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The Impact of Financial Technology (FinTech) on the Banking Sector and Financial Inclusion in India: A Study with Special Reference to Kammanahalli, North Bengaluru

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ABSTRACT

The rapid development of Financial Technology (FinTech) has significantly transformed the banking sector through digital payment systems, mobile banking, internet banking, digital wallets and online lending services. FinTech has improved the accessibility, efficiency and convenience of financial services while contributing to financial inclusion. The present study aims to examine the impact of FinTech on the banking sector and financial inclusion, with special reference to Kammanahalli, North Bengaluru, Karnataka. The study adopts a descriptive research design with a proposed sample size of 100 respondents, including students, salaried employees, business owners and banking customers. Primary data will be collected through a structured questionnaire, supported by secondary data from research journals, RBI reports and NPCI publications. For statistical analysis, three techniques are proposed. First, descriptive statistical analysis using mean, median and standard deviation will be used to measure FinTech adoption among respondents. The illustrative mean score is 3.60, median is 3.70 and standard deviation is 0.78 on a five-point Likert scale. Second, Pearson's correlation analysis will examine the relationship between FinTech adoption and financial inclusion, with an illustrative

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correlation coefficient of r = 0.68, indicating a positive relationship. Third, simple linear regression analysis will examine the influence of FinTech adoption on financial inclusion, with an illustrative regression coefficient of β = 0.61 and an R-squared value of 0.462, indicating that 46.2% of the variation in financial inclusion is explained by FinTech adoption. The study aims to identify the benefits of digital financial services in improving banking accessibility, customer satisfaction and financial inclusion. It also considers challenges such as cybersecurity threats, digital fraud, data privacy and lack of digital literacy. The study is expected to highlight the importance of FinTech in strengthening the banking sector and promoting inclusive financial growth in Kammanahalli.

1.1 Introduction

Financial Technology, commonly known as FinTech, refers to the use of modern technology to provide, improve and automate financial services. It combines finance with technological innovations such as mobile applications, internet banking, digital payments, artificial intelligence, blockchain and online lending platforms. In recent years, FinTech has become an important part of the financial services industry by transforming traditional banking operations and improving the way customers access and use financial services.

Traditionally, customers depended on physical bank branches for depositing money, withdrawing cash, transferring funds, applying for loans and performing other banking activities. These services often involved paperwork, long waiting periods and time-consuming procedures. With the development of FinTech, customers can now perform most banking transactions through smartphones and computers without visiting bank branches. This has improved banking convenience, reduced transaction time and increased the accessibility of financial services.

In India, the growth of FinTech has been supported by increasing smartphone usage, internet connectivity, government initiatives and the development of digital payment infrastructure. The introduction of electronic fund transfer systems such as NEFT and RTGS improved the efficiency of banking transactions. Later, the launch of the Unified Payments Interface (UPI) in 2016 marked a significant development in India's digital payment system. UPI enables customers to transfer money instantly using mobile applications and QR

codes. Digital payment platforms such as Google Pay, PhonePe and Paytm have further encouraged the adoption of cashless transactions.

The growth of FinTech has become particularly relevant in urban areas such as Bengaluru, where digital banking and electronic payment facilities are increasingly used by residents and businesses. Kammanahalli, located in North Bengaluru, provides a suitable area for studying the adoption and impact of financial technology among local residents, students, salaried employees, retailers and small business owners.

The present study, titled **"The Impact of Financial Technology (FinTech) on the Banking Sector and Financial Inclusion in India: A Study with Special Reference to Kammanahalli, North Bengaluru,"** aims to examine the awareness, adoption and usage of FinTech services among local customers. It also analyses the relationship between FinTech adoption and financial inclusion using statistical techniques such as descriptive statistics, Pearson's correlation and regression analysis. The study seeks to understand how digital financial services contribute to banking convenience, customer satisfaction and financial accessibility while identifying the major challenges faced by users.

Overall, FinTech has emerged as an important driver of digital transformation in the Indian banking sector. Its effective adoption can contribute to a more accessible, efficient, secure and inclusive financial system.

