



# A STUDY ON ROLE OF INFORMATION TECHNOLOGY IN PRIVATE SECTOR BANKS WITH REFERENCE TO KUNDAPURA TALUK

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## ABSTRACT

The role of information technology (IT) in the banking sector has undergone a transformative evolution, revolutionizing traditional banking practices and enhancing operational efficiency. This abstract explores the profound impact of IT on various facets of the private banking sector, including customer service, operational processes, and strategic decision-making.

Information technology has significantly improved customer service in private banks by enabling faster, more convenient access to banking services through online and mobile platforms. Customers can now perform transactions, check balances, and even apply for loans from the comfort of their homes, reducing the need for physical visits to bank branches. Moreover, IT systems have facilitated the implementation of robust security measures, ensuring the protection of sensitive customer data and transactions.

This paper focuses on the impact of IT in automation of many routine tasks such as account management, transaction processing, and regulatory compliance. This automation has not only accelerated processing times but has also reduced the likelihood of errors, thereby enhancing overall operational efficiency. Advanced analytics and data mining techniques enabled by IT have also empowered banks to analyze customer behavior patterns and preferences, allowing for more personalized product offerings and targeted marketing strategies.

Furthermore, IT has played a crucial role in strategic decision-making within banks. Real-time data analytics provided by IT systems offer valuable insights into market trends, customer preferences, and financial risks, enabling banks to make informed decisions swiftly. This capability is particularly significant in a rapidly changing financial landscape where agility and responsiveness are paramount.

However, the integration of IT in the banking sector also presents challenges, such as cyber security risks and the need for continuous technological upgrades. Banks must invest in robust cyber security measures to protect against increasingly sophisticated cyber threats and ensure the reliability and security of their IT systems.

**KEYWORDS:** Information Technology, Operational Process, Regulatory Compliance, Data Analytics

## INTRODUCTION

In the swiftly changing environment of banking, Information Technology (IT) plays a crucial role in fostering innovation, streamlining processes, and prioritizing

customer needs. Specifically, within India's private banking sector, IT has become a catalyst for significant transformation, revolutionizing conventional banking methods and the way customers interact

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with financial services. The rise of technology has not just modernized the operational structure of private banks but has also fundamentally shifted the landscape of competition, adherence to regulations, and strategic planning in the sector.

The IT Act of 2000 ushered in a new dimension for the Indian financial sector. IT has catalyzed transformation in the banking sector, impacting banking structure, business processes, work culture, and human resource development. In June 1999, an IT revolution emerged in Indian financial institutions, particularly the banking sector, with the introduction of the Indian Financial Net. This network included a wide area satellite-based network, which utilized Very Small Aperture Terminals (VSAT) technology, jointly set up by the Reserve Bank of India and the Institute for Development and Research in Banking Technology.

In the dynamic landscape of modern banking, Information Technology (IT) stands as the cornerstone of innovation and efficiency, especially within the domain of private banks in India. As financial institutions continually strive to meet the evolving needs of their customers, IT plays a pivotal role in shaping the banking experience, driving operational excellence, and ensuring robust security frameworks. This introduction delves into the multifaceted role of IT in private banks in India, examining its impact across diverse services such as ATMs, online banking, data analytics, cybersecurity, and its influence on employment trends within these institutions. By harnessing the power of data, private banks are navigating complexities with greater agility, unlocking new avenues for competitive advantage, and ushering in a new era of banking excellence propelled by actionable insights and predictive intelligence.

In the ever-changing realm of contemporary banking, Information Technology (IT) serves as a fundamental driver of progress and effectiveness, particularly within India's private banking sector. As financial entities continuously adapt to meet their clientele's changing requirements, IT emerges as a critical force in shaping banking operations, enhancing customer experiences, and fortifying security measures. This overview explores the intricate role of IT within

private banks in India, exploring its influence across various fronts including ATM services, online banking, data analysis, cybersecurity, and its impact on employment dynamics within these organizations

The integration of Information Technology (IT) has propelled private sector banks in India into a new era of banking characterized by innovation, agility, and customer-centricity. This transformation is evident in the digitization of banking processes, which has fundamentally reshaped the way financial services are conceived, delivered, and consumed. Through strategic deployment of IT infrastructure, software solutions, and digital platforms, private banks have revolutionized traditional banking models, leading to enhanced customer experiences, operational efficiencies, and strategic decision-making capabilities.

