INTERNATIONAL JOURNAL OF ECONOMICS AND FINANCE STUDIES
Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 330-369) **Doi:** 10.34109/ijefs. 202315109
Received: 21.10.2022 | **Accepted:** 12.03.2023 | **Published Online:** 01.04.2023

-RESEARCH ARTICLE-

FINTECH CREDIT PLATFORMS' PERCEIVED RISK FACETS AND FACTORS: A SYSTEMATIC LITERATURE REVIEW

Dawood H. M

UCSI Graduate Business School
Email: hatim.lawati@outlook.com
https://orcid.org/0000-0003-2958-518

Liew Chee Yoong

Faculty of Business & Management, UCSI University, No.1,
Jalan Menara Gading, UCSI Heights (Taman Connaught),
Cheras 56000, Kuala Lumpur, Malaysia
Email: liewcy@ucsiuniversity.edu.my
https://orcid.org/0000-0002-7740-0219

Marcia Edna Santhana Rajan

Faculty of Business & Management, UCSI University, No.1,
Jalan Menara Gading, UCSI Heights (Taman Connaught),
Cheras 56000, Kuala Lumpur, Malaysia
Email: marcia@ucsiuniversity.edu.my
https://orcid.org/0000-0002-0989-7809

─Abstract─

This study examines the financial technology (or FinTech) credit platform literature published between 2017 and 2022, as collected from the Scopus database. It follows the categorization of Imerman and Fabozzi, Lee and Shin, and Reiners for FinTech and credit platforms. In addition, this study follows the perceived risk classifications of Abramova and Bohme, Featherman and Pavlou, and Ryu. The significance of this study stems from the need for a comprehensive analysis of all FinTech credit platform types, their problems, and the gaps in the existing literature to guide future research. Therefore, this study focuses on the vertical business models of FinTech and its credit platforms. In doing so, it clarifies the relationships between perceived risk facets that could impact

Citation (APA): Dawood, H. M., Yoong, L. C., Rajan, M. E. S. (2023). Fintech Credit Platforms' Perceived Risk Facets and Factors: A Systematic Literature Review. *International Journal of Economics and Finance Studies, 15* (01), 330-369. doi:10.34109/ijefs. 202315115

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 330-369) **Doi:** 10.34109/ijefs. 202315115

FinTech credit platforms, identifies the causes of perceived risks, and compiles all proposed solutions to mitigate perceived risks from previous studies. In addition, the format and methodology of this study adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) declaration, which includes four phases and a checklist of twenty-seven items. Using thirteen keywords, 1147 publications were collected from the Scopus database, from which 123 papers fitted the PRISMA procedure employed for this study. This survey determined peer-to-peer lending and crowdfunding platforms to be the most popular platforms. Financial, operational, legal, security, and overall risks were determined to be the five most prominent aspects of perceived risk. The default risk factor appeared as the largest contributor to financial and other interrelated hazards among the risk factors. Thus, this work makes several significant contributions. It aids regulators in formulating laws and policies to manage, monitor, and control the FinTech industry. It provides useful insight to lenders and investors, particularly in assisting them to obtain clearer feasibility for investment into such platforms by defining potential perceived risks and their factors. In conclusion, it guides scholars in the pursuit of future investigations.

Keywords: FinTech, Platforms, Credit, Crowdfunding, Peer-to-Peer, Perceived risk.

1. INTRODUCTION

The presence of technologies such as blockchain, artificial intelligence, big data, and cloud computing has converted traditional services into digital and electronic services. They contributed to improving electronic services, particularly financial services, which had a favorable effect on the spread of financial inclusion (Q. Liu et al., 2019; Niu et al., 2020). In addition, mobile applications (m-banking) and web portals enabled financial institutions and banks to reach more consumers and increase their service offerings. In the future years, PricewaterhouseCoopers (PwC) predicts that 90 percent of banks will utilize mobile banking applications more than any other financial industry (Todorof, 2018). Many FinTech advancements were developed using mobile and online technology. These developments are known as platforms. Thus, they increased consumer happiness, increased financial returns, and established a competitive advantage (Dawood et al., 2022c).

Financial electronic services have expanded to provide customers with integrated payment, lending, investing, and insurance business models (Dawood et al., 2022b). The combination of financial services and cutting-edge technologies produced a new phenomenon known as financial technology or FinTech. According to Ryu (2018), FinTech is a disruptive financial service typically created by non-financial companies utilizing modern technologies as key factors. Generally, FinTech provides risk-reducing technologies (Gong et al., 2020), and its business models can alleviate difficulties in the financial markets (J. Liu et al., 2020). Gong et al. (2020) identified five FinTech

principles: low-profit margin, light assets, expandability, innovation, and simple compliance.

Perceived benefits such as usefulness, simplicity of use, convenience, and economic rewards drive FinTech intents (Ali et al., 2021; Ooi & Tan, 2016; Ryu, 2018), which drives and stimulates the intention of users to accept and use electronic financial services via a mobile device. Due to the internet penetration rate, mobile penetration rate, availability of capital suppliers (investors or lenders), and unmet financial demands, FinTech is widespread (R. H. Huang, 2018).

One of the most prominent FinTech business models is the FinTech credit platform. It provides low-interest, short-term borrowing to individuals or businesses, often small and medium-sized businesses, who seek capital to finance their projects or boost their operations (Lee & Shin, 2018; Reiners, 2018). These platforms attract businesses and investors because they provide the funds required for their operations and investment opportunities. These platforms typically involve three direct parties: the platform, the lenders, and the borrowers. Different parties involved may include a regulator, a credit bureau, and third-party guarantors.

The FinTech market is one of the growing markets that has had phenomenal growth from 2015 to the present, particularly in China, the United Kingdom, and the United States. China is one of the major markets for financial technology, particularly peer-to-peer lending, as it is essential to the growth of small and medium-sized businesses. According to Dawood et al. (2022b), FinTech investment increased from $12.2 billion in 2014 to $93 billion in 2021. (Ryu, 2018). In the first quarter of 2017, outstanding peer-to-peer loans hit US$140 billion, four times the US average (Chen et al., 2020). According to prior research, several perceived risks impede the spread and growth of technology adoption, including FinTech (Abramova & Bohme, 2016; Featherman & Pavlou, 2003). (Ali et al., 2021; Ryu, 2018). Featherman and Pavlou (2003) proposed seven perceived risk factors that influence electronic services: social risk, psychologicalrisk, time risk, privacy risk, financial risk, performance risk, and total risk. In contrast, Abramova and Böhme (2016) described four types of perceived risks that affect bitcoinadoption, the financial risk, the legal risk, the operational risk, and the adoption risk. Ryu (2018) and Ali et al. (2021) identified the role of perceived risk in terms of financial, legal, operational, and security risk in South Korea and Pakistan, respectively, for various FinTech business models, including FinTech credit platforms.

Hence, FinTech business models (innovations) confront several dangers that impede this industry's growth and expansion. Numerous research has explored these dangers, their components and causes, and offered various strategies to decrease and manage them. Nonetheless, this research disagreed on the categories of hazards, the causes that produce these risks, and the provided methods to lower the perceived risks. No prior research has unified the perceived dangers connected with FinTech credit platforms into a single

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 330-369) **Doi:** 10.34109/ijefs. 202315115

study, including the driving variables, causes, and solutions. This would enable researchers to further investigate the FinTech credit model and its acceptance and use in the financial technology industry and aid stakeholders such as regulators, financial institutions, FinTech startups, and investors in gaining a deeper understanding of these platforms and the perceived risks associated with them.

Imerman and Fabozzi (2020) and Lee and Shin (2018) categorized FinTech business model perspectives as vertical or horizontal. Horizontal business models are further separated into functional and technological business models. Vertical business models, on the other hand, include payment, wealth management, insurance, lending, crowdfunding, and capital market. This study is predicated on the vertical FinTech credit business model, namely the lending (credit) business model. Reiners (2018) identified four FinTech lending business models: peer-to-peer or lending business models, crowdfunding business models, agency lending, and balance sheet lending. This study shall systematically review credit platforms utilizing Reiners's (2018) classification. Furthermore, according to earlier studies related to the FinTech setting, the perceived risk components include (1) financial risk, (2) operational risk, (3) legal risk, (4) security risk, and (5) overall hazards Abramova and Bohme (2016), Featherman and Pavlou (2003), and Ryu (2018). Thus, this study aims to examine and synthesize all recognized dangers affecting FinTech credit platforms, including their components, causes, and recommended solutions. In addition, it seeks to define all FinTech credit platform types addressed in the literature.

The present study poses the following questions based on a thorough review of the relevant literature: (1) what are the characteristics of perceived risks affecting FinTech credit platforms? (2) What common characteristics influence credit platforms and contribute to risk perception? (3) What methods are proposed to decrease the perceived risk affecting credit platforms?

The next parts describe the literature review on FinTech credit platform kinds and perceived risk features, followed by the PRISMA technique employed by this research. The study then describes and analyzes the outcomes and findings. The section continues with a discussion of the limitations of the study.

2. LITERATURE REVIEW

This study is deemed unusual because it synthesizes all FinTech credit platforms, investigates and discusses all potential dangers that may influence these platforms, and then synthesizes the results. In addition, it describes the elements that influence these platforms. In addition, it identifies the gaps in the literature study on untapped platforms, providing researchers with new avenues for investigation. Moreover, it is a pioneer in comprehensively summarizing all FinTech crowdfunding platforms.

Imerman and Fabozzi (2020) highlighted the value areas for investors using the FinTech Ecosystem. This methodology enables investors to comprehend the FinTech context of developing technologies (vertical: payment, digital banking, wealth management, capital market, lending, crowdfunding, insurTech, propTech). In addition, they used the notion of digital transformation (people, organization, technology) in financial services to emphasize the benefits and hazards of FinTech (horizontal: regulatory, risk, funding, valuation, IoT, AI, Blockchain, etc.). Lee and Shin (2018) described five FinTech ecosystem components and six FinTech business models (payment, lending, crowdfunding, wealth, capital market, and insurance). In addition, they identified six difficulties facing the FinTech industry. Based on perceived risk theory, Featherman and Pavlou (2003) extended previous technology acceptance studies that focused on the benefits of adoption to include measures of negative utility attributed to technology adoption. They identified seven perceived hazards: performance, financial, time, psychological, social, and privacy risks.

3. FINTECH CREDIT PLATFORMS

3.1 Peer-to-Peer Lending Platforms (PTP)

Peer-to-peer (PTP) lending platforms permit funding from a specific financial institution or an individual (an investor) and lend to a particular individual or business (Xie et al., 2019). In addition, these platforms are distinguished from traditional lending by their immediate and direct access to funds without intermediaries (Ma et al., 2018a; Pan et al., 2021; Xie et al., 2019). According to Xie et al. (2019), peer-to-peer (PTP) lending platforms provide borrowers with lower-interest loans than traditional financial institutions, while lenders obtain greater rates. In addition, these platforms have negligible operational costs because they do not accept deposits, are not subject to stringent banking laws and do not retain idle balances. The PTP draws small and medium-sized business owners, entrepreneurs, some low-income workers, and bank-rejected borrowers who lack collateral or guarantees (Ma et al., 2018a). Zopa is the first P2P lending platform in the world, launching in the United Kingdom in 2005. Like Prosper PTP in the US in 2006 and PPDai in China in 2007, PPDai is a lending platform (Yan et al., 2018). Indonesia is one of the nations that have successfully established the financial technology business, focusing on PTP lending and utilizing it to stimulate the financial market. In Indonesia, PTP lending platforms are experiencing robust growth. According to (Santoso et al., 2020), the Indonesia Financial Services Authority has registered and monitored 99 platforms. By the end of 2019, $1,758 million had been distributed to over 5 million borrowers and 267 thousand lenders. According to Han et al. (2020), the number of PTP lending platforms in China reached 6591 by January 2019. In addition, the volume of PTP loans reached 14.42 billion Chinese yuan. The global market for PTP lending is anticipated to reach US$460 billion in 2022, representing a growth rate of 51.5% compared to 2015. (Tritto et al., 2020).

3.2 Agency-Lending Platforms

In the United States, Germany, and Korea, the agency-lending or notary-lending model offers loans to borrowers comparable to peer-to-peer lending, except that the loans originated from banks (BIS, 2017; Reiners, 2018). The lender purchases bank loans and sells them through a platform to the borrower. According to BIS (2017), the lender does not bear the credit risk on loans. This platform charges greater loan collection costs to borrowers or investors with a higher risk profile. In addition, these platforms do not engage in lending to prevent any financial law infractions (BIS, 2017). The loan on these platforms is typically secured. According to BIS (2017), FinTech lenders in the United States partner with some depository institutions to offer loans without acquiring a separate state license. Fidelity and Sharegain are two examples of platforms for agency lending[1].

