indicates strong internal consistency for the measurement scales used in the study (Table 4). The Financial Inclusion scale has a Cronbach's Alpha of 0.87, while the Banking Performance scale has a Cronbach's Alpha of 0.85. Both values exceed the commonly accepted threshold of 0.70, demonstrating that the items within each scale are reliably measuring the respective constructs and that the data collected is consistent and dependable for further analysis.

Table 4: Reliability Analysis (Cronbach's Alpha)

Variable	Cronbach's Alpha
Financial Inclusion	0.87
Banking Performance	0.85

4.3 Correlation Analysis

The correlation analysis reveals a significant positive relationship between financial inclusion and banking performance in the Delhi-NCR region. The correlation coefficient of 0.68 ($p < 0.01$) indicates a strong positive correlation, suggesting that as financial inclusion initiatives increase, banking performance also tends to improve. This finding supports the first hypothesis (H1), confirming that efforts to enhance financial inclusion, such as expanding banking services and promoting digital banking, are closely associated with better overall banking performance in the region.

Table 5: Correlation between Social Media Factors and Apparel Buying Behavior

Variable	Banking Performance
Financial Inclusion	0.68

Note: $p < 0.01$

4.4 Regression Analysis

SHODH SAGAR®
International Journal for Research Publication and Seminar
ISSN: 2278-6848 | Vol. 15 | Issue 2 | Apr-Jun 2024 | Peer Reviewed & Refereed

The regression analysis demonstrates that financial inclusion has a significant positive influence on banking performance in the Delhi-NCR region, supporting the second hypothesis (H2). The regression coefficient (B) for financial inclusion is 0.68, with a standard error (SE) of 0.05, and the t-value of 13.6 indicates that this relationship is statistically significant ($p < 0.01$). The model summary shows an R^2 value of 0.46, meaning that 46% of the variance in banking performance can be explained by financial inclusion. The adjusted R^2 of 0.45 further confirms the model's robustness.

Table 6: Regression Analysis of Financial Inclusion on Banking Performance

Predictor	**B**	**SE**	**Beta (β)**	**t**	**P**
Constant (Intercept)	1.2	0.18	-	6.67	<0.01
Financial Inclusion	0.68	0.05	0.68	13.6	<0.01
Model Summary					
R^2		0.46			
Adjusted R^2		0.45			

Based on the analysis:

$$Bp=0.68(FI)+1.2 \tag{1}$$

The regression equation, Bp = 0.68(FI) + 1.2, illustrates that for every unit increase in financial inclusion, banking performance increases by 0.68 units, highlighting the substantial impact of financial inclusion initiatives on improving banking outcomes in this region.

5. Conclusion

The study provides empirical evidence that financial inclusion has a significant positive impact on banking performance in the Delhi-NCR region. The results indicate that initiatives aimed at expanding access to banking services, increasing the adoption of digital banking, and implementing financial literacy programs contribute to improved profitability, customer base growth, and cost efficiency in banks. These findings underscore the critical role of financial inclusion in enhancing banking performance, offering valuable insights for policymakers and banking institutions. By focusing on inclusive strategies, banks can not only drive their own success but also contribute to broader economic development and financial stability in the region.

Implications

The study's findings have significant implications for both banking institutions and policymakers. For banks, the positive correlation between financial inclusion and performance highlights the importance of continuing to invest in inclusive financial services. Expanding access to underserved populations and embracing digital banking can lead to increased profitability and customer satisfaction. For policymakers, the study underscores the need to support financial inclusion initiatives through favorable regulations and infrastructure development, ensuring that these efforts reach all segments of society. Moreover, the results suggest that financial literacy programs should be a key component of financial inclusion strategies to maximize their effectiveness.

Limitations

Despite the robust findings, this study has several limitations. First, the use of convenience sampling may limit the generalizability of the results to the entire banking sector in Delhi-NCR. The sample, while adequate for statistical analysis, may not fully represent the diversity of experiences and perspectives within the broader banking community. Second, the study relies on self-reported data from banking employees, which could introduce response bias.

Future Recommendations

Future research should address the limitations of this study by employing a more representative sampling technique, such as stratified random sampling, to enhance the generalizability of the findings. Longitudinal studies could provide deeper insights into the long-term effects of financial inclusion on banking performance. Additionally, future research could explore the role of specific digital technologies in driving financial inclusion and their differential impacts on various aspects of banking performance.

References

Afjal, M. (2023). Bridging the financial divide: a bibliometric analysis on the role of digital financial services within FinTech in enhancing financial inclusion and economic development. *Humanities and Social Sciences Communications*, *10*(1). https://doi.org/10.1057/s41599-023-02086-y

Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2022). A review of studies on green finance of banks, research gaps and future directions. *Journal of Sustainable Finance and Investment*, *12*(4), 1241–1264. https://doi.org/10.1080/20430795.2020.1870202

Asif, M., Khan, M. N., Tiwari, S., Wani, S. K., & Alam, F. (2023). The Impact of Fintech and Digital Financial Services on Financial Inclusion in India. *Journal of Risk and Financial Management*, *16*(2). https://doi.org/10.3390/jrfm16020122

Belgavi, V. (2022). The changing face of financial services: Growth of FinTech in India . *Https://Www.Pwc.in/Assets/Pdfs/Consulting/Financial-Services/Fintech/Publications/the-Changing-Face-of-Financial-Services-Growth-of-Fintech-in-India-V2.Pdf*, *June*.