## OBJECTIVES / NEED OF THE STUDY

- To understand the various services provided by banks using information technology.
- To understand the new techniques used to enhance the customer experience in banks.
- To understand the role of data analytics in private sector banks.
- The contribution of information technology to the security of public sector banks.
- To study the impact of information technology on recruitment within private sector banks.

## REVIEW LITERATURE

Arora (2003) created an effort to prove that technology had a definitive role in facilitating transactions within the banking sector and also the impact of technology has resulted into the introduction of recent product and services by varied banks in Asian nation. The author mentioned varied initiatives taken by the banks to manage transformation and these initiatives had brought customers the convenience of any place, any time banking. The author ended that technology was a helped for advancement within the core business of banking and not an finish in itself.

Hogarth & Hilgert (2004) highlighted that electronic banking technology represents a spread of various services, starting from common ATM services and direct deposit to Automatic Bill Payment (ABP), Electronic Transfer of Funds (EFT). The utilization of

e- banking technologies had grown up faster within the USA, whereas others are adopting it slowly.

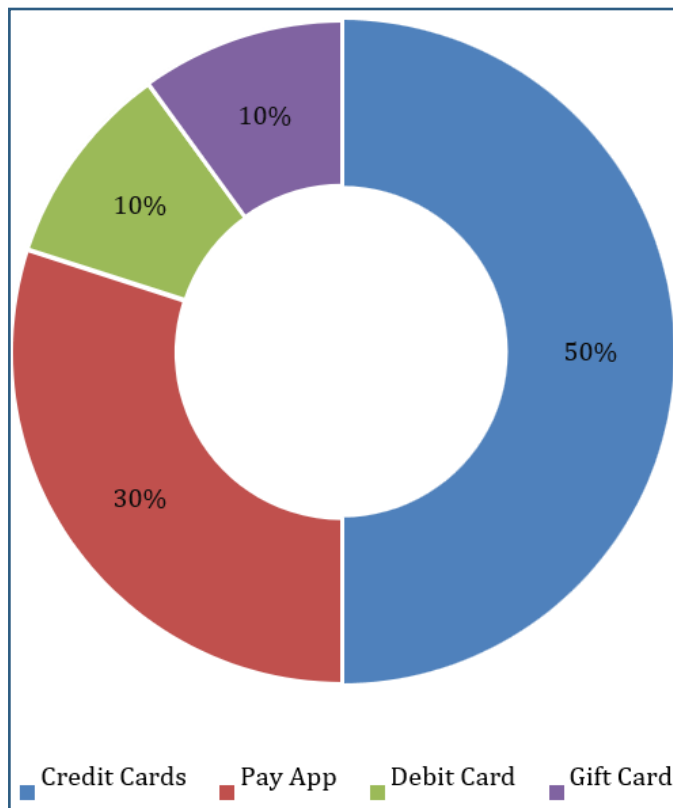
## METHODOLOGY

The research methodology used in this paper is both primary and secondary data relevant to the study. The primary data is collected through the Questionnaire from the sample population about their role of financial independence towards women empowerment. Secondary data collection has been done from studies done in the past and the papers written which throws light on the evolution of women from mere homemakers to important decision makers.

## ANALYSIS AND INTERPRETATION OF DATA

### Frequency of reported frauds by payment method

Particulars	No of Respondents	Percentage (%)
Credit cards	50	50
Pay apps	30	30
Debit cards	10	10
Gift Cards	10	10
Total	100	100

