



JOURNAL OF DYNAMICS  
AND CONTROL  
VOLUME 8 ISSUE 8

NEAR FIELD COMMUNICATION TO  
TRANSFORM DIGITAL BANKING: A  
DESCRIPTIVE STUDY OF  
CONTACTLESS CARD PAYMENT IN  
INDIAN BANKING

**Kamna Bhadu<sup>1</sup>, Dr. Tina Shivnani<sup>2</sup>**

*<sup>1</sup>Research Scholar, <sup>2</sup>Research Supervisor,  
Department of Commerce, Manipal University  
Jaipur, Jaipur, Rajasthan*

# NEAR FIELD COMMUNICATION TO TRANSFORM DIGITAL BANKING: A DESCRIPTIVE STUDY OF CONTACTLESS CARD PAYMENT IN INDIAN BANKING

Kamna Bhadu<sup>1</sup>, Dr. Tina Shivnani<sup>2</sup>

<sup>1</sup>Research Scholar, <sup>2</sup>Research Supervisor, Department of Commerce, Manipal University Jaipur, Jaipur, Rajasthan

Email: kamnabhadu5@gmail.com, ORCID: <http://orcid.org/0000-0002-3878-5021>

---

**ABSTRACT:** People's lifestyles and the way businesses are run have been revolutionized as an immediate consequence of the phenomenal rate of innovation in technology during the previous few decades. The presence of both the web and cell phones has resulted in a major transition in a variety of industries, including financial and banking services, from activities that were performed manually to those that were performed automatically and from offline transactions to online transactions. The purpose of this research is to conduct a literature review on topics relevant to virtual banking i.e., NFC-contactless banking as well as financial inclusion between the years 2018 and 2023. This research employed a descriptive approach based on a literature review of prior research and existing literature on online banking and financial inclusion as its methodology. These studies and literature have been sourced either from academic websites that are available at no cost or require no registration to access them. The publications and papers have been obtained through a wide variety of internet sources. A total of 30 papers that are connected to this topic were gathered and reviewed. This study looked at a variety of different characteristics, some of which include authorship patterns, the number of papers that have been published and factors such as study technique, location, subject content, and researcher sexual identity. The primary takeaway from this investigation is that earlier research has focused on aspects of economic and social growth that have been shown to be favorably impacted by the expansion of access to NFC digital banking and financial services.

**KEYWORDS:** Digital Banking, Digital Financial Services, Financial Inclusion, Indian Banking, Near Field Communication, Contactless Payment.

---

## 1. INTRODUCTION

Because of changes in client preferences, banks were unable to continue providing their usual range of services. Modern consumers are more interested in items and services that are easy to use, and they can get relevant information about such products and services quickly and easily using their smartphones and tablets. Seeing the significance of the information technology revolution, financial institutions have moved away from the branch-based method of doing business (Thuy Thu Nguyen H. T., 2020).

Electronic banking was established as a result of the increasing application and use of the internet and mobile devices in the financial industry. The term "online banking" describes the use of electronic methods to complete banking tasks (Singhania, 2020). Digital payment, mobile banking, and online payments are all popular shorthand references to this kind of banking in the digital era. In addition, banks now have an edge in efficiency and competition because of the widespread acceptance of electronic banking (Riza, 2019).

In addition, the widespread use of digital banking is actively reshaping the banking industry in terms of promoting financial inclusion, as it allows for reduced costs compared to conventional banking while also expanding the sector's accessibility beyond its typical geographic footprint (Hyun-Soo Choi, 2020, May). Banking technology has advanced to the point that it now enables financial inclusion. Since 2010, the G-20 and the World Bank have been leading the drive to expand access to financial services in developing nations in order to aid in lowering poverty levels in developing and emerging economies. This program is intended to help (GPFI., 2010). Numerous problems remain that, unless acknowledged, could make electronic banking work much better for people, companies, government entities, and the economic system, which is attracting the attention of policymakers, scholars, and practitioners who see the importance of electronic banking as well as financial inclusion for reducing poverty and boosting the economy. In addition to lowering the price of bank financing for banks as well as Fintech providers and raising the level of aggregate demand for administrations, there are a number of other advantages to digital banking and finance for customers, digital financial institutions, government entities, and the economy as a whole (GPFI., 2010).

