Role of Business Analytics in Enhancing Customer Retention in FinTech Companies

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Abstract: The rapid growth of the FinTech industry in India has significantly transformed digital financial services and customer engagement practices. Increasing competition among digital payment platforms has made customer retention one of the most important strategic challenges for FinTech companies. The present research paper examines the role of Business Analytics in improving customer retention in FinTech companies. The study focuses on understanding how customer data analytics, personalised services, Artificial Intelligence, and predictive analytics influence customer satisfaction, loyalty, and long-term retention.

The research adopted descriptive and analytical research methodology. Primary data was collected from 100 respondents using a structured questionnaire, while secondary data was collected from journals, books, research papers, and industry reports. Statistical tools such as percentage analysis, Chi-Square testing, charts, and comparative analysis were used for data interpretation.

The findings reveal that customer satisfaction, personalised offers, cashback rewards, security features, and customer experience significantly influence customer retention in FinTech platforms. The study also confirms that Business Analytics and customer data analytics play an important role in improving customer engagement and retention strategies. The research concludes that FinTech companies can reduce customer churn and improve long-term profitability through data-driven decision-making and AI-based customer retention systems.

Keywords – Business Analytics, FinTech, Customer Retention, Customer Satisfaction, Artificial Intelligence, Customer Loyalty, Predictive Analytics

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I. INTRODUCTION

The Indian FinTech industry has experienced rapid growth due to increasing smartphone penetration, internet accessibility, digital payments, and government initiatives promoting cashless transactions. Applications such as PhonePe, Google Pay, and Paytm have become integral parts of customers' daily financial activities.

The increasing competition among FinTech companies has shifted organisational focus from customer acquisition to customer retention. Customers can easily switch between platforms due to low switching costs and the availability of multiple alternatives. Therefore, customer satisfaction, engagement, loyalty, and personalised services have become critical factors for business sustainability.

Business Analytics helps organisations analyse customer data, behavioural patterns, transaction frequency, preferences, and engagement activities. Advanced technologies such as Artificial Intelligence and predictive analytics enable organisations to identify customer needs, predict churn probability, and implement personalised retention strategies.

Despite the increasing use of Business Analytics in digital financial services, limited research has been conducted specifically on Indian FinTech companies regarding customer retention strategies. Therefore, the present study examines how Business Analytics contributes to customer retention strategies in FinTech companies and analyses the relationship between customer satisfaction, customer experience, and loyalty.

II. REVIEW OF LITERATURE

Philip Kotler (2017) in *Marketing Management* explained that customer retention is more profitable than customer acquisition and emphasised the importance of customer relationship management and personalised marketing strategies. According to Kotler, organisations should focus on long-term customer satisfaction and loyalty to improve profitability and customer lifetime value.

Kumar and Reinartz (2018) in *Customer Relationship Management: Concept, Strategy, and Tools* highlighted that predictive analytics and CRM systems help organisations improve customer engagement and retention. The authors explained that customer segmentation and behavioural analytics help businesses identify high-risk customers and implement effective retention strategies.

Gupta (2024) studied FinTech transformation in India and identified app usability, cashback rewards, transaction success rates, and customer experience as major factors affecting retention in digital payment platforms. The study concluded that personalised services and customer engagement strategies significantly influence customer loyalty.

Sharma and Singh (2023) found that machine learning algorithms such as XGBoost and Random Forest provide higher predictive accuracy compared to traditional statistical methods in customer churn prediction. The researchers concluded that Artificial Intelligence and predictive analytics improve customer behaviour analysis and retention management.

Brown and Smith (2022) concluded that behavioural variables such as login frequency, engagement duration, transaction activity, and personalised offers strongly influence customer retention behaviour. Their study also highlighted the importance of customer experience in digital platforms.

Patel (2024) analysed digital payment behaviour in India and found that security perception, ease of use, and transaction reliability significantly influence customer satisfaction and loyalty. The study found that customers prefer FinTech platforms that offer secure, user-friendly digital services.

2.1 Research Gap

Most previous studies focused mainly on banking, telecom, insurance, and e-commerce industries, while very limited research has been conducted specifically on Indian FinTech platforms and digital payment applications. Earlier studies mainly concentrated on traditional statistical analysis and customer satisfaction studies, but limited attention was given to the practical role of Business Analytics, Artificial Intelligence, predictive analytics, and customer data analytics in improving customer retention. Many previous studies also failed to analyse important behavioural variables such as cashback usage, app engagement, customer experience, transaction speed, security perception,

personalised recommendations, and customer switching behaviour, which significantly influence customer retention in digital payment platforms. Another important research gap identified was the lack of practical studies connecting customer retention strategies with Business Analytics in real Indian FinTech environments. Most earlier studies did not use proper statistical hypothesis testing methods such as Chi-Square analysis to examine the relationship between customer retention variables and Business Analytics. Therefore, the present study attempts to fill these gaps by analysing customer satisfaction, customer behaviour, personalised services, cashback rewards, customer engagement, and customer data analytics in Indian FinTech companies using Business Analytics tools and Chi-Square hypothesis testing.