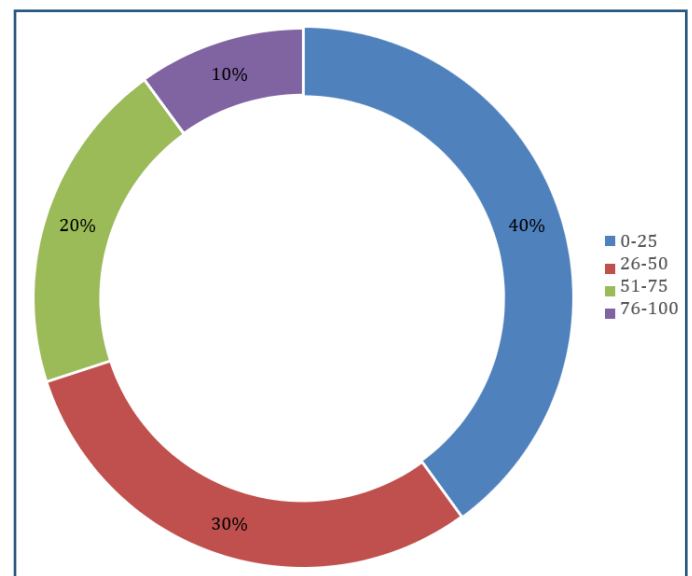


**INTERPRETATION:** The pie chart shows reported fraud cases by payment method: credit cards (50%),

pay apps (30%), debit cards (10%), and gift cards (10%). Credit cards and pay apps are the most targeted due to their popularity and security vulnerabilities. Enhanced security and user awareness are crucial to mitigate these risks.

### Customer interactions via digital channels

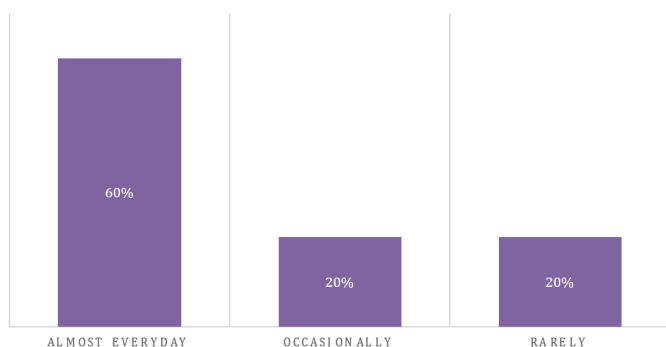
Particulars	No of Respondents	Percentage (%)
0-25	40	40
26-50	30	30
51-75	20	20
76-100	10	10
Total	100	100



**INTERPRETATION:** The data indicates that a significant majority (70%) of customer interactions fall within the range of 0-50%, with a gradual decline in percentage as interaction levels increase. This suggests that while digital channels, including chatbots, play a substantial role in customer engagement, traditional channels still maintain relevance for a considerable portion of interactions.

### IT-related changes in operations

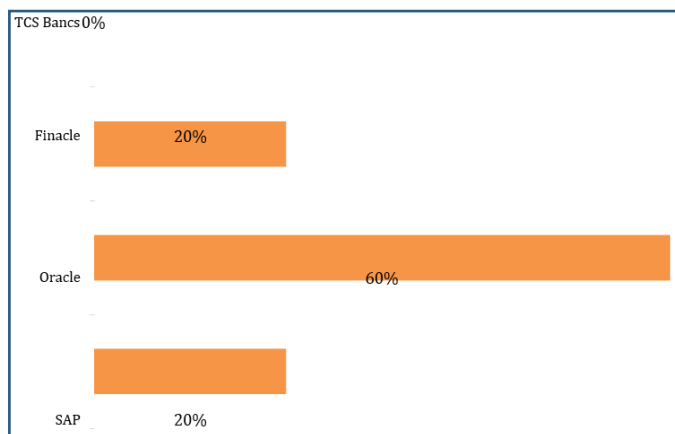
Particulars	No of Respondents	Percentage (%)
Almost everyday	60	60
Occasionally	20	20
Rarely	20	20
Never	0	0
Total	100	100



**INTERPRETATION:** The graph illustrates that the majority (60%) of branches face IT-related challenges almost every day, indicating a pervasive issue impacting daily operations. While occasional and rare challenges exist, the absence of branches reporting no IT challenges underscores the ubiquity of this issue in organizational operations.