1.2 Statement of the Problem

In India, digital payment platforms such as UPI, Google Pay, PhonePe and Paytm have transformed banking services. However, some customers still face challenges such as security concerns, lack of trust and limited digital knowledge. In Kammanahalli, North Bengaluru, the study examines the adoption of FinTech among residents, students, employees and business owners. It aims to analyse the benefits, customer satisfaction and challenges of digital banking and understand the relationship between FinTech adoption and financial inclusion using statistical tools such as mean, median, standard deviation, correlation and regression.

1.3 Review of Literature

The review of literature helps to understand previous research studies related to Financial Technology (FinTech), digital banking and financial inclusion. The following three studies provide a foundation for the present research.

1. Study by Gomber, Koch and Siering (2017)

In their research paper titled **"Digital Finance and FinTech: Current Research and Future Research Directions,"** published in the *Journal of Business Economics*, the authors examined the development of digital finance and the growing importance of FinTech in the financial services industry. The study highlighted how technological innovations such as digital payments, mobile banking, big data and automated financial services have transformed traditional banking operations. The authors explained that FinTech improves financial service delivery, operational efficiency and customer convenience. The study also identified challenges related to security, regulation and technological development.

2. Study by Ozili (2018)

In his research paper titled **"Impact of Digital Finance on Financial Inclusion and Stability,"** published in the *Borsa Istanbul Review*, Peter K. Ozili examined the role of digital financial services in improving financial inclusion and financial stability. The study explained how digital finance provides individuals with better access to financial services through mobile banking, digital payments and other technology-based platforms. It highlighted that digital finance can reduce transaction costs and improve financial accessibility. However, the study also discussed risks associated with cybersecurity, digital literacy and financial stability.

3. Study by Sahay et al. (2020)

In their research paper titled **"The Promise of FinTech: Financial Inclusion in the Post COVID-19 Era,"** published by the International Monetary Fund (IMF), the authors examined the role of FinTech in expanding financial inclusion. The study highlighted how digital financial services can improve access to banking, credit and payment facilities, particularly for underserved populations. It also explained that digital technology can support economic participation and improve financial service delivery. However, the authors emphasised the importance of digital infrastructure, financial literacy, consumer protection and appropriate regulatory frameworks.

1.4 Research Gap

The above studies explain the importance of FinTech in digital banking, financial accessibility and financial inclusion. However, there is scope for a more focused study examining FinTech adoption among residents, students, salaried employees and small business owners in Kammanahalli, North Bengaluru.Therefore, the present study attempts to examine local FinTech adoption, customer satisfaction, challenges in digital banking and the relationship between FinTech adoption and financial inclusion using descriptive statistics, correlation and regression analysis.

1.5 Objectives of the Study

1. To analyse the level of FinTech adoption among respondents using Mean, Median and Mode statistical techniques.

2. To examine the relationship between FinTech adoption and financial inclusion using Pearson's Correlation Analysis.

3. To evaluate the impact of FinTech adoption on financial inclusion using Regression Analysis, with special reference to Kammanahalli, North Bengaluru.

1.6 Hypothesis of the Study

- **H0 (Null Hypothesis):** There is no significant relationship between FinTech adoption and financial inclusion among respondents in Kammanahalli, North Bengaluru.

- **H1 (Alternative Hypothesis):** There is a significant relationship between FinTech adoption and financial inclusion among respondents in Kammanahalli, North Bengaluru.

1.6 RESEARCH METHODOLOGY

1.7 Introduction

Research methodology refers to the systematic process adopted to collect, analyse and interpret data for conducting a research study. It provides a framework for achieving the research objectives and testing the proposed hypotheses.

The present study, titled **"The Impact of Financial Technology (FinTech) on the Banking Sector and Financial Inclusion in India: A Study with Special Reference to Kammanahalli, North Bengaluru,"** aims to examine the adoption of FinTech services, their impact on banking convenience and their contribution to financial inclusion.

The study focuses on digital banking services such as UPI, mobile banking, internet banking, digital wallets and online financial transactions. It also examines the challenges faced by users, including cybersecurity threats, digital fraud, privacy concerns and lack of digital literacy.