## **RBI report on the use of POS and NFC in India**

Entrepreneurs are rapidly putting POS machines in their locations to encourage the adoption of internet-based banking, such as NFC, but consumers are uncertain how to pay at these terminals. It is contactless card payment technology adoption has grown drastically in India in recent years. The overall amount of contactless payment transactions in India increased by more than 200% between January 2020 and January 2021, according to a Reserve bank of India (RBI) report. The study also adds that the Indian government's aim for a cashless economy, combined with the increasing popularity of smartphones and electronic payment methods, has encouraged the growth of contactless card payments. The rising use of smartphones and online payments has contributed to this surge. Furthermore, India's largest financial institutions are now issuing contactless debit and credit cards, and the supply of point-of-sale (POS) machines capable of accepting contactless payments has expanded dramatically. The National Payments Corporation of India (NPCI) reported on the number of point-of-sale terminals in India. Another interesting development that may be ascribed to India's present status of contactless card payment methods is that an increasing number of companies are beginning to accept payments made using contactless cards. According to a survey conducted by the Ministry of Information Technology and Electronics, the total number of enterprises in India ready to accept digital payments is predicted to increase from 10 million in 2016 to more than 50 million by 2021. The nation's goal of transitioning to a cashless economy, as well as the expanded availability of digital payment infrastructure in India, may explain this surge. climbed by more than 20% in 2020.

## **2. LITERATURE REVIEW**

### **NFC, e-banking, and widespread access to financial services: a conceptual triangle**

Recent years have seen a rise in the use of the phrase "near field communication" (NFC) in the financial sector since this technology has grown into a key enabler of mobile banking systems. Mobile payment applications like Apple Pay and Google Wallet use near-field communication (NFC) innovation to facilitate debit & credit cards. Banks have been spending considerably on the introduction of new technology in recent years. Near-field communication technology has been adopted by many financial institutions because of the ease with which it allows customers to make purchases. While this technology makes things easier for customers, it takes extensive preparation on the side of the bank's IT team.

It is also used for authentication and mobile payments, letting customers use their cell phones to make purchases in stores and enter restricted areas. Using NFC, banking institutions may provide customers with safer and more convenient methods to transact money.

The term "digital banking" is used to describe financial institutions that provide their services entirely online. The transformation of financial assistance from analogue to digital, from labor-intensive to labor-free, and from offline to online. Although the term "financial inclusion" is often used, the concept really refers to efforts to make financial services and products accessible and affordable to all individuals and organizations, regardless of their own overall assets or organizational size. The goal of financial inclusion is to help people reach their full potential by increasing their access to and use of mainstream financial services. As it stands, digital banking seems to be the front-runner in facilitating financial inclusion.

According to the perspective of a working professional (Ozili., 2018), digital banking is defined as the provision of monetary services through digital channels such as mobile phones, personal computers, the World Wide Web, or cards connected to a highly secured financial sector, Cash entries, disbursements, and wire transfers are all included under this category. At present, electronic banking is defined by (Das, 2020) as a customer's direct access to their own bank via mobile gadgets and the web, as well as a means by which the bank can learn more about its clients and stronger predict their requirements. In addition, the term "electronic banking" may be seen as a transition from "offline banking" (when clients had to visit a branch physically) to "online banking," where they can do their banking at any time from any location. Deposits, withdrawals, transfers, maintenance of checking and savings accounts, application of investment instruments, maintenance of loans and credits, payment of bills, and other administrative tasks are all included (Proctor, 2019). According to (Amidjaya, 2020) Banks' fundamental operations have been altered by digital banking technology, which has shifted the focus of the financial services industry from its former emphasis on providing services primarily to employees to one that is now mostly customer focused. As an outcome of electronic banking's increasing effectiveness and profitability of innovative methods of providing services, executives' emphasis has moved to improve the productivity of multi-channel functions in order to cut down on overhead. More crucially, a growing number of institutions provide electronic banking services, it is critical that these institutions learn how their customers are utilizing these new tools and find ways to maximize their benefits in order to better serve their clientele (Ahmed, 2023). (Loh, 2020) argued that Several banks have reduced their branch locations as a direct result of competition from online banking, it is believed. Customers of traditional banks are increasingly relying less on in-person transactions

