



"Examining Shifts in Customer Preferences and Socio-Economic Implications of Cooperative Banking in India during the COVID-19 Pandemic"

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ABSTRACT

The COVID-19 pandemic has profoundly impacted the global economy, and India's cooperative banking sector has faced unique challenges as a result. Cooperative banks, which play a crucial role in promoting financial inclusion and supporting rural and semi-urban communities, had to rapidly adapt to changing customer preferences and behaviors during the crisis. This study aims to examine the shifts in customer preferences and analyze the socio-economic implications of cooperative banking in India during the COVID-19 pandemic. Utilizing a mixed-methods approach, the research combines quantitative surveys of cooperative bank customers with qualitative interviews of bank officials and stakeholders. The findings reveal significant shifts towards digital banking, driven by the necessity for contactless transactions and heightened concerns for health and safety. Customers expressed increased trust in cooperative banks due to their community-oriented approach, though challenges in digital infrastructure and financial literacy were noted. The study underscores the importance of enhancing digital capabilities, promoting financial literacy, and developing flexible financial products to meet evolving customer needs. Additionally, the socio-economic contributions of cooperative banks in supporting local economies during the pandemic highlight their critical role in economic recovery and resilience. The recommendations provide a roadmap for cooperative banks to build resilience and sustainability, including investments in digital infrastructure, customer engagement strategies, diversification of services, and policy advocacy. These insights are valuable for policymakers, financial institutions, and stakeholders aiming to strengthen the cooperative banking sector and promote inclusive economic growth in India. The study concludes that adaptive strategies and innovative approaches are essential for cooperative banks to navigate future crises effectively and continue their mission of fostering financial inclusion and community development.

Keywords: Cooperative Banking, COVID-19 Pandemic, Customer Preferences, Financial Inclusion, Digital Banking

1. Introduction:

The COVID-19 pandemic has significantly reshaped global economies, prompting unprecedented shifts in consumer behavior and financial preferences. In the context of India's banking sector, cooperative banks play a pivotal role in serving diverse socio-economic segments, particularly in rural and semi-urban areas. These institutions, characterized by their localized focus and member-driven ethos, faced unique challenges and opportunities during the pandemic. This research aims to delve into the nuanced changes in customer preferences observed within India's cooperative banking sector amidst the COVID-19 crisis. By examining these shifts, the study seeks to uncover the socio-economic implications for both customers and the cooperative banking institutions themselves. Understanding these dynamics is crucial for adapting strategies that can enhance resilience and responsiveness in future crises. Agrawal, P., & Ms. Preeti. (2022¹).

The pandemic-induced disruptions, including lockdowns, economic uncertainties, and shifts towards digital transactions, have catalyzed transformations in how customers perceive and interact with cooperative banks. These transformations extend beyond mere financial transactions, encompassing trust dynamics, service expectations, and the adoption of digital banking solutions. Moreover, cooperative banks, traditionally known for their community-centric approach and personalized service, faced dual imperatives: maintaining operational continuity amidst lockdowns and meeting heightened customer expectations for safety, accessibility, and financial stability. The responses of these banks during the crisis provide valuable insights into their adaptive capabilities and the evolving role of cooperative banking in India's financial landscape. Archarya, V. V., & Rajan, R. G. (2020²).

By analyzing these shifts and their socio-economic implications, this research seeks to contribute to the broader discourse on resilient banking systems and sustainable socio-economic development strategies in the post-pandemic era. Understanding how cooperative banks navigate and respond to crises can offer valuable lessons for policymakers, practitioners, and stakeholders aiming to build robust and inclusive financial systems that cater effectively to diverse customer needs. This paper explores the intricate interplay between customer preferences, operational strategies, and socio-economic outcomes within India's cooperative banking sector during the COVID-19 pandemic. Through empirical analysis and qualitative insights, it aims to provide a comprehensive understanding of the sector's dynamics and contribute actionable insights for enhancing its resilience and relevance in the face of future challenges. Dahiya, M., & Bhatia, S. J. (2016³)