3.3 Balance Sheet-Lending Platforms

Balance sheet lending platforms originate and hold loans on their balance sheets (BIS, 2017). The platform determines whether or not to fund (Reiners, 2018). Hence, the lending procedure is direct, and the platform functions as a bank. According to BIS (2017), these types of platforms are more prevalent in the United States than in other countries for a variety of reasons, including (1) the development of the FinTech credit industry; (2) the reliance on balance sheet lenders on capital sources (e.g., debt, equity); and (3) the use of securitizations to fund originations (BIS, 2017). Additionally, BIS (2017) revealed that institutional investors are the primary source of capital for these platforms in Australia. These systems are often maintained efficiently and with low risk[2]. These platforms are popular in the United States. OnDeck, established in the United States, is an example of a platform for balance sheet lending[3].

3.4 Crowdfunding Platforms

FinTech crowdfunding platforms permit lending funds from a group of individuals or corporations to a specific individual or business. These platforms take numerous shapes based on the nature of the loan's intended purpose (Dawood et al., 2022b). There are several subtypes of FinTech crowdfunding platforms: equity-based, reward-based (Garcia-Teruel, 2019; Lee & Shin, 2018; Liang et al., 2020; Ryoba et al., 2020; Vismara, 2019), lending-based, donation-based (Cicchiello & Kazemikhasragh, 2022; Ryoba et al. 2020; Garcia-Teruel, 2019; Mohammadi & Shafi, 2018; Vismara, 2019).

Equity-based crowdfunding platforms enable entrepreneurs to attract investors (lenders) by offering equity stakes in their (entrepreneurs') startups. In the United Kingdom, 20% of all early-stage equity investments are made using equity-based crowdfunding

[1] Retrieved from https://capitalmarkets.fidelity.com/fidelity-agency-lending and https://sharegain.com/ (accessed on 5th of Sep 2022).

[2] Retrieved from https://crowdfunding-platforms.com/balance-sheet-lending (accessed on 5th of Sep 2022).

[3] Retrieved from https://www.ondeck.com/ (accessed on 5th of Sep 2022).

platforms (Walthoff-Borm et al., 2017). According to Cumming et al. (2021), the market for FinTech equity-based crowdfunding is expanding exponentially as investors (the lenders) and entrepreneurs face fewer obstacles (the borrowers). Equity-based crowdfunding platforms have three stakeholders: the platform, the entrepreneurs, and a collection of investors known as the crowd (Reichenbach & Walther, 2021).

Equity-based crowdfunding is distinct from other forms of crowdsourcing since its capital contributions are motivated by profit-seeking (Liang et al., 2020; Mamonov & Malaga, 2019). Moreover, investors, the equity holders, in early-stage ventures have unpredictable liquidity horizons and a greater chance of investment loss (Mamonov & Malaga, 2019; Shafi & Mohammadi, 2020). According to Cicchiello and Kazemikhasragh (2022), the equity-based crowdfunding market in Latin America and the Caribbean grew significantly and reached $19.16 million in 2018. (LAC). Brazil ($12.1m), Mexico ($3.7m), and Chile ($2.63m) are driving the equity-based crowdfunding industry in Latin America and the Caribbean, followed by Colombia ($0.24m) and Argentina ($0.23m). Broota, StartMe Up, EqSeed, and EuSocio areBrazil's four most popular equity-based crowdfunding platforms. In contrast, PlayBusiness, Mexico's largest equity-based crowdfunding platform, led the market andchanneled over $117.38 million from over 15,000 users, 2000 start-ups, and over 82 funded projects.

Normally, the objective of reward-based crowdfunding platforms is to finance a project. The borrower (project creator) determines the interest rate or the reward to the funders (lenders or investors or project backers or contributions) and can select any repayment guarantee within a specified time frame (Lee & Shin, 2018). Investors (project backers) invest in a project for a perceived reward, not for stock. For instance, project backers may receive a football game ticket or a discount on an electronic device. According to Cicchiello and Kazemikhasragh (2022), a reward-based crowdfunding platform is meant for projects in the arts, music, games, design, and technology; however, project backers are rewarded with a non-monetary prize based on the amount of money they contributed to the project. Kickstarter is the largest crowdfunding platform focused on rewards, with over US$3.5 billion raised and over 14 million supporters. Moreover, Indiegogo is the second largest platform for reward-based crowdfunding, with over 9 million supporters backing over 800,000 projects. Via crowdfunding lending platforms, backers receive fixed interest rates on their investment amount in addition to their initial investment amount (Garcia-Teruel, 2019; Vismara, 2019). The mortgages are secured by the borrowers' real estate properties (Jiang et al., 2020). FundingCircle is an instance of one of these sites.

Donation-based crowdfunding platforms encourage donors to contribute to particular causes, such as emergencies and critical moments. Normally, these platforms are utilized for social and charitable objectives, and donors do not anticipate receiving anything in exchange (Cicchiello & Kazemikhasragh, 2022). These platforms are driven by donor

choices, intrinsic and extrinsic motivation, goal duration, storytelling capabilities, and other factors (Behl et al., 2021). GoFundMe.org, Gogetfunding, and GiveForward are examples of sites of this type. Crowdfunding based on invoice trading helps institutions and businesses overcome financial crises or delays in collecting dues. According to Garcia-Teruel (2019), a company might sell reduced bills to investors instead of waiting for invoices to be paid to get funds instantly. Beneficiaries consider these platforms as a means to swiftly get money in exchange for a percentage of the overdue amounts owed to lenders[4]. MarketFinance and Smart4Tech are examples of platforms of this type. Around £2 million worth of invoices is funded using invoice trading crowdfunding platforms (Vismara, 2019). Patronage-based platforms are uncommon, and the funders or backers are often considered philanthropists who anticipate no immediate return on their gifts or contributions (Liang et al., 2020). The crowdfunding platform Patreon is an exceptional example of a patronage-based platform. They fund independent researchers and creative individuals. On Patreon, a patron gives a small amount recurringto support a person or project for a predetermined amount over a certain period.

Social crowdfunding is prevalent in the Arab culture, where collaboration and trust among community members motivate individuals to assist one another[5]. Funding for social-based platforms is often informal and not governed by a legal structure. Pratono et al. (2020) defined social-based crowdfunding platforms as those that fund a social initiative or solve a social issue. These initiatives include both for-profit and non-profit endeavors. (Rey-Mart et al., 2019) Social enterprises are unattractive to traditional lenders and investors because their goals conflict with maximizing profits. SociallyGood platform raises funds for social projects, the Impact Guru platform raises funds for medical emergencies, the Milaap platform raises funds for healthcare, education, disaster relief, sports and various other causes, and the Impactify platform is a for-profitsocial venture that leverages advanced technologies to connect non-government organizations (NGOs) with corporations and sponsors[6].

In real estate, investment-based crowdfunding platforms play an important role (Borrero-Domnguez et al., 2020; Garcia-Teruel, 2019). These platforms promise to give retail investors with housing investment opportunities. In 2012, they emerged in the United States and expanded globally. Depending on the nature of their investment, investors receive corporate profits (profit-sharing), stocks, or bonds (Yang et al., 2020a). In this crowdfunding, contributors (lenders) receive firm profits (profit-sharing), shares, or bonds in exchange for their contributions. There are three major actors in this type of platform: the project promoter (who owns the idea), the individuals (lenders or investors), and the crowdfunding platform itself (the intermediary). The site promotes

[4] Retrieved from https://marketfinance.com/business-finance/what-is-invoice-trading and https://smart4.tech/invoice-trade-finance-platform/ (accessed on 5th of Sep 2022).

[5] Retrieved from https://researchwhisperer.org/2017/08/15/patreon/ and https://www.patreon.com/ (accessed on 5th of Sep 2022).

[6] Retrieved from https://thecsrjournal.in/4-csr-platforms-making-things-simpler-for-non-profits/ (accessed on 5th of Sep 2022).

the projects and gives investors with information about them. It concludes all financial transactions, formalities, and other procedures and formalities (Garcia-Teruel, 2019). In the United States, the Miplace investment-based crowdfunding platform is an example of this type of crowdsourcing[7].

Kim et al. (2020) explored the role of crowdfunding in funding tourism-related industries, including hospitality, sustainable tourism, and travel and tourism. Ordinarily, tourism Crowdfunding platforms specialize in helping tourism projects worldwide, such as hospitality, sustainable tourism, travel, and tourism, with the goal of attracting tourists. Travel and tourism are among the world's greatest economic sectors, accounting for 10.4% of the global gross domestic product and supporting one in ten jobs worldwide. According to Flórez-Parra et al.(2020), 6% of Colectual crowdfunding platform finance in Spain is allocated to the tourism industry. In 2016, the Korean government provided approximately US$133 million as a crowdfunding accelerator (S. Kim & Kim, 2017). As a result, crowdfunding rose by over 60 percent in 2017, suggesting that crowdfunding platforms are effective fundraising solutions for startups and entrepreneurs. The TravelStarter platform is an example of tourism-related crowdfunding because it promotes travel ideas and projects[8]. Initial coin offerings (ICOs) are developing phenomena in which projects raise capital to establish blockchain-based enterprises, according to W. Huang et al. (2018). ICO is a decentralized way of project finance in which money (or tokens) are issued to online project backers. Moreover, ICOs, the digital means of exchange for value based on blockchain technology and crypto assets (e.g., Ethers, Bitcoins), can operate autonomously and trade among backers. In addition, these ICOs can be traded between investors and converted into other currencies. In countries with ICO-friendly rules, the availability of crowdfunding platforms also plays a crucial influence in the emergence of ICOs. These platforms include Companisto and KickICO as examples[9].

3.5 Perceived Risk Facets

Despite the advancement and development of FinTech and the growth of its market, certain elements must be implemented to accelerate its spread. Among these elements is the perception of risk, which is one of the factors influencing the acceptance and use of FinTech as a whole (Abramova & Bohme, 2016; Chan et al., n.d.; Chao, 2019; Dawood et al., 2022a; Ryu, 2018). More often than not, perceived risks result in negative effects that impede the prevalence of the technology.

---

[7] Retrieved from https://www.miplace.org/4a74bb/contentassets/2d3428edcfaa45648312519f75714f24/investment_based_crowdfunding_guide_4.pdf (accessed on 5th of Sep 2022).

[8] Retrieved from https://www.gonomad.com/6112-crowdfunding-where-creative-travel-ideas-become-reality (accessed on 5th of Sep 2022).

[9] Retrieved from https://www.companisto.com/en/academy/recht-steuern-und-hilfsthemen/ico-funding-wenn-crowdfunding-auf-die-blockchain-trifft and https://pixelplex.io/work/ethereum-based-platform-for-crowdfunding-and-icos/ (accessed on 5th of Sep 2022).

Financial loss due to fraud (Featherman & Pavlou, 2003; Ryu, 2018) or error (Chan et al., n.d.) or financial transaction malfunction or moral hazard or extra transaction costs can all contribute to the financial risk aspect (Ryu, 2018).

According to Featherman and Pavlou (2003), operational risk is a performance risk. They described it as the potential that the product will malfunction and fail to perform as intended, hence failing to provide the expected benefits. In addition, operational risk is regarded as a possible loss resulting from the failure and inconsistency of internal processes, personnel, and systems, impeding product uptake and utilization (Ryu, 2018). Legal risk is perceived as a result of a lack of legal clarity and product regulation (Abramova & Bohme, 2016; Ryu, 2018). Often, a lack of regulations regarding financial loss and information or transaction security causes legal risk. Featherman and Pavlou (2003) defined security risk as losing control over users' personal information when it is exploited without their knowledge or consent to conduct fraudulent transactions. When all other risks are analyzed together, the real risk is a broad measure of danger (Featherman & Pavlou, 2003).

4. METHODOLOGY

Systematic reviews provide a variety of important tasks, and synthesis analysis represents the state of knowledge in a certain topic. They answer questions that individual studies cannot answer and then indicate research issues that can be addressed in the future. In addition, they assess hypotheses and develop diverse forms of knowledge. This study utilizes the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol statement to deliver a transparent and scientific literature analysis of FinTech credit platform technologies. PRISMA enables systematic reviewers to report why the review was conducted, what the authors did, and what they found transparently (Page et al., 2021).

A systematic literature review has four scientific steps[10] according to the PRISMA protocol: identification stage, screening stage, eligibility stage, and included or extracted stage (Salama et al., 2016). This study uses different software for each phase.

4.1 Information Sources and Research Strategies

Based on the retrieved data from the Scopus database on March 6, 2022, this study employed Scopus to achieve its aims. It utilized 15 keywords to extract indexed articles from the Scopus database (Figure 1). Initial extraction of records from the Scopus database revealed a population of 1147.

