



UNDERSTANDING THE IMPACTS OF FINANCIAL TECHNOLOGY IN THE SOCIETY 5.0 ERA

Clarasiska Anasthasia Mbate^{1*}, Windjiarto²⁾, Forman Halawa³⁾, Hizkia Edwar Sinaga⁴⁾

^{1,2,3,4}Master of Science in Management, Universitas Airlangga, Surabaya, Indonesia.

E-mail: ¹clarasiska.anasthasia.mbate-2022@feb.unair.ac.id, ²windjiarto@feb.unair.ac.id,

³forman.halawa-2022@feb.unair.ac.id, ⁴hizkia.edwar.sinaga-2021@feb.unair.ac.id

*Corresponding Author: Clarasiska Anasthasia Mbate

Abstract

Financial Technology (FinTech) aims to achieve a competitive market advantage based on technology (digitalization). This study focuses on figuring out the effects of financial technology in the era of Society 5.0, in which humans can create new values from existing technological transformations to reduce social and economic inequalities in society in the future. This research used a systematic literature review method of 68 articles screened from the Scopus database. Fifty-five impacts of FinTech in the Society 5.0 which can help organizations understand the importance of using fintech are found in this study. The research only focuses on one database. Whereas the aims only focus on the impact of fintech, thus subsequent researchers can continue and develop the same topic using other databases (for example, ScienceDirect) and try to figure out other topics related to fintech (for example, causal factors consequence).

Keywords: Financial Technology, Finance, Society 5.0

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INTRODUCTION

Over time, technology and science are developing rapidly, and humans are currently in the Society 5.0 era (Gagnidze, 2022). This era, initiated by Japan, refers to a human-centered era in which human needs are fulfilled through products and services, and gender, language, and regional inequalities are reduced; thus, all people can live comfortably (Fukuda, 2020). The Society 5.0 era began in 2019 to answer the Industrial Revolution 4.0 challenges by creating new values from the technological sophistication development (Artificial Intelligence, robots, Internet of Things), which aimed to narrow the tension between humans and the economy (Nagy et al., 2020). Society 5.0 comprises three main aspects: sustainability, resilience, and human-centricity; that is, when considering environment, social, and financial factors, problems may shift into a sustainable and consider human roles in society and industry and prioritize their needs (Nayeri et al., 2023). One of the requirements for an economic Society 5.0 is the existence of superior human resources and adequate digital infrastructure (Wahyuningtyas et al., 2022).

Science and technology, which are developing rapidly, encourage the industry to develop with the changes (Lv et al., 2022). One outcome of technological developments is the emergence of the financial system (Telukdarie & Mungar, 2023). The emergence of the Internet provides great participation in several sectors, for instance, the financial sector. The digitization process bears the technology-based financial innovations known as financial technology (G. A. Putri et al., 2023). Using Fintech reduces operating service costs, information costs,

and risk management, meets capital needs, and increases the availability of financial services, which may increase financial inclusion (Shao, 2022). Fintech carries a new paradigm from the traditional to the digital financial system. Some forms of fintech are the provider-oriented customer-to-customer (C2C), business-to-customer (B2C), business-to-business (B2B) platforms, and peer-to-peer (P2P) platforms (Ahelegbey et al., 2023).

During the Covid pandemic, there has been an increasing Fintech services use which facilitates access to various financial services (Bhutto et al., 2023). Fintech increases creativity in providing sophisticated financial services to clients, thus affecting net profits. With technology, commercial banks may also boost profits by increasing efficiency and effectiveness (Baker et al., 2023). Furthermore, developing abilities such as producing, adjusting, initiating, and interpreting results, positively affects Fintech development. Employee performances in innovating services for business can be optimized, which may drive Fintech adoption (Bhutto et al., 2023).

Financial technology application within Fintech risk management must be noticed within Fintech development since Fintech has various potential risks including software, network, information, data transmission and deviation, internet fraud, and malwares such as virus. In addition, Fintech also serves the "long tail theory" group thanks to its participatory nature; Fintech is more vulnerable to private credit problems due to the immature financial markets and financial characteristics which have not been fully understood yet (Gao, 2022). Furthermore, the increment of financial inclusion through Fintech does not

achieve the desired value, particularly in savings and loans. This varies geographically and socioculturally, in which low-income people tend to borrow from loan sharks/unorganized sources, and service systems which require things they do not have and the available financial products are unattractive or unable to meet their demands (Neelam & Bhattacharya, 2022).