2. Background of the Study:

The cooperative banking sector in India has long been integral to the nation's financial system, particularly in rural and semi-urban areas. Rooted in the principles of cooperation and mutual aid, these banks cater to the financial needs of small farmers, artisans, and rural entrepreneurs who often lack access to commercial banking services. By focusing on local communities, cooperative banks play a crucial role in fostering financial inclusion, supporting agricultural activities, and promoting rural development. Historically, cooperative banks in India have operated on a member-owned model, emphasizing community participation and democratic control. This unique structure has allowed them to build strong relationships with their customers, offering personalized services tailored to local needs. Despite their pivotal role, cooperative banks have faced challenges such as limited resources, regulatory constraints, and competition from larger commercial banks. Nonetheless, they have remained resilient, adapting to changing economic conditions and technological advancements. Das, J., & Dey, S. (2018⁴)

The onset of the COVID-19 pandemic in early 2020 brought unprecedented challenges to the global economy, and India was no exception. The nationwide lockdowns, economic slowdown, and health crisis significantly impacted various sectors, including banking. Cooperative banks, with their localized focus, faced unique difficulties in maintaining operations while adhering to health guidelines and ensuring the safety of their staff and customers. The pandemic also accelerated the shift towards digital banking, compelling cooperative banks to enhance their digital infrastructure to meet the evolving needs of their customers. As the pandemic unfolded, shifts in customer preferences became evident. The economic uncertainty heightened the need for financial security and trust, influencing customers' banking choices. Many turned to cooperative banks for their perceived reliability and community-oriented approach. Concurrently, the demand for digital banking solutions surged as customers sought convenient and safe ways to conduct transactions. These shifts highlighted the need for cooperative banks to innovate and adapt to remain relevant in the rapidly changing financial landscape.

Goswami, A. (2022⁵) The socio-economic implications of these shifts are profound. Cooperative banks, by addressing the changing preferences of their customers, have the potential to drive inclusive economic recovery and development. Their role in providing accessible financial services, supporting small businesses, and fostering community resilience has become even more critical in the post-pandemic era. Understanding these dynamics is essential for policymakers, financial institutions, and stakeholders aiming to promote sustainable and inclusive growth. This study aims to explore the shifts in customer preferences and the socio-economic implications for cooperative banking in India during the COVID-19 pandemic. By examining the challenges and opportunities faced by cooperative banks, this research seeks to provide insights into their adaptive strategies and contributions to financial inclusion and socio-economic development. The findings will inform policy decisions and strategic initiatives to strengthen the cooperative banking sector and enhance its role in India's economic recovery and resilience.

2.1 Research Relevance:

The relevance of this study is multifaceted, particularly as it focuses on a critical yet often underexplored segment of India's financial ecosystem: cooperative banks. These institutions have been instrumental in promoting financial inclusion and supporting community development, especially in rural and semi-urban

areas. In light of the COVID-19 pandemic, understanding the shifts in customer preferences and the socio-economic implications for cooperative banks is of paramount importance (Jaiswar, P. S., 2022⁶). Firstly, cooperative banks have long been the backbone of financial inclusion in India. They provide essential banking services to small farmers, artisans, and rural entrepreneurs who often lack access to commercial banking. By exploring how these banks have adapted to the pandemic-induced changes in customer behavior, this research highlights their continued relevance and capacity to support marginalized communities. The insights gained can help policymakers and financial institutions devise strategies that enhance financial inclusion and foster sustainable community development. The study offers a comprehensive analysis of the adaptive strategies employed by cooperative banks during the COVID-19 crisis. The pandemic posed unprecedented challenges, requiring banks to innovate and adapt rapidly to maintain operations and meet customer needs. Understanding these strategies is crucial for identifying best practices and areas for improvement. This knowledge is valuable not only for cooperative banks but also for other financial institutions seeking to build resilience against future economic disruptions. The accelerated shift towards digital banking is a significant outcome of the pandemic. Many cooperative banks, traditionally reliant on face-to-face interactions, had to quickly enhance their digital infrastructure to cater to the rising demand for online services. This research explores the challenges and opportunities that cooperative banks encountered during this transition. The findings can guide the digital transformation efforts of cooperative banks, ensuring they are better equipped to meet the evolving needs of their customers in a technology-driven financial landscape (Kanchan, D., & Choudhary, R., 2023⁷).

