

## Antecedents and Challenges of FinTech Adoption: A Review

\*<sup>1</sup> Veerawali Oberoi and <sup>2</sup>Khushdeep Dharni

<sup>1</sup> Ph.D. Research Scholar, School of Business Studies, Punjab Agricultural University, Ludhiana, Punjab, India.

<sup>2</sup>Professor, School of Business Studies, Punjab Agricultural University, Ludhiana, Punjab, India.

### Article Info.

**E-ISSN: 2583-6528**

**Impact Factor (SJIF): 6.876**

**Peer Reviewed Journal**

**Available online:**

[www.alladvancejournal.com](http://www.alladvancejournal.com)

**Received:** 29/Nov/2024

**Accepted:** 05/Dec/2024

### Abstract

The financial sector has encountered a transitional evolution round the globe with the on rush of FinTech. FinTech a blend of words 'financial' and 'technology' has ushered in a tectonic shift in the financial terrain. FinTech is an assemblage of financial technologies, variant tools and variegated platforms used for providing financial services and product to the users' making it more affordable and easily accessible. In this paper, we have carried out an analysis of factors affecting the FinTech adoption using systematic literature review. This paper highlights the major factors contributing to the rapid adoption of FinTech. Besides, an attempt has been made to explore the factors prompting deceleration in the pace of adoption. The study highlights the consequential knowledge and attitude attributes of the financial customers that affect the FinTech adoption. Furthermore, the study provides an insight into the different FinTech adoption models adopted by the FinTech firms. The major challenges posed in front of progressive FinTech industry that need to be addressed for the sustainable development of FinTech and the scope for future research are also reflected in the study.

### \*Corresponding Author

**Veerawali Oberoi**

Ph.D. Research Scholar, School of  
Business Studies, Punjab Agricultural  
University, Ludhiana, Punjab, India.

**Keywords:** FinTech, FinTech Adoption, Antecedents of FinTech, FinTech Challenges, Adoption Models, Financial Technologies.

### 1. Introduction

The financial sector has encountered a transitional evolution round the globe with the on rush of FinTech. FinTech a blend of words 'financial' and 'technology' has ushered in a tectonic shift in the financial terrain (Ryu,2018) <sup>[17]</sup>. The new financial revolution 'Fintech' can be expounded as an innovation backtracked by latest technology that come up with new business models that explicitly results in new products and processes laying a protruding impact on financial market and the financial service providers (Vijai,2019) <sup>[29]</sup>. FinTech is an assemblage of financial technologies, variant tools and variegated platforms used for providing financial services and product to the users' making it more affordable and easily accessible (Chakroborty,2018). FinTech has be defined differently, where, as per Oxford dictionary Fintech can be defined as-Computer enabled programs and other latest technology that primarily focuses on aiding the banking and financial services. Fintech connotes the wide assortment of technological innovations that significantly affects the financial services (Saroy *et al.*,2020) <sup>[20]</sup>. Ernst and Young has defined FinTech as corporations that focus on the enhancement, delivery, and disruptive financial

services by using latest technology backed with innovative business models (Nicoletti,2017) <sup>[13]</sup>. India has emerged as the fastest growing FinTech market backed with the third largest FinTech ecosystem worldwide. The FinTech adoption has shown a tremendous growth over the years moving from 52% in 2017 to 87% in 2019 transcribing India as the highest FinTech adoption market round the world. This accelerated pace of FinTech adoption can be adhered to-easy internet accessibility, elimination of middleman, expanded transparency, more affordability and easy accessibility of financial information (Bull T *et al.*,2019) <sup>[2]</sup>. The financial services are going to witness a huge transition with the advent of FinTech revolution by mounting efficiency, transparency, and customer focused approach (Zavolokina *et.al* 2016) <sup>[32]</sup>. The FinTech firms used variegated FinTech models. The major FinTech models used by the FinTech Startups that have been highlighted by Lee and Shin (2018) <sup>[11]</sup> in their study mainly includes- Wealth management business model, Payment business model, Lending business model, Crowdfunding business model and capital market business model. As there are two sides to every story so is the case with FinTech industry also, where there are numerous

challenges faced by the FinTech firms which mainly includes- FinTech regulation challenge, Customer regulation challenge, technology integration challenge, privacy and security challenge and challenges pertaining to efficient risk and investment management, that need to be addressed for the sustainable development of FinTech (Lee and Shin,2018) [11]. Further, the pace of FinTech challenges keeps on growing with the level of development, denoting higher the level of development of the FinTech services, the greater will be the challenges for business. The three major challenges associated with Fintech world are-

