

Human Less Banking System in India

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Abstract

The rapid evolution of technologies has fundamentally reshaped the financial services landscape, establishing branchless and digital banking as key innovations that are transforming the industry. In this study we explore the implementation and impact of a human-less banking system powered by AI, automation, and digital technologies. Analyse the efficiency, security, and customer experience of human-less banking systems compared to traditional banking models and Investigate the challenges and opportunities associated with adopting a fully automated banking model. Used questionnaire method to collect data and used Percentage and ANOVA for analysis. Despite the strong support for automation, many users still prefer a hybrid banking model that includes human support for complex transactions. This indicates that financial institutions should balance automation with accessible human interaction to meet diverse customer needs

INTRODUCTION

The rapid evolution of banking technologies has fundamentally reshaped the financial services landscape, establishing branchless and digital banking as key innovations that are transforming the industry. These technological advancements have not only redefined how financial institutions operate but also revolutionized the ways in which customers perceive, adopt, and use banking services. The shift towards digital platforms and branchless banking models has introduced unprecedented levels of convenience, accessibility, and efficiency, profoundly impacting customer preferences and behaviour.

One of the critical factors behind the success of branchless and digital banking is the perception of convenience it offers. Consumers increasingly value the ability to conduct transactions and access financial services at any time and from any location, without the need to visit a physical branch. This convenience has become a central determinant in the adoption of digital banking services, as users seek solutions that align with their fast-paced lifestyles and the growing demand for instant, seamless financial interactions. The ease of use associated with mobile banking apps, online platforms, and agency banking has further strengthened consumer trust and satisfaction, fostering higher levels of engagement and usage. The shift from traditional brick-and-mortar banking to branchless models, including agency and mobile banking, and the rise of digital platforms, has also enabled financial institutions to reduce operational costs, optimize resource allocation, and expand their customer bases. By leveraging digital technologies, banks can reach a broader audience, particularly in remote or underserved areas, where establishing physical branches may not be feasible.

This research paper seeks to explore the intricate relationship between the adoption of branchless and digital banking and its impact on the financial performance of banks, with a particular focus on consumer perception, usage patterns, adoption trends, and preferences. By integrating perspectives from both theoretical frameworks and empirical studies, this paper aims to provide a comprehensive analysis of the

factors that drive these technological shifts and their implications for the future of banking. The paper will delve into how perceptions of convenience, security, and ease of use influence consumer adoption and preference, and how these factors, in turn, affect the financial performance of banks in various contexts—whether in regions that are rapidly embracing these innovations or in those with well-established digital infrastructures.

Moreover, the research will address ongoing gaps in existing literature, particularly concerning the dynamic interplay between technology, consumer behaviour, and financial outcomes. By examining the role of digital banking in enhancing financial inclusion and its impact on economic stability, this paper will contribute to a deeper understanding of how technological advancements are shaping the future of banking. It will also explore the broader implications for economic development, particularly in emerging markets where digital and branchless banking can serve as powerful tools for economic empowerment and growth.

OBJECTIVES OF THE STUDY:

- Explore the implementation and impact of a human-less banking system powered by AI, automation, and digital technologies.
- Analyse the efficiency, security, and customer experience of human-less banking systems compared to traditional banking models.
- Investigate the challenges and opportunities associated with adopting a fully automated banking model.
- Evaluate the regulatory, ethical, and societal implications of transitioning to human-less banking.
- Provide insights for financial institutions seeking to adopt a more automated and efficient banking environment.

RESEARCH METHODOLOGY:

A purposive sampling method was employed to select respondents for this study. This non-probability sampling technique was chosen to ensure that participants had experience with or knowledge of digital banking tools such as percentage, mean and correlation. The sample consisted of 251 respondents who actively use or are familiar with branchless banking services.

Part A: Demographic Profile

- This section collected information on respondents' demographic characteristics such as age, education level, occupation, and other relevant personal information. The demographic data will help contextualize and analyze the responses in Part B.

Part B: Perceptions, Usefulness, Ease of use, Credibility and Convivence Attitudes Toward Branchless Banking

- This section included 18 questions related to respondents' familiarity, comfort, and attitudes toward branchless banking systems, as well as their preferences for financial services, customer support, and security features. Responses were measured using a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree."
- An additional section included two open-ended questions to capture qualitative data on challenges faced with traditional banking and suggestions for improving branchless banking systems.