Moreover, the socio-economic implications of the shifts in customer preferences are significant for policy formulation. By providing empirical data and qualitative insights into the changes within the cooperative banking sector, this research can inform the development of policies that support the growth and stability of these banks. Effective policies can enhance their ability to contribute to economic recovery and resilience, particularly in underserved regions. The research also delves into the dynamics of trust and service expectations among customers during the pandemic. Understanding these aspects is critical for cooperative banks to maintain and enhance customer satisfaction and loyalty. The findings can help banks refine their customer engagement strategies and build stronger, trust-based relationships with their clientele (Manisha, & Hans, K., 2017⁸).

Lastly, this study contributes to the relatively limited academic literature on cooperative banking in India, particularly in the context of a global crisis. By providing a detailed examination of the sector's response to the pandemic, the research adds valuable insights to the broader field of banking and finance. It opens avenues for further research on cooperative banking and its role in economic resilience and development. The relevance of this research extends beyond the immediate scope of cooperative banking in India. It offers valuable lessons for building resilient, inclusive, and adaptive financial systems that can better serve communities in times of crisis and beyond. Rao, D. G. (2021⁹)

3. The Problem Statement:

The COVID-19 pandemic has brought about profound disruptions to the global economy, fundamentally altering the dynamics of various sectors, including the banking industry. In India, cooperative banks, which have traditionally served as the financial lifeline for rural and semi-urban populations, faced unprecedented challenges. These institutions, known for their community-centric approach and personalized services, had to swiftly adapt to the changing landscape characterized by economic uncertainties, lockdowns, and a rapid shift towards digital transactions. Despite their critical role in promoting financial inclusion and supporting local economies, there is limited research on how the pandemic has specifically impacted customer preferences and the operational strategies of cooperative banks. This study seeks to address this gap by examining the shifts in customer preferences during the COVID-19 pandemic and the socio-economic implications for cooperative banking in India. The goal is to understand how these banks have navigated the crisis, the adaptive measures they have employed, and the broader impact on their ability to serve their communities effectively. By doing so, the research aims to provide insights that can inform policy decisions and strategic initiatives to enhance the resilience and sustainability of cooperative banks in the face of future challenges.

4. Significance of the Study:

This study holds significant importance as it addresses the critical role of cooperative banks in India's financial landscape, especially during the unprecedented challenges posed by the COVID-19 pandemic. By examining the shifts in customer preferences and the socio-economic implications for cooperative banking, this research provides valuable insights into how these institutions have navigated the crisis and adapted to the rapidly changing environment. The findings of this study are crucial for several reasons. They will inform policymakers and financial regulators about the effectiveness of the adaptive strategies employed by cooperative banks, helping to shape policies that support their stability and growth. Additionally, the study highlights the

resilience and innovation within the cooperative banking sector, offering lessons that can be applied to enhance financial inclusion and community development in similar contexts. Furthermore, the research contributes to the academic literature by filling a gap in the understanding of cooperative banks' responses to global crises, thereby providing a foundation for future studies on banking resilience and socio-economic sustainability. Ultimately, this study aims to support the development of more robust, inclusive, and adaptable financial systems that can better serve vulnerable communities in times of crisis and beyond.

5. Research objectives:

- ❖ To Examine Shifts in Customer Preferences and Behavior in Response to the Pandemic
- ❖ To Analyse the Socio-Economic Implications of Cooperative Banking During the COVID-19 Pandemic in India
- ❖ To Provide Recommendations for Enhancing the Resilience and Sustainability of Cooperative Banks

6. Literature Review:

The Literature Review on Non-Performing Assets in the Indian Banking Sector by Y. Maheswari (2022¹⁰): An important factor propelling India's economic expansion is the banking industry. While other countries were hit hard by the global financial crisis, India's banking sector saw tremendous growth in the last few years. In the last twenty years, India's banking industry has changed due to deregulation and the country's thriving economy. All banks, public and commercial, are now impacted by the problem of non-performing assets. The banking industry has felt the effects of the COVID-19 outbreak more acutely than other industries because to the widespread slowdown in economic activity. A literature study of non-performing assets in India's banking industry is the goal of this research.

Non-Performing Assets in India's Banking Sector: A Critical Review (2019¹¹) by Varuna and Nidhi Agarwala: The largest sign of a country's banking sector's health is the number of non-performing assets (NPAs). By analysing the growth of non-performing assets from 2010 to 2017, this research aims to determine the relative roles played by the various banks in the industry. The impact of various banking organisations on the banking industry in this area is another target of the research. Included in this group are both public and private banks in India, as well as the State Bank of India (SBI) and its subsidiaries. All financial institutions, whether publicly traded or privately held, were included in our investigation, including SBI and its subsidiaries. For this study, we rely on secondary data that was gathered from the Reserve Bank of India website between 2010 and 2017. With the use of geometric mean, one may statistically determine the average growth rate of gross non-performing assets. To make the findings more clear, we compare the increase of certain banks' gross non-performing assets (NPAs) to the average growth rate.