[10] Reterived from https://learning.edanz.com/prisma-flow-diagram/ (accessed on 15th of Feb 2023).

INTERNATIONAL JOURNAL OF ECONOMICS AND FINANCE STUDIES
Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

4.2 PRISMA Protocol

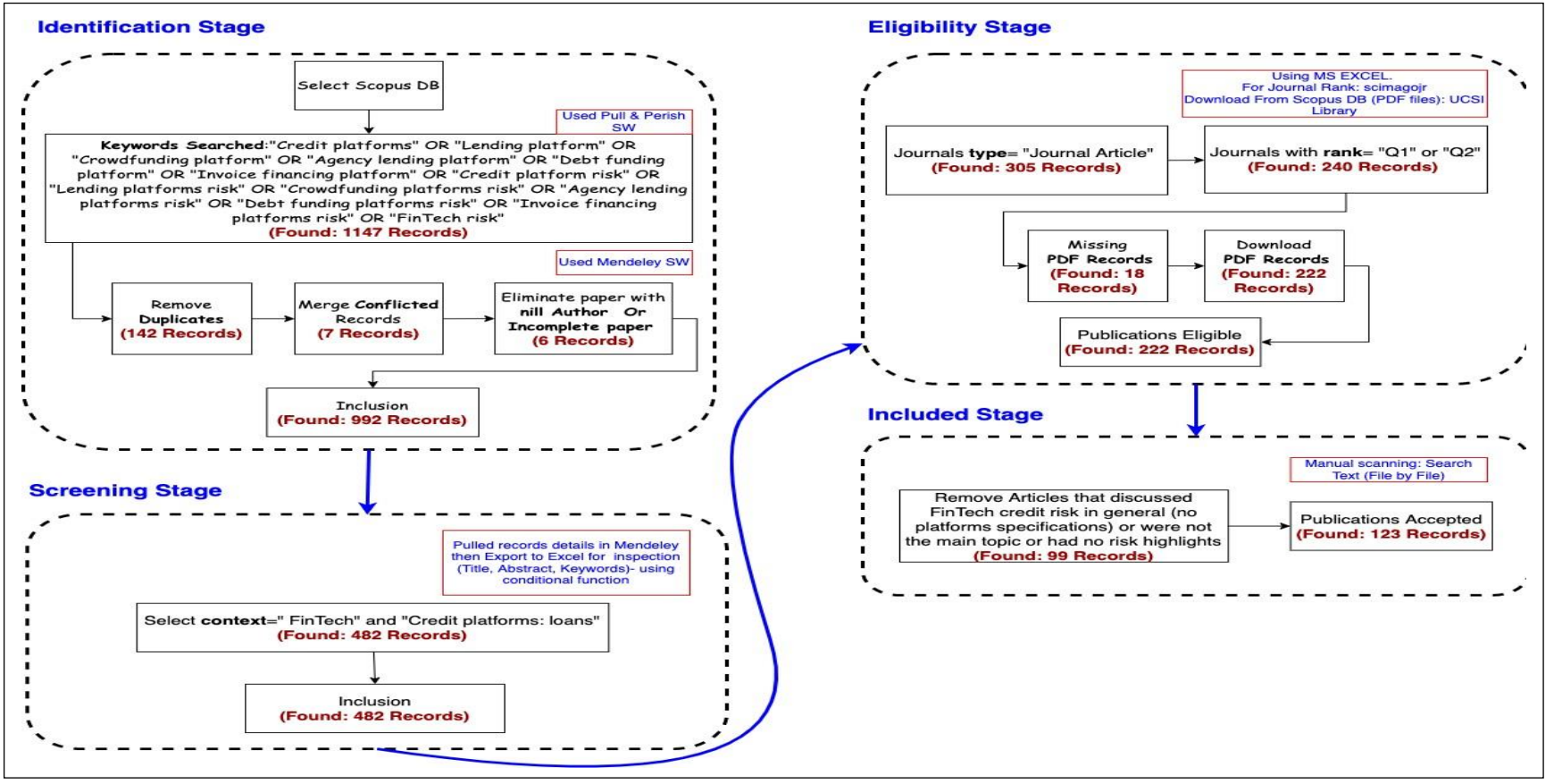

Figure 1. PRISMA Protocol, A Systematic Literature Review

Vol: 15 **No: 0**1 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

This research technique is to identify all Scopus-indexed articles published between 2017 and 2022 that mention any FinTech credit platform. The approach of the present study was achieved by applying PRISMA's 4 phases. Articles per journal, total articles (records) per each FinTech credit platform, full articles (records) per each type of perceived risk, factors that affect each perceived facet for each FinTech credit platform, and proposed solutions to mitigate the perceived risk facet in each FinTech credit platform are the expected outcomes of the PRISMA statement. In addition, Mendeley software (version 2.77.0, 2022) is used to index and maintain the selected articles, NVivo software (version 1.6.2) is used for effortless coding and text research, and Microsoft Excel is used for descriptive and statistical analysis. In addition, NVivo guarantees that the selected articles' context and criteria follow the PRISMA protocol.

4.3 PRISMA 4 Phases

4.3.1 Identification Phase

Publish or Perish software extracted information from the Scopus database using 15 keywords. The records are then exported to the Mendeley program to be filtered and checked for duplicates and missing information. Since author information is required, any record with no author will be removed. Also, duplicate records will be eliminated.

4.3.2 Screening phase

The selected records are then exported to Microsoft Excel for additional abstract, title, and keyword analysis. The inspection includes locating "financial technology" and "credit platform: loan" Any records lacking these terms in their title, abstract, or keywords will be ignored. All records will be screened via Microsoft Excel.

4.3.3 Eligibility phase

This study considers only the journal articles and those published in journals with quartiles Q1 and Q2[11]. In addition, all records whose articles could not be downloaded as PDF files are rejected.

4.3.4 Included phase

The final process consists of manually inspecting each record to ensure that each record (file) discusses at least one perceived risk or credit platform specified in the background section. Included are documents that explore more than one perceived risk or more than one FinTech lending platform.

4.3.5 Synthesis Method

This study consists of non-duplicated records (indexed papers) with complete author information collected from the Scopus database using 15 keywords to identify

[11] According to https://www.scimagojr.com/ .

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

documents that discuss the FinTech credit platform and its perceived risk. The selected records must have a combination of the terms FinTech and Credit platform or loan and must be journal papers with a Q1 or Q2 quarter. The picked articles must be downloaded and mention at least one FinTech credit platform and one perceived risk aspect.

4.3.6 Certainty Assessment

All extracted records are indexed and obtained from the Scopus database, giving the current study a high level of confidence regarding the selected articles.

5. RESULTS AND DISCUSSION

5.1 4.1. PRISMA 4 Phases of Input and Output

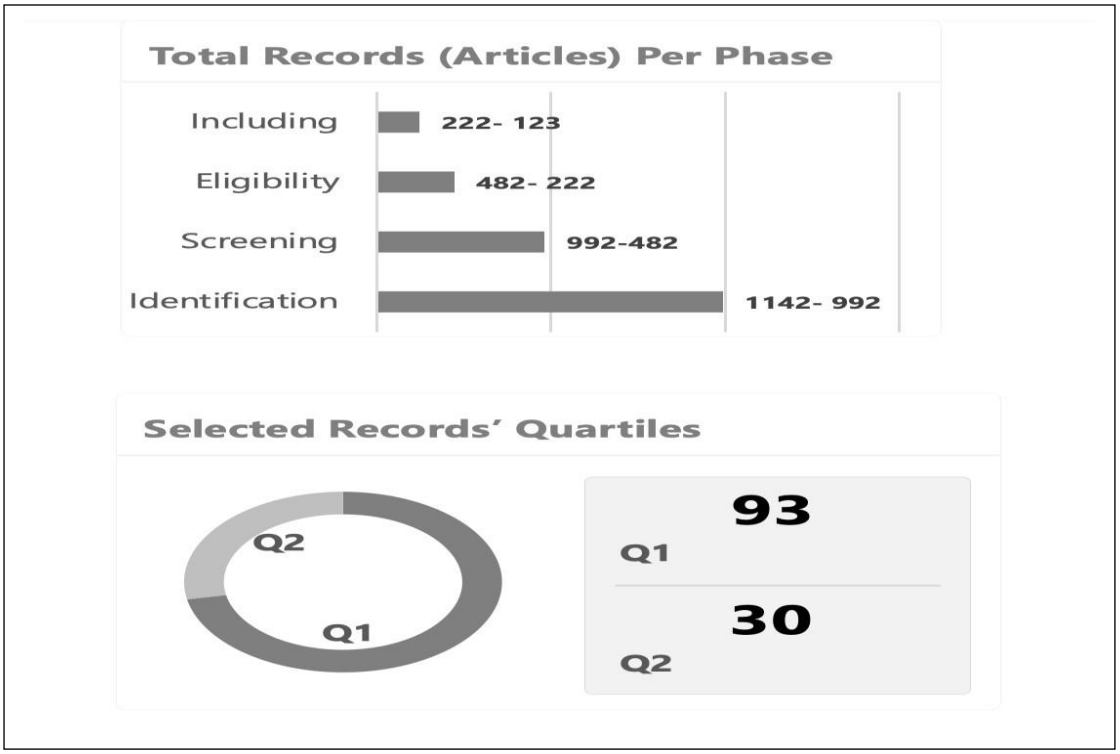

Figure 2. PRISMA Inputs and Outputs Infographic

Figure 2 and Table 1 indicate the total number of Scopus database records extracted. The total number of records that matched the keywords was 1147, and after 4 phases of filtering, 125 records remained. The total number of selected records for this investigation is 123 index articles. In addition, 93 selected articles are categorized as Q1, while 30 are classified as Q2. The top four journals are Sustainability (Switzerland), with 10 publications. Electronic Commerce Research, Electronic Commerce Research and Applications, and Emerging Markets Finance and Trade with six articles apiece.

Vol: 15 **No: 0**1 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

Table 1. Total Publications Per Journal

Journal	Total Publications	Journal	Total Publications
Academy of Management Perspectives	1	Information Systems Research	2
Accounting and Finance	1	International Journal of Electronic Commerce	1
Annals of Operations Research	2	International Journal of Production Research	1
Applied Economics	1	International Review of Economics and Finance	4
Applied Soft Computing Journal	2	Internet Research	2
Asia Pacific Journal of Tourism Research	1	Journal of Applied Economics	2
Asia-Pacific Journal of Financial Studies	1	Journal of Banking and Finance	2
Aslib Journal of Information Management	1	Journal of Behavioral and Experimental Finance	1
China Finance Review International	2	Journal of Business Research	1
Complexity	1	Journal of Business Venturing	1
Computational Economics	1	Journal of Consumer Marketing	1
Computer Law and Security Review	1	Journal of Corporate Finance	3
Data Technologies and Applications	1	Journal of Information Technology	1
Decision Support Systems	1	Journal of Management Information Systems	4
Economic Modelling	1	Journal of Simulation	2
Electronic Commerce Research	6	Journal of Sustainable Finance and Investment	1
Electronic Commerce Research and Applications	6	Management Science	2
Electronic Markets	1	North American Journal of Economics and Finance	1
Emerging Markets Finance and Trade	6	Online Information Review	1
Environment and Planning A	1	Physica A: Statistical Mechanics and its Applications	3
Eurasip Journal on Wireless Communications and Networking	2	PLoS ONE	1
European Business Organization Law Review	2	Research in International Business and Finance	2
European Business Review	1	Research Policy	1
European Company and Financial Law Review	1	Review of Financial Studies	2
European Economic Review	1	Small Business Economics	3
European Journal of Finance	1	Sustainability (Switzerland)	10
European Journal of Operational Research	4	Technological Forecasting and Social Change	2

Note: Total Publications (selected articles:123).