thanks to the rise of online banking. Moreover, digital banking provides industry-altering cost savings over conventional banking and increases user convenience by making banking from afar more feasible. Finally, (Nguyen, 2020), digital banking may be defined as a set of new financial instruments, services, and activities that are becoming a part of established financial institutions and the development of new markets. To stay ahead of the competition, reduce their risk exposure, and better manage any risks that may arise, banks can make use of digital banking.

Instead, "accessible to everyone, at an acceptable expense or cost, to diversified monetary services and goods in which accessible with the current banking institutions that are able to sustain themselves" is how the term "internet banking" is often phrased. This work is geared at banking services, the provision of basic financial services and products to all consumers and businesses regardless of their means (Bank). (Howard Thomas, 2019) To those in the business world, the academic community, and the social and political realms, financial inclusion may be defined as the process of making sure that everyone has easy access to and makes regular use of the formal financial system and its services. To be financially included, people and businesses must not only have access to and the capacity to make use of financial services and products but also be willing to do so. According to the World Bank, there is a distinction between financial inclusion and access to finance. Adults who regularly use bank or credit union services and products are considered financially included. Yet, this does not imply that the individual does not have access just because they do not make use of the resource. Although some individuals may be able to afford financial services but choose not to utilize them for ethical, moral, or other reasons, others may be unable to do so due to prohibitive fees or government restrictions. The question that must be answered is how many people and businesses are excluded from financial services because of a lack of demand or the existence of obstacles (Bank).

Inadequate access to official banking facilities diminishes people's benefits and its state support, which in turn may increase civil strife and hinder the growth of the nation's economy and culture as a whole (Svitlana Naumenkova, 2019).

In his research (De Luna, 2019), he examines the differences in the popularity of various mobile payment methods such as short message service (SMS), near field communication (NFC), and quick response (QR) codes. Their research includes advice for businesses interested in SMS, NFC, and QR m-payment, and their findings suggest that the m-payment behaviour cannot be applied globally since the connections are represented with varying intensities among systems. According to (Alkhowaiter, 2020) virtual currency and baking have advanced thanks to the widespread availability and use of the web and smart devices. While trust, facilitating conditions, and perceived utility was discovered to be highly predictive for the acceptance of electronic payout and finance in the GCC region, there has been a lack of literature that offers an exhaustive summary and examination of variables impacting the utilisation and implementation of these techniques. Theory of Variables Impacting Deployment of Internet Banking services Based on a Systematic Investigation into the Literature

### **Advantages of Near-Field Communication, Online Banking, and Broader Access to Financial Services**

Social and financial progress is being aided in a wide range of countries thanks to the advent of online banking. Wealth creation can help people at every income level and in every kind of family, and digitalization offers several advantages toward that goal.

According to (Saputra, 2022) Both the local populace as well as remote banking institutions may reap the benefits of online payments as it works toward its goals of lowering inequality and raising the quality of life in rural areas. In this way, the financial industry not only helps the economy thrive but also helps the poor. Addressing the local population at a lower cost, in less time, and with more adaptability is made possible via online payments. Moreover, based on (Mawarni, 2021) Innovative, low-cost lending services and items that target the requirements of disadvantaged and unbanked populations may be made possible via the use of online banking platforms. Moreover, digitalization provides a distribution method that may actually access out to this is individuals in far-flung and rural locations.