Manisha Dhiman's (2018¹²) analysis of the Indian banking system's performance: Punjab relied on surface runoff for agricultural irrigation when its groundwater supply dried out. One way to save water is to employ drip irrigation, which may reduce the amount of water needed for irrigation and even replenish subterranean water sources. Punjabi farmers must prioritise water conservation if their methods are to remain viable over the long term. This project will examine drip and sprinkler irrigation as water-saving measures in Punjabi agriculture, both now and in the future. Punjab is only now seeing the beginning of sprinkler and drip irrigation's popularity, the paper claims. If the government could improve agricultural extension services in impacted areas to address issues like inconsistent and unpredictable electricity supply, crop marketing failures, limited availability of spare parts, and a lack of training facilities for farmers, the use of these systems would certainly increase.

Emerging Challenges and New Potentials in the E-Age Technology-Faced Indian Banking Industry by R.K. Uppal (2011¹³): Large financial institutions' efficiency and profit margins are analysed in this study both before and after the emergence of internet banking. New facets of banking in India were introduced by the Information Technology Act of 1999, which was part of the reform regime in the banking industry. Technology in the information age has changed the way banks are structured, how businesses operate, company culture, and HR practices. The efficiency, profitability, and productivity of the banks have taken a hit because of this. There was a considerable improvement in the performance of every single bank we examined after the introduction of internet banking; nonetheless, public sector banks performed the poorest. There are many problems that banks, especially public sector banks, are experiencing, and this article seeks to address some of those issues. Public sector banks are facing new problems, but this study shows how to overcome them.

Research on the impact of COVID-19 on the Indian banking industry by Dr. Priyanka Bobade and Prof. Anu Alex, (2020¹⁴): Disastrous effects of the global pandemic The highest court in India consulted experts to help shape new policies in response to the global economic consequences of the COVID-19 outbreak. Every single bank in India has had it rough recently due to liquidity problems and the Reserve Bank of India's choice to cut

the REPO rate. Customers who are having trouble receiving funds will be given more time by the Reserve Bank of India to pay off their EMIs. The purpose of this research is to examine the effects of the COVID-19 pandemic on the Indian banking sector and the policy adjustments implemented by the Reserve Bank of India (RBI). It is also advised that the Indian financial sector address the destruction caused by the COVID-19 pandemic. Based on the findings, it is clear that the banking sector in India has done a lot to combat the COVID-19 pandemic and keep the financial system running smoothly. While most Indian banks were already dealing with consumer fraud, bad loans (BL), nonperforming loans (NPA), and non-recovery of loans (NRL) prior to the advent of COVID-19, the situation only became worse.

Analysis of data-driven productivity in the Indian banking sector Sandeepa Kaur and P. K. Gupta's Envelopment Analysis (2015¹⁵): The banking sector in India was liberalised in the early 1990s after years of heavy government regulation. The demand on banks to succeed is more than it has ever been before because of stricter regulations and the resulting competitive pressures. As a result, productive efficiency is becoming an increasingly important criterion for the establishment and upkeep of banks. Utilising the nonparametric frontier approach (DEA), this study examines the manufacturing efficacy of India's banking sector. From 2009 to 2013, monetary value and efficiency ratings were used to measure the inputs and outputs. After private banks and other nationalised banks, SBI and its affiliates rank third in terms of efficiency, according to the survey. Over time, the outcomes don't change, but the gaps in efficiency narrow.

7. Methodology of the Study:

This study employs a mixed-methods approach, combining quantitative and qualitative research methods to provide a comprehensive analysis of the shifts in customer preferences and the socio-economic implications of cooperative banking during the COVID-19 pandemic in India. The research methodology is designed to capture the nuanced experiences of customers and the adaptive strategies of cooperative banks.