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

5.2 FinTech Credit Platforms & Publications

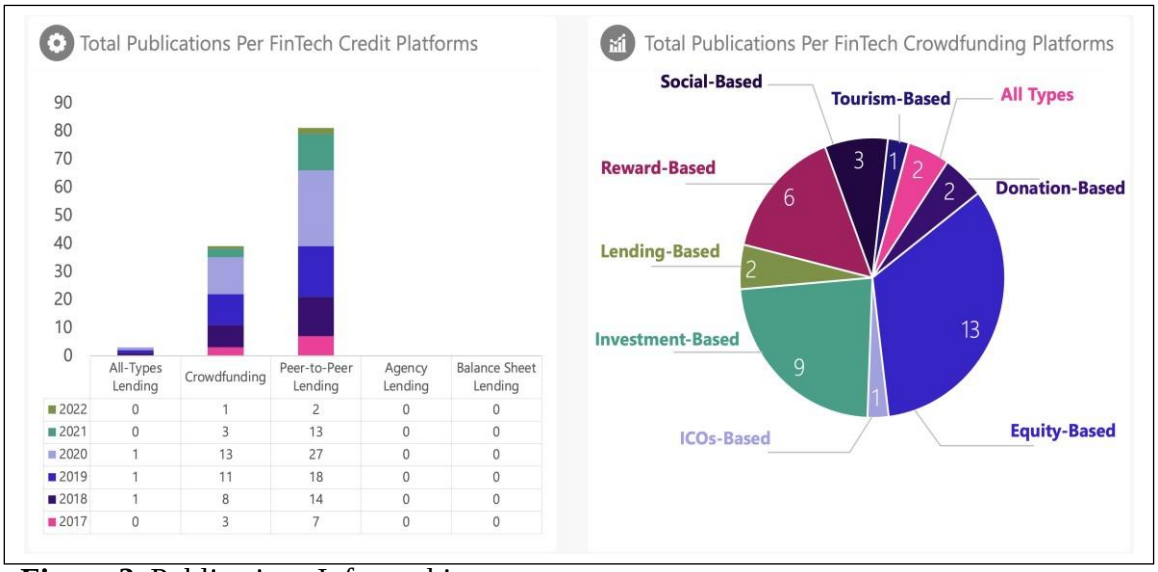

Figure 3. Publications Infographic

Note: Crowdfunding Patronage-Based and Invoice Trading-Based platforms =0 Publications (Records).

PRISMA 4 Phases produced 81 peer-to-peer lending articles, 39 crowdfunding pieces, three credit platform articles, and zero agent-based or balance sheet lending articles. In addition, the 39 publications on the credit crowdfunding model described nine types of crowdsourcing, as shown in Table 2 and Figure 3. There were no articles found connected to trading-based and patronage-based crowdfunding invoices.

Table 2. FinTech Credit Platforms' Publications.

FinTech Credit Platform	Subtype	Total Publications
Peer-to-Peer lending (PTP)		81
Crowdfunding	Donation-based	2
	Equity-based	13
	Reward-based	6
	Investment-based	9
	Lending-base	2
	ICOs-based	1
	Invoice trading-based	0
	Social-based	3
	Tourism-based	1
	Patronage-based	0
	All types	2
Agent-Based Lending		0
Balance Sheet Lending		0
All Types		3
	Total:	123

Note: Total articles is based on articles published between 2017 and 2022 (Database: Scopus).

5.3 FinTech Credit Platforms' Perceived Risk, Factors & Solutions

Figure 4. Perceived Facets Publications Infographic

Note: The calculation considers the total number of perceived risk facets discussed in all selected articles (123). A publication (an article) could discuss more than one type of perceived risk facet.

Figure 4 demonstrates the number of publications per perceived risk facet for each FinTech credit platform. The below subsections discuss the perceived risk facets for each FinTech credit platform.

5.3.1 FinTech Peer-To-Peer Platforms (PTP)' Perceived Risk, Factors & Solutions

Table 3 demonstrates that most selected publications focused on the perception of financial risk and identified numerous contributing factors, including loan defaults, asymmetric information that leads to adverse selection and moral hazards, lack of liquidity, investment concerns, etc. In addition, additional perceived risks, including operational and global concerns, impact PTP lending platforms. Most researchers provided models for mitigating the perceived hazards of the PTP. The strategies recommended to manage the perceived risk are displayed in Table 4 according to the selected articles.

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

Table 3. Peer-To-Peer Platforms

Risk Facet	Risk Factors	Most Common Causes	Authors
Financial risk	Bankruptcy		Liu & Dong (2022); Li & Hasan (2020); Yan et al. (2018)
	Capital risk		Yang et al. (2020)
	Collateral and soft information	The loan guarantee ratio, the loan dispersion degree, and the number of users in P2P	Gao et al. (2018)
	Information asymmetry	Turbulent market, default rate, lack of guarantees ...etc.	Li, Zhang & Hu (2021); Huang et al. (2021); Du et al. (2019); Galema (2020); Shao & Bo (2022); Liu et al. (2020); Zhang & Wang (2019); Chen et al. (2017);
	Investment issues	False information, asymmetric information, published information.	Santoso et al. (2020); Ding et al. (2019); Li et al. (2020)
	Lack of liquidity	Lack of guarantees, lender could be not able to effectively evaluate the risk level of borrowers	Chen et al. (2021); Yeo et al. (2020); Li et al. (2019); Yan et al. (2018)
	Moral hazard and adverse selection		Zhang & Wang (2019); Yan et al. (2018)
	Solvency		Yeo & Jun (2020)
	loan defaults	Unstructured information, moral hazard and adverse selection resulted due information asymmetric, low working capital, low collateral, agent problem, absence of authoritative credit agencies, slow return of capital, fragmentation of capital chain, bankruptcy, and liquidation of enterprises, gender, age, educational level, and monthly payment as well as other demographic characteristics …etc.	Li et al. (2018); Moscato et al. (2021); Zhou et al. (2019); Cuiqing Jiang et al. (2017); Rongcai Hu et al. (2019); Gong et al. (2020); Pana et al. (2020); Ryoba et al. (2020); Lin et al. (2017); Wang & Tong (2020); Fu et al. (2019); Huang et al. (2020); Nigmonov et al. (2021); Gao et al. (2021); Tang (2019); Liu et al. (2019); Huang (2018); Li et al. (2020); Uddin et al. (2018); Gao et al. (2018); Ahelegbey et al. (2019); Zhou et al. (2020)

Note: Part-1.

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

Risk Facet	Risk Factors	Most Common Causes	Authors
			Zhou et al. (2018); Au et al. (2020); Niu et al. (2020); Chen et al. (2020); Liu et al. (2019); Congjun Rao et al. (2020); Chen et al. (2021); Gao et al. (2017); Liang & Cai (2020); Bussmann et al. (2021); Ma et al. (2018); Zanin (2020); Yoon et al. (2019); Yao et al. (2019); Santoso et al. (2020); Galema (2020); Najaf et al. (2022); Vallee & Zeng (2018); Ma et al. (2018); Yu & Zhang (2021); Mou et al. (2020); Li et al. (2019); Xu & Chau (2018); Zhang & Wang (2019); Zhao et al. (2021); Zeng et al. (2017); Zhao (2020); Liang & He (2020); Wu & Zhang (2021); Chen, Dong, Liu & Sriboonchitta, (2019); Gu et al. (2019); Chen et al. (2020); Wang et al. (2021)
Legal Risk	Lack of governance		Paravisini et al. (2017)
Operational Risk (Performance)	Lack of guarantees		Chen et al. (2021)
	Lack of liquidity	False information	Santoso et al. (2020)
	Misappropriation of intermediary accounts		Li et al. (2019)
	Moral hazards	False information	Santoso et al. (2020)
	Technical failure		Han et al. (2020)
	Transactions concerns		Jiang et al. (2018)
Overall Risk	Information concerns	Information concerns	Ryoba et al. (2020); Tong et al. (2019)
	Market fluctuation		Li et al. (2019)
	Sovereign risk		
	Multiple-Factors	Fraud, lack or weak regulations, loss of investment	Bardsley & Meager (2019)
	Systemic		Ge et al. (2017); Ryoba et al. (2020); Li et al. (2018); Li et al. (2018); Wang et al. (2021)

Note: Part-2.

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

Table 4. Proposed Solutions to Mitigate Perceived Risk on PTP Platforms

Author(s)	Risk Facet	Proposed Solution to Mitigate Perceived Risk
Li et al. (2018)	Financial risk	Information certifications
Moscato et al. (2021)		A benchmark of machine learning approaches for credit score prediction
Zhou et al. (2019)		A machine learning algorithm
Cuiqing et al. (2017)		A two-stage method I to select an effective feature set containing both soft and hard information
Rongcai Hu et al. (2019)		Borrowing rate measures such as contract elements, risk features, personal characteristics
Gong et al. (2020)		CEOs with prior banking experience manage default risk better
Pana et al. (2020)		Collaborative filtering- neural network Model (CF-NN model)
Li & Hasan (2020); Ryoba et al. (2020)		Competition Risk Model
Gao et al. (2018)		Comprehensive information and risk evaluation
Li et al. (2021)		Controlling loan-level and borrower-level information
Lin et al. (2017)		Credit risk evaluation model (characteristics of borrowers with low default risk are female gender, young adults, long working time, stable marital status, high educational level, working in large company, low monthly payment, low loan amount, low debt to income ratio and no default history)
Wang et al. (2020)		De-guarantee policy
Fu et al. (2019)		Default risk prediction evaluation model
Huang et al. (2020)		Education level as signal
Chen et al. (2017)		Elaboration likelihood model, ELM, and heuristic-systematic model, HSM
Nigmonov et al. (2021)		Examine the impact of inflation and the interest rate on borrowers' probability of default
Gao et al. (2021)		Failure Prediction Model and Decomposition Methods
Tang (2019)		FICO scores and Bank's information
Yang et al. (2020)		Fuzzy Support Vector Machine algorithm
Liu et al. (2019)		Good economic marketization
Huang (2018)		Internet finance based on blockchain and decision tree algorithm
Huang et al. (2021)		Low-cost message framing and high-cost signals (Message Framing Model)
Li et al. (2020)		Measuring borrowers' income, occupation, assets, and family connections.
Uddin et al. (2018)		Model: A case-based reasoning (CBR) approach
Liu et al. (2022)		Model: A multi-agent simulation
Du et al. (2019)		Model: collective investment trait
Gao et al. (2018)		Model: cost-sensitive model
Ahelegbey et al. (2019)		Model: financial network models
Au et al. (2020)		Model: semantic features of textual soft information

Note: Part-1.

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

Zhou et al. (2020)		Model: Gradient Boosting Methods (1) Gradient tree boosting (2) XGBoost (3) Lightz (4) CatBoost
Zhou et al. (2018)		Model: LGD
Niu et al. (2020)		Model: smote algorithm
Chen et al. (2020)		Model: taste-based discrimination models
Liu et al. (2019)		Model: three-stage game to investigate optimal risk control ability and corresponding optimal prices of P2P lending platforms under different tariffs and agents' homing choices.
Congjun Rao et al. (2020)		Model:2-stage Syncretic Cost-sensitive Random Forest Model
Chen et al. (2021); Gao et al. (2017)		Model: forward-looking credit evaluation
Liang et al. (2020)		Model: long short-term memory network
Bussmann et al. (2021)		Model: network based explainable AI models
Ma et al. (2018)		Network Loan Default Based on the Machine Learning LightGBM and XGboost Algorithms
Ma et al. (2018)		Phone and APP usage patterns
Liu et al. (2020)		Provide Information
Yu & Zhang (2021)		PSO-based hybrid VSG methodology (PSO-HVSG)
Li et al. (2019); Mou et al. (2020)		Regulations
Xu & Chau (2018)		Regulations: a fund custody mechanism commercial banks function as a monitor of P2P platforms on behalf of investors
Zhang et al. (2019); Gao et al. (2018)		Screening and Monitoring Capabilities
Zhao et al. (2021)		SEIR model with time-lag
Zeng et al. (2017)		Social networks
Yan et al. (2018)		Soft information' and social capital
Zhao (2020)		Spark technology in wireless network environment
Liang & He (2020)		Text-related soft information
Ding et al. (2019)		The reputation mechanism
Wu et al. (2021)		Using the initial credit ratings of borrowers to predict their default
Chen et al., (2019)		Variable selection methods and descriptive model
Li et al. (2020)		Venture capital certification
Gu et al. (2019)		Venture capitalists (VCs)
Chen et al. (2020)		Women on boards effectively mitigate securities fraud
Paravisini et al. (2017)	Legal risk	Big-data-based risk surveillance system
Han et al. (2020)	Operational risk (Performance)	Fuzzy Cognitive Map

Note: Part-2.

Jiang et al. (2018)		Higher profits, operational efficiency and better risk management solutions
Li et al. (2019)		Regulations
Chen et al. (2021)		Third-party guarantees and trusteeship
Ryoba et al. (2020)	Overall risk	Competition risk model
Bardsley & Meager (2019)		Multiple factors: should have investment risk awareness, risk identification capability and experience of investing in non-principal guaranteed financial products, and be familiar with the Internet
Tong & Chen (2019)		Provide information
Li et al. (2019); Wang et al. (2021)		Regulations

Note: Part-3.

5.3.2 Crowdfunding Donation-Based Platforms' Perceived Risk, Factors & Solutions

This study found that two articles (Behl et al., 2021; Lacan & Desmet, 2017) highlighted the elements producing perceived financial risk; one article related to perceived security and privacy risk, while the other contains operational risk, as indicated in Table 5. Money laundering fraud and perceived transactions are important contributors to the perception of financial risk. According to Lacan and Desmet (2017), ease of usage is influenced by the perception of a transaction, which influences the attitude toward using these platforms. Simultaneously, hardware and software failure and reputation impact operational and security risk perception, respectively. Both studies proposed using artificial intelligence tools and a research approach to lessen the perceived hazards.