Society 5.0 also focuses on innovations. Innovations in social sector and having stakeholders have become prerequisites in order to develop a human-centered information society based on corporate social responsibility which consists of individuals and organizations (Poto an et al., 2021). However, in terms of information security, privacy, and administrative services, problems arise from the community. Therefore, policymakers should pay extra caution in defining information security and privacy practices. Fintech must provide an excellent management service quality in order to prevent misunderstanding of the platform by its users (G. A. Putri et al., 2023).

Fintech makes financial services even more accessible to customers. In addition, Fintech can be used to eliminate gender discrimination, such as closing the gender pay gap, opening more chances for women to get capital access, and increasing financial resilience (Mahmud et al., 2023). Current social and economic inequality can be minimized through increased accessibility to financial services for customers (Telukdarie & Mungar, 2023). Therefore, this study focuses to find the impacts of financial technology (Fintech) in the Society 5.0 era, where people can create new values from technological transformations to reduce social and economic inequalities in society. Therefore,

the research question is “What are the impacts of financial technology in Society 5.0?” Based on this research question, the authors hope to provide new information regarding financial technology and its implications in Society 5.0.

LITERATURE REVIEW

Information technology development and its use hold an important role in developing the financial sector further. An example of innovation in the financial sector is Financial Technology, commonly known as “Fintech” (Taujanskait & Kuizinait, 2022). Fintech is a technology specialized in the financial industry (Zarifis & Cheng, 2022). Fintech gets increasingly more popular because it offers more solutions and holds an important role. Fintech, being acknowledged as a new business model, potentially replaces the former business model and it also greatly influences the entrepreneurial ecosystem of developed and developing economies (Festa et al., 2022).

Fintech is described as a digital technology implementation, such as AI, computer algorithms, and data analytics processes for automated and better financial services (Dehghani et al., 2023). Fintech is a unity consisting of advanced technology platforms and the latest business models for better financial-related services (Festa et al., 2022). People nowadays use Fintech for various transactions, such as buying daily needs and buying stuff via online applications. In turn, this significantly increased Fintech’s service quality (Jangir et al., 2023). Based on those results, Fintech is increasingly influential in the current modern era. Fintech greatly influences most dimensions, such as remittances, electronic commerce, and recognition appliances (Dehghani et al., 2023). Fintech can also

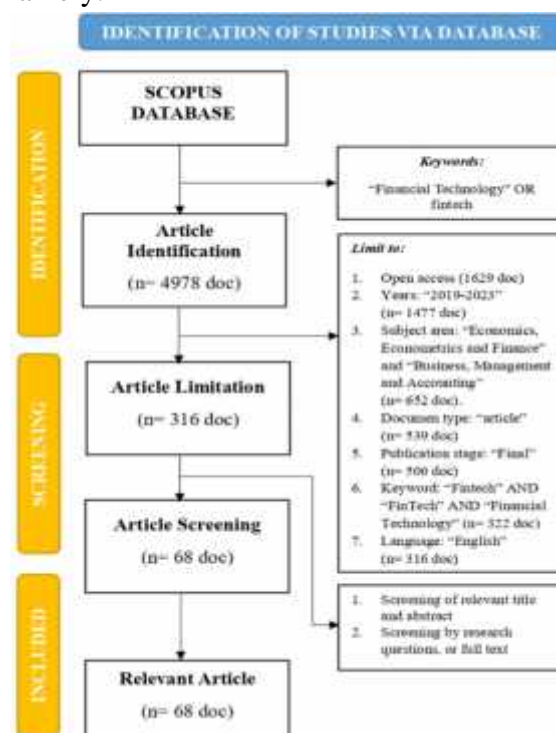
facilitate societal progress through job creation by utilizing social and economic opportunities and also provide new challenges that must be overcome by fintech users themselves (Wu & Kao, 2022). FinTech is also central to how financial organizations and non-financial companies execute their enterprises widely (Bailey et al., 2023). Furthermore, fintech has become systemically embedded to shape organizations' everyday habits. Fintech is reshaping organizational processes and forms of control of a company (Bailey et al., 2023).

Fintech also offers numerous model designs and processes to provide the best solution for its users (Jangir et al., 2023). The use of fintech has also increased due to the Covid-19 pandemic. Financial transactions via online helped minimizing Covid-19 spread (Dzandu et al., 2022). Smartphone usage also reduces the digital divide (Shaikh et al., 2023).