- i) **Collaboration:** A major forthcoming challenge is to build up an empirical and analytical FinTech framework, exploring the different adoption models to identify the major antecedents of FinTech adoption.
- ii) **Supervision:** The FinTech industry need to be brought under the regulatory framework. 'Regulatory Sandbox' approach shall be adopted by the regulators for effective regulation.
- iii) **Protection:** Financial customers' protection by ensuring data security and technical viability (Suryono *et al.*,2020) [27].

The paper primarily focuses on exploring the antecedents of FinTech adoption, the major knowledge and attitude attributes of the financial customers' that affect the FinTech adoption. The paper also provides an insight into the various business models adopted by the FinTech firms. The paper also reflects the major challenges posed in front of progressive FinTech industry that need to be addressed for the sustainable development of FinTech. Furthermore, the paper suggests the scope for future research in the domain of FinTech as well. The paper is organised as follows- first, the materials and methodology used in the research will be explained; then, the results of the literature review will be outlined under the sub heads- antecedents of FinTech adoption and major FinTech challenges. The paper provides the scope for future research as well.

## 2. Materials and Methodology

The paper will analyse the antecedents of FinTech adoption, knowledge and attitude of financial customers and the various challenges related to FinTech. To accomplish the above stated objectives, we delved deep into the related literature review on academic forums like Google Scholar, following a systematic literature review approach. In order to identify the relevant publications certain keywords were used.

Using multiple twine search, a set of articles were identified based on keywords such as 'FinTech Adoption,' 'Antecedents of FinTech,' 'FinTech challenges,' 'Financial Technologies.' In total, we were able to fetch 239 studies. The database for the study was further snipped to 119 studies after scrutinizing only full-text and peer- reviewed journals that were easily available in public databases. Almost all the included studies pertain to the period 2015 onwards. The language was restricted to English. Further, in the next stage journals indirectly related to the subject were eliminated and the document type was fixed as published research articles only. Here 87 studies were excluded bringing down the number to 32 articles only. For the purpose of the study, the financial customers will include both the individual users as well as organisations using FinTech.

To conduct the research, the paper builds upon several articles and reports, mostly being a part of Scopus and Web of Science index. Moreover, reports of RBI, NPCI, Ernst and

Young are also analysed to explore the major factors affecting FinTech adoption.

## 3. Results

This section will provide an insight into the research findings based upon the review of selected studies, individually.

### 3.1 Antecedents of FinTech adoption

Gulamhuseinwala *et.al* (2015) [5] in their study have focused on the emerging trends of FinTech adoption of financial customers' worldwide. Ernst and Young in their very first study on FinTech adoption have taken a survey of 10,131 digitally active customers in Canada, Australia, UK, U.S., Hong Kong, and Singapore to get an insight into the FinTech adoption in such countries. The study identified ten FinTech services classifying them into four broader categories: money transfers and payment, savings and investments, borrowings, and insurance. The study analysed the role of government support and reduced technology costs in accelerating the innovations in financial services and highlighted the present adoption trends in different markets, the key support factors, FinTech users based on product type and the major constraints decelerating the FinTech adoption.

To identify the major factors affecting the consumers' intention towards the adoption of various FinTech based products and services in Malaysia Huei *et al.* (2018) put forward the Technology Acceptance Model (TAM). The study revealed variegated factors affecting the consumers' attitude towards FinTech products and services such as- ease of use, perceived benefits, perceived risk, perceived cost, and competitive advantage. Furthermore, the study explored the effect of such attitude on FinTech adoption and Intention of using FinTech of the financial consumers. The study used empirical research method and the mean score on seven- point Likert scale for the analysis.

Haddad and Hornuf (2019) [6] in their study made an effort to investigate the various technological and economic determinants that have pushed the Fintech startups formation. The study is based on the panel dataset comprising of 1177 observations for a tenure of 11 years *i.e.*, 2005-2015, having a coverage over 107 countries. In total 7353 FinTech startups have been identified for relevant sample selection. The study propounded that growth of FinTech startup formation can be generally found where there is easy availability of venture capital and the economy is well-developed. Moreover, other factors accelerating the FinTech growth are-the number of safe and secure internet servers, easy accessibility to mobile phones and readily available labour force. Finally, it was concluded that the shortage of loans also acts as a significant factor contributing to the increased number of FinTech startups.