Table 5. FinTech Credit Platforms' Publications

Perceived Risk Facet	Total Records (Articles)
Financial risk	2
Operational (Performance/Function) risk	1
Security & privacy risk	1

Note: Total articles are based on articles published between 2017 and 2022 (Database: Scopus).

5.3.3 Crowdfunding Equity-Based Platforms' Perceived Risk, Factors & Solutions

This study found that financial risk, operational risk, and overall risk are the most commonly perceived risks affecting this type of platform (Kleinert & Volkmann, 2019; Mamonov & Malaga, 2019; Mochkabadi & Volkmann, 2020; Mohammadi & Shafi, 2018; Shafi & Mohammadi, 2020; Zetzsche & Preiner, 2018). The academics identified four risk factors: investment concerns, bankruptcy, loan defaults, and lack of liquidity. These factors lead to financial risk and are caused by adverse selection, moral hazard, and information asymmetry. Therefore, the researchers offered the following measures to mitigate these risks: governance, legal constraints, pre-investment due diligence, lending ties with banks, laws, and a concentration on enterprises led by experienced and educated management. Reichenbach and Walton (2021) asserted that screening and signaling could control the asymmetries in knowledge and the agency problem and lower operational risk. In contrast, the researchers discovered that agency concerns, execution issues, moral hazards, and adverse selection contribute to operational risk on equity-based crowdfunding platforms. According to Mamonov and Malaga (2019), the information asymmetry between entrepreneurs and potential investors causes these variables. In addition, the difficulty of executing or developing a product or service and implementing the company strategy and business model may present obstacles. To mitigate the operational risk of equity-based crowdfunding platforms, the experts suggested that investors create tight ties with the businesses they invest in. In addition,

they recommended possessing good managerial skills, product development, sourcing, production, marketing, and financial management to decrease operation risk. Market concerns (Kleinert & Volkmann, 2019; Mamonov & Malaga, 2019; Mochkabadi & Volkmann, 2020), moral hazard and adverse selection (Shafi & Mohammadi, 2020), and systemic risk all contribute to the overall risk (Zetzsche & Preiner, 2018). All scholars concurred and underlined that knowledge asymmetry is the primary cause of these problems. They have offered the following ways to control global risks: legislation, discussion boards and comments, and performance-tracking and decision-supporting data availability.

5.3.4 Crowdfunding Investment-Based Platforms' Perceived Risk, Factors & Solutions

This investigation uncovered six publications analyzing the influence of perceived financial risk on these platforms (Borrero-Domnguez et al., 2020; Garcia-Teruel, 2019; Langley & Leyshon, 2017; T. Wang et al., 2018; Y. Yang et al., 2020). Also, three publications on perceived operational risk were discovered (Garcia-Teruel, 2019; W. Wang et al., 2019; X. Yang et al., 2019a). Also, it identified three publications on perceived global risk (Bonini & Capizzi, 2019; Xie et al., 2019; X. Yang et al., 2019a). In addition, Table 6 displays one article on perceived legal risk (Garcia-Teruel, 2019) and one on perceived security and privacy risk (Zhang et al., 2018).

The primary perceived financial risk issues for investment-based crowdfunding platforms are bankruptcy, lack of liquidity, market volatility, loan defaults, information concerns, perceived control, platform insolvency, and financial loss. In addition, knowledge asymmetries, the democratization of capital, and project quality are the elements that contribute to the occurrence of these problems. In addition, it was discovered that the financial risk harms investors, harms the project's objectives, leads to negative earnings and incentives, affects voluntary information sharing, and affects investors' confidence in these platforms. In addition, three of the six research recommended methods for mitigating the financial risk: (1) property as a guarantee and (2) Hu's model REIT are the two offered options by Garcia-Teruel (2019; 2017). In contrast, Y. Wang and Ng (2018) proposed their research model. In contrast, Borrero-Domínguez et al. (2020) suggested investment diversification. Other studies did not provide methods for reducing the perceived financial risk (Langley & Leyshon, 2017; X. Yang et al., 2019a, 2020). Three publications identified five causes of operational risk perception: lack of competence, lack of governance, lack of human ties, inaccurate projections, and project goals. The origins of these elements are many; for instance, Garcia-Teruel (2019) linked them to investors' overestimation, whereas R. Wang et al. (2019) linked them to poor education and the degree of information sharing. In contrast, X. Yang et al. (2019b) hypothesized that investors' disappointed expectations could be a plausible explanation. Two out of three publications presented methods to manage the perceived operational risk: Hu (2017)'s model REIT, which was proposed by Garcia-

Teruel (2019), and R. Wang et al. (2019) proposal .'s to increase or establish regulation and focus on education.

Moral dangers and other aspects, such as temporal, physical, social, and psychological considerations, knowledge asymmetry, and information disclosure, play a key impact in the overall risk perception. These variables are influenced by project success rate, return on investment (ROI), and confidence. Bonini and Capizzi (2019) identified and advocated a single option, a fee-based remuneration structure. Y. Wang and Ng (2018) designed their study approach to lower the perceived risk to security and privacy. In contrast, T. Wang et al. (2018) identified four variables influencing the perceived security and privacy risk resulting from asymmetric information. They are information norms, project innovation, protection policy, and alternative quality. In addition, several factors influence voluntary information disclosure. Garcia-Teruel (2019) elucidated the impact of initial coin offering speculation (ICOs) on the perception of legal risk and proposed the model REIT to mitigate legal risk.

Table 6. Crowdfunding Investment-Based Platforms

Perceived Risk Facet	Total Records (Articles)
Financial risk	6
Legal risk	1
Operational (Performance/Function) risk	3
Security & privacy risk	1
Overall risk	3

Note: Total articles are based on articles published between 2017 and 2022 (Database: Scopus).

5.3.5 Crowdfunding Tourism-Based Platforms' Perceived Risk, Factors & Solutions

This study found that only one article stated that the overall risk is associated with crowdfunding tourism-based platforms. According to M. J. Kim et al. (2020), funders' emotional or psychological deterrents, such as time, financial costs, human resources, knowledge/self-efficacy, adaptation to change, restrictions, and regulation, arepositively influenced by the perceived overall risk. They recommended their research model to manage the perceived overall risk.

5.3.6 Crowdfunding Social-Based Platforms' Perceived Risk, Factors & Solutions

Most papers on socially motivated crowdfunding focused on perceived financial risk. Pratono et al. (2020) investigated the economic elements that impact financial risk. (Flórez-Parra et al., 2020) offered two solutions to the perceived financial risk: risk management and using metrics of solvency and profitability, such as loan characteristics: size and quantity of the loan or the devolution time. Two factors were identified by

Flórez-Parra et al. (2020): loan defaults and bankruptcy. Rey-Mart et al. (2019) analyzed the perceived security and privacy risk that impacted these platforms and emphasized the fraudulent component affecting the platform's reputation. In addition, they suggested substantial incentives and self-regulation manage the perceived security and privacy risk.

5.3.7 Crowdfunding Lending-Based Platforms' Perceived Risk, Factors & Solutions

The two discovered articles focused on perceived financial, legal, security, and privacy risks (Jiang et al., 2020). (Macchiavello, 2018). These studies elucidated the influence of investment decisions on lenders' decision-making, influencing investment behavior and resulting in the perception of financial risk. In addition, they identified two elements that affect the perceived legal risk: money laundering and terrorism financing. In addition, they described the fraudulent element resulting from asymmetries in information and adverse selection difficulties, which influences the perceived security and privacy risk. Jiang et al. (2020) discovered numerous strategies for mitigating perceived financial risk, including collateral, lender experience, home prices, and stock market performance. In contrast, Macchiavello (2018) recommended evaluating stakeholder information and strengthening regulations.

5.3.8 Crowdfunding ICOs-Based Platforms' Perceived Risk, Factors & Solutions

According to W. Huang et al. (2018), a systemic problem leads to overall risk; hence, a well-regulated digital economy is needed to manage this risk.

5.3.9 Crowdfunding Reward-Based Platforms' Perceived Risk, Factors & Solutions

Significant identified dangers affecting reward-based crowdfunding platforms were legal, operational, and overall threats. There was a correlation between perceived operational risk and project objectives (D. J. Cumming et al., 2019) and technical failures (Moon & Hwang, 2018; Roma et al., 2018; Ryoba et al., 2020). According to Moon and Hwang (2018), project failure is caused by inadequate technology or insufficient capacity for project implementation. In contrast, market concerns, moral risks, project objectives, and other linked elements such as technical, defaults, and illegal fundraising can result in a perception of overall risk (Belavina et al., 2020; Liang et al., 2020). According to D. J. Cumming et al. (2019), perceived legal risk is produced by avoiding regulatory investigations. They advocated Due diligence to control this perceived risk by reducing information asymmetry. While Moon and Hwang (2018) suggested increasing user trust to reduce the perception of operational risk, we propose a different approach. Liang et al. (2020) said that reward-based crowdfunding should integrate a relevant legal framework to regulate the perceived overall risk. In contrast, Belavina et al. (2020) suggested using consumer feedback to manage the perceived overall risk.

Vol: 15 **No:** 01 **Year:** 2023 **ISSN**: 1309-8055 (Online) (**pp.** 160-199) **Doi:** 10.34109/ijefs. 202315109

5.3.10 Crowdfunding All-Types Platforms' Perceived Risk, Factors & Solutions

Theerthaana and Sheik Manzoor (2020) discussed information disclosure factors influencing the perceived overall risk and proposed an Agent-based model to manage the perceived risk.

5.4 Synthesis Analysis

One hundred twenty-three articles were collected from the Scopus database using the PRISMA procedure and used in this investigation. These articles covered at least one credit platform with at least one perceived risk type. Previous research has categorized perceived risk as financial, operational or performance, security and privacy, legal, and overall. Eighty-one articles centered on peer-to-peer lending systems, while forty-two papers addressed crowdfunding. Financial risk is recognized, explored, and discussed at the beginning of each article. It is the risk with the greatest influence on credit platforms. The default on loan is the primary cause of perceived risk. In addition, credit platforms are confronted with considerable information asymmetries.

6. CONCLUSION

This survey discovered peer-to-peer lending and crowdfunding are the leading vertical FinTech lending business models. Eighty-one articles out of 123 explored or highlighted the perceived risk of peer-to-peer lending systems. Currently, there are forty-two articles on the perceived danger of crowdfunding platforms. In addition, neither agency nor balance sheet lending was discovered in the articles included in this analysis. Moreover, three studies explored how all credit systems are affected by risk perception. More than ten types of crowdfunding platforms exist; nonetheless, the present analysis indicated that a greater emphasis on perceived risk influences equity-based (13 articles), investment-based (9 articles), and reward-based (6 articles) crowdsourcing platforms. Social-based (3 articles), lending-based (2 articles), donation-based (2 articles), tourism-based (1 article), and initial coin offering (ICO)-based are uncommon categories (1 article). In addition, two pieces addressed the risk perception that impacts all crowdfunding platforms. Nevertheless, no articles were discovered for invoice trading-based and patronage-based platforms. Financial risk is the most prevalent perceived risk discussed in the selected articles. This investigation identified six papers examining the effects of financial risk on crowdfunding platforms. Simultaneously, peer-to-peer lending systems are the subject of extensive discussion over financial risk. The second perceived risk affecting the credit platform is the operational or performance risk. The total risk is the third form of perceived risk described in the selected articles for this study. Yet, according to this analysis, few articles explored or highlighted the legal risk that could affect credit systems. Interestingly, security and privacy problems associated with peer-to-peer lending credit systems received little attention. Loan defaults, asymmetries in the knowledge that leads to adverse selection, and moral hazards are the most frequent causes of various types of perceived risk. On the forum for peer-to-peer

lending, loan failures were avidly and extensively debated. However, additional factors, such as insolvency, lack of liquidity, systemic and technological failure, transaction concerns, market concerns, and agency issues, influence credit platforms and contribute to various types of perceived risk.

Models comprised the majority of proposed methods to mitigate the perceived risk of peer-to-peer lending systems. In contrast, academics have offered many strategies for addressing the perceived risk that affects crowdfunding sites. These strategies were often presented to address the soft and complicated information of projects or borrowers to control asymmetric information. Moreover, restrictions were suggested to limit the moral hazard of investors. Peer-to-peer lending platforms are the top trending credit platforms covered in the review of related literature. There are several publications on peer-to-peer lending platforms worldwide, particularly in China. In contrast, equity-based, investment-based, and reward-based platforms are the most frequently addressed crowdfunding types in the literature. Loan defaults and information asymmetry are the primary challenges in all credit platforms and have been extensively studied. These were the primary contributors to the risk perception of credit platforms. The selected publications offered several strategies to manage the perceived risk impacting credit platforms. To monitor and predict the perceived risk affecting the peer-to-peer lending network, however, scientific models were the most prevalent approach presented. Additional recommended remedies, such as regulation, disclosure of information, managerial abilities, and other soft data, such as education levels, can also be utilized to predict the perceived risk.