Chor, D., Manova, K., & Yu, Z. (2021). Growing like China: Firm performance and global production line position. *Journal of International Economics*, *130*, 103445. https://doi.org/10.1016/j.jinteco.2021.103445

Cicchiello, A. F., Kazemikhasragh, A., Monferrá, S., & Girón, A. (2021). Financial inclusion and development in the least developed countries in Asia and Africa. *Journal of Innovation and Entrepreneurship*, *10*(1). https://doi.org/10.1186/s13731-021-00190-4

Dey, S., Sreenivasulu, A., Veerendra, G. T. N., Rao, K. V., & Babu, P. S. S. A. (2022). Renewable energy present status and future potentials in India: An overview. *Innovation and Green Development*, *1*(1), 100006. https://doi.org/10.1016/j.igd.2022.100006

Flaherty, M., Gevorkyan, A., Radpour, S., & Semmler, W. (2017). Financing climate policies through climate bonds – A three stage model and empirics. *Research in International Business and Finance*, *42*, 468–479. https://doi.org/10.1016/j.ribaf.2016.06.001

Hafner, S., Jones, A., Anger-Kraavi, A., & Pohl, J. (2020). Closing the green finance gap – A systems perspective. *Environmental Innovation and Societal Transitions*, *34*(July 2019), 26–60. https://doi.org/10.1016/j.eist.2019.11.007

Herring, H., & Roy, R. (2007). Technological innovation, energy efficient design and the rebound effect. *Technovation*, *27*(4), 194–203. https://doi.org/10.1016/j.technovation.2006.11.004

Hornuf, L., & Haddad, C. (2019). The Emergence of the Global Fintech Market : Economic and Technological Determinants Christian Haddad The Emergence of the Global Fintech Market : Economic and Technological Determinants Abstract. *Small Business Economics*, *53*, 81–105.

Jin, J., & Han, L. (2018). Assessment of Chinese green funds: Performance and industry allocation.

Journal of Cleaner Production, *171*, 1084–1093. https://doi.org/10.1016/j.jclepro.2017.09.211

Le, T. H., Chuc, A. T., & Taghizadeh-Hesary, F. (2019). Financial inclusion and its impact on financial efficiency and sustainability: Empirical evidence from Asia. *Borsa Istanbul Review*, *19*(4), 310–322. https://doi.org/10.1016/j.bir.2019.07.002

Muganyi, T., Yan, L., & Sun, H. ping. (2021). Green finance, fintech and environmental protection: Evidence from China. *Environmental Science and Ecotechnology*, *7*, 100107. https://doi.org/10.1016/j.ese.2021.100107

Nenavath, S., & Mishra, S. (2023). Impact of green finance and fintech on sustainable economic growth: Empirical evidence from India. *Heliyon*, *9*(5), e16301. https://doi.org/10.1016/j.heliyon.2023.e16301

Omar, M. A., & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of Economic Structures*, *9*(1). https://doi.org/10.1186/s40008-020-00214-4

Pan, J. Y., Lin, C. C., Wu, C. J., & Chang, J. P. (2016). Early and intermediate-term results of the extracardiac conduit total cavopulmonary connection for functional single-ventricle hearts. *Journal of the Formosan Medical Association*, *115*(5), 318–324. https://doi.org/10.1016/j.jfma.2015.12.011

Pushp, A., Gautam, R. S., Tripathi, V., Kanoujiya, J., Rastogi, S., Bhimavarapu, V. M., & Parashar, N. (2023). Impact of Financial Inclusion on India's Economic Development under the Moderating Effect of Internet Subscribers. *Journal of Risk and Financial Management*, *16*(5). https://doi.org/10.3390/jrfm16050262

Rahman, M. H., Rahman, J., Tanchangya, T., & Esquivias, M. A. (2023). Green banking initiatives and sustainability: A comparative analysis between Bangladesh and India. *Research in Globalization*, *7*(December), 100184. https://doi.org/10.1016/j.resglo.2023.100184

Shayan, N. F., Mohabbati-Kalejahi, N., Alavi, S., & Zahed, M. A. (2022). Sustainable Development Goals (SDGs) as a Framework for Corporate Social Responsibility (CSR). *Sustainability (Switzerland)*, *14*(3), 1–27. https://doi.org/10.3390/su14031222

Tawiah, V., Zakari, A., & Adedoyin, F. F. (2021). Determinants of green growth in developed and developing countries. *Environmental Science and Pollution Research*, *28*(29), 39227–39242. https://doi.org/10.1007/s11356-021-13429-0

Yoshino, N., & Morgan, P. J. (2017). Financial Inclusion , Regulation , and Education Asian Perspectives. In *Asian Development Bank Institute*.

Zhang, D., Zhang, Z., & Managi, S. (2019). A bibliometric analysis on green finance: Current status, development, and future directions. *Finance Research Letters*, *29*(February), 425–430. https://doi.org/10.1016/j.frl.2019.02.003

Zheng, G. W., Siddik, A. B., Masukujjaman, M., & Fatema, N. (2021). Factors affecting the sustainability performance of financial institutions in Bangladesh: The role of green finance. *Sustainability (Switzerland)*, *13*(18), 1–27. https://doi.org/10.3390/su131810165

Zhou, G., Zhu, J., & Luo, S. (2022). The impact of fintech innovation on green growth in China: Mediating effect of green finance. *Ecological Economics*, *193*, 107308. https://doi.org/10.1016/j.ecolecon.2021.107308

Zhou, X., Tang, X., & Zhang, R. (2020). Impact of green finance on economic development and environmental quality: a study based on provincial panel data from China. *Environmental Science and Pollution Research*, *27*(16), 19915–19932. https://doi.org/10.1007/s11356-020-08383-2