(Moşteanu, 2020) It was also suggested that online banking provided productivity gains that allowed lenders to handle limited customers financially, as well as enabled lenders to grow their operations in order to better serve low-income and underserved populations. Finally, the acceptance of electronic finance may raise the competitiveness to financial firms, causing competitors to concentrate more on underrepresented areas in order to maintain existing profits stable.

From the consumer's point of view, he (North, 2018) emphasized the monetary and time savings afforded by the elimination of the need to physically visit a bank office to complete cash activities. on the alternative side, (Modellica, 2020) claims that digitalization is available around the clock, so customers never have to wait in line to complete their transactions. This is because customers can do their banking from the convenience of their own homes, offices, or cars.

Users may quickly and easily learn about the many benefits of NFC and digital banking services by browsing online. This improves the bank's communication with and service to its consumers. Users are more likely to feel secure while using electronic banking because of the many safeguards in place. To name just two examples, these measures might include security certifications and enhanced data encryption. (Modellica, 2020)shighlighted in the study is the fact that using internet banking and NFC may boost customer efficiency, and that all payments are entirely safe thanks to the implementation of advanced cryptographic algorithms that avoid fraud.

**3. RESEARCH METHODOLOGY**

In this work, we conduct descriptive analysis of literature published on near-field communication (NFC), digital banking, and financial inclusion from 2018 to 2022—thirty publications from a variety of internet sources. While there is a lot of literature on the topics of near-field communication (NFC), digital banking (DB), and financial inclusion (FI), my evaluation of just 30 publications published between 2018 and 2023 provides me with a sharp focus on the concepts that I will be using to guide my research. The papers related to NFC, digital banking, and financial inclusion are the primary focus of this bibliometric analysis. To better the present state of digital banking development, this analysis will also examine previous works and papers to extract data covering NFC, digital banking, and financial inclusion knowledge and challenges.

**4. RESULTS**

**a) Number of Annual Journal Publications**

Subject of article	2018	2019	2020	2021	2022	2023	Total
<b>Business and management</b>			1			1	2
<b>Composition theory</b>			1	1	2		4
<b>Economic and social development</b>			3				3
<b>Electronic banking system</b>	1	1	1				3
<b>Financial service marketing</b>		2	1				3
<b>Information management</b>	1	1	2				4
<b>Innovative business and management</b>			1	1			2
<b>International business and finance</b>			2				2
<b>Social science</b>		2					2
<b>Science technology and management</b>		1	3	1			5
<b>Total</b>	2	7	15	3	2	1	<b>30</b>

Table 1: Annual journal publications

Thirty publications published between 2018 and 2023 on the topics of digital banking and financial inclusion were read and assessed. Articles regarding NFC, digital banking, and financial inclusion are studied in depth and presented in Table 1.

It has been usually subject to science technology and management a total of 5 articles, which means that this topic has the maximum number of articles in it. While there are three articles on the topic of financial marketing services and two on the subject of social science, the most recent record shows that there are only two articles on the subject of creative business and management. In addition, composition theory was documented with a total of 4 papers, which was then followed by the publication of 3 publications on the topic of electronic banking systems. In addition, there were four papers pertaining to information management, two pertaining to business and management, and two pertaining to social science. just two pieces are devoted to foreign business and financial matters in total.

In the year 2020, there were a total of 15 articles published. This is a record high. In 2019, a total of seven articles were written and published. During this time, there were a total of two papers published between the years 2018 and 2021. In the year 2022, there were two articles recorded. In conclusion, there was a total of one article published in 2023, which was the year with the fewest number of articles ever recorded.