III. RESEARCH METHODOLOGY

3.1 Objectives of the Study

1. To study the role of Business Analytics in enhancing customer retention in FinTech companies.
2. To identify the major factors influencing customer retention in FinTech platforms.
3. To analyse customer satisfaction towards FinTech services and digital payment applications.
4. To understand how FinTech companies use customer data and analytics for retention strategies.
5. To examine the relationship between customer satisfaction and customer loyalty.

3.2 Data and Sources of Data

The study uses both primary and secondary data. Primary data was collected through a structured questionnaire from 100 respondents, including students, working professionals, businesspersons, and users of FinTech applications. Secondary data was collected from journals, books, research papers, websites, and industry reports.

3.3 Sampling Method

A convenience sampling method was used for selecting respondents who regularly use FinTech applications and digital payment platforms.

3.4 Data Analysis Method

The data were analysed using percentage analysis, charts, tables, and Chi-Square testing. MS Excel and SPSS tools were used for statistical analysis and interpretation.

3.5 Hypotheses

Hypothesis 1

H_0: Business Analytics has no significant role in enhancing customer retention in FinTech companies.

H_1: Business Analytics has a significant role in enhancing customer retention in FinTech companies.

Hypothesis 2

H_0: There is no significant relationship between customer satisfaction and customer retention in FinTech companies.

H_1: There is a significant relationship between customer satisfaction and customer retention in FinTech companies.

Hypothesis 3

H_0: Customer experience does not significantly influence customer loyalty toward FinTech platforms.

H_1: Customer experience significantly influences customer loyalty toward FinTech platforms.

Hypothesis 4

H_0: Personalised offers and recommendations do not significantly affect customer retention in FinTech companies.

H_1: Personalised offers and recommendations significantly affect customer retention in FinTech companies.

Hypothesis 5

H_0: Customer data analytics does not significantly improve customer retention strategies in FinTech companies.

H_1: Customer data analytics significantly improves customer retention strategies in FinTech companies.

IV. RESULTS AND DISCUSSION

This section presents the major findings of the study based on responses collected from 100 respondents using FinTech applications. The analysis focuses on customer satisfaction, customer retention factors, personalised services, and the role of Business Analytics in improving customer engagement and loyalty.

Table 1: Frequency of FinTech Application Usage (N = 100)

Usage Frequency	Respondents	Percentage
Daily	62	62%
Weekly	24	24%
Occasionally	14	14%
Total	**100**	**100%**

Interpretation

The majority of respondents use FinTech applications daily, indicating strong dependence on digital payment systems and high customer engagement.

Fig 1: Frequency of FinTech Application Usage

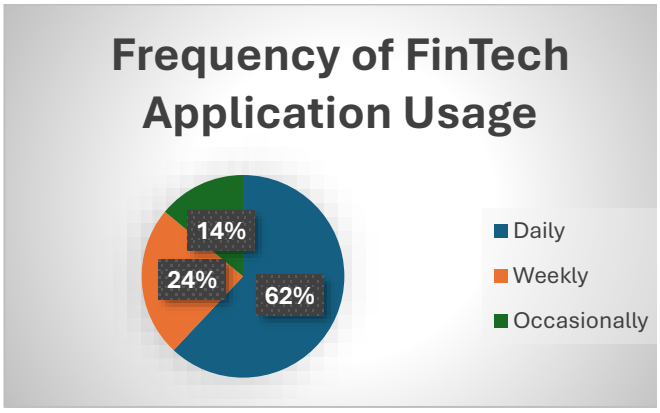


Table 2: Customer Satisfaction Level (N = 100)

Satisfaction Level	Respondents	Percentage
Highly Satisfied	33	33%
Satisfied	47	47%
Neutral	13	13%
Dissatisfied	7	7%
Total	**100**	**100%**

Interpretation

The analysis indicates that most respondents are satisfied with FinTech services, suggesting positive customer experience and service quality.