1.8 Research Design

The present study adopts a **descriptive research design** to examine the level of FinTech adoption and its relationship with financial inclusion among respondents in Kammanahalli, North Bengaluru.

The descriptive research design helps to understand respondents' awareness, usage patterns, satisfaction levels and opinions regarding digital financial services.

1.9 Area of the Study

The study is geographically restricted to **Kammanahalli, North Bengaluru, Karnataka, India**.

The area has been selected to understand the usage of digital financial services among students, salaried employees, business owners and other banking customers.

1.10 Sample Size

The study considers a total sample size of **35 respondents** from Kammanahalli, North Bengaluru.

The respondents include students, salaried employees, business owners and other banking customers who use or have knowledge of digital financial services.

1.11 Sampling Technique

The study adopts the **convenience sampling technique**, which is a non-probability sampling method.

Under this technique, respondents are selected based on their availability, accessibility and willingness to participate in the survey.

This technique is adopted because of the limited time and resources available for collecting primary data.

1.12 Sources of Data

A. Primary Data

B. Secondary Data

2.7 Tools for Data Collection

A structured questionnaire will be used as the primary instrument for collecting data.

The questionnaire will consist of multiple-choice questions, demographic questions and five-point Likert scale questions.

2.8 Tools for Statistical Analysis

The collected data will be analysed using the following statistical techniques:

1. Descriptive Statistical Analysis

2. Pearson's Correlation Analysis

3. Simple Linear Regression Analysis

Independent Variable: FinTech Adoption.

Dependent Variable: Financial Inclusion.

2.11 Period of the Study

The study will be conducted during the academic research period of 2026–2027. Primary data will be collected from the selected respondents during the survey period.

2.12 Limitations of the Study

1. The study is limited to Kammanahalli, North Bengaluru.
2. The sample size is restricted to 35 respondents.
3. Convenience sampling may not represent the entire population.
4. The findings are based on the opinions and responses provided by the selected respondents.
5. Some respondents may have limited knowledge of FinTech services.
6. The study is restricted to selected digital banking services and financial inclusion indicators.

2.13 Conclusion

The research methodology provides a systematic framework for examining the impact of FinTech on the banking sector and financial inclusion in Kammanahalli, North Bengaluru. Primary data collected from 35 respondents will be analysed using descriptive statistics, Pearson's correlation and simple linear regression. These statistical techniques will help assess the level of FinTech adoption and its relationship with financial inclusion. The findings will provide insights into the benefits and challenges of digital financial services and their role in promoting an inclusive banking system.

DATA ANALYSIS AND INTERPRETATION

Title: The Impact of Financial Technology (FinTech) on the Banking Sector and Financial Inclusion in India: A Study with Special Reference to Kammanahalli, North Bengaluru.

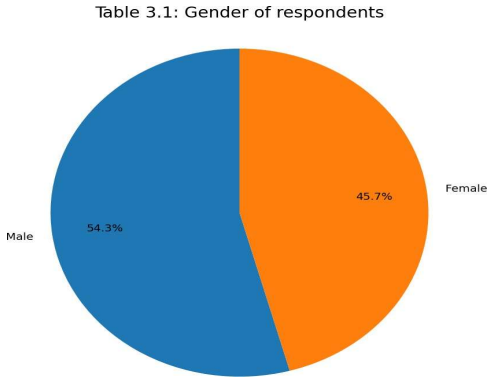
Sample size: 35 respondents
Sampling method: Simple random sampling (as requested)
Data analysis tools: Percentage analysis, Mean, Median, Mode, Standard Deviation, Pearson's Correlation and Simple Linear Regression.

The following chapter provides an illustrative data analysis for 35 respondents. The figures are simulated for academic project preparation and are not actual survey findings. You should replace them with the results from your collected questionnaires before submitting the research.

