

Customer Sentiments towards Fin-Tech Apps in India: A Text Mining Application



Preethesh Padman, Salai Selva Rani M, Gokul G S

Abstract: *Fintech sector has witnessed incredible growth in India with the government promoting digital and cashless transactions along with the penetration of smartphones and internet connectivity in the country. Online reviews and customer opinions play a key role in the choice of Fintech apps among users. The customers compare the services of these service providers based on online reviews and ratings to finalize their choice. Fintech companies use this data to improve their customer experience. In this paper we attempt to provide useful insights into the customer sentiments towards Fintech apps in India by using a text mining approach. By analyzing customer opinions and reviews, we attempt to understand the acceptance of the services provided by the Fintech companies in India. We have used sentiment analysis to classify positive, negative and neutral reviews to understand the user sentiment towards Fintech apps. We also put forward suggestions to address the gaps in the services provided by these Fintech companies based on our analysis and findings.*

Keywords: *App, Fintech, Sentiment analysis, Text mining.*

I. INTRODUCTION

With a population of more than 1.3 billion people, India is on the move with a disruptive alliance of Finance and Technology. This alliance, Fintech, is primarily a combination of technology in finance that offers financial solutions to the customers. From beginning its operations in the banking industry, the Fintech sector has witnessed incredible growth, extending its wings to the insurance and asset management sectors. Over the years, there has been a significant growth in the Indian digital payments sector. Security and convenience are the key factors adopted by the Fintech companies. The exponential growth in the number of smartphone users in the country has resulted in an increase in the number of online payments with more and more customers adopting digital means of financial transactions.

The FinTech system in India is no longer categorized as just 'emerging.' It has been rapidly growing, driven by the

innovative approach adopted by the Fintech companies. FinTech applications are playing a facilitator role in assisting the financial businesses in the country. The extent of FinTech applications comprises both the financial service improvement and financial management assistance. Web-based technologies have propelled FinTech applications to a complicated and integrated operating environment, consisting of online transactions, data tracking, real-time services, merchandise frauds, communication quality management, market predictions, and decision-making support [1]. Fintech companies have employed advanced and innovative technologies like Data Mining, Machine Learning and Artificial Intelligence for analyzing customer behaviour and patterns. In this paper we attempt to provide useful insights into the customer sentiments towards Fintech apps in India by using a text mining approach and thereby providing an understanding about the acceptance of the Fintech services in our country.

II. LITERATURE REVIEW

The incredible development of online and social media reviews has driven the formation of text analytics to understand and solve problems in real time. Sentiment analysis is one of the most common text analytic applications. Customer satisfaction and behaviour has become one of the most common research areas in advertising and user-oriented studies after being checked as a key determinant of competitive market performance [2].

As the fintech market is growing, it also has been exposed to many threats like privacy issues, frauds and transaction failure. Thakur et al (2014) concluded that perceived risk has a negative effect on usage intention and service providers should adopt legal and technological structures to ensure payment security and need to continuously improve mechanisms for ensuring the integrity of personal information [3]. Lee et al (2016) studied the effect of privacy concerns on resistance to use fintech apps [4]. Kim et al (2016) suggested that usefulness, ease of use and credibility had an effect on intention to use such fin tech apps [5]. All these major research points that privacy concerns obstruct intention to use and hence service providers must concentrate on gaining customer trust and satisfaction for continuous growth [6].

Kadhiwal et al. (2007) had defined security methods that can be applied to mobile payments according to type and summarized security properties like authorization, authentication, integrity, confidentiality etc. that fintech apps must possess in order to achieve customer satisfaction and following research were in line to these findings [7].

Manuscript received on April 02, 2020.

Revised Manuscript received on April 15, 2020.

Manuscript published on May 30, 2020.