Based on the Technology Acceptance Model (TAM) Hu *et al.* (2019) [7] in their study have analysed the bank users intention towards adoption of Fintech services. In total, 387 relevant responses were obtained from active customers of the Hefei Science and Technology Rural Commercial Bank by using a questionnaire. Further, the data was analysed using Structural Equation Model (SEM) to test the hypotheses, and to find out the relationships of all latent variables. The study revealed that users' attitudes for adoption of FinTech is highly influenced by users' trust in Fintech services. In addition, it revealed that users' attitudes toward the Fintech services adoption is indifferent of users' perceived ease of use and perceived risk.

De Leon (2019) [4] focusing their study on exploring the factors affecting behavioural intention towards mobile banking usage among the retail banking users revealed that Philippines records lowest digital banking acuity amongst various Asian countries despite of the fact that the country is accorded with the title of "SMS- intensive country in the world." The analysis is based upon 212 Universal Bank retail branch clients. Techniques such as PLS-SEM and Factor analysis are used. The study divulged that perceived usefulness, ease of use, trust and social influence are the most prominent control factors affecting the behavioural intention to use mobile banking. Further, the respondents of age group 22 years and above and male graduates with monthly income more than Php 10,001 have shown highest positive behavioural intention towards mobile banking usage.

Assessing the usage intention of open banking technology in context of an emerging economy like India, Sivathanu (2019) [25] undergo the study using the Technology Readiness and Acceptance Model (TRAM). The study was based upon 945 customers to identify the usage intention using a well-structured questionnaire. PLS-SEM was used for the data analysis purpose. Perceived Ease of Use (PEOU) and Perceived Usefulness (PUF) are found to be the most significant factors directly affecting the user intention. The study further revealed that PEOU and PUF are adversely affected by discomfort and users' insecurity, while innovativeness has imparted a positive impact on user intention. Another study by Singh and Srivastava (2020) on the analysis of adoption of mobile banking by the existing online banking users is undertaken. The study is carried out using TAM with some additional variables like ease of use, perceived security, customer support, social influence, and mobile self- efficacy. The data consisted of 420 online banking customers of different banks in India *i.e.*, public, private, foreign, and cooperative banks. The study propounded Perceived security as the highest impacting factor followed by social influence, perceived ease of use, mobile self-efficacy, and awareness, while customer support does not impact the customers' behavioural intention to use mobile banking. The study highlights the future research directions with major emphasis on exploration of online banking usage intention of the potential customers in the rural areas and role of service quality in improving the customer satisfaction.

Kumar *et al.* (2020) [10] revealed the antecedents of mobile banking adoption in India using TAM coupled with a survey carried out on 203 potential banking service users by following SEM technique. The study divulged 'trust' as most critical factor affecting the mobile banking adoption intention of the potential users, with personal innovativeness, perceived usefulness and subjective norms having comparatively minimal influence.

Nangin *et al.* (2020) [12] in their study using SEM-PLS gauged the major antecedents altering the users' expectation towards FinTech adoption. For the purpose of the research, a sample of 100 users, using different FinTech brands and products and those using Sakuku for their payments were analysed. The study propounded "Trust" as the overriding factor affecting the users' expectation towards FinTech adoption, where trust is positively influenced by perceived ease of use (PEOU) and promotion, while security not being a dominant factor. The study culminated that building consumers' trust should be focused to increase the FinTech adoption rate.

Basing their study on UTAUT2, Soodan and Rana (2020) [26] analysed the impact of security, perceived savings, and privacy on the customers' intention to use E-wallets in the

region of Punjab. For the purpose of the study, mail intercept method is used. The study includes an analysis of 613 e-wallet customers in Punjab. The study disclosed privacy, perceived security, motivation, perceived savings, performance expectancy, facilitating conditions, price value and social influence as the major antecedents of e-wallet adoption. The study further divulged that habit and effort expectancy have a negative influence on the adoption rate. The most prominent factors affecting the adoption are found to be motivation, privacy, and security by the study. Providing scope for future research the study highlights that Consumers' actual usage behaviour using the longitudinal approach and meta-analysis can be focused upon.