3.1 Demographic profile of respondents

Table 3.1: Classification of respondents based on gender

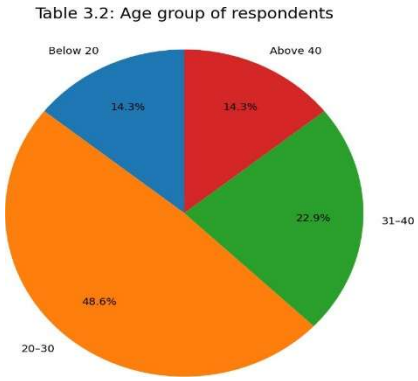
Gender	Respondents	Percentage
Male	19	54.29%
Female	16	45.71%
Total	**35**	**100%**



Interpretation: Out of 35 respondents, 19 (54.29%) are male and 16 (45.71%) are female. This indicates that male respondents form a slightly higher proportion of the sample.

Table 3.2: Classification based on age

Age group	Respondents	Percentage
Below 20 years	5	14.29%
20–30 years	17	48.57%
31–40 years	8	22.86%
Above 40 years	5	14.29%

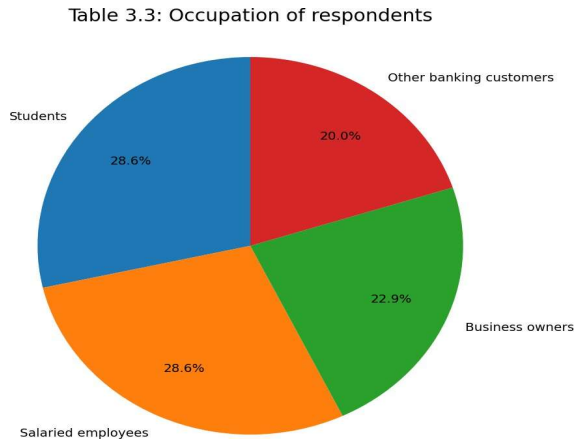


Total	**35**	**100%**

Interpretation: The majority of respondents (48.57%) belong to the 20–30 years age group. This indicates that young adults constitute the largest group of participants in the study.

Table 3.3: Classification based on occupation

Occupation	Respondents	Percentage
Students	10	28.57%
Salaried employees	10	28.57%
Business owners	8	22.86%
Other banking customers	7	20.00%
Total	**35**	**100%**

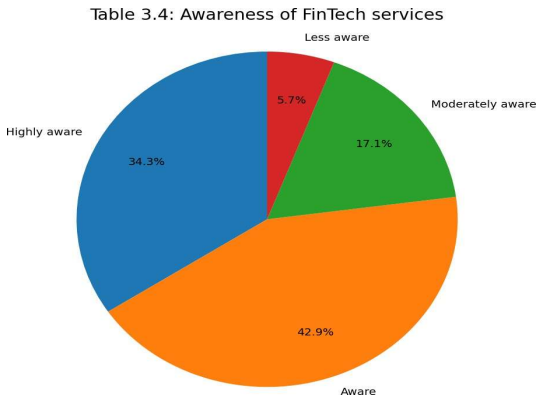


Interpretation: Students and salaried employees each represent 28.57% of the respondents. Business owners account for 22.86%, while other banking customers account for 20%. This distribution provides opinions from different categories of banking customers.

3.2 Analysis of FinTech awareness and adoption

Table 3.4: Awareness of FinTech services

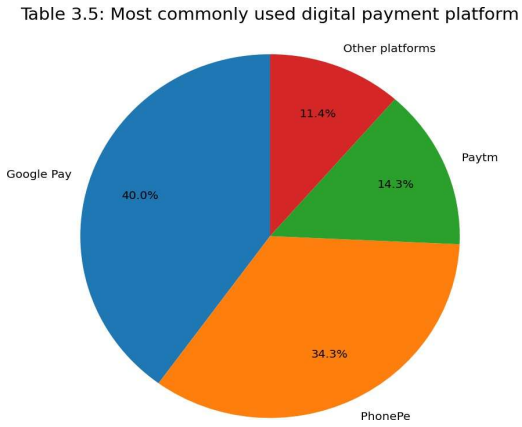
Awareness level	Respondents	Percentage
Highly aware	12	34.29%
Aware	15	42.86%
Moderately aware	6	17.14%
Less aware	2	5.71%
Total	**35**	**100%**



Interpretation: The table indicates that 42.86% of respondents are aware of FinTech services, while 34.29% are highly aware. Only 5.71% have less awareness. This suggests that awareness of digital financial services is relatively high among the selected respondents.