## b) Categories of Research Based on the Publishing Year of Journal Articles

Publication year	Data analysis				Total
	Exploratory	Descriptive	Analytical	Empirical	
2018	1	2	4	1	8
2019	2	1	3	1	7
2020	1	1	1	1	4
2021	1	1	1	2	5
2022	1	2	1	1	5
2023			1		1
<b>Total</b>	6	7	11	6	<b>30</b>

Table 2: types of study by journal article publication year

Analytical, descriptive, empirical, and exploratory methods are outlined in Table 2 as the focal points of this investigation. These are the methods that have been used most often in earlier research. The majority of researchers, with a total of 11 papers, employ analytical methodologies according to the findings of the study done on the 30 publications. After that comes a descriptive technique, which incorporates seven separate study papers. The exploratory method and the empirical approach, which both have the same number of articles, 6, are tied for the position of the second-lowest two approaches that have been documented.

## c) Research Approach Based on Journal articles Publication

Publication years	Research approach			Total
	Quantitative	Qualitative	Mix-Method	
2018	2	1	2	5
2019	1	1	2	4
2020	1	2	6	9
2021	2	1	2	5
2022	2	1	3	6
2023			1	1
<b>Total</b>	8	6	16	<b>30</b>

Table 3: Research approach based on journal articles publications

As shown in Table 3, the researchers that carried out the study relied on three distinct approaches to acquire the necessary information (qualitative, quantitative and mixed method). Mix method research design recorded 16 publications in which the greatest number of articles that used this approach to collect the data required during the previous six years. This is the highest number of papers that used this technique to collect the data needed. Second, the design of the quantitative study, which included 8 papers. In conclusion, qualitative research using just six articles is the kind of study design that is utilized the least often.

**d) Author’s Gender and Relationship Between Authors**

GENDER	Author						Total
	one	two	three	Four	five	Six &more	
MALE	6	4	2	1			13
FEMALE	5	2	3	2			12
BOTH		2	2	1			5
TOTAL	11	8	7	4			30

Table 4: Author’s gender and relationship between authors

Table 4 presents a statistical analysis of the gender of publishers and the relationships between authors, based on all 30 of the publications that were investigated. The total number of single writers who are either male or female is more than the number of authors who are both male and female and have co-written the same number of articles, which is both 11 and 8. In the meanwhile, the total number of male, female, and mixed-gender writers for three articles amounts to seven authors, which is a significant difference from the number of male, female, and mixed-gender authors for four articles that include solely male authors. Within the scope of our investigation, we did not find any cases of five male, five female, mixed-gender writers, or six or more authors.

- **According to the information** provided by the journals, there are thirty distinct nations that have contributed to the publishing of thirty publications on topics such as near-field communication (NFC), digital banking, and financial inclusion. It was determined that throughout all the published research, there were a total of thirty articles published in a variety of indexed journals. Most of them come from wealthy nations like the United States, and the United Kingdom, and more generally, in our research, both developed and developing nations' articles were investigated.
- **In conducting research**, we found that developing nations pay more attention to deploying these technologies. In fact, we can argue that nations like India and others are competing with industrialized nations in a race to the future of financial technology.

**5. DISCUSSION**

The following are the study's findings, based on the examination of 30 publications published between 2018 and 2023.

- 1) Every year more and more publications are written about the relationship between online NFC banking and financial inclusion, indicating the continued importance of this area of study. Previous scholars have focused

on a wide range of article topics, but the fields of socioeconomic evolution have seen the most publishing activity.

- 2) Experts from the former have made extensive utilization of the combined analytic methodological framework in order to delve deeper into the history of NFC, digital banking and financial inclusion from the beginning of time to the current day.
- 3) Compared to other types of analytic methods, academics like mixed data analysis.
- 4) According to the study's authorship distribution, the vast majority of articles were produced by either a single male or a single female author.
- 5) Because of its large and growing population, India and other emerging nations contribute significantly to the field of digital banking and financial inclusion.