Singh *et al.* (2020) [23] in their study focused on exploring the forerunner of FinTech adoption using the Technology Acceptance Model (TAM). The study highlighted the various supporting as well as the limiting factors affecting the FinTech adoption. The study divulged 'perceived usefulness' and 'perceived ease of use' as the supporting factors while on the other hand 'social influence' as the limiting factor hindering the actual usage intention of the users. Similarly, one of the other major factors influencing the FinTech adoption revealed by the study is 'security.' Thus, the study suggests to put more focus on security aspect to attract more users and to increase the adoption rate globally.

Senyo and Osabutey (2020) [21] propounded that a better understanding of the antecedents to actual FinTech usage will lead to greater financial inclusion. Taking mobile money as an emergent FinTech tool the study is carried out using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2), along with the Prospect theory to analyse the individuals' intention to use FinTech services (*i.e.*, mobile money services). Data from 294 respondents was collected using survey method and the further analysis was undertaken using partial least square structural equation modelling technique. The findings of the study revealed that performance and effort expectancy significantly affected the intention to use mobile money services, while on the contrary price value, social influence, perceived risk, and hedonistic motivation had no such impact on the intention and use of mobile money services.

Rajeshwari and Vijai (2021) [15] in their study have explored the present status of FinTech industry in India with focus on structure of the FinTech industry, FinTech startups, FinTech news network, factors affecting FinTech adoption and the emerging trends. The study revealed a great scope for FinTech industry as there is large number of potential users of FinTech with around 40% untapped population having no association with banks relying on cash for almost 80% of their transaction. Thus, presenting a greater scope for FinTech start-ups in the near future.

Singh, S. *et al.* (2021) [22] carried out another study with a major focus on exploring the users' intention to use FinTech and antecedents of FinTech adoption. The major control factors examined in the study are-perceived usefulness, perceived trust, responsiveness of the users' and the Perceived ease of use (PEU) among the users. A survey of 439 FinTech users was undertaken to get an insight into the factors stated earlier. The study conducted exploratory factor analysis to find out the most significant factors. The analysis was done using the Structural equation modelling technique. The study divulged that usefulness and ease of use had a direct impact on adoption while the adoption and intension to use are adversely affected by lack of trust and responsiveness towards new FinTech services.

Using the UTAUT approach Yang *et al.* (2021) [31] in their study highlighted how the adoption and intention to use e-wallets among the adults have been influenced by their perceived ease of use, lifestyle compatibility, social influence, perceived trust, and the enabling conditions. Following the cross- sectional research design, data from 501 respondents was acquired using the Google form. The collected data was analysed using the Partial least square structural equation modelling (PLS- SEM). The study revealed that both adoption and intention to use e-wallets are positively affected by perceived ease of use, lifestyle compatibility, social influence, and perceived trust. The study provides the path to the managers as well as the policy makers to build up strategies to capture the future market.

Xie *et al.* (2021) [30] in their study investigated the major factors driving the individuals' acceptance of FinTech services mainly on internet wealth management platforms. The study was carried out using the Unified Theory of Acceptance and Use of Technology (UTAUT), a publication of MIS Quarterly, in addition to some other financial consumption attributes *i.e.*, perceived risk and perceived value as well. The results divulged that individuals' FinTech adoption intention is directly related to perceived value, perceived risk, and social influence whereas the other factors like- performance expectancy, perceived security and effort expectancy affects individuals' perceived value, which further affects the adoption intention.