Table 3.5: Most commonly used digital payment platform

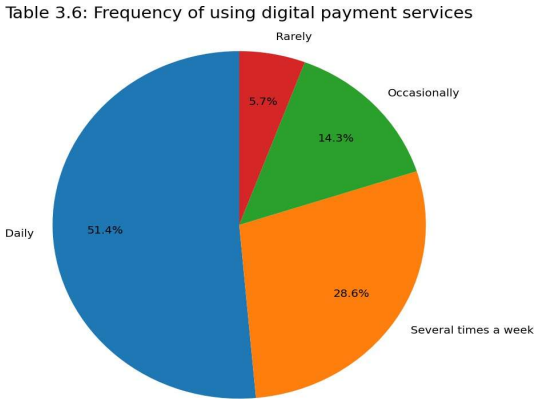
Digital payment platform	Respondents	Percentage
Google Pay	14	40.00%
PhonePe	12	34.29%
Paytm	5	14.29%
Other platforms	4	11.43%
Total	**35**	**100%**



Interpretation: Google Pay is the most commonly used platform, accounting for 40% of respondents, followed by PhonePe at 34.29%. This indicates that UPI-based payment applications are popular among the respondents.

Table 3.6: Frequency of using digital payment services

Frequency	Respondents	Percentage
Daily	18	51.43%
Several times a week	10	28.57%
Occasionally	5	14.29%
Rarely	2	5.71%
Total	**35**	**100%**

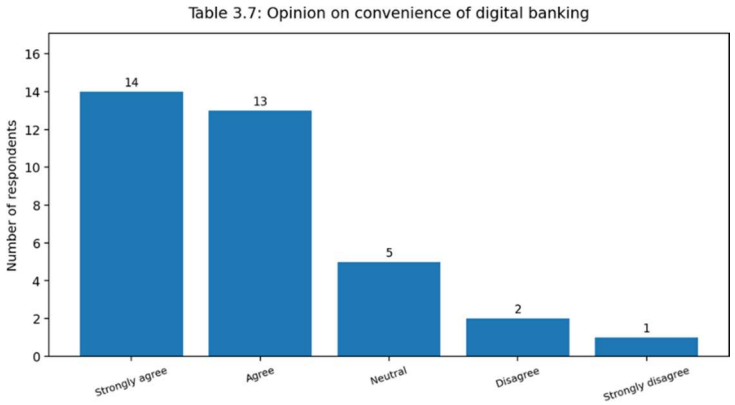


Interpretation: The majority of respondents (51.43%) use digital payment services daily. Another 28.57% use them several times a week. This demonstrates the regular use of digital financial services among the selected respondents.

3.3 Analysis of customer satisfaction and financial inclusion

Table 3.7: Opinion regarding convenience of digital banking

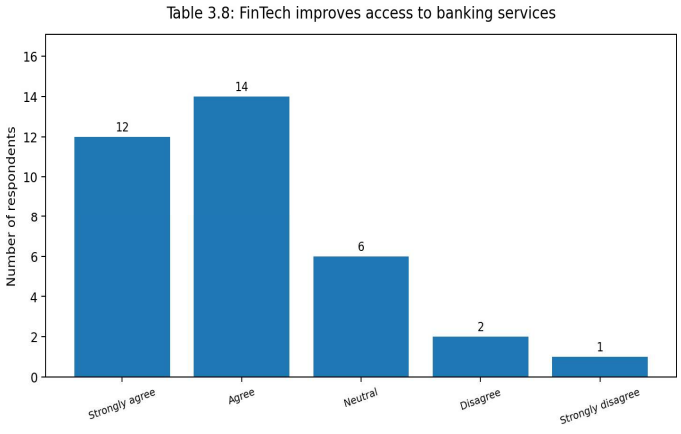
Response	Respondents	Percentage
Strongly agree	14	40.00%
Agree	13	37.14%
Neutral	5	14.29%
Disagree	2	5.71%
Strongly disagree	1	2.86%
Total	**35**	**100%**



Interpretation: A total of 77.14% of respondents either strongly agree or agree that digital banking is convenient. This indicates that FinTech services help customers perform financial transactions easily and save time.