7. PRACTICAL CONTRIBUTION

The research contributes in multiple ways to both the practical and scholarly realms. It is anticipated to aid FinTech regulators in developing the policy framework for FinTech credit platforms. In addition, it is anticipated to provide possibilities for investors, financial institutions, and FinTech startups to improve their FinTech innovations and better understand the various perceived risks of FinTech credit platforms. Finally, it clarifies the research gaps for future investigation.

8. LIMITATIONS & FUTURE RESEARCH

This study has significant drawbacks, such as its reliance on a single database (the Scopus database), which limits the number of papers searched. In addition, the data discovered has been processed for over six months. Thus, additional publications may not yet have been incorporated into this study. In addition, this study does not consider the interrelationships between perceived risk aspects and perceived risk factors. In addition, the current research solely analyzed the vertical FinTech lending business model and disregarded the functional and technological horizontal business models associated with vertical FinTech lending business models. Further research shall

investigate Agency-lending and Balance-Sheet lending platforms and examine their perceived risk impact. Sensitive technology, such as cloud computing, blockchain, and artificial intelligence, can threaten financial stability. Hence, future research must be more deliberate in investigating the effects of security, privacy, and legal threats on credit systems. In addition, future studies in agency lending, balance sheet lending, crowdfunding invoice trading-based, and crowdfunding patronage-based are needed to analyze and explore their features and perceived risk patterns.

9. Declarations

9.1 Data availability

Underlying data

All data underlying the results are available in the article; no additional source data are required.

All data have been uploaded (articles) on Dyard: https://doi.org/10.5061/dryad.0cfxpnw63.

Reporting guidelines

Repository name: PRISMA checklist for "FinTech Credit Platforms' Perceived Risk Facets & Factors: A Systematic Literature Review", DOI. License.

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) Checklist

www.prisma-statement.org

You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Section/Topic	Item No.	Checklist item	Reported on Page No.
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	6-8
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	8
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	19-21
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	19-21
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	19-21
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	19-21
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	19-21
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	19-21
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	19-21
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	-

Section/Topic	Item No.	Checklist item	Reported on Page No.
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	-
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	19-21
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	-
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	-
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	22-32
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	22-32
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	-
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	22-32
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	32
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15). Search documents and file names for text	-
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	-
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	33-34
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	33-34
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	33-34
FUNDING			

Section/Topic	Item No.	Checklist item	Reported on Page No.
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	-

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

Once you have completed this checklist, please save a copy and upload it as part of your submission. Please DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

9.2 Competing interests

No competing interests were disclosed.

9.3 Grant information

The authors declare that no grants were involved in supporting this work.

REFERENCES

Abramova, S., & Böhme, R. (2016). Perceived benefit and risk as multidimensional determinants of bitcoin use: A quantitative exploratory study. 1-20. doi: https://doi.org/10.17705/4icis.00001

Ahelegbey, D. F., Giudici, P., & Hadji-Misheva, B. (2019). Latent factor models for credit scoring in P2P systems. *Physica A: Statistical Mechanics and its Applications, 522*, 112-121. doi: https://doi.org/10.1016/j.physa.2019.01.130

Ali, M., Raza, S. A., Khamis, B., Puah, C. H., & Amin, H. (2021). How perceived risk, benefit and trust determine user Fintech adoption: a new dimension for Islamic finance. *Foresight, 23*(4), 403-420. doi: https://doi.org/10.1108/FS-09-2020-0095

Asror Nigmonov, S. S., & Alam, K. (2021). Macroeconomic Determinants of Loan Delinquencies: Evidence from the US Peer-to-Peer Lending Market. *SSRN Electronic Journal, 25*(5), 530-538. doi: https://doi.org/10.2139/ssrn.3836404

Au, C. H., Tan, B., & Sun, Y. (2020). Developing a P2P lending platform: stages, strategies and platform configurations. *Internet Research, 30*(4), 1229-1249. doi: https://doi.org/10.1108/INTR-03-2019-0099

Bardsley, P., & Meager, R. (2019). Competing lending platforms, endogenous reputation, and fragility in microcredit markets. *European Economic Review, 112*, 107-126. doi: https://doi.org/10.1016/j.euroecorev.2018.12.003

Behl, A., Dutta, P., Luo, Z., & Sheorey, P. (2021). Enabling artificial intelligence on a donation-based crowdfunding platform: a theoretical approach. *Annals of Operations Research, 319*, 1-29. doi: https://doi.org/10.1007/s10479-020-03906-z

Belavina, E., Marinesi, S., & Tsoukalas, G. (2020). Rethinking crowdfunding platform design: mechanisms to deter misconduct and improve efficiency. *Management Science, 66*(11), 4980-4997. doi: https://doi.org/10.1287/mnsc.2019.3482

BIS. (2017). *FinTech credit : Market structure, business models and financial stability implications*. https://www.bis.org/publ/cgfs_fsb1.pdf Vol.).

Bonini, S., & Capizzi, V. (2019). The role of venture capital in the emerging entrepreneurial finance ecosystem: future threats and opportunities. *Venture Capital, 21*(2-3), 137-175. doi: https://doi.org/10.1080/13691066.2019.1608697

Borrero-Domínguez, C., Cordón-Lagares, E., & Hernández-Garrido, R. (2020). Sustainability and real estate crowdfunding: Success factors. *Sustainability, 12*(12), 5136. doi: https://doi.org/10.3390/su12125136

Bussmann, N., Giudici, P., Marinelli, D., & Papenbrock, J. (2021). Explainable machine learning in credit risk management. *Computational Economics, 57*(1), 203-216. doi: https://doi.org/10.1007/s10614-020-10042-0

Chan, R., Troshani, I., Rao Hill, S., & Hoffmann, A. (2022). Towards an understanding of consumers' FinTech adoption: The case of Open Banking. *International Journal of Bank Marketing, 40*(4), 886-917. doi: https://doi.org/10.1108/IJBM-08-2021-0397

Chen, C. W., Dong, M. C., Liu, N., & Sriboonchitta, S. (2019). Inferences of default risk and borrower characteristics on P2P lending. *The North American Journal of Economics and Finance, 50*, 101013. doi: https://doi.org/10.1016/j.najef.2019.101013

Chen, D., Li, X., & Lai, F. (2017). Gender discrimination in online peer-to-peer credit lending: evidence from a lending platform in China. *Electronic Commerce Research, 17*(4), 553-583. doi: https://doi.org/10.1007/s10660-016-9247-2

Chen, R., Chen, X., Jin, C., Chen, Y., & Chen, J. (2020). Credit rating of online lending borrowers using recovery rates. *International Review of Economics & Finance, 68*, 204-216. doi: https://doi.org/10.1016/j.iref.2020.04.003

Chen, S., Gu, Y., Liu, Q., & Tse, Y. (2020). How do lenders evaluate borrowers in peer-to-peer lending in China? *International Review of Economics & Finance, 69*, 651-662. doi: https://doi.org/10.1016/j.iref.2020.06.038

Chen, X., Hu, X., & Ben, S. (2021). How do reputation, structure design and FinTech ecosystem affect the net cash inflow of P2P lending platforms? Evidence from China. *Electronic Commerce Research, 21*(4), 1055-1082. doi: https://doi.org/10.1007/s10660-020-09400-9

Chen, X., Huang, B., & Ye, D. (2019). The Gender Gap in Peer-to-Peer Lending: Evidence from the People's Republic of China. 35. doi: https://dx.doi.org/10.2139/ssrn.3541481

Cheng, H., & Guo, R. (2020). Risk preference of the investors and the risk of peer-to-peer lending platform. *Emerging Markets Finance and Trade, 56*(7), 1520-1531. doi: https://doi.org/10.1080/1540496X.2019.1574223

Cicchiello, A. F. F., & Kazemikhasragh, A. (2022). Tackling gender bias in equity crowdfunding: an exploratory study of investment behaviour of Latin American investors. *European Business Review, 34*(3), 370-395. doi: https://doi.org/10.1108/EBR-08-2021-0187

Cumming, D., Meoli, M., & Vismara, S. (2019). Investors' choices between cash and voting rights: Evidence from dual-class equity crowdfunding. *Research Policy, 48*(8), 103740. doi: https://doi.org/10.1016/j.respol.2019.01.014

Cumming, D. J., Johan, S. A., & Zhang, Y. (2019). The role of due diligence in crowdfunding platforms. *Journal of Banking & Finance, 108*, 105661. doi: https://doi.org/10.1016/j.jbankfin.2019.105661

Cumming, D. J., Vanacker, T., & Zahra, S. A. (2021). Equity crowdfunding and governance: Toward an integrative model and research agenda. *Academy of Management Perspectives, 35*(1), 69-95. doi: https://doi.org/10.5465/amp.2017.0208

Dawood, H., Aljzedjali, F., Al Rawahi, M. M. K., Karim, S., & Mohamed, H. (2022). Business trends & challenges in Islamic FinTech: A systematic literature review. *Dawood H, Al Zadjali DF, Al Rawahi M et al. Business trends & challenges in Islamic FinTech: A systematic literature review [version 1, 11*, 329. doi: https://doi.org/10.12688/f1000research.109400.1

Dawood, H., Liew, C. Y., & Rajan, M. E. S. (2022). Factors Affecting Financial Institutions to Adopt Mobile Peer-to-Peer Platforms. *Cuadernos de Economía, 45*(128), 132-144. doi: https://doi.org/10.32826/cude.v1i128.715

Dawood, H. M., Liew, C. Y., & Lau, T. C. (2021). Mobile perceived trust mediation on the intention and adoption of FinTech innovations using mobile technology: A systematic literature review. *F1000Research, 10*. doi: https://doi.org/10.126882Ff1000research.74656.2

Ding, J., Huang, J., Li, Y., & Meng, M. (2019). Is there an effective reputation mechanism in peer-to-peer lending? Evidence from China. *Finance Research Letters, 30,* 208-215. doi: https://doi.org/10.1016/j.frl.2018.09.015

Du, H. S., Ke, X., He, W., Chu, S. K., & Wagner, C. (2019). Achieving mobile social media popularity to enhance customer acquisition: Cases from P2P lending firms. *Internet Research, 29*(6), 1386-1409. doi: https://doi.org/10.1108/INTR-01-2018-0014

Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies, 59*(4), 451-474. doi: https://doi.org/10.1016/S1071-5819(03)00111-3

Flórez-Parra, J. M., Rubio Martín, G., & Rapallo Serrano, C. (2020). Corporate social responsibility and crowdfunding: The experience of the colectual platform in empowering economic and sustainable projects. *Sustainability, 12*(13), 5251. doi: https://doi.org/10.3390/su12135251

Fu, X., Zhang, S., Chen, J., Ouyang, T., & Wu, J. (2019). A sentiment-aware trading volume prediction model for P2P market using LSTM. *IEEE Access, 7,* 81934-81944. doi: https://doi.org/10.1109/ACCESS.2019.2923637

Galema, R. (2020). Credit rationing in P2P lending to SMEs: Do lender-borrower relationships matter? *Journal of Corporate Finance, 65*, 101742. doi: https://doi.org/10.1016/j.jcorpfin.2020.101742

Gao, G.-X., Fan, Z.-P., Fang, X., & Lim, Y. F. (2018). Optimal Stackelberg strategies for financing a supply chain through online peer-to-peer lending. *European Journal of Operational Research, 267*(2), 585-597. doi: https://doi.org/10.1016/j.ejor.2017.12.006

Gao, M., Yen, J., & Liu, M. (2021). Determinants of defaults on P2P lending platforms in China. *International Review of Economics & Finance, 72*, 334-348. doi: https://doi.org/10.1016/j.iref.2020.11.012

Gao, Y., Sun, J., & Zhou, Q. (2017). Forward looking vs backward looking. *China Finance Review International, 7*(2), 228-248. doi: https://doi.org/10.1108/CFRI-07-2016-0089

Gao, Y., Yu, S.-H., & Shiue, Y.-C. (2018). The performance of the P2P finance industry in China. *Electronic Commerce Research and Applications, 30,* 138-148. doi: https://doi.org/10.1016/j.elerap.2018.06.002

Garcia-Teruel, R. M. (2019). A legal approach to real estate crowdfunding platforms. *Computer Law & Security Review, 35*(3), 281-294. doi: https://doi.org/10.1016/j.clsr.2019.02.003