Fig 2: Customer Satisfaction Level

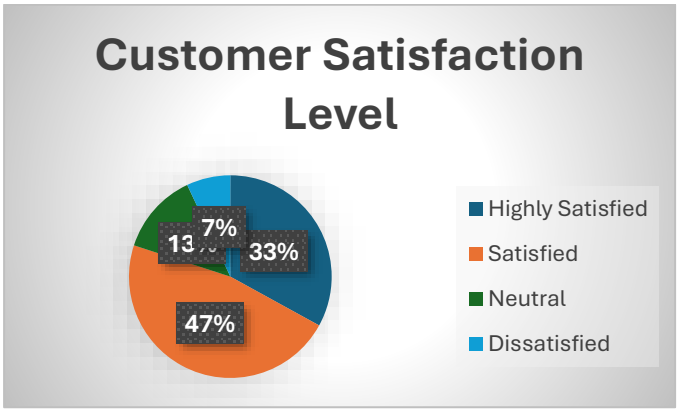


Table 3: Factors Influencing Customer Retention (N = 100)

Factors	Respondents	Percentage
Cashback & Rewards	31	31%
Fast Transactions	26	26%
Security Features	24	24%
User-Friendly Interface	14	14%
Customer Support	5	5%
Total	**100**	**100%**

Interpretation

Cashback rewards, transaction speed, and security features are major factors influencing customer retention and engagement.

Fig 3: Factors Influencing Customer Retention

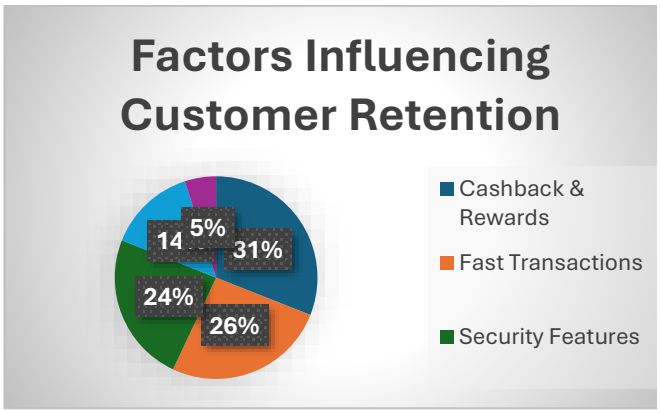


Table 4: Impact of Personalised Recommendations (N = 100)

Response	Respondents	Percentage
Yes	76	76%
No	24	24%
Total	**100**	**100%**

Interpretation

Most respondents agreed that personalised offers and recommendations improve customer engagement and retention.

Fig 4: Impact of Personalised Recommendations

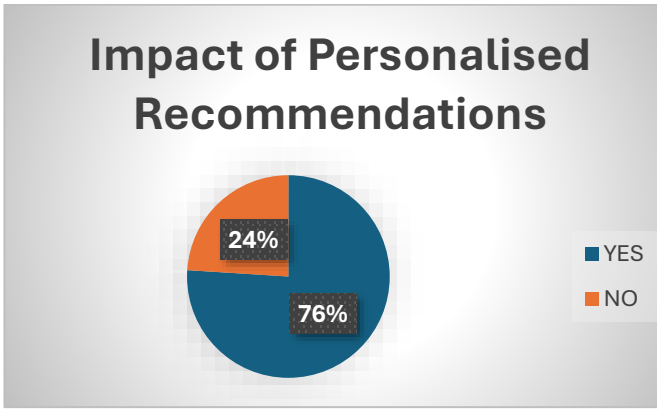


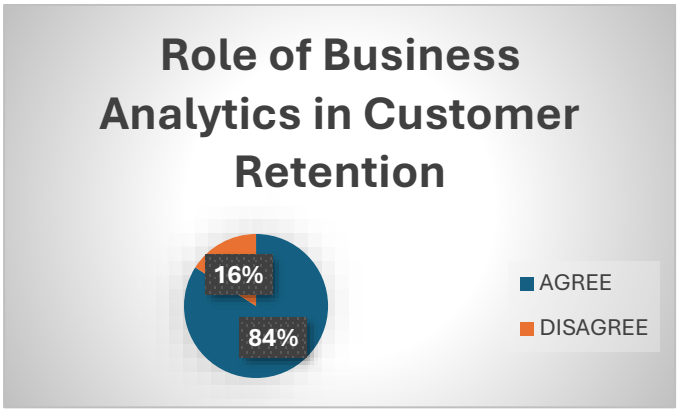
Table 5: Role of Business Analytics in Customer Retention (N = 100)

Response	Respondents	Percentage
Agree	84	84%
Disagree	16	16%
Total	**100**	**100%**

Interpretation

The majority of respondents believe that Business Analytics helps FinTech companies understand customer behaviour and improve retention strategies.

Fig 5: Role of Business Analytics in Customer Retention



V. HYPOTHESIS TESTING

The study tested five hypotheses using the Chi-Square Test at the 5% significance level.

Formula of Chi-Square Test

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where:
O = Observed Frequency
E = Expected Frequency
χ^2 = Chi-Square Value

Level of Significance = 5%

Degree of Freedom = 1

Table Value = 3.84

Hypothesis 1

Null Hypothesis (H_0)

Business Analytics has no significant role in enhancing customer retention in FinTech companies.