**Table 1:** Major factors affecting FinTech adoption

| S. No. | Factors  | Impact   | References   |
|--------|--|----------|--|
| 1.     | Perceived Usefulness                             | Positive | Sivanthanu (2019), De Leon (2019) [4], Kumar <i>et al.</i> (2020) [10], Singh <i>et al.</i> (2020), Singh, S. <i>et al.</i> (2021)   |
| 2.     | Perceived Ease of Use                            | Positive | De Leon (2019) [4], Sivanthanu (2019), Singh <i>et al.</i> (2020), Singh and Srivastava (2020), Huei <i>et al.</i> (2020), Nangin <i>et al.</i> (2020) [12] Singh, S. <i>et al.</i> (2021), Yang <i>et al.</i> (2021) [31] |
| 3.     | Perceived Trust                                  | Positive | Haddad and Hornuf (2019) [6], De Leon (2019) [4], Kumar <i>et al.</i> (2020) [10], Nangin <i>et al.</i> (2020) [12], Yang <i>et al.</i> (2021) [31], Singh, S. <i>et al.</i> (2021)  |
| 4.     | Perceived security                               | Positive | Soodan and Rana (2020) [26], Singh and Srivastava (2020), Xie <i>et al.</i> (2021) [30]  |
| 5.     | Facilitating Conditions/ Lifestyle compatibility | Positive | Soodan and Rana (2020) [26], Yang <i>et al.</i> (2021) [31]  |
| 6.     | Social Influence                                 | Positive | De Leon (2019) [4], Singh and Srivastava (2020), Yang <i>et al.</i> (2021) [31]  |
| 7.     | Performance Expectancy                           | Positive | Haddad and Hornuf (2019) [6], Huei <i>et al.</i> (2020), Soodan and Rana (2020) [26], Senyo and Osabutey (2020) [21], Xie <i>et al.</i> (2021) [30]  |
| 8.     | Perceived Value and innovativeness               | Positive | Gulamhusseinwala <i>et al.</i> (2015) [5], Sivanthanu (2019), Huei <i>et al.</i> (2020), Soodan and Rana (2020) [26], Singh and Srivastava (2020), Kumar <i>et al.</i> (2020) [10], Xie <i>et al.</i> (2021) [30]          |
| 9.     | Perceived risk and lack of trust                 | Negative | Hu <i>et al.</i> (2019) [7], Sivanthanu (2019), Nangin <i>et al.</i> (2020) [12], Senyo and Osabutey (2020) [21], Xie <i>et al.</i> (2021) [30], Singh, S. <i>et al.</i> (2021)  |
| 10.    | Social Influence                                 | Negative | Singh <i>et al.</i> (2020) [23], Soodan and Rana (2020) [26], Senyo and Osabutey (2020) [21], Xie <i>et al.</i> (2021) [30]  |

### 3.2 Major Challenges Associated with Emerging Fintech Industry

Romānova and Kudinska (2016) [16] explored the recent banking and financial sector trends, highlighting the impact of FinTech industry on banks with a major focus on the opportunities and challenges coupled with the FinTech industry. The study is deduced upon a detailed analysis of the prevalent FinTech and banking sector trends based upon the experience of European and US banks. The study analysed the process and pace of development of the financial innovations and technology market. Moreover, the study examined the major risk factors coupled with FinTech adoption and its impact on the micro and macro-economic environment with a special emphasis on banking sector. Further the study provided certain recommendations for the growth of FinTech industry. The study advocated development of better regulatory framework to ensure proper risk management associated with FinTech industry.

Saksonova and Kuzmina-Merlino (2017) [19] made an effort to explore the difference between the traditional bank based financial services with the financial services that are provided by the FinTech companies using different latest technologies and highlighted the various benefits and drawbacks of FinTech in general, providing an insight into the major

limiting factors hindering the adoption and growth of FinTech with special emphasis on financial development in Latvia. The study divulged lack of customer awareness and knowledge, emerging financial products and innovation has proved to be the biggest hurdle in the path of FinTech adoption and usage at Latvia. Further the study recommended liberalisation of the regulatory framework at Latvia, to put focus on arranging more market campaigns to make the customers informed customers with greater knowledge of FinTech products, to develop FinTech sandboxes and to support FinTech adoption by providing incentives in terms of lower tax liabilities to stimulate the FinTech industry investment.

Lee and shin (2018) [11] in their study systematically analysed the emergent FinTech industry, providing a brief historical view of FinTech, a glance of FinTech ecosystem, an analysis of FinTech business models as well as providing an insight into the major FinTech challenges. The Five major components of FinTech Ecosystem identified by the study includes-Fintech start-ups, Government, Technology Developers, Financial Customers and Traditional financial institutions. Further the study also highlighted the major six FinTech business models generally adopted by the FinTech business firms-Payment business model, Lending business

model, Capital market business model, Wealth management business model, Crowdfunding business model, Insurance services business model. Moreover, the most significant emergent challenges for the FinTech industry identified by the study are- FinTech investment and risk management challenge, regulatory challenge, customer security and privacy protection challenge, customer management challenge, technology upgradation and integration challenge that the FinTech firms need to address for the sustainable growth of the FinTech industry.