The quantitative component involves the collection and analysis of survey data from a representative sample of cooperative bank customers across various regions in India. A structured questionnaire will be developed to gather information on customer demographics, banking preferences, changes in banking behavior during the pandemic, and satisfaction levels with cooperative banking services. The survey will be distributed electronically and through physical copies to ensure wide reach and inclusivity. The data collected will be analyzed using statistical techniques to identify significant trends and correlations.

The qualitative component complements the quantitative analysis by providing deeper insights into the experiences and perspectives of both customers and bank officials. In-depth interviews will be conducted with a purposive sample of cooperative bank customers, bank managers, and other key stakeholders. These interviews will explore the reasons behind changes in customer preferences, the challenges faced by cooperative banks, and the strategies employed to adapt to the pandemic. The qualitative data will be analyzed using thematic analysis to identify common themes and patterns.

8. Data Integration

The integration of quantitative and qualitative data will be achieved through a triangulation approach, ensuring that the findings from both components complement and enrich each other. This comprehensive analysis will provide a robust understanding of the impact of the COVID-19 pandemic on cooperative banking in India, highlighting both statistical trends and personal experiences. A stratified random sampling method will be used to select survey respondents, ensuring representation from different geographic regions and customer segments. For the qualitative interviews, purposive sampling will be employed to select participants who can provide in-depth insights. Data collection will be conducted over a period of three months, with adherence to ethical guidelines to ensure the confidentiality and informed consent of all participants.

9. Data Analysis

Quantitative data will be analyzed using descriptive and inferential statistics to identify significant shifts in customer preferences and behaviors. Qualitative data will be coded and analyzed thematically to uncover underlying patterns and insights. The findings from both analyses will be integrated to provide a comprehensive understanding of the study's objectives.

The mixed-methods approach of this study, combining quantitative surveys and qualitative interviews, ensures a thorough and nuanced analysis of the shifts in customer preferences and the socio-economic implications of cooperative banking in India during the COVID-19 pandemic. The methodology is designed to capture both broad trends and detailed personal experiences, providing valuable insights for policymakers, financial institutions, and stakeholders.

10. Empirical Findings:

Objective 1: To Examine Shifts in Customer Preferences and Behavior in Response to the Pandemic

Data Analysis using t-tests to compare customer satisfaction scores before and during the pandemic.

Code	Customer Preferences And Behaviour
CPB1	Customers have increasingly preferred digital banking services during the pandemic
CPB2	There has been a noticeable decline in footfall at physical branches.
CPB3	The demand for online loan applications has increased during COVID-19.
CPB4	Customers' trust in our bank has remained strong during the pandemic.
CPB5	More customers have adopted mobile banking apps during COVID-19
CPB6	The frequency of online transactions has increased among customers
CPB7	Customers are more cautious about their financial activities during the pandemic
CPB8	There has been a shift towards contactless payments among our customers
CPB9	Customer inquiries and service requests have increased via digital channels
CPB10	The demand for personalized banking services has grown during COVID-19
CPB11	Customers have shown a preference for financial stability over higher returns
CPB12	There has been an increase in the use of digital wallets by customers.
CPB13	Customers are more focused on saving and investments during the pandemic
CPB14	Our bank's digital marketing efforts have effectively reached customers during COVID-19
CPB15	Customers' satisfaction with our bank's services has improved during the pandemic

One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CPB1	30.237	199	.000	2.560	2.39	2.73
CPB2	30.693	199	.000	2.750	2.57	2.93
CPB3	29.043	199	.000	2.735	2.55	2.92
CPB4	31.434	199	.000	2.765	2.59	2.94
CPB5	28.856	199	.000	2.545	2.37	2.72
CPB6	32.994	199	.000	2.840	2.67	3.01
CPB7	31.761	199	.000	2.960	2.78	3.14
CPB8	30.272	199	.000	2.815	2.63	3.00
CPB9	28.069	199	.000	2.405	2.24	2.57
CPB10	28.171	199	.000	2.375	2.21	2.54
CPB11	30.064	199	.000	2.780	2.60	2.96
CPB12	29.119	199	.000	2.675	2.49	2.86
CPB13	28.327	199	.000	2.500	2.33	2.67
CPB14	32.382	199	.000	2.745	2.58	2.91
CPB15	30.360	199	.000	2.815	2.63	3.00

Interpretation:

The analysis conducted to examine shifts in customer preferences and behavior in response to the COVID-19 pandemic reveals significant changes across various dimensions. The t-tests for each customer preference and

behavior indicator were statistically significant, as evidenced by p-values (Sig. 2-tailed) of 0.000 for all items. This indicates that the mean differences for each indicator are highly significant compared to the test value of 0.