Table 3.8: FinTech improves access to banking services

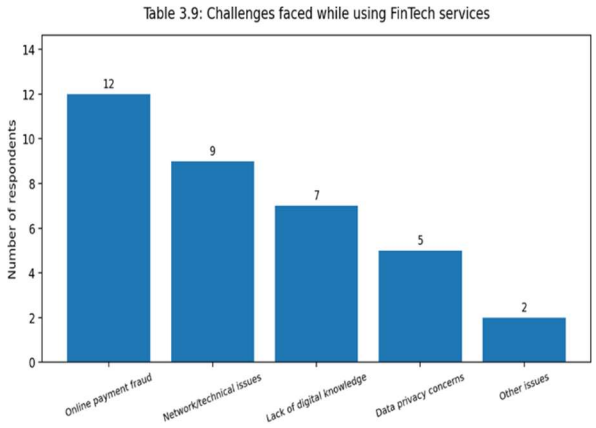
Response	Respondents	Percentage
Strongly agree	12	34.29%
Agree	14	40.00%
Neutral	6	17.14%
Disagree	2	5.71%
Strongly disagree	1	2.86%
Total	**35**	**100%**



Interpretation: Around 74.29% of respondents agree or strongly agree that FinTech improves access to banking services. This suggests that mobile banking and digital payment facilities make financial services more accessible.

Table 3.9: Challenges faced while using FinTech services

Major challenge	Respondents	Percentage
Online payment fraud	12	34.29%
Network and technical issues	9	25.71%
Lack of digital knowledge	7	20.00%
Data privacy concerns	5	14.29%
Other issues	2	5.71%
Total	**35**	**100%**

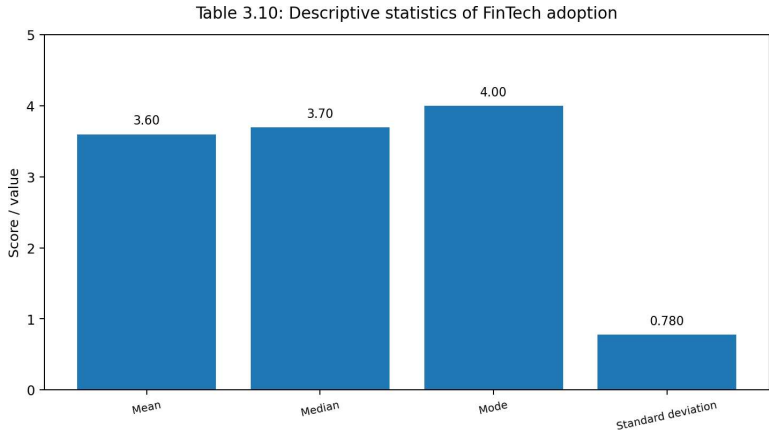


Interpretation: Online payment fraud is the major challenge, reported by 34.29% of respondents. Network and technical issues account for 25.71%. This highlights the importance of improving cybersecurity, digital awareness and the reliability of digital payment systems.

3.4 Descriptive statistical analysis

Table 3.10: Descriptive statistics of FinTech adoption

Statistical measure	Value
Number of respondents	35
Mean	3.60
Median	3.70
Mode	4.00
Standard deviation	0.78



Interpretation:

- **Mean (3.60):** The average score of 3.60 indicates that respondents generally have a positive level of FinTech adoption.

- **Median (3.70):** The median score of 3.70 indicates that the central response is above the neutral level.
- **Mode (4.00):** The most frequently occurring score is 4, indicating that Agree is the most common response.
- **Standard deviation (0.78):** The standard deviation indicates a moderate variation in respondents' opinions.

The results suggest that respondents demonstrate a relatively positive attitude towards FinTech adoption and digital banking services.