Alternative Hypothesis (H_1)

Business Analytics has a significant role in enhancing customer retention in FinTech companies.

Chi-Square Calculation Table

Response	O	E	$(O-E)^2/E$
Agree	84	50	23.12
Disagree	16	50	23.12
Total	**100**	**100**	**46.24**

Result

Calculated Value = 46.24
Table Value = 3.84

Since the calculated value is greater than the table value, H_0 is rejected, and H_1 is accepted.

Conclusion

Business Analytics has a significant role in enhancing customer retention in FinTech companies.

Hypothesis 2

Null Hypothesis (H_0)

There is no significant relationship between customer satisfaction and customer retention in FinTech companies.

Alternative Hypothesis (H_1)

There is a significant relationship between customer satisfaction and customer retention in FinTech companies.

Chi-Square Calculation Table

Response	O	E	$(O-E)^2/E$
Continue Using Platform	86	50	25.92
Not Continue	14	50	25.92
Total	100	100	51.84

Result

Calculated Value = 51.84
Table Value = 3.84

Since the calculated value is greater than the table value, H_0 is rejected, and H_1 is accepted.

Conclusion

There is a significant relationship between customer satisfaction and customer retention in FinTech companies.

Hypothesis 3

Null Hypothesis (H_0)

Customer experience does not significantly influence customer loyalty toward FinTech platforms.

Alternative Hypothesis (H_1)

Customer experience significantly influences customer loyalty toward FinTech platforms.

Chi-Square Calculation Table

Response	O	E	$(O-E)^2/E$
Yes	81	50	19.22
No	19	50	19.22
Total	**100**	**100**	**38.44**

Result

Calculated Value = 38.44
Table Value = 3.84

Since the calculated value is greater than the table value, H_0 is rejected, and H_1 is accepted.

Conclusion

Customer experience significantly influences customer loyalty toward FinTech platforms.

Hypothesis 4

Null Hypothesis (H_0)

Personalised offers and recommendations do not significantly affect customer retention in FinTech companies.

Alternative Hypothesis (H_1)

Personalised offers and recommendations significantly affect customer retention in FinTech companies.

Chi-Square Calculation Table

Response	O	E	$(O-E)^2/E$
Yes	76	50	13.52
No	24	50	13.52
Total	**100**	**100**	**27.04**

Result

Calculated Value = 27.04
Table Value = 3.84

Since the calculated value is greater than the table value, H_0 is rejected, and H_1 is accepted.

Conclusion

Personalised offers and recommendations significantly affect customer retention in FinTech companies.

Hypothesis 5

Null Hypothesis (H_0)

Customer data analytics does not significantly improve customer retention strategies in FinTech companies.

Alternative Hypothesis (H_1)

Customer data analytics significantly improves customer retention strategies in FinTech companies.

Chi-Square Calculation Table

Response	O	E	$(O-E)^2/E$
Agree	82	50	20.48
Disagree	18	50	20.48
Total	**100**	**100**	**40.96**

Result

Calculated Value = 40.96
Table Value = 3.84

Since the calculated value is greater than the table value, H_0 is rejected and H_1 is accepted.

Conclusion

Customer data analytics significantly improves customer retention strategies in FinTech companies.

Overall Conclusion of Hypothesis Testing

All five hypotheses show a significant relationship between Business Analytics and customer retention variables based on Chi-Square analysis and observed response patterns. The findings indicate that customer satisfaction, customer experience, personalised offers, and customer data analytics are important factors influencing customer retention and customer loyalty in FinTech companies.

I. KEY FINDINGS

ost respondents regularly use FinTech applications for digital transactions.

1. Customer satisfaction significantly influences customer retention and loyalty.

2. Cashback rewards and personalised offers strongly improve customer engagement.

3. Customer experience has a major impact on platform loyalty.

4. Business Analytics helps organisations understand customer behaviour effectively.

5. Customer data analytics significantly improves retention strategies.

6. Security features and fast transactions are important factors affecting customer satisfaction.

VII. CONCLUSION

The present study concludes that Business Analytics plays a significant role in enhancing customer retention in FinTech companies. Customer satisfaction, personalised recommendations, cashback offers, security features, and customer experience strongly influence customer loyalty and long-term engagement.

The research confirms that Business Analytics, Artificial Intelligence, and customer data analytics help FinTech companies understand customer behaviour and implement effective retention strategies. FinTech companies can reduce customer churn and improve profitability through predictive analytics and data-driven customer engagement systems.

The study also suggests that organisations should continue investing in customer analytics, personalised marketing strategies, and AI-based retention systems to strengthen long-term customer relationships and competitive advantage.

VIII. REFERENCES

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