LIMITATIONS:

- First limitation of the research project is sample representativeness. The study primarily focuses on a specific demographic segment, including younger individuals (18-25 years old), employed respondents, and those with intermediate to advanced digital literacy.
- Second limitation of the research project is sample representativeness, particularly regarding unemployment factors and inter-country differences.

REVIEW OF LITERATURE

The theoretical exploration begins with the **Theory of Financial Intermediation** developed by Douglas (1984). This theory emphasizes the role of financial intermediaries, including commercial banks, in channeling external funds to firms while mitigating information asymmetry between borrowers and lenders. Financial intermediaries also provide specialized services like insurance and investment products while creating economies of scale in loan processing and risk management. As traditional banking models face challenges, intermediaries have shifted towards non-traditional activities, including branchless and digital banking, to maintain their intermediary functions.

The **Contemporary Banking Theory**, proposed by Bhattacharya and Thakor (1993), builds on the financial intermediation theory by highlighting the role of banks in efficiently allocating resources within the economy. This theory focuses on information asymmetry, adverse selection, and moral hazard, which are critical in lending. Branchless and digital banking address these issues by reducing transaction costs and enhancing financial access, thereby supporting broader financial inclusion and economic stability.

The **Technology Acceptance Model (TAM)**, developed by Fred Davis in 1986, provides insights into digital banking adoption by emphasizing two primary factors: perceived usefulness and ease of use. According to TAM, users are more likely to adopt digital banking if they believe it enhances their financial activities and is user-friendly. Singh's research further highlights how demographics, particularly younger and educated individuals, play a crucial role in digital banking adoption due to their familiarity with technology.

Additionally, the **Diffusion of Innovation Theory** offers a framework for understanding how new technologies, including branchless and digital banking, spread across populations. Factors such as perceived ease of use, perceived usefulness, and social influence determine the pace of adoption. In Kenya, the widespread adoption of branchless banking innovations like agency and mobile banking reflects the successful diffusion of these technologies.

Dzombo's work provides an empirical analysis of branchless banking and its effects on financial performance, particularly in Kenya. The historical development of branchless banking globally and its emergence in Kenya have led to significant improvements in financial inclusion and bank performance. Branchless banking models like agency and mobile banking have reduced operational costs, expanded customer reach, and enhanced service efficiency.

In parallel, Singh's research from Finland underscores the role of government policies and technological infrastructure in digital banking adoption. Favorable regulations, a robust digital ecosystem, and high user confidence contribute to the widespread uptake of digital banking services. Digital banking platforms that rate highly in terms of perceived usefulness, ease of use, and credibility are more likely to gain user trust, leading to sustained adoption and improved financial performance.

DATA ANALYSIS AND INTERPRETATION DEMOGRAPHIC PROFILE

	PERSONAL INFORMATION OF THE RESPONDENTS		PERCENTAGE
1.	AGE	18-25	53.8%
		26-35	32.7%
		36-45	10.8%
		46 and above	2.8%
2.	QUALIFICATION	STUDENT	34.7%
		EMPLOYED	52.7%
		RETIRED	9.6%
		OTHERS	3.6%
3.	LEVEL OF DIGITAL LITERACY	ADVANCED	21.1%
		INTERMEDIATE	56.6%
		BASIC	22.3%

INFERENCE:

The demographic profile reflects a predominantly young, employed, and digitally literate population, with most respondents possessing an intermediate level of digital literacy. This suggests that the survey results will largely reflect the views of a tech-savvy, younger demographic that is actively engaged in professional or educational pursuits.

FACTORS INFLUENCE THE PEOPLE FOR ADOPTION OF HUMAN LESS BANKING SYSTEM:

FACTORS	MEAN
Convenience	4.1
Usefulness	3.85
Credibility	3.92
Perception	4.37
Ease of use	4.61

INFERENCE:

Ease of use is the most critical factor for respondents, highlighting the need for a user-friendly and intuitive interface in human-less banking systems. Perception follows closely, emphasizing the importance of how users view the system's effectiveness and alignment with their needs. Convenience is also highly valued, indicating a preference for systems that streamline banking tasks and save time. Credibility is important but slightly less critical compared to ease of use, perception, and convenience. Usefulness, while still recognized, is the least emphasized factor, suggesting that practical benefits are less of a focus for users.