Providing an insight into the emerging financial technologies, various functions performed by such technologies and the supporting and the limiting factors coupled with these technologies these technologies, the major challenges posed by such technologies in front of the Indian business environment, Priya, and Anusha (2019) <sup>[14]</sup> exemplified a study analysing the major motivators as well as the hindering factors with respect to FinTech adoption. The major motivators identified by the study included- customer centricity, ease of setting up an account, better service quality,<sup>24\*</sup> 7 access to variegated services, minimal service cost and faith in the functionality of the online systems. While the major hindering factors being- lack of awareness, difficulty in building trust on new service providers, lack of usage knowledge, perceived security issues as well as perceived risk. The study deduced that in order to widen the scope of FinTech in India government role is crucial and there is an alarming need to bring a well-managed regulatory framework for FinTech in practice.

Vijai (2019) <sup>[29]</sup> in his study following a broader spectrum analysed FinTech right from its emergence to the present scenario. The study started with the analysis of emergence of FinTech industry in India, followed by the growth trends, regional usage of FinTech in India, with the major emphasis on the variegated opportunities and challenges that FinTech has brought up with it. The study revealed that reduced cost and user-friendly features of FinTech are the major support factors while shortage of technical expertise, customers' security issue, minimal collaborations and lagging adoption readiness being the major challenges. In this study an effort is made to get an understanding of the major Government policies and initiatives undertaken by the Government to broaden up the sphere of FinTech industry in the near future.

Pondering the major development and growth concerns of financial technology market, the major opportunities and obstacles associated, along with a study of persistent need of introducing new FinTech solutions to the credit and financial terrain Vartsaba and Zaslavska (2020) <sup>[28]</sup> undertook research. The research followed the underlined nexus- an analysis of FinTech industry development, ascertaining the FinTech development particularly in Ukraine in milieu of unification with the banking industry, divulging the strengths and weaknesses of traditional banking system and of FinTech as

well, describing the major obstacles as well as the desired changes required to be brought in the present credit and financial system, taking technology life cycle model as the foundation of FinTech implementation and getting an insight into the FinTech awareness among the households of Ukraine. The study deduced that level of innovation development, public awareness, the available legal framework, and the pace of FinTech penetration are the major control factors.

Based on review of literature approach Saba *et al.* (2020) undertook a study with respect to three key aspects of FinTech- at first, explaining basically What FinTech is all about, what are the opportunities offered by the emerging FinTech industry and what are the major issues/challenges brought by the FinTech industry for the Islamic financial institutions. The study analysed the Global FinTech Adoption trends statistics and revealed the major challenges that have become a part and parcel of the FinTech world. Further, the study provided an insight into the various threats and opportunities that have arisen due to FinTech revolution, where the most remarkable threats being- regulatory risk, downward pressure on margins and information insecurity risk and the major opportunities highlighted by the study are- reduced cost, higher retention rate, increased customers' interest and curiosity, differentiation.

Baporikar (2021) <sup>[1]</sup> in his study examined the recent FinTech trends in India, providing an insight into the benefits as well as challenges coupled with FinTech. The study propounded the various challenges associated with FinTech, where the major challenges being- risk and investment management challenge, customer management challenge, disruptive innovations and technology integration challenge, customer privacy protection and security challenge. The study hypothesized that in India traditional banking services are preferred over the new Fintech services. Moreover, the study further recommended-focus should be on lobbying and making alliances with state institutions, enlarged marketing campaigns, supportive capital funding and increased government support to the FinTech startups.

Kijkasiwat (2021) <sup>[9]</sup> undertook a study to explore the major drivers of opportunities and challenges brought up the emerging FinTech industry. The study focused on the exploration of significant drivers of opportunities and challenges for FinTech startups, taking the case study of Thailand. A blend of secondary and primary data was used for the study. The secondary data for the study was extracted from Thailand FinTech associations, while for the purpose of collecting primary data in-depth interview technique was used. In order to obtain robust results descriptive and content analysis was undertaken. The study divulged that the opportunities and challenges are a result of regulatory framework, the available technology, symbiotic relationships, digital and financial literacy, and the pace of financial inclusion in the economy.