Ge, R., Feng, J., Gu, B., & Zhang, P. (2017). Predicting and deterring default with social media information in peer-to-peer lending. *Journal of Management Information Systems, 34*(2), 401-424. doi: https://doi.org/10.1080/07421222.2017.1334472

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation

in financial services. *Journal of Management Information Systems, 35*(1), 220-265. doi: https://doi.org/10.1080/07421222.2018.1440766

Gong, Q., Liu, C., Peng, Q., & Wang, L. (2020). Will CEOs with banking experience lower default risks? Evidence from P2P lending platforms in China. *Finance Research Letters, 36*, 101461. doi: https://doi.org/10.1016/j.frl.2020.101461

Gu, D., Lu, T., Luo, P., & Zhang, C. (2019). The impact of venture capital investment on the performance of peer-to-peer lending platforms: Evidence from China. *Asia-Pacific Journal of Financial Studies, 48*(5), 640-665. doi: https://doi.org/10.1111/ajfs.12276

Han, H., Yang, Y., Zhang, R., & Brekhna, B. (2020). FCM-based P2P network lending platform credit risk dynamic assessment. *IEEE Access, 8*, 195664-195674. doi: https://doi.org/10.1109/ACCESS.2020.3032181

Hu, R., Liu, M., He, P., & Ma, Y. (2019). Can investors on P2P lending platforms identify default risk? *International Journal of Electronic Commerce, 23*(1), 63-84. doi: https://doi.org/10.1080/10864415.2018.1512279

Hu, S. (2017). Intelligent REITs in the information age. *Procedia Computer Science, 111*, 329-338. doi: https://doi.org/10.1016/j.procs.2017.06.031

Huang, J., Sena, V., Li, J., & Ozdemir, S. (2021). Message framing in P2P lending relationships. *Journal of Business Research, 122*, 761-773. doi: https://doi.org/10.1016/j.jbusres.2020.06.065

Huang, R. H. (2018). Online P2P lending and regulatory responses in China: Opportunities and challenges. *European Business Organization Law Review, 19*, 63-92. doi: https://doi.org/10.1007/s40804-018-0100-z

Huang, W., Meoli, M., & Vismara, S. (2020). The geography of initial coin offerings. *Small Business Economics, 55*, 77-102. doi: https://doi.org/10.1007/s11187-019-00135-y

Huang, W., Qian, Y., & Xu, N. (2020). The signaling effects of education in the online lending market: Evidence from China. *Economic Modelling, 92*, 268-276. doi: https://doi.org/10.1016/j.econmod.2020.01.007

Imerman, M. B., & Fabozzi, F. J. (2020). Cashing in on innovation: a taxonomy of FinTech. *Journal of Asset Management, 21*, 167-177. doi: https://doi.org/10.1057/s41260-020-00163-4

Jiang, C., Wang, Z., Wang, R., & Ding, Y. (2018). Loan default prediction by combining soft information extracted from descriptive text in online peer-to-peer lending. *Annals of Operations Research, 266*(1-2), 511-529. doi: https://doi.org/10.1007/s10479-017-2668-z

Jiang, Y., Ho, Y.-C., Yan, X., & Tan, Y. (2018). Investor platform choice: Herding, platform attributes, and regulations. *Journal of Management Information Systems, 35*(1), 86-116. doi: https://doi.org/10.1080/07421222.2018.1440770

Jiang, Y., Ho, Y.-C., Yan, X., & Tan, Y. (2020). When online lending meets real estate: Examining investment decisions in lending-based real estate crowdfunding.

Information Systems Research, 31(3), 715-730. doi: https://doi.org/10.1287/isre.2019.0909

Kim, M. J., Bonn, M., & Lee, C.-K. (2020). The effects of motivation, deterrents, trust, and risk on tourism crowdfunding behavior. *Asia Pacific Journal of Tourism Research, 25*(3), 244-260. doi: https://doi.org/10.1080/10941665.2019.1687533

Kleinert, S., & Volkmann, C. (2019). Equity crowdfunding and the role of investor discussion boards. *Venture Capital, 21*(4), 327-352. doi: https://doi.org/10.1080/13691066.2019.1569853

Lacan, C., & Desmet, P. (2017). Does the crowdfunding platform matter? Risks of negative attitudes in two-sided markets. *Journal of Consumer Marketing, 34*(6), 472–479. doi: https://doi.org/10.1108/JCM-03-2017-2126

Langley, P., & Leyshon, A. (2017). Capitalizing on the crowd: The monetary and financial ecologies of crowdfunding. *Environment and Planning A, 49*(5), 1019-1039. doi: https://doi.org/10.1177/0308518X16687556

Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons, 61*(1), 35-46. doi: https://doi.org/10.1016/j.bushor.2017.09.003

Li, E., Liao, L., Wang, Z., & Xiang, H. (2020). Venture capital certification and customer response: Evidence from P2P lending platforms. *Journal of CorporateFinance, 60*, 101533. doi: https://doi.org/10.1016/j.jcorpfin.2019.101533

Li, J., Zhang, X., & Hu, J. (2021). Strategic co-funding in informal finance market: evidence from China. *Journal of Applied Economics, 24*(1), 329-349. doi: https://doi.org/10.1080/15140326.2021.1932395

Li, Q., Chen, L., & Zeng, Y. (2018). The mechanism and effectiveness of credit scoring of P2P lending platform. *China Finance Review International, 8*(3), 256-274. doi: https://doi.org/10.1108/CFRI-06-2017-0156

Li, W., Ding, S., Chen, Y., & Yang, S. (2018). Heterogeneous ensemble for default prediction of peer-to-peer lending in China. *IEEE Access, 6*, 54396-54406. doi: https://doi.org/10.1109/ACCESS.2018.2810864

Li, X., Deng, Y., & Li, S. (2020). Gender differences in self-risk evaluation: evidence from the Renrendai online lending platform. *Journal of Applied Economics, 23*(1), 485-496. doi: https://doi.org/10.1080/15140326.2020.1797338

Li, X., & Hasan, I. (2021). VC Participation and failure of startups: Evidence from P2P lending platforms in China. *Finance Research Letters, 40*, 101726. doi: https://doi.org/10.1016/j.frl.2020.101726

Li, Y., Hao, A., Zhang, X., & Xiong, X. (2018). Network topology and systemic risk in Peer-to-Peer lending market. *Physica A: Statistical Mechanics and its Applications, 508*, 118-130. doi: https://doi.org/10.1016/j.physa.2018.05.083

Li, Z., Li, K., Yao, X., & Wen, Q. (2019). Predicting prepayment and default risks of unsecured consumer loans in online lending. *Emerging Markets Finance and Trade, 55*(1), 118-132. doi: https://doi.org/10.1080/1540496X.2018.1479251

Liang, K., & He, J. (2020). Analyzing credit risk among Chinese P2P-lending businesses by integrating text-related soft information. *Electronic Commerce Research and Applications, 40*, 100947. doi: https://doi.org/10.1016/j.elerap.2020.100947

Liang, L., & Cai, X. (2020). Forecasting peer-to-peer platform default rate with LSTM neural network. *Electronic Commerce Research and Applications, 43*, 100997. doi: https://doi.org/10.1016/j.elerap.2020.100997

Liang, X., Hu, X., & Jiang, J. (2020). Research on the effects of information description on crowdfunding success within a sustainable economy—the perspective of information communication. *Sustainability, 12*(2), 650. doi: https://doi.org/10.3390/su12020650

Lin, X., Li, X., & Zheng, Z. (2017). Evaluating borrower's default risk in peer-to-peer lending: evidence from a lending platform in China. *Applied Economics, 49*(35), 3538-3545. doi: https://doi.org/10.1080/00036846.2016.1262526

Liu, H., Qiao, H., Wang, S., & Li, Y. (2019). Platform competition in peer-to-peer lending considering risk control ability. *European Journal of Operational Research, 274*(1), 280-290. doi: https://doi.org/10.1016/j.ejor.2018.09.024

Liu, J., & Dong, J. (2022). A multi-agent simulation of investment choice in the P2P lending market with bankruptcy risk. *Journal of Simulation, 16*(2), 132-146. doi: https://doi.org/10.1080/17477778.2020.1759386

Liu, J., Li, X., & Wang, S. (2020). What have we learnt from 10 years of fintech research? A scientometric analysis. *Technological Forecasting and Social Change, 155*, 120022. doi: https://doi.org/10.1016/j.techfore.2020.120022

Liu, Q., Zou, L., Yang, X., & Tang, J. (2019). Survival or die: A survival analysis on peer-to-peer lending platforms in China. *Accounting & Finance, 59*, 2105-2131. doi: https://doi.org/10.1111/acfi.12513

Liu, Z., Shang, J., Wu, S.-y., & Chen, P.-y. (2020). Social collateral, soft information and online peer-to-peer lending: A theoretical model. *European Journal of Operational Research, 281*(2), 428-438. doi: https://doi.org/10.1016/j.ejor.2019.08.038

Ma, L., Zhao, X., Zhou, Z., & Liu, Y. (2018). A new aspect on P2P online lending default prediction using meta-level phone usage data in China. *Decision Support Systems, 111*, 60-71. doi: https://doi.org/10.1016/j.dss.2018.05.001

Ma, X., Sha, J., Wang, D., Yu, Y., Yang, Q., & Niu, X. (2018). Study on a prediction of P2P network loan default based on the machine learning LightGBM and XGboost algorithms according to different high dimensional data cleaning. *Electronic Commerce Research and Applications, 31*, 24-39. doi: https://doi.org/10.1016/j.elerap.2018.08.002

Macchiavello, E. (2018). Financial-return crowdfunding and regulatory approaches in the shadow banking, fintech and collaborative finance era. *European Company and Financial Law Review, 14*(4), 662-722. doi: https://doi.org/10.1515/ecfr-2017-0030

Mamonov, S., & Malaga, R. (2019). Success factors in Title II equity crowdfunding in the United States. *Venture Capital, 21*(2-3), 223-241. doi: https://doi.org/10.1080/13691066.2018.1468471

Milian, E. Z., Spinola, M. d. M., & de Carvalho, M. M. (2019). Fintechs: A literature review and research agenda. *Electronic Commerce Research and Applications, 34*, 100833. doi: https://doi.org/10.1016/j.elerap.2019.100833

Mochkabadi, K., & Volkmann, C. K. (2020). Equity crowdfunding: a systematic review of the literature. *Small Business Economics, 54*, 75-118. doi: https://doi.org/10.1007/s11187-018-0081-x

Mohammadi, A., & Shafi, K. (2018). Gender differences in the contribution patterns of equity-crowdfunding investors. *Small Business Economics, 50*(2), 275-287. doi: https://doi.org/10.1007/s11187-016-9825-7

Moon, Y., & Hwang, J. (2018). Crowdfunding as an alternative means for funding sustainable appropriate technology: Acceptance determinants of backers. *Sustainability, 10*(5), 1456. doi: https://doi.org/10.3390/su10051456

Moscato, V., Picariello, A., & Sperlí, G. (2021). A benchmark of machine learning approaches for credit score prediction. *Expert Systems with Applications, 165*, 113986. doi: https://doi.org/10.1016/j.eswa.2020.113986

Mou, J., Christopher Westland, J., Phan, T. Q., & Tan, T. (2020). Microlending on mobile social credit platforms: an exploratory study using Philippine loan contracts. *Electronic Commerce Research, 20*, 173-196. doi: https://doi.org/10.1007/s10660-019-09391-2

Najaf, K., Subramaniam, R. K., & Atayah, O. F. (2022). Understanding the implications of FinTech Peer-to-Peer (P2P) lending during the COVID-19 pandemic. *Journal of Sustainable Finance & Investment, 12*(1), 87-102. doi: https://doi.org/10.1080/20430795.2021.1917225

Nitani, M., Riding, A., & He, B. (2019). On equity crowdfunding: investor rationality and success factors. *Venture Capital, 21*(2-3), 243-272. doi: https://doi.org/10.1080/13691066.2018.1468542

Niu, A., Cai, B., & Cai, S. (2020). Big data analytics for complex credit risk assessment of network lending based on SMOTE algorithm. *Complexity, 2020*, 1-9. doi: https://doi.org/10.1155/2020/8563030

Ooi, K.-B., & Tan, G. W.-H. (2016). Mobile technology acceptance model: An investigation using mobile users to explore smartphone credit card. *Expert Systems with Applications, 59*, 33-46. doi: https://doi.org/10.1016/j.eswa.2016.04.015

Page, M. J., McKenzie, J. E., Bossuyt, P. M., et al. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *International Journal of Surgery, 88*(1), 105906. doi: https://doi.org/10.1016/j.ijsu.2021.105906

Pan, Y., Chen, S., Wu, D., & Dolgui, A. (2021). CF-NN: a novel decision support model for borrower identification on the peer-to-peer lending platform. *International*

Journal of Production Research, 59(22), 6963-6974. doi: https://doi.org/10.1080/00207543.2020.1832270

Paravisini, D., Rappoport, V., & Ravina, E. (2017). Risk aversion and wealth: Evidence from person-to-person lending portfolios. *Management Science, 63*(2), 279-297. doi: https://doi.org/10.1287/mnsc.2015.2317

Pratono, A. H., Prima, D. A., Sinaga, N. F. N. T., Permatasari, A., Ariani, M., & Han, L. (2020). Crowdfunding in digital humanities: some evidence from Indonesian social enterprises. *Aslib Journal of Information Management, 72*(2), 287-303. doi: https://doi.org/10.1108/AJIM-05-2019-0123

PwC. (2017). Consumer banking braces for disruption. Retrieved from https://www.pwc.com/gx/en/industries

Rao, C., Liu, M., Goh, M., & Wen, J. (2020). 2-stage modified random forest model for credit risk assessment of P2P network lending to "Three Rurals" borrowers. *Applied Soft Computing, 95*, 106570. doi: https://doi.org/10.1016/j.asoc.2020.106570

Reichenbach, F., & Walther, M. (2021). Signals in equity-based crowdfunding and risk of failure. *Financial Innovation, 7*(1), 1-30. doi: https://doi.org/10.1186/s40854-021-00270-0

Reiners, L. (2018). FinTech Law and Policy. *Independently published*.