#### Data processing software used by banks

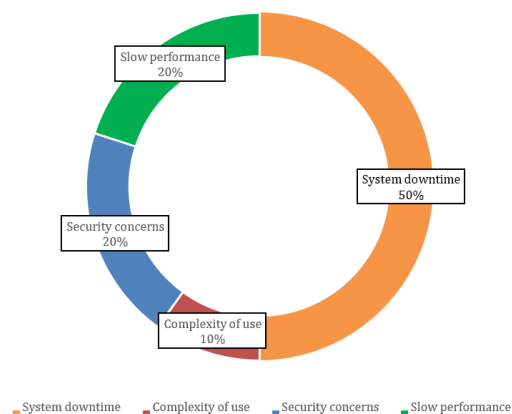
Particulars	No of Respondents	Percentage (%)
TCS Bancs	0	0
Finacle	20	20
Oracle	60	60
SAP	20	20
Total	100	100



**INTERPRETATION:** The graph highlights Oracle as the dominant data processing software choice among banks, accounting for 60% of usage. SAP and Finacle hold equal shares at 20%, indicating some diversity in software preferences, while TCS Bancs registers no usage among the surveyed banks, suggesting a negligible presence in this context.

#### CHALLENGES FACED WITH CURRENT IT SYSTEMS

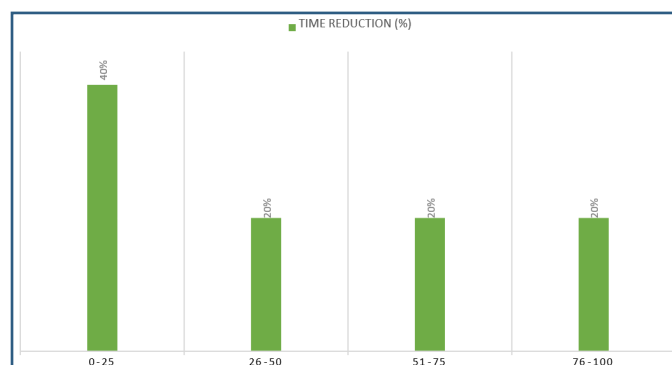
Particulars	No of Respondents	Percentage (%)
System Downtime	50	50
Complexity of use	10	10
Security concerns	20	20
Slow performance	20	20
Total	100	100



**INTERPRETATION:** The graph on key IT challenges faced by bank branches indicates that system downtime is the most significant issue, affecting 50% of branches. Security concerns and slow performance each impact 20%, while complexity of use is a challenge for 10%. This highlights a major focus on improving system reliability and security.

#### Effect of IT on transaction time

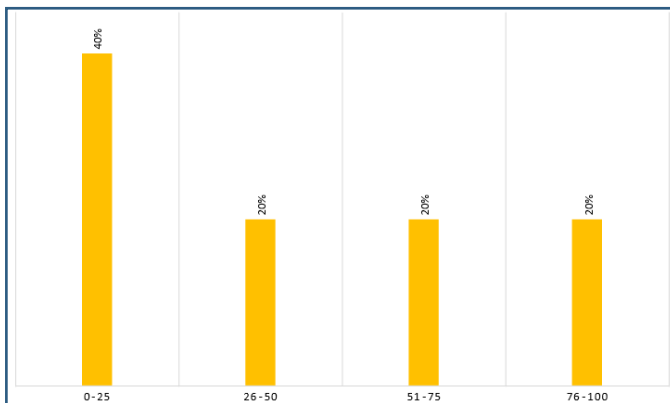
Particulars	No of Respondents	Percentage (%)
0-25	40	40
26-50	20	20
51-75	20	20
76-100	20	20
Total	100	100



**INTERPRETATION:** The graph demonstrates that 40% of transactions experience a time reduction of 0-25% due to information technology. As the time reduction increases, the percentage of transactions decreases, suggesting diminishing returns in efficiency gains beyond a certain threshold.