ANOVA

Literacy Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	39.020	65	.600	1.588	.009
Within Groups	69.944	185	.378		
Total	108.964	250			

INFERENCE:

The ANOVA results indicate a statistically significant difference in perceptions based on literacy levels, as evidenced by the p-value (Sig.= .009), which is below the standard threshold of .05. This suggests that the level of digital literacy significantly influences how respondents perceive the factors related to human-less banking systems.

ANOVA					
Age					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	60.100	65	.925	1.806	.001
Within Groups	94.697	185	.512		
Total	154.797	250			

INFERENCE:

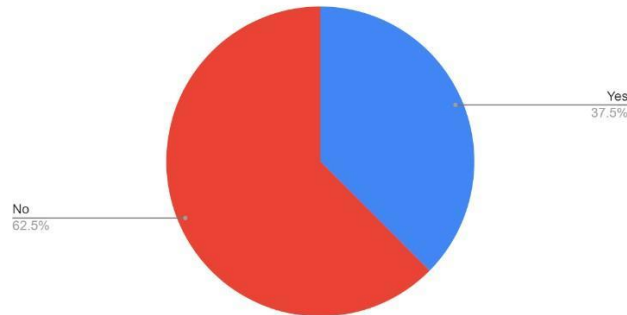
The ANOVA results show a statistically significant difference in perceptions based on age groups, as indicated by the p-value (Sig. =.001), which is well below the standard threshold of .05. This suggests that age significantly influences how respondents perceive factors related to human-less banking systems.

ANOVA					
Occupation					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	50.757	65	.781	1.638	.006
Within Groups	88.176	185	.477		
Total	138.932	250			

INFERENCE:

The ANOVA results indicate a statistically significant difference in perceptions based on occupation, with a p-value (Sig. = .006) below the standard threshold of .05. This suggests that occupation plays a significant role in influencing how respondents perceive factors related to human-less banking systems.

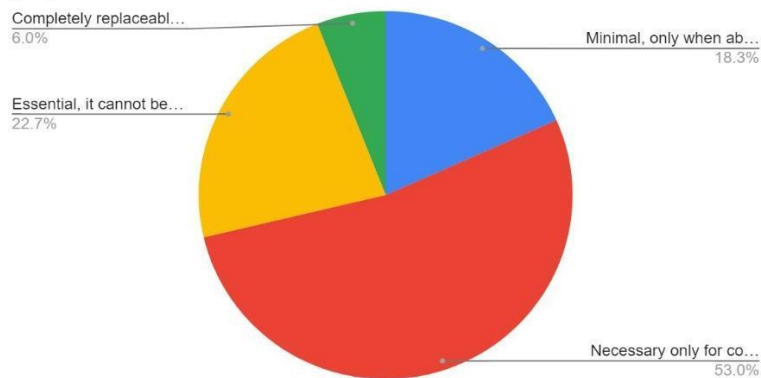
Count of Would you prefer a completely human-less banking system over a traditional system with human support/



INFERENCE:

Ease of use is the primary driver of adoption for human-less banking systems, followed by customer support and security. While innovative features and lower costs are considered, they are less influential. To drive adoption, financial institutions should focus on creating intuitive, secure systems with accessible support.

Count of In your opinion, what role should human interaction play in the future of banking?



INFERENCE:

The majority favor a hybrid banking model, where automation handles routine tasks, but human interaction remains crucial for complex issues. While there is growing trust in automation, most still see a need for human involvement in banking.

CONCLUSION:

The research shows that ease of use is the most crucial factor in adopting human-less banking systems, followed by user perception and convenience. While credibility and usefulness are important, they are less influential. Despite the strong support for automation, many users still prefer a hybrid banking model that includes human support for complex transactions. This indicates that financial institutions should balance automation with accessible human interaction to meet diverse customer needs. Future research should address limitations such as sample representativeness and geographic constraints to gain a more comprehensive understanding of adoption dynamics. Overall, the findings provide valuable insights into aligning digital banking strategies with user expectations.

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