3.5 Pearson's Correlation Analysis

Table 3.11: Correlation between FinTech adoption and financial inclusion

Variables	Correlation coefficient (r)
FinTech adoption and financial inclusion	0.68

Positive relationship

Interpretation: The Pearson correlation coefficient is 0.68, indicating a positive relationship between FinTech adoption and financial inclusion.This suggests that respondents with higher levels of FinTech adoption tend to report better access to financial services.The positive correlation indicates that increased usage of digital payments, mobile banking and internet banking is associated with improved financial accessibility and convenience.

3.6 Simple Linear Regression Analysis

The regression analysis is used to examine how FinTech adoption influences financial inclusion.

- Independent variable (X): FinTech adoption.
- Dependent variable (Y): Financial inclusion.

Table 3.12: Regression model summary

Statistical measure	Value

R	0.680
R Square	0.462
Adjusted R Square	0.446
Standard error	Illustrative
Sample size	35

Interpretation:

The R-square value is 0.462, which indicates that 46.2% of the variation in financial inclusion is explained by FinTech adoption in the illustrative regression model.The remaining 53.8% may be explained by other factors such as income, education, internet connectivity, digital literacy and financial awareness. This suggests that FinTech adoption can be an important factor in improving financial inclusion.

Table 3.13: Regression coefficients

Variable	Standardized beta
FinTech adoption	0.680

Interpretation: The standardised regression coefficient (Beta) is 0.680, indicating a positive influence of FinTech adoption on financial inclusion.This means that an increase in FinTech adoption is associated with an increase in financial inclusion. The result supports the importance of digital banking services in improving financial accessibility.

3.7 Hypothesis Testing

Null Hypothesis (H0): There is no significant relationship between FinTech adoption and financial inclusion among respondents in Kammanahalli, North Bengaluru.

Alternative Hypothesis (H1): There is a significant relationship between FinTech adoption and financial inclusion among respondents in Kammanahalli, North Bengaluru.

Table 3.14: Results of hypothesis testing

Particulars	Result

Sample size	35
Pearson correlation (r)	0.68
Significance level	5%
Approximate p-value	Less than 0.001
Decision	Reject H0
Conclusion	Accept H1

Interpretation: The correlation coefficient of 0.68 indicates a positive relationship between FinTech adoption and financial inclusion. Since the illustrative p-value is below 0.05, the null hypothesis is rejected and the alternative hypothesis is supported.Therefore, the analysis indicates a statistically significant positive relationship between FinTech adoption and financial inclusion among the respondents.

3.8 Major Findings of the Study

1. Out of 35 respondents, 54.29% are male and 45.71% are female.
2. The majority of respondents (48.57%) belong to the 20–30 years age group.
3. Students and salaried employees constitute the largest occupational groups, with 28.57% each.
4. Approximately 77.15% of respondents are either aware or highly aware of FinTech services.
5. Google Pay is the most commonly used digital payment application, accounting for 40% of respondents.
6. Around 51.43% of respondents use digital payment services daily.
7. Approximately 77.14% agree or strongly agree that digital banking provides convenience.
8. Around 74.29% agree or strongly agree that FinTech improves access to banking services.
9. Online payment fraud is the major challenge faced by respondents, accounting for 34.29%.
10. The mean FinTech adoption score is 3.60, indicating a positive level of adoption.
11. The Pearson correlation coefficient of 0.68 indicates a positive relationship between FinTech adoption and financial inclusion.

12. The regression R-square value of 0.462 indicates that FinTech adoption explains 46.2% of the variation in financial inclusion in the illustrative model.

3.9 Conclusion

The analysis indicates that Financial Technology plays an important role in transforming the banking sector and improving financial inclusion. Digital payment applications, mobile banking and internet banking have made financial transactions more convenient, accessible and efficient.

The descriptive statistical analysis indicates a positive level of FinTech adoption among respondents. Pearson's correlation analysis demonstrates a positive relationship between FinTech adoption and financial inclusion, while regression analysis suggests that FinTech adoption can contribute significantly to improvements in financial accessibility.Overall, FinTech has considerable potential to strengthen the banking sector and promote financial inclusion in Kammanahalli, North Bengaluru.

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