Globalization is the main factor for the rapid development of fintech so that it becomes a system embedded in everyday life (Saksonova & Kuzmina-Merlino, 2017). Mobile phones and the growing internet causes people to utilize Fintech for various transactions (Jangir et al., 2023). The Covid-19 pandemic has also increased the application of fintech in the form of cashless transactions to minimize Covid-19 from spreading further (Fabris, 2022). Fintech is also considered a game changer capable of driving sluggish financial markets (Krishna Priya & Anusha, 2019). The increase in companies with global markets encourages the use of latest features by entrepreneurs via Fintech to be more competitive in global markets (Festa et al., 2022).

RESEARCH METHODS

This research examines the Fintech variable using the Systematic Literature Review (SLR) method. Authors used the method to analyze the impacts of the Fintech in Society 5.0. Authors used SLR method based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PRISMA flowchart in Fig. 1 below shows the data search path and decisions for the final study results, namely:



Source: Researcher Analysis (2023)

Figure 1.

Flowchart PRISMA of Data Search Process

Systematic Literature Review (SLR) research uses literature from the Scopus database. First, write "financial technology" OR fintech" as the keyword used in the article search and found 4978 articles. Furthermore, limitations are carried out to obtain relevant articles, to make it easier for researchers to find articles that are under the formulation of the problem, and the things that are the research objection is carried out

by selecting articles that are "year" from 2019 to 2023 and "all open access", then selecting study area of the subject, namely "Economics, Econometrics and Finance" AND "Business, Management and Accounting", with the document type namely "article" which has been "final" and limiting it with several keywords "Fintech" AND "FinTech" AND "Financial Technology" and also Source type "Jurnal" and publication stage namely "final" in "English". From the results of the limitations carried out, there were 316 articles from the appropriate Scopus database. The next step is to download the 316 articles through Scopus, ScienceDirect, Google Scholar, Taylor and Francis Online, and the Copernicus International Index pages.

Based on the 316 articles, screening and selection of articles were carried out according to the research question. The initial screening was selected through relevance based on titles and abstracts related to all kinds of critical success factors from financial technology. Next, the screening process by reading as a whole to get results that are relevant to the problem formulation. Articles deemed inappropriate will be excluded, the results of the screening will leave 68 articles that are under the formulation of the problem and then the data analysis process will be carried out.

RESULTS AND DISCUSSION

After screening and reviewing processes based on research question, authors found 55 impacts of financial technology in Society 5.0, as explained in Table 1 below.

Table 1. The Impacts of Fintech

No.	Impact	Source
1	Consumer-lending discrimination	(Bartlett et al., 2022)

2	A driver of poverty alleviation	(Ye et al., 2022)
3	Debt financing	(Giaretta & Chesini, 2021)
4	Curbing credit corruption	(Su & Xu, 2023)
5	Financial industry	(Chang et al., 2020)
6	Regulatory frameworks	(Alaassar et al., 2020)
7	Small and Medium Enterprises (SMEs) efficiency	(Abbasi et al., 2021); (Pizzi et al., 2021); (Xiang et al., 2021); (Najib et al., 2021); (PURNAMASARI et al., 2020)
8	Commercial bank's performance	(Chen et al., 2021)
9	Customers' experience	(Yang et al., 2023)
10	Developing efficient banking	(Yang et al., 2023)
11	Finance marketing tactic	(Yang et al., 2023)
12	Financial intermediation	(Boot et al., 2021); (Khan & Abdulrahman Saad, 2022); (Fu & Mishra, 2022)
13	Developing economies	(Karaman et al., 2021)
14	Financial inclusion	(Senyo & Osabutey, 2020); (Neelam & Bhattacharya, 2022); (Odei-Appiah et al., 2022); (Arner et al., 2020); (Asif et al., 2023)
15	Remittances inflow	(Emara & Zhang, 2021)
16	Reduce financial misallocation	(Gao, 2022)
17	Growth of digital lending	(Cornelli et al., 2023)
18	Reduce financial misconduct	(Benedetti & Nikbakht, 2021)
19	Bank risk-taking	(Banna et al., 2021); (Banna et al., 2022); (Deng et al., 2021)
20	Financial development	(An et al., 2022); (Okoli & Tewari, 2020); (Muganyi et al., 2022)
21	Acquirer's performance	(Akhtar & Nosheen, 2022)