#### Loan approvals

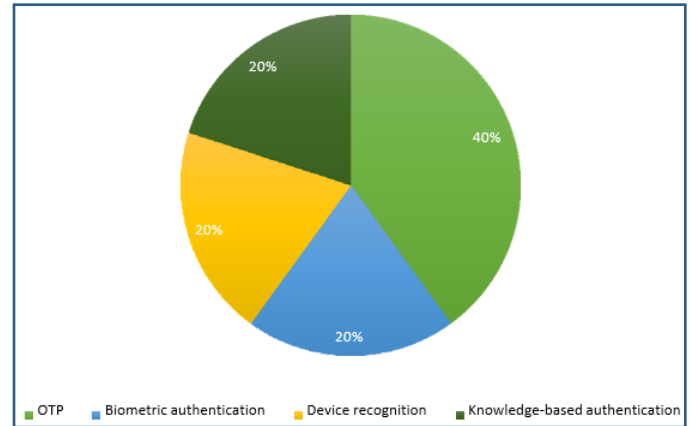
Particulars	No of Respondents	Percentage (%)
0-25	40	40
26-50	20	20
51-75	20	20
76-100	20	20
Total	100	100



**INTERPRETATION:** The graph illustrates that 40% of loan approvals are processed via automated decision-making algorithms when the loan approval rate ranges from 0-25%. As the approval rate increases, the percentage of approvals processed by algorithms decreases, indicating a potential preference for manual review at higher approval rates.

#### Customer identity authentication and fraud prevention

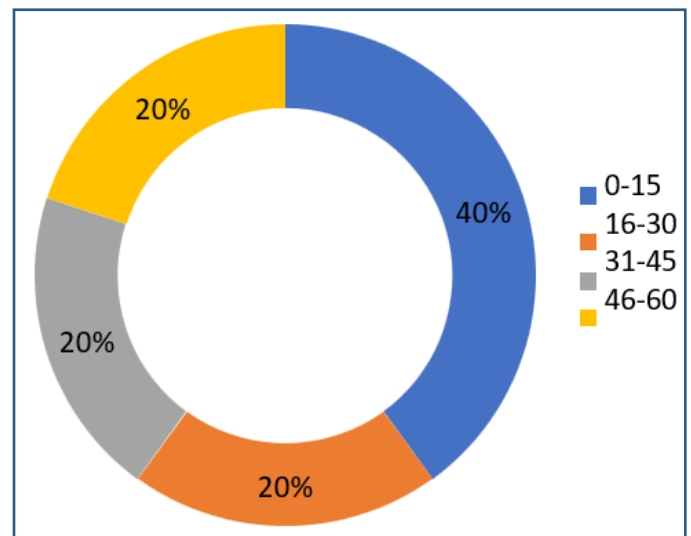
Particulars	No of Respondents	Percentage (%)
OTP	40	40
Biometric authentication	20	20
Device recognition	20	20
Knowledge based authentication	20	20
Total	100	100



**INTERPRETATION:** The pie chart illustrates the distribution of methods used for customer identity authentication and fraud prevention in online transactions. OTP emerges as the most commonly employed method, constituting 40% of responses, followed by biometric authentication, device recognition, and knowledge-based authentication, each at 20%.

#### Waiting time of customers

Particulars	Respondents	Percentage (%)
0-15	40	40
16-30	20	20
31-45	20	20
46-60	20	20
Total	100	100

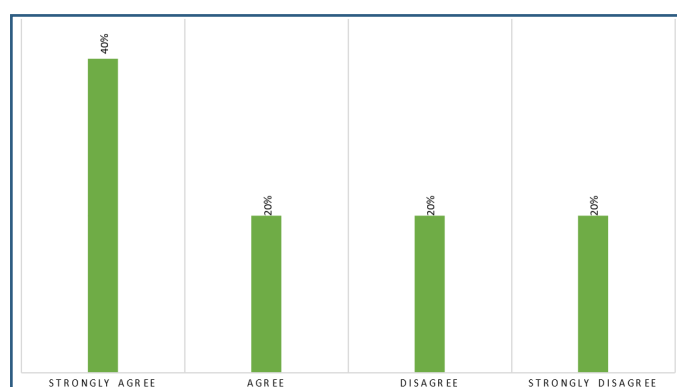


**INTERPRETATION:** The graph indicates that 40% of customers experience a waiting time of 0-15 minutes before the implementation of IT, possibly suggesting efficient service delivery. Post-implementation,

waiting times seem to remain consistent, with diminishing improvement potential evident by the equal distribution of percentages across broader time ranges.