Digital Banking Services: Indicators such as CPB1 (Customers increasingly preferring digital banking services) and CPB5 (Adoption of mobile banking apps) both exhibit strong mean differences (2.560 and 2.545, respectively). The high t-values (30.237 and 28.856) suggest that customers have significantly shifted towards digital platforms during the pandemic.

Decline in Physical Branch Visits: CPB2, which measures the decline in footfall at physical branches, has a mean difference of 2.750 and a high t-value of 30.693, confirming a significant reduction in visits to bank branches. This shift is likely due to safety concerns and lockdown measures during the pandemic, prompting customers to rely more on online banking services.

Increase in Online Loan Applications and Transactions: CPB3 (Demand for online loan applications) and CPB6 (Frequency of online transactions) both show significant mean differences of 2.735 and 2.840, respectively, with t-values of 29.043 and 32.994. These results indicate that customers have increasingly turned to digital channels for financial transactions and services, further highlighting the pandemic's impact on banking behavior.

Trust and Financial Caution: Despite the challenges posed by the pandemic, CPB4 (Customers' trust in the bank) has remained strong, with a mean difference of 2.765 and a t-value of 31.434. Additionally, CPB7 (Customers being more cautious about financial activities) has a mean difference of 2.960 and a t-value of 31.761, reflecting increased financial prudence among customers during the crisis.

Shift Towards Contactless Payments and Digital Channels: Indicators like CPB8 (Shift towards contactless payments) and CPB9 (Increase in customer inquiries via digital channels) also demonstrate significant shifts, with mean differences of 2.815 and 2.405, respectively, and high t-values (30.272 and 28.069). This shift is indicative of customers adapting to safer and more convenient banking methods during the pandemic.

Preference for Financial Stability: CPB11 (Preference for financial stability over higher returns) has a mean difference of 2.780 and a t-value of 30.064, showing that customers have become more risk-averse, prioritizing financial security during uncertain times.

Increased Use of Digital Wallets and Savings Focus: CPB12 (Increase in the use of digital wallets) and CPB13 (Focus on saving and investments) both have significant mean differences (2.675 and 2.500) and t-values (29.119 and 28.327), highlighting a shift towards digital financial management and a greater emphasis on saving.

Effectiveness of Digital Marketing: Finally, CPB14 (Effectiveness of digital marketing efforts) and CPB15 (Improved customer satisfaction with the bank's services) reflect the bank's successful adaptation to the digital landscape during the pandemic, with mean differences of 2.745 and 2.815, and high t-values (32.382 and 30.360).

Overall Interpretation: The t-test results provide compelling evidence of significant shifts in customer preferences and behavior during the COVID-19 pandemic. Customers have increasingly adopted digital banking services, reduced their reliance on physical branches, and shown greater financial caution. The bank's efforts to enhance digital offerings and communication have been well-received, leading to improved customer satisfaction. These findings underscore the importance of continuing to innovate and invest in digital banking solutions to meet evolving customer needs in a post-pandemic world.

Objective 2: To Analyse the Socio-Economic Implications of Cooperative Banking During the COVID-19 Pandemic in India

Data analysis using Chi-Square to Assess relationships between categorical socio-economic variables.

Socio-Economic Implications	Chi-Square	df	Asymp. Sig.
Cooperative banks have played a crucial role in supporting local economies during the pandemic.	47.100 ^a	4	0.000
Our bank has provided significant financial assistance to vulnerable communities.	21.950 ^a	4	0.000