22	Transformations on Global Financial Markets	(Belozyorov et al., 2020); (Gancarczyk et al., 2022)
23	Sustainable developments	(Hahm et al., 2021)
24	Banking financial performance	(Suryanto et al., 2022); (W. H. Putri et al., 2019); (Al-Shari & Lokhande, 2023)
25	Risks and Benefits on the Continuity	(Mascarenhas et al., 2021); (Vu ini , 2020)
26	Motivaiton in using Fintech website for P2P lending	(Sundjaja & Tina, 2019)
27	Delicate risk-reward balance	(CHEMMANUR et al., 2020)
28	Equity Investments	(Kostin et al., 2022)
29	Competitiveness environment	(Efimov et al., 2021)
30	Fast-Growing Firms	(Pantos, 2023)
31	Agricultural value chain practice	(Ningrat & Nurzaman, 2019)
32	Indonesia's economic growth	(Narayan, 2019)
33	Ecosystem dynamics	(Alaassar et al., 2022)
34	Stock Return	(Asmarani & Wijaya, 2020)
35	Facilitating e-government services	(El Gohary, 2019)
36	Financial leverage and performance	(Papadimitri et al., 2021)
37	Financial stability	(Stankevi ien & Kabulova, 2022)
38	Perception of usefulness (PU)	(Nguyen et al., 2020)
39	Social impact (SI)	(Nguyen et al., 2020)
40	Customer trust (TRU)	(Nguyen et al., 2020)
41	Perceived ease of use (PEU)	(Nguyen et al., 2020)
42	Entrepreneurial intention	(Festa et al., 2022); (Koroleva, 2022)
43	Reducing income inequality	(Chinoda & Mashamba, 2021)
44	Consumers loyalty intention	(Alnsour, 2022)
45	FinTech evolution	(Hendershott et al., 2021)
46	Raise credit risk	(Okoli, 2020)
47	Modernization of Banking-Finance System	(Nguyen et al., 2020)

48	Incumbent firms	(CHEMMANUR et al., 2020)
49	Sustainable balanced development	(Arner et al., 2020)
50	Human capital.	(Kanga et al., 2022)
51	Money Demand	(Mlambo & Msosa, 2020)
52	New market segment	(Haddad & Hornuf, 2019)
53	Retail financial practices	(Tan, 2022)
54	Financial services	(Anitha Kumari, 2022)
55	Financial regulation	(Hua & Huang, 2021)

Source: Researcher Analysis (2023)

Fintech, as the main factor of financial inclusion, increases growth from financial, economic, and social perspectives (Senyo & Osabutey, 2020); Neelam & Bhattacharya, 2022; Odei-Appiah et al., 2022; Arner et al., 2020; Asif et al., 2023. Financial services should adapt these new technologies and plan better in giving information (Ye et al., 2022; Chang et al., 2020). Fintech has shifted consumer preferences while also attracting more customers who expect fast and easy-to-access services on their gadgets (Mascarenhas et al., 2021; Vu ini , 2020). Qualities of the services and information, along with perceived value, give users motivation to use P2P lending on Fintech websites (Sundjaja & Tina, 2019). Visionary investors are the ones who capitalize on technologies and bring more advanced technologies on markets (CHEMMANUR et al., 2020). In addition, a marginal effect caused by digitalization influences remittance flow. This depends on the digital adoption level. (Emara & Zhang, 2021). Fintech also assists in higher efficiency between sectors between manufacturing and financial resources to reduce widespread financial misallocation (Gao, 2022).

The use of Fintech also affects customer satisfaction, innovations in services and personalizations, value propositions, and strategies in improving bank systems, services, organizations, and activities (Chen et al., 2021; Yang et al., 2023). Communication becomes an important factor in financial services through easier access and lessening the conventional role of banks (Boot et al., 2021; Khan & Abdulrahman Saad, 2022; Fu & Mishra, 2022). In addition, Fintech positively impacts mergers and acquisitions between Fintech and banks on banks' service quality, liquidity, and leverage (Akhtar & Nosheen, 2022).

The type of fintech business carried out by start-ups has an impact on financing (Giaretta & Chesini, 2021). In interest rates, the interest rate differentials of Fintech lenders are similar to those of non-Fintech lenders (Bartlett et al., 2022). Fintech can significantly reduce credit corruption (Su & Xu, 2023; Cornelli et al., 2023). Fintech allows banks to plan carefully in taking risks by offering various ways (Banna et al., 2022; Banna et al., 2021; Deng et al., 2021).