### Adoption of New IT Tools

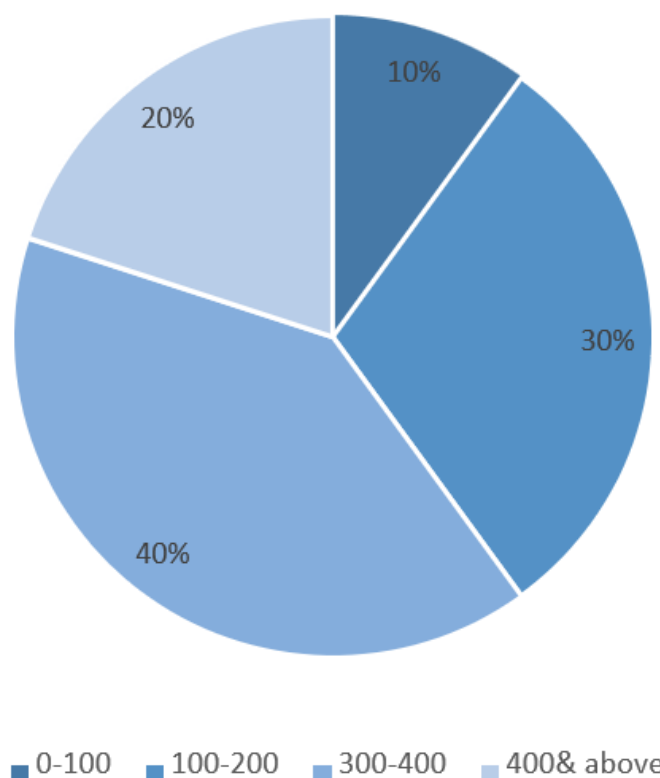
Particulars	No of Respondents	Percentage (%)
Strongly Agree	40	40
Agree	20	20
Disagree	20	20
Strongly Disagree	20	20
Total	100	100



**INTERPRETATION:** The graph illustrates a substantial proportion, 40%, strongly agreeing on the necessity of adopting new IT tools, while 20% each agree, disagree, and strongly disagree. This distribution suggests a varied stance among stakeholders, highlighting the importance of addressing concerns and fostering consensus to drive successful implementation strategies.

### Monthly new customer accounts opened through digital platforms

Particulars	No of Respondents	Percentage (%)
0-100	10	10
100-200	30	30
300-400	40	40
400 and above	20	20
Total	100	100



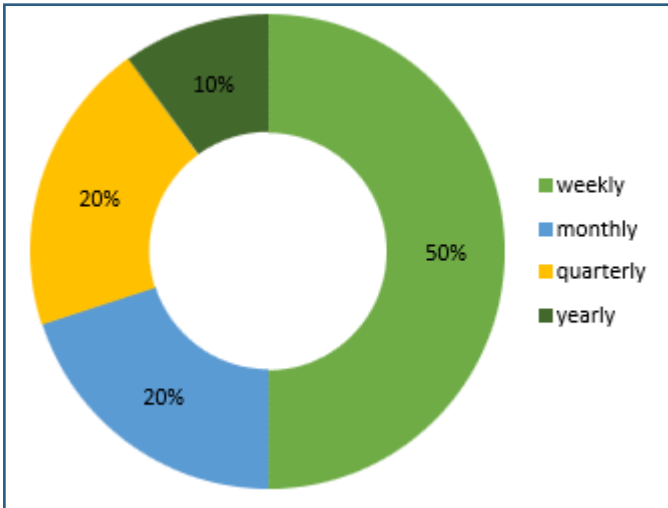
**INTERPRETATION:** The graph illustrates that the majority of new customer accounts opened through digital platforms fall within the 300-400 range, comprising 40% of the total.

Additionally, there's a notable proportion, 30%, within the 100-200 range, indicating a consistent influx of new users across varying levels of engagement.