Rey-Martí, A., Mohedano-Suanes, A., & Simón-Moya, V. (2019). Crowdfunding and social entrepreneurship: Spotlight on intermediaries. *Sustainability, 11*(4), 1175. doi: https://doi.org/10.3390/su11041175

Roma, P., Gal-Or, E., & Chen, R. R. (2018). Reward-based crowdfunding campaigns: Informational value and access to venture capital. *Information Systems Research, 29*(3), 679-697. doi: https://doi.org/10.1287/isre.2018.0777

Ryoba, M. J., Qu, S., Ji, Y., & Qu, D. (2020). The right time for crowd communication during campaigns for sustainable success of crowdfunding: Evidence from Kickstarter platform. *Sustainability, 12*(18), 7642. doi: https://doi.org/10.3390/su12187642

Ryu, H.-S. (2018). What makes users willing or hesitant to use Fintech?: the moderating effect of user type. *Industrial Management & Data Systems, 118*(3), 541-569. doi: https://doi.org/10.1108/IMDS-07-2017-0325

Santoso, W., Trinugroho, I., & Risfandy, T. (2020). What determine loan rate and default status in financial technology online direct lending? Evidence from Indonesia. *Emerging Markets Finance and Trade, 56*(2), 351-369. doi: https://doi.org/10.1080/1540496X.2019.1605595

Shafi, K., & Mohammadi, A. (2020). Too gloomy to invest: Weather-induced mood and crowdfunding. *Journal of Corporate Finance, 65*, 101761. doi: https://doi.org/10.1016/j.jcorpfin.2020.101761

Shao, S., & Bo, H. (2022). Behavioural aspects of China's P2P lending. *The European Journal of Finance, 28*(1), 30-45. doi: https://doi.org/10.1080/1351847X.2021.1880459

Tang, H. (2019). Peer-to-peer lenders versus banks: substitutes or complements? *The Review of Financial Studies, 32*(5), 1900-1938. doi: https://doi.org/10.1093/rfs/hhy137

Theerthaana, P., & Sheik Manzoor, A. (2020). A signalling paradigm incorporating an Agent-Based Model for simulating the adoption of crowd funding technology. *Journal of Simulation, 14*(3), 169-188. doi: https://doi.org/10.1080/17477778.2019.1664263

Todorof, M. (2018). *Shariah-compliant FinTech in the banking industry*. Paper presented at the Era Forum: Springer *19*(1), 1-17. doi: https://doi.org/10.1007/s12027-018-0505-8

Tong, Z., & Chen, X. (2019). P2P net loan default risk based on Spark and complex network analysis based on wireless network element data environment. *EURASIP Journal on Wireless Communications and Networking, 2019*(1), 1-7. doi: https://doi.org/10.1186/s13638-019-1345-0

Tritto, A., He, Y., & Junaedi, V. A. (2020). Governing the gold rush into emerging markets: a case study of Indonesia's regulatory responses to the expansion of Chinese-backed online P2P lending. *Financial Innovation, 6*(1), 1-24. doi: https://doi.org/10.1186/s40854-020-00202-4

Uddin, M. J., Vizzari, G., Bandini, S., & Imam, M. O. (2018). A case-based reasoning approach to rate microcredit borrower risk in online Kiva P2P lending model. *Data Technologies and Applications, 52*(1), 58-83. doi: https://doi.org/10.1108/DTA-02-2017-0009

Vallee, B., & Zeng, Y. (2019). Marketplace lending: A new banking paradigm? *The Review of Financial Studies, 32*(5), 1939-1982. doi: https://doi.org/10.1093/rfs/hhy100

Vismara, S. (2019). Sustainability in equity crowdfunding. *Technological Forecasting and Social Change, 141*, 98-106. doi: https://doi.org/10.1016/j.techfore.2018.07.014

Walthoff-Borm, X., Schwienbacher, A., & Vanacker, T. (2018). Equity crowdfunding: First resort or last resort? *Journal of Business Venturing, 33*(4), 513-533. doi: https://doi.org/10.1016/j.jbusvent.2018.04.001

Wang, C., & Tong, L. (2020). Lender rationality and trade-off behavior: Evidence from Lending Club and Renrendai. *International Review of Economics & Finance, 70*, 55-66. doi: https://doi.org/10.1016/j.iref.2020.07.014

Wang, Q., Su, Z., & Chen, X. (2021). Information disclosure and the default risk of online peer-to-peer lending platform. *Finance Research Letters, 38*, 101509. doi: https://doi.org/10.1016/j.frl.2020.101509

Wang, T., Liu, X., Kang, M., & Zheng, H. (2018). Exploring the determinants of fundraisers' voluntary information disclosure on crowdfunding platforms: A risk-perception perspective. *Online Information Review, 42*(3), 324-342. doi: https://doi.org/10.1108/OIR-11-2016-0329

Wang, W., Mahmood, A., Sismeiro, C., & Vulkan, N. (2019). The evolution of equity crowdfunding: Insights from co-investments of angels and the crowd. *Research Policy, 48*(8), 103727. doi: https://doi.org/10.1016/j.respol.2019.01.003

Wang, Y., Han, X., Li, Y., & Liu, F. (2021). Efficiency and effect of regulatory policies on the online peer-to-peer (P2P) lending industry. *Emerging Markets Finance and Trade, 57*(15), 4272-4285. doi: https://doi.org/10.1080/1540496X.2021.1882987

Wang, Y., & Ng, V. (2018). *Data Anomaly Detection with Parallelizing CDP Algorithm.* Paper presented at the 2018 IEEE International Conference on Internet of Things (iThings) and IEEE Green Computing and Communications (GreenCom) and IEEE Cyber, Physical and Social Computing (CPSCom) and IEEE Smart Data (SmartData): IEEE, 858-863. doi: https://doi.org/10.1109/Cybermatics_2018.2018.00165

Wu, Y., & Zhang, T. (2021). Can credit ratings predict defaults in peer-to-peer online lending? Evidence from a Chinese platform. *Finance Research Letters, 40*, 101724. doi: https://doi.org/10.1016/j.frl.2020.101724

Xie, K., Liu, Z., Chen, L., Zhang, W., Liu, S., & Chaudhry, S. S. (2019). Success factors and complex dynamics of crowdfunding: An empirical research on Taobao platform in China. *Electronic Markets, 29*, 187-199. doi: https://doi.org/10.1007/s12525-018-0305-6

Xu, J. J., & Chau, M. (2018). Cheap talk? The impact of lender-borrower communication on peer-to-peer lending outcomes. *Journal of Management Information Systems, 35*(1), 53-85. doi: https://doi.org/10.1080/07421222.2018.1440776

Yan, Y., Lv, Z., & Hu, B. (2018). Building investor trust in the P2P lending platform with a focus on Chinese P2P lending platforms. *Electronic Commerce Research, 18*, 203-224. doi: https://doi.org/10.1007/s10660-017-9255-x

Yang, X., Fan, W., & Yang, S. (2020). Identifying the influencing factors on investors' investment behavior: an empirical study focusing on the Chinese P2P lending market. *Sustainability, 12*(13), 5345. doi: https://doi.org/10.3390/su12135345

Yang, X., Zhao, K., Tao, X., & Shiu, E. (2019). Developing and validating a theory-based model of crowdfunding investment intention—Perspectives from social exchange theory and customer value perspective. *Sustainability, 11*(9), 2525. doi: https://doi.org/10.3390/su11092525

Yang, Y., Bi, G., & Liu, L. (2020). Profit allocation in investment-based crowdfunding with investors of dynamic entry times. *European Journal of Operational Research, 280*(1), 323-337. doi: https://doi.org/10.1016/j.ejor.2019.07.016

Yao, J., Chen, J., Wei, J., Chen, Y., & Yang, S. (2019). The relationship between soft information in loan titles and online peer-to-peer lending: evidence from RenRenDai platform. *Electronic Commerce Research, 19*, 111-129. doi: https://doi.org/10.1007/s10660-018-9293-z

Yeo, E., & Jun, J. (2020). Peer-to-peer lending and bank risks: A closer look. *Sustainability, 12*(15), 6107. doi: https://doi.org/10.3390/su12156107

Yoon, Y., Li, Y., & Feng, Y. (2019). Factors affecting platform default risk in online peer-to-peer (P2P) lending business: an empirical study using Chinese online P2P platform data. *Electronic Commerce Research, 19*(1), 131-158. doi: https://doi.org/10.1007/s10660-018-9291-1

Yu, L., & Zhang, X. (2021). Can small sample dataset be used for efficient internet loan credit risk assessment? Evidence from online peer to peer lending. *Finance Research Letters, 38*, 101521. doi: https://doi.org/10.1016/j.frl.2020.101521

Zanin, L. (2020). Combining multiple probability predictions in the presence of class imbalance to discriminate between potential bad and good borrowers in the peer-to-peer lending market. *Journal of Behavioral and Experimental Finance, 25*(2), 100272. doi: https://doi.org/10.1016/j.jbef.2020.100272

Zeng, X., Liu, L., Leung, S., Du, J., Wang, X., & Li, T. (2017). A decision support model for investment on P2P lending platform. *PLOS ONE, 12*(9), e0184242. doi: https://doi.org/10.1371/journal.pone.0184242

Zetzsche, D., & Preiner, C. (2018). Cross-border crowdfunding: Towards a single crowdlending and crowdinvesting market for Europe. *European Business Organization Law Review, 19*, 217-251. doi: https://doi.org/10.1007/s40804-018-0110-x

Zhang, N., & Wang, W. (2019). Research on balance strategy of supervision and incentive of P2P lending platform. *Emerging Markets Finance and Trade, 55*(13), 3039-3057. doi: https://doi.org/10.1080/1540496X.2019.1624523

Zhao, C., Li, M., Wang, J., & Ma, S. (2021). The mechanism of credit risk contagion among internet P2P lending platforms based on a SEIR model with time-lag. *Research in International Business and Finance, 57*, 101407. doi: https://doi.org/10.1016/j.ribaf.2021.101407

Zhao, Q., Chen, C.-D., Wang, J.-L., & Chen, P.-C. (2017). Determinants of backers' funding intention in crowdfunding: Social exchange theory and regulatory focus. *Telematics and Informatics, 34*(1), 370-384. doi: https://doi.org/10.1016/j.tele.2016.06.006

Zhao, Y. (2020). Research on personal credit evaluation of internet finance based on blockchain and decision tree algorithm. *EURASIP Journal on Wireless Communications and Networking, 2020*, 1-12. doi: https://doi.org/10.1186/s13638-020-01819-w

Zhou, G., Zhang, Y., & Luo, S. (2018). P2P network lending, loss given default and credit risks. *Sustainability, 10*(4), 1010. doi: https://doi.org/10.3390/su10041010

Zhou, J., Li, W., Wang, J., Ding, S., & Xia, C. (2019). Default prediction in P2P lending from high-dimensional data based on machine learning. *Physica A: Statistical Mechanics and its Applications, 534*, 122370. doi: https://doi.org/10.1016/j.physa.2019.122370

Zhou, L., Fujita, H., Ding, H., & Ma, R. (2021). Credit risk modeling on data with two timestamps in peer-to-peer lending by gradient boosting. *Applied Soft Computing, 110*, 107672. doi: https://doi.org/10.1016/j.asoc.2021.107672