**Table 2:** Major Challenges Associated with Emerging Fintech Industry

| S. No. | Category                                 | Issues  | References  |
|--------|--|---|---|
| 1.     | Investment and Risk Management Challenge | <ul style="list-style-type: none"> <li>• Difficulty in building trust on new service providers.</li> <li>• Downward pressure on margins.</li> </ul>   | Romānova and Kudinska (2016) <sup>[16]</sup> , Lee and Shin (2017), Saba <i>et al.</i> (2020), Baporikar (2021) <sup>[1]</sup>  |
| 2.     | Customer Management Challenge            | <ul style="list-style-type: none"> <li>• Lack of customer awareness.</li> <li>• Lack of usage knowledge.</li> <li>• Customers' reluctance towards FinTech adoption.</li> <li>• Digital and financial literacy.</li> </ul> | Saksonova and Kuzmina- Merlino (2017) <sup>[19]</sup> , Lee and Shin (2017), Priya and Anusha (2019) <sup>[14]</sup> , Vartsaba and Zaslavska (2020) <sup>[28]</sup> , Baporikar (2021) <sup>[1]</sup> , Kijkasiwat (2021) <sup>[9]</sup> |

|    |  |  |   |
|----|--|--|---|
|    |  | <ul style="list-style-type: none"> <li>More adherence to traditional banking services.</li> </ul>  |   |
| 3. | Technology Upgradation and integration Challenge   | <ul style="list-style-type: none"> <li>Emerging products and innovations.</li> <li>Shortage of technical expertise.</li> <li>Minimal collaborations.</li> </ul>      | Saksonova and Kuzmina- Merlino (2017) [19], Lee and Shin (2017), Vijai (2019) [29], Baporikar (2021) [1], Kijkasiwat (2021) [9] |
| 4. | Regulatory Challenge                               | <ul style="list-style-type: none"> <li>Present legal framework.</li> <li>Regulatory risk.</li> <li>Regulatory sandboxes.</li> </ul>                                  | Vartsaba and Zaslavska (2020) [28], Lee and Shin (2017), Saba <i>et al.</i> (2020), Baporikar (2021) [1], Kijkasiwat (2021) [9] |
| 5. | Customer security and Privacy protection Challenge | <ul style="list-style-type: none"> <li>Perceived security issues</li> <li>Information insecurity risk.</li> <li>Customer privacy protection and security.</li> </ul> | Lee and Shin (2017), Priya and Anusha (2019) [14], Saba <i>et al.</i> (2020), Baporikar (2021) [1]                              |

## Conclusion

The financial sector has witnessed a tremendous evolution worldwide with the onrush of FinTech. The amalgamation of technology and finance has paved the way for converting Indian Economy into a digital economy. The study highlights the most significant factors attributing to the rapid FinTech adoption. The major driving forces of FinTech industry propounded by the study mainly include- users' trust in Fintech services, perceived ease of use, perceived usefulness, performance and effort expectancy, perceived benefits, competitive advantage, and easy availability of venture capital. On the other hand, the major challenges coupled with emergent FinTech industry divulged by the study includes- lack of customer awareness and knowledge, regulatory risk, downward pressure on margins and information insecurity risk, FinTech investment and risk management challenge, regulatory challenge, customer security and privacy protection challenge, customer management challenge, technology upgradation and integration challenge.