### Security protocol updates in response to emerging threats

Particulars	No of Respondents	Percentage (%)
weekly	50	50
monthly	20	20
quarterly	20	20
yearly	10	10
Total	100	100



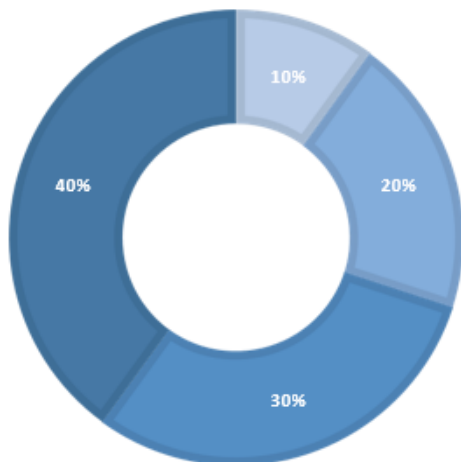


**INTERPRETATION:** The graph highlights a proactive approach to addressing emerging threats through protocol updates, with the majority occurring on a weekly basis (50%). Additionally, regular updates on a monthly and quarterly basis (20% each) suggest a structured and responsive strategy, while yearly updates (10%) indicate a longer-term perspective on security measures.

#### Essential skills and knowledge

Particulars	No of Respondents	Percentage (%)
Cognitive skills	10	10
Technical skills	20	20
Data Analysis	30	30
Financial Knowledge	40	40
Total	100	100

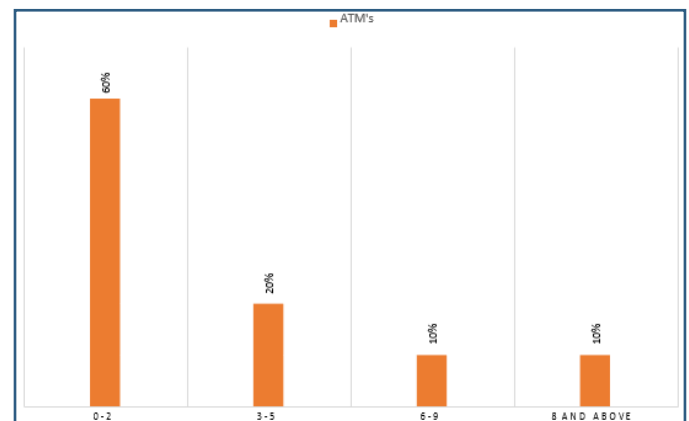
■ Cognitive skills ■ Technical skills ■ Data analysis ■ Financial knowledge



**INTERPRETATION:** Financial knowledge is paramount at 40%, followed by data analysis skills at 30%, technical skills at 20%, and cognitive skills at 10%. This emphasizes the importance of a well-rounded skill set, especially in financial understanding and data proficiency, in the banking sector.

#### ATM Distribution Across Kundapura Taluk

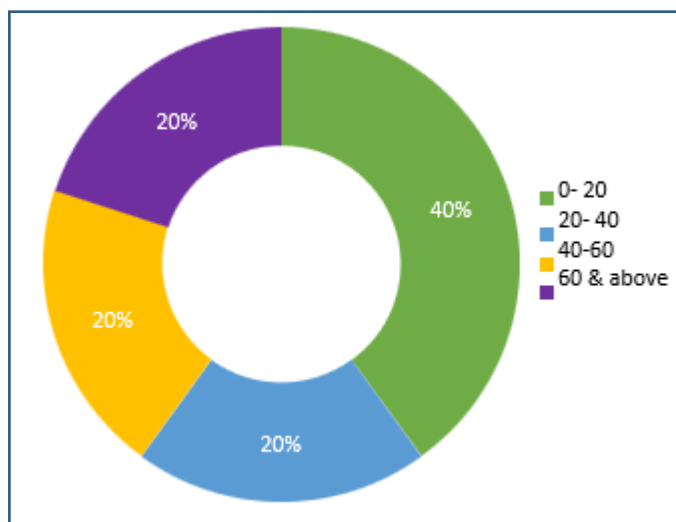
Particulars	No of Respondents	Percentage (%)
0-2	60	60
3-5	20	20
6-9	10	10
10 and above	10	10
Total	100	100



**INTERPRETATION:** The graph displays that the majority of areas in Kundapura Taluk have a limited presence of ATMs, with 60% having only 0-2 ATMs. However, it also indicates some areas with moderate coverage (3-5 ATMs, 20%) and a few areas with relatively higher accessibility (10 and above ATMs, 10%), suggesting disparities in banking infrastructure across the taluk.