The pandemic has highlighted the importance of cooperative banks in rural areas	21.750 ^a	4	0.000
Our bank has been instrumental in providing emergency loans during COVID-19	39.950 ^a	4	0.000
The financial inclusion efforts of our bank have been effective during the pandemic.	19.350 ^a	4	0.001
Cooperative banks have contributed to the socio-economic stability of their regions	50.350 ^a	4	0.000
Our bank has supported local businesses in sustaining their operations during COVID-19	24.550 ^a	4	0.000
The bank's community outreach programs have been effective during the pandemic	14.350 ^a	4	0.006
Our bank has helped in bridging the digital divide in rural areas during COVID-19	23.400 ^a	4	0.000
The bank's initiatives have positively impacted the socio-economic conditions of its customers	36.200 ^a	4	0.000
Cooperative banks have been essential in promoting financial literacy during the pandemic	29.150 ^a	4	0.000
Our bank's efforts in supporting agricultural activities have been crucial during COVID-19	32.950 ^a	4	0.000
The bank has provided significant support for healthcare financing during the pandemic	19.350 ^a	4	0.001
Our bank's contribution to social welfare programs has been impactful during COVID-19	14.750 ^a	4	0.005
Cooperative banks have been resilient in maintaining socio-economic stability during COVID-19	25.350 ^a	4	0.000

The analysis aimed at understanding the socio-economic implications of cooperative banking during the COVID-19 pandemic in India, using the Chi-Square test, reveals significant relationships between cooperative banking activities and various socio-economic outcomes. The results, with Chi-Square values and corresponding p-values (Asymp. Sig.), provide robust evidence of the critical role cooperative banks have played during the pandemic.

Support for Local Economies: The statement "Cooperative banks have played a crucial role in supporting local economies during the pandemic" shows a Chi-Square value of 47.100 with a p-value of 0.000, indicating a strong association between cooperative banking activities and the support provided to local economies. This underscores the pivotal role these banks have played in stabilizing local economic structures amidst the challenges posed by the pandemic.

Financial Assistance to Vulnerable Communities: Another key finding is the significant support provided by cooperative banks to vulnerable communities, reflected by a Chi-Square value of 21.950 and a p-value of 0.000. This indicates that cooperative banks were instrumental in delivering financial aid to those most affected by the pandemic, reinforcing their role as community-centric financial institutions.

Importance in Rural Areas: The analysis further highlights the importance of cooperative banks in rural areas during the pandemic, with a Chi-Square value of 21.750 and a p-value of 0.000. This suggests that cooperative banks have been particularly vital in rural regions, where they have likely served as primary financial service providers, offering crucial support during a period of heightened need.

Provision of Emergency Loans: Cooperative banks have been key players in providing emergency loans, as indicated by a Chi-Square value of 39.950 and a p-value of 0.000. This significant relationship underscores the banks' responsiveness to the urgent financial needs of individuals and businesses during the crisis, helping to mitigate the immediate economic impacts of the pandemic.

Effectiveness in Financial Inclusion: The effectiveness of financial inclusion efforts by cooperative banks during the pandemic is reflected in a Chi-Square value of 19.350 and a p-value of 0.001. This suggests that these banks have succeeded in extending financial services to previously underserved populations, thereby enhancing overall socio-economic stability.

Contribution to Socio-Economic Stability: The strongest association found in the analysis is related to the contribution of cooperative banks to socio-economic stability, with a Chi-Square value of 50.350 and a p-

value of 0.000. This highlights the significant impact these banks have had in maintaining economic and social equilibrium in their regions during the pandemic.

Support for Local Businesses: Cooperative banks have also played a crucial role in sustaining local businesses during COVID-19, as shown by a Chi-Square value of 24.550 and a p-value of 0.000. This indicates that these banks have been essential in providing the financial support necessary for businesses to continue operations amidst economic disruptions.

Community Outreach and Digital Inclusion: The effectiveness of community outreach programs and efforts to bridge the digital divide in rural areas is evidenced by Chi-Square values of 14.350 (p-value of 0.006) and 23.400 (p-value of 0.000), respectively. These results suggest that cooperative banks have actively engaged in initiatives that not only provided immediate relief but also contributed to long-term digital inclusion and financial literacy.

Impact on Socio-Economic Conditions and Financial Literacy: The bank's initiatives have positively impacted the socio-economic conditions of their customers, as indicated by a Chi-Square value of 36.200 and a p-value of 0.000. Moreover, cooperative banks have been crucial in promoting financial literacy during the pandemic, with a Chi-Square value of 29.150 and a p-value of 0.000. These findings suggest that the banks' efforts have had a far-reaching impact, contributing to the financial well-being and education of their communities.

Support for Agriculture and Healthcare Financing: Cooperative banks have provided critical support for agricultural activities and healthcare financing during the pandemic, with Chi-Square values of 32.950 (p-value of 0.000) and 19.350 (p-value of 0.001), respectively. This indicates that the banks have played a vital role in sustaining essential sectors during the crisis.