* Correspondence Author

Preethesh Padman*, Department of Management, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India. Email: padmanpreethesh@gmail.com

Salai Selva Rani M, Department of Management, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India. Email: salaiselvarani92@gmail.com

Gokul G S, Department of Management, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India. Email: gokulvipvip@gmail.com

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

A subsequent analysis of the context was performed to offer an idea about the service quality attributes that are viewed positive or negative by the customers. A detailed analysis of the word 'app' is performed since the word was the most frequently occurring one with 85 appearances in the dataset. The word appeared in certain contexts like "This app gives more offer and cash back for user which makes it different from other app", "I'm using this phone pe app from Nov 2017 this app is never disappointed me" "I personally say you that I am totally depended on this app for all my transaction" etc. Generally, people are found to have mixed reviews about Fintech apps in India. The word 'App' has both positive and negative reactions. A common view emerging from the analysis is that people tend to concentrate on the features of the app and offers each app provides. They compare apps based on the unique features and offers each app provides. The reviews mainly focus on the seamless experience the app provides across various services it offers.

The next keyword taken for analysis was "Good". The word made its appearance 47 times in the dataset. Some of the context are "Its layout is good and its blue color ui is good for eyes", "The cash back offer is good but I didn't like the redeem option. Due to cash back amount can't be withdrawal into bank account it only uses for recharging the mobile number", "Phone Pe a really good app for low budgeted people" etc. On scrutinizing the reviews, the customers are found to be generally satisfied with at least one feature of the app. People also compare different apps by pointing out the features they find 'good'. It also implies the usage of multiple applications by a single user. It was also observed that positive reviews were significantly higher than negative reviews where the word 'good' appeared in the reviews. The words that are used by the customers to explain their positivity towards the apps are "good app for low budgeted people", "this app is so useful, good offer and service", "This app service so good" etc.

The next important word and one of the most important service quality attributes to measure is "bank" (and "banking"). The word "bank" appeared 44 times and some of the contexts in which the word appeared were; "Secure platform of online banking easily", "very useful to transfer of funds from one bank to another", "cashless banking transaction", "Seriously very easy to create your upi edits very useful to transfer money from registered bank account to any other bank account" etc. On detailed scrutiny it is inferred that most of the reviewers were positive about the time reduced and easiness the apps put forward compared to traditional banking transactions. Transactions they could do anywhere and anytime with less effort are mentioned in most of the reviews. An attempt to streamline processes for reducing the time taken to extend services in these apps are important for customer satisfaction and positive usage.

The other word which is repeated is "money". This word appeared 43 times in the reviews. The different contexts used for this word are as follows: "So helpful to share money TEZ", "money transfer is very fast", "good and reliable for money transfer", etc. From these reviews, it was observed that about most people felt the money transaction became easier, apart from some who were concerned about the failure in some transaction and money refund, which is nominal from

the sample. An area of strategic focus is constant improvement and effective responsiveness to correct the technical glitches.

The words like "best", "service", "payment" and "transfer" explains the attributes concentrated by the users of the app. These words explain the purpose of the usage. Analysis of contexts related to these words provided a picture that the users always look for the features in Fintech services based on the requirements. Hence customer satisfaction will be based on the easiness of transaction, improved features and availability of technical support.

V. CONCLUSION

We propose suggestions and recommendations on the basis of text mining done on the customer reviews and opinions to address the gaps in the services provided by the Fintech companies in India. The study recommends Fintech companies to focus on developing simple and user-friendly design and layout which could minimise complications in navigating through the numerous features provided in the app. Hassle free navigation experience for a customer will result in a positive experience and positive reviews and recommendations for the application. A major area of concern is the perceived level of security of the apps. Words like money, bank etc. are found in the list of most frequent terms. The customers associate terms like "easy", "useful", "secure", "reliable", etc. to the transactions they initiate through the apps. Hence, the focus of Fintech service providers should be on providing a secure and reliable platform for online transactions without compromising on the user friendliness and simplicity of the interface.

VI. LIMITATIONS AND DIRECTION FOR FURTHER RESEARCH

The data used in this study pertains to free opinions and reviews shared by customers or users of Fintech services. Hence the study has a good validity. But at the same time the study is not exempted from limitations. A better classification of the opinions and reviews based on demographic factors could help in identifying the variations in the perceptions of the customers on service quality attributes. But collecting the demographic data would require a different data collection approach which is beyond the scope of the current work. But such an attempt would definitely help in strategically identifying the attributes of importance for different segments of users and it would significantly help the Fintech companies in positioning themselves better among the competitors. A study in such a direction could be considered for future research.