#### Customer migration

Particulars	No of Respondents	Percentage (%)
0-20	40	40
20-40	20	20
40-60	20	20
60 and above	20	20
Total	100	100



**INTERPRETATION:** The graph reveals a significant trend of customer migration from traditional banking to digital platforms, with the highest adoption seen among younger demographics (0-20 age group, 40%). However, it also highlights considerable digital uptake across all age groups, indicating a widespread shift towards digital banking services.

## FINDINGS

- Credit cards are the most targeted payment method for fraud.
- HDFC Bank has the highest overall digital adoption rates across all age groups among the surveyed banks.
- Karnataka Bank's significant investment in expanding its ATM network
- Karnataka Bank reports the highest frequency of IT challenges among the surveyed banks.
- System downtime is the most significant challenge reported by respondents.
- ICICI Bank and HDFC Bank demonstrate the highest reduction percentages at 80%, indicating successful integration of IT systems.
- ICICI Bank leads in the adoption of automated decision-making algorithms for loan approvals among the surveyed banks.
- ICICI Bank stands out for employing all listed authentication methods, demonstrating a multi-layered approach to security.
- ICICI Bank closely follows HDFC Bank, demonstrating effective utilization of digital channels for customer acquisition.
- Oracle is the most commonly used software among the surveyed banks.

## SUGGESTIONS

- Implement advance Fraud detection algorithm to prevent the frauds.
- Develop user-friendly interfaces and intuitive mobile applications tailored to the specific needs and preferences of different age groups.
- Provide comprehensive training and support to customers to encourage adoption and utilization of digital banking channels.
- Invest in upgrading and modernizing IT infrastructure to enhance reliability, scalability, and security.
- Implement data analytics tools to identify areas for optimization and improvement in transaction processes.
- Implement real-time monitoring tools to track service levels and identify opportunities for process optimization.

## CONCLUSION

Information Technology (IT) is playing a crucial role in private banks, transforming operations, customer service, and business performance. It has revolutionized the way banks operate by streamlining processes, reducing costs, and providing tailored solutions to customers. Advanced fraud detection algorithms are essential for preventing fraudulent activities and maintaining trust in digital banking channels. User-friendly interfaces and mobile applications tailored to different age groups are also vital for enhancing customer engagement and satisfaction. Market research helps banks strategically place ATMs and branches, while comprehensive training and support encourage digital banking adoption. Investing in modern IT infrastructure enhances reliability, scalability, and security. Collaborating with IT vendors and service providers helps identify and address underlying issues. Data analytics tools help identify areas for optimization in transaction processes, while biometric technologies like facial recognition or fingerprint authentication enhance security and convenience. Real-time monitoring tools help track service levels and identify opportunities for process optimization. Engaging with industry experts and technology partners helps stay informed about emerging trends and advancements in IT solutions. Enhancing security measures, such as encryption, multi-factor authentication, and fraud detection systems, protect customer data and



prevent unauthorized access. Automated monitoring systems detect and respond to potential security vulnerabilities in real-time. Providing opportunities for employees to enhance their data analysis skills is essential for driving innovation and efficiency. Training programs and skill development initiatives equip employees with the knowledge and expertise to leverage data analytics tools effectively. Finally, conducting thorough evaluations of software options helps identify the best fit for the bank's specific needs and requirements. By leveraging IT as a strategic enabler, private banks can drive innovation, efficiency, and customer satisfaction, positioning themselves for success in an increasingly digital world.

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7. Digital Transformation in Indian Banking Sector: A Study of Private Banks” by Dr. Preeti Saini and Dr. Anil K. Saini

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