Social Welfare Programs and Resilience: Lastly, the contributions of cooperative banks to social welfare programs (Chi-Square value of 14.750, p-value of 0.005) and their resilience in maintaining socio-economic stability (Chi-Square value of 25.350, p-value of 0.000) further emphasize their integral role in the socio-economic landscape during the pandemic.

Overall Interpretation: The Chi-Square analysis strongly supports the conclusion that cooperative banks have been instrumental in sustaining socio-economic stability during the COVID-19 pandemic in India. Their efforts have spanned financial assistance, support for local economies, rural inclusion, emergency financing, and the promotion of financial literacy. These findings underscore the critical role that cooperative banks play in fostering socio-economic resilience, particularly during periods of crisis.

11. Recommendations for the Study:

Based on the findings of this study, several comprehensive recommendations can be made to enhance the resilience, relevance, and sustainability of cooperative banks in India, particularly in the face of future crises similar to the COVID-19 pandemic. Cooperative banks must prioritize the enhancement of their digital infrastructure. The pandemic has underscored the critical need for robust online banking platforms that can handle increased digital transactions. Investing in secure, user-friendly digital solutions will not only meet the evolving preferences of customers but also attract a younger, tech-savvy demographic. Training programs for both staff and customers on the use of digital banking tools are essential to ensure widespread adoption and effective utilization. Cooperative banks should implement comprehensive financial literacy programs to educate their customers about the benefits and security of digital banking. Such initiatives can build trust and confidence among customers, particularly those in rural and semi-urban areas who may be wary of online transactions. Financial literacy efforts should also focus on helping customers make informed financial decisions, thereby improving their overall financial well-being. To address the changing needs and preferences of customers, cooperative banks should develop flexible and innovative financial products.

This could include tailored loan products, savings schemes, and insurance services that cater to the unique circumstances of their customer base. Emphasizing personalized service, a hallmark of cooperative banks, can differentiate them from larger commercial banks and foster stronger customer loyalty. Cooperative banks should diversify their revenue streams and investment portfolios to build resilience against economic shocks. Exploring new business opportunities and partnerships can provide additional sources of income and reduce dependence on traditional banking activities. For instance, collaborating with fintech companies can offer innovative solutions and expand the banks' reach.

Maintaining and enhancing strong relationships with customers is crucial. Cooperative banks should leverage their community-centric approach by engaging with customers regularly to understand their needs and

concerns. Implementing feedback mechanisms, such as customer surveys and suggestion boxes, can provide valuable insights for continuous improvement. Additionally, organizing community events and financial wellness programs can reinforce the banks' commitment to their customers' well-being. Cooperative banks should actively engage with policymakers to advocate for supportive regulations and policies that address their unique challenges. This includes seeking government assistance in technological upgrades, funding for capacity-building programs, and favorable regulatory frameworks that facilitate their growth and stability. Collaborative efforts with regulatory bodies can ensure that cooperative banks are well-equipped to navigate future crises. Developing robust risk management frameworks and crisis preparedness plans is essential for cooperative banks. This includes conducting regular risk assessments, establishing contingency plans for various scenarios, and training staff on emergency response protocols. Effective risk management can minimize disruptions and ensure operational continuity during crises. The study underscores the necessity for cooperative banks to adapt and innovate in response to the shifts in customer preferences and the socio-economic challenges brought about by the COVID-19 pandemic. By implementing these recommendations, cooperative banks can enhance their operational resilience, meet the evolving needs of their customers, and continue to play a vital role in promoting financial inclusion and supporting local economies. These efforts will not only strengthen the cooperative banking sector but also contribute to the broader goal of building a resilient and inclusive financial system in India.

12. Conclusion:

The COVID-19 pandemic has significantly altered the landscape of cooperative banking in India, prompting shifts in customer preferences and revealing critical socio-economic implications. This study highlights the necessity for cooperative banks to enhance their digital infrastructure, promote financial literacy, and adopt flexible and innovative services to meet the evolving needs of their customers. By strengthening customer relationships, diversifying revenue streams, advocating for supportive policies, and developing robust risk management frameworks, cooperative banks can build resilience and sustainability. These strategies will enable them to continue their vital role in fostering financial inclusion and supporting local communities, ultimately contributing to a more robust and inclusive financial system in India.

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