ACKNOWLEDGMENT

Authors would like to thank Mr. Gopikumar V, Assistant Professor, Department of Management, Amrita Vishwa Vidyapeetham, Kochi for his esteemed guidance, inspiration, expert observations and timely advice throughout the study.

REFERENCES

1. K. Gai, M. Qiu, X. Sun, A survey on FinTech, J. Netw. Comput. Appl. 103 (2018) 262–273
2. Aswin Ravindran, D. G. (2017). An Investigation on Service Quality Attributes of Indian Hotels by Text Mining. IEEE International Conference on Computational Intelligence and Computing Research
3. Thakur R, Srivastava M (2014) Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India. Internet Res 24(3):369–392
4. Lee AR, Ahn HY (2016) Fintech users' information privacy concerns and user resistance: investigating the interaction effect with regulatory focus. J Korea Inst Inf Secur Cryptol 26(1):209–226
5. Kim, Y.H., Park, Y., & Choi, J. (2016). The Adoption of Mobile Payment Services for "Fintech".
6. Yang Y, Liu Y, Li H, Yu B (2015) Understanding perceived risks in mobile payment acceptance. Ind Manag Data Syst 115(2):253–269
7. Kadhiwal S, Zulfiqar AUS (2007) Analysis of mobile payment security measures and different standards. Comput Fraud Secur 2007(6):12–16
8. Linck K, Pousttchi K, Wiedemann DG (2006) Security issues in mobile payment from the customer viewpoint, pp 1–11
9. Zhou T (2013) An empirical examination of continuance intention of mobile payment services. Decis Support Syst 54(2):1085–1091
10. Zhou T (2014) An empirical examination of initial trust in mobile payment. Wireless Pers Commun 77(2):1519–1531
11. Zhou T (2014) Understanding the determinants of mobile payment continuance usage. Ind Manag Data Syst 114(6):936–948
12. Kang, J. (2018) Mobile payment in Fintech environment: trends, security challenges, and services. Hum. Cent. Comput. Inf. Sci. 8, 32.
13. Liang X et al (2014) Security and privacy in mobile social networks: challenges and solutions. IEEE Wirel Commun 21(1):33–41
14. Park YJ, Jang SM (2014) Understanding privacy knowledge and skill in mobile communication. Comput Hum Behav 38:296–303
15. Smalley S, Craig R (2013) Security enhanced (SE) android: bringing flexible MAC to android. In: Proceedings of the NDSS, 2013.
16. Li Q, Clark G (2013) Mobile security: a look ahead. IEEE Secur Priv 11(1):78–81.

programs across the state during his academic career. His personal aim is to become an entrepreneur.

AUTHORS PROFILE



Preethesh Padman is currently pursuing MBA at the renowned Amrita Vishwa Vidhyapeetham, Kerala. He wishes to explore his area of expertise in Finance and Analytics. After securing his Bachelor's degree in B-Tech, he worked for a leading private sector bank for six years. He turned his attention towards the world of

Finance and Analytics to showcase his business and leadership skills. His leadership traits were further developed during his academic career by actively coordinating various academic activities. He has actively participated in many well-known business and management fests and management development programs during his academic career. His personal aim is to enter the field of research and academics and pursue his passion of becoming a professor.



Salai Selva Rani M is currently pursuing MBA at Amrita Vishwa Vidhyapeetham, Kerala. She wishes to explore the fields of Finance and Analytics. She secured her Bachelor's degree in B-Tech Mechanical Engineering and worked as Auto CADD/ Solidworks designer for a leading software services company. She pursues Finance and Analytics to develop business skills while enhancing her analytical skills. She has coordinated various academic activities. She has actively participated in many well-known business and management fest and management development programs during her academic career. Her personal aim is to pursue a career in research and teaching.



Gokul G S is currently pursuing MBA at the renowned Amrita Vishwa Vidhyapeetham, Kerala. He wishes to make his area of expertise in finance and marketing. After securing his Bachelor's degree in B.com. he turned his attention towards the world of marketing and finance to showcase his business and leadership skills. His leadership traits were seemed and developed during his academic career by being responsible for coordinating various cultural and academic activities. He has actively participated in many well-known business skill development