Economic growth through fintech enables small businesses to access credit, information about social effects, securities, and facilities easier compared to accessing conventional financing through traditional banks (Abbasi et al., 2021; Pizzi et al., 2021; Xiang et al., 2021; Najib et al., 2021; Purnamasari et al., 2020). Furthermore, people who loan from Fintech are more likely to pay off the debt. Fintech's advanced technology capability allows it to choose creditworthy loaners (Karaman et al., 2021). The governance transformation supported by fintech has positive socio-economic impacts (Belozorov et al., 2020;

Gancarczyk et al., 2022; Hahm et al., 2021).

Fintech increases access to loans and savings in financial institutions. Fintech's advancement results in further developments in the financial sector (An et al., 2022; Okoli & Tewari, 2020; Muganyi et al., 2022). However, fintech also potentially carries risks, such as cybersecurity risks in operational and systemic contexts, and outsourcing risks in operational contexts (Suryanto et al., 2022; W. H. Putri et al., 2019; Al-Shari & Lokhande, 2023). Consequently, policymakers should pay extra caution in making policies so that it stabilizes the growth in the fintech sector while also minimizing risks to enable companies to be better prepared to face competitors in the market (Benedetti & Nikbakht, 2021). The collaboration of fintech with banks, the enhancement of banking efficiency, and financial inclusion can reduce financial errors in the digital market and drive financial development (An et al., 2022; Okoli, 2020; Muganyi et al., 2022; Alaassar et al., 2022).

AI and blockchain are two major technologies that contribute greatly to Fintech evolution (Hendershott et al., 2021). Fintech transforms the competition dynamics among financial institutions, thus contributing to a favorable competitive environment (Efimov et al., 2021). Rapidly growing companies are reflected in the application of fintech, which is instrumental in their framework development (Pantos, 2023). The presence of fintech in developing countries significantly stimulates economic growth (Narayan, 2019). Financial institutions in developing countries implementing fintech experience increased financial stability (Stankeviien & Kabulova, 2022). Fintech contributes in

making income more equal (Chinoda & Mashamba, 2021). Fintech exerts a strong influence on the digitalization trend, transforming digital banking services (Anitha Kumari, 2022). In the entrepreneurial world, Fintech positively impacts actual entrepreneurship more than entrepreneurial intentions (Festa et al., 2022; Koroleva, 2022; Alaassar et al., 2022).

Fintech has a long-term impact on human resource investment (Kanga et al., 2022), contributes to sustainable development (Arner et al., 2020), supports the modernization of the financial banking system (Nguyen et al., 2020), significantly influences consumer loyalty (Alnsour, 2022), positively impacts new market segments development (Haddad & Hornuf, 2019), and provides superior customer experiences across various financial domains (Chemmanur et al., 2020). Fintech also offers investment strategy advice for investors (Kostin et al., 2022). Implementing fintech-enabled platforms in agricultural value chains is highly recommended to facilitate agricultural development (Ningrat & Nurzaman, 2019). However, not all locations are connected to the fintech network, as certain places remain untouched by fintech (Tan, 2022).

Fintech increases efficiency, more job demand, and supports entrepreneurship, but it requires clear financial regulations (Hua & Huang, 2021). The regulation is important because fintech can significantly increase credit risk (Okoli & Tewari, 2020). Fintech harms the demand for money (Mlambo & Msosa, 2020) within financial leverage that affects the performance of fintech companies (Papadimitri et al., 2021). Moreover, Fintech can harm e-government services if all facilities and regulations are not created yet (El Gohary, 2019) and have

no significant effect on bank stock returns (Asmarani & Wijaya, 2020). Benefits, social impacts, customer trust, and effectiveness influence Fintech usage frequency. (Kim Lien et al., 2020).

CONCLUSION AND SUGGESTIONS

Fintech is the driving force of financial inclusion, which can obtain sustainable development from both the financial perspective and the economy and society. The availability of blockchain, AI, big data, and cloud computing on Fintech potentially reduces poverty. Therefore, policymakers are suggested to create policies that stabilizes Fintech growth and minimizes potential risks. Thus, the companies will be well prepared to face competitors in the market.

The limitations of this study are the lack of reference articles related to the topic since some articles are paid. Also, this study is only using a literature review method. For further research, the researcher hopes to conduct research by adding variables such as financial inclusion and using survey results or direct observation.

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