## References

1. Baporikar N. Fintech Challenges and Outlook in India. In Innovative Strategies for Implementing FinTech in Banking IGI Global, 2021, 136-153.
2. Bull T, Chen S, Chiselita D. Global FinTech Adoption Index. Ernst & Young, 2019, 1-44.
3. Chakraborty S. Fintech: evolution or revolution. Business analytics research lab India, 2018.
4. De Leon MV. Factors influencing behavioural intention to use mobile banking among retail banking clients. *Jurnal Studi Komunikasi*. 2019; 3(2):118-137.
5. Gulamhuseinwala I, Bull T, Lewis S. FinTech is gaining traction and young, high-income users are the early adopters. *Journal of Financial Perspectives*. 2015; 3(3).
6. Haddad C, Hornuf L. The emergence of the global fintech market: Economic and technological determinants. *Small business economics*. 2019; 53(1):81-105.
7. Hu Z, Ding S, Li S, Chen L, Yang S. Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*. 2019; 11(3):340.
8. Huei CT, Cheng LS, Seong LC, Khin AA, Bin RLL. Preliminary study on consumer attitude towards fintech products and services in Malaysia. *International Journal of Engineering & Technology*. 2018; 7(2.29):166-169.
9. Kijkasiwat P. Opportunities and Challenges for Fintech Startups: The Case Study of Thailand. *ABAC Journal*. 2021; 41(2):41-60.
10. Kumar A, Dhingra S, Batra V, Purohit H. A framework of mobile banking adoption in India. *Journal of Open Innovation: Technology, Market, and Complexity*. 2020; 6(2):40.
11. Lee I, Shin YJ. Fintech: Ecosystem, business models, investment decisions, and challenges. *Business horizons*. 2018; 61(1):35-46.
12. Nangin MA, Barus IRG, Wahyoedi S. The effects of perceived ease of use, security, and promotion on trust and its implications on fintech adoption. *Journal of Consumer Sciences*. 2020; 5(2):124-138.
13. Nicoletti B. Financial services and Fintech. In *The Future of FinTech*. Palgrave Macmillan, Cham, 2017, 3-29.
14. Priya PK, Anusha K. Fintech Issues and Challenges in India. *International Journal of Recent Technology and Engineering*. 2019; 8(3):904-908.
15. Rajeswari P, Vijai C. Fintech industry in India: the revolutionized finance sector. *Eur. J. Mol. Clin. Med.* 2021; 8(11).
16. Romānova I, Kudinska M. Banking and Fintech: a challenge or opportunity? In *Contemporary issues in finance: Current challenges from across Europe*. Emerald Group Publishing Limited, 2016.
17. Ryu HS. What makes users willing or hesitant to use Fintech? The moderating effect of user type. *Industrial Management & Data Systems*, 2018.
18. Saba I, Kouser R, Chaudhry IS. FinTech and Islamic Finance-Challenges and Opportunities. *Review of Economics and Development Studies*. 2019; 5(4):581-890.
19. Saksonova S, Kuzmina-Merlino I. Fintech as financial innovation-The possibilities and problems of implementation, 2017.
20. Saroy R, Gupta RK, Dhal S. FinTech: The Force of Creative Disruption. *RBI Bulletin*, November, 2020.
21. Senyo PK, Osabutey EL. Unearthing antecedents to financial inclusion through FinTech innovations. *Technovation*. 2020; 98:102155.
22. Singh S, Srivastava RK. Understanding the intention to use mobile banking by existing online banking customers: an empirical study. *Journal of Financial Services Marketing*. 2020; 25(3):86-96.
23. Singh S, Sahni MM, Kovid RK. What drives FinTech adoption? A multi-method evaluation using an adapted technology acceptance model. *Management Decision*, 2020.
24. Singh S, Sahni MM, Kovid RK. Exploring Antecedents of FinTech Adoption Using Adapted Technology Acceptance Model. In *Advances in Systems Engineering*. Springer, Singapore, 2021, 337-352.
25. Sivathanu B. An empirical study on the intention to use open banking in India. *Information Resources Management Journal (IRMJ)*. 2019; 32(3):27-47.

26. Soodan V, Rana A. Modelling customers' intention to use e-wallet in a developing nation: Extending UTAUT2 with security, privacy, and savings. *Journal of Electronic Commerce in Organizations (JECO)*. 2020; 18(1):89-114.
27. Suryono RR, Budi I, Purwandari B. Challenges and trends of financial technology (Fintech): a systematic literature review. *Information*. 2020; 11(12):590.
28. Vartsaba V, Zaslavska O. FinTech industry in Ukraine: problems and prospects for the implementation of innovative solutions. *Baltic Journal of Economic Studies*. 2020; 6(4):46-55.
29. Vijai C. FinTech in India—opportunities and challenges. *SAARJ Journal on Banking & Insurance Research (SJBIR)*. 2019, 8.
30. Xie J, Ye L, Huang W, Ye M. Understanding FinTech platform adoption: impacts of perceived value and perceived risk. *Journal of Theoretical and Applied Electronic Commerce Research*. 2021; 16(5):1893-1911.
31. Yang M, Mamun AA, Mohiuddin M, Nawi NC, Zainol NR. Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability*. 2021; 13(2):831.
32. Zavolokina L, Dolata M, Schwabe G. FinTech-What's in a Name. University of Zurich, 2016.