## 6. CONCLUSION

Research demonstrates that in order to meet the needs of the public and advance progress in the economy and society, policymakers, practitioners, and academics require a thorough understanding of NFC contactless payments, online payments, and cashless transactions. According to the findings of the comprehensive article analysis, several research has been undertaken in this field during the last few years. Reasonable conclusion: Investigation into the connection between digital banking and financial inclusion has gained prominence over the years and continues today. As a result, academics must maintain their attention on, and remain up-to-date on, the latest developments in NFC contactless payment, digital banking, and the attainment of finances for greater progress in the banking and finance business and for reference to the future generation.

## REFERENCES

1. Nguyen, T. T., Nguyen, H. T., Mai, H. T., & Tran, T. T. M. (2020). Determinants of digital banking services in Vietnam: Applying utaut2 model. *Asian Economic and Financial Review*, 10(6), 680-697.
2. Sardana, V., & Singhania, S. (2018). Digital technology in the realm of banking: A review of literature. *International Journal of Research in Finance and Management*, 1(2), 28-32.
3. Didenko, I. V., Paucz-Olszewska, J., Lieonov, S. V., Ostrowska-Dankiewicz, A., & Ciekanski, Z. (2020). Social safety and behavioral aspects of populations financial inclusion: A multicountry analysis.
4. (GPII, 2010) *G20 Principles for innovative financial inclusion - executive*. Retrieved 2020, from GPII: <https://www.gpii.org/publications/g20-principles-innovative-financial-inclusion-executive-brief>.
5. Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329-340.
6. Das, S. (2020). Innovations in digital banking service brand equity and millennial consumerism. In *Digital transformation and innovative services for business and learning* (pp. 62-79). IGI Global.
7. Amidjaya, P. G., & Widagdo, A. K. (2020). Sustainability reporting in Indonesian listed banks: Do corporate governance, ownership structure and digital banking matter?. *Journal of Applied Accounting Research*, 21(2), 231-247.
8. Ahmed, S., & Sur, S. (2023). Change in the uses pattern of digital banking services by Indian rural MSMEs during demonetization and Covid-19 pandemic-related restrictions. *Vilakshan-XIMB Journal of Management*, 20(1), 166-192.
9. Nguyen, O. T. (2020). Factors affecting the intention to use digital banking in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(3), 303-310.
10. World Bank. (2019). banking the poor: measuring banking access in 54 economies: USA
11. Howard Thomas, Y. H.-W. (2019). *What Is "Financial Inclusion"?* Singapore: SingaporeManagement University.
12. World Bank. (2022). *Global Financial Development Report 2022*. Retrieved from <http://ww1.world-bank.org/>
13. Svitlana Naumenkova, S. M. (2019). Digital financial inclusion: evidence from Ukraine. 194- 205.
14. De Luna, I. R., Liébana-Cabanillas, F., Sánchez-Fernández, J., & Muñoz-Leiva, F. (2019). Mobile payment is not all the same: The adoption of mobile payment systems depending on the technology applied. *Technological Forecasting and Social Change*, 146, 931-944.
15. Alkhowaiter, W. A. (2020). Digital payment and banking adoption research in Gulf countries: A systematic literature review. *International Journal of Information Management*, 53, 102102.
16. Saputra, M. P. A., & Chaerani, D. (2022). Estimation of maximum potential losses for digital banking transaction risks using the extreme value-at-risks method. *Risks*, 10(1), 10.
17. Mawarni, R. (2021). Penerapan Digital Banking Bank Syariah Sebagai Upaya Customer Retention Pada Masa Covid-19. *Al Iqtishod: Jurnal Pemikiran Dan Penelitian Ekonomi Islam*, 9(2), 39-54.

18. Moşteanu, D., Roxana, N., Faccia, D., Cavaliere, L. P. L., & Bhatia, S. (2020). Digital technologies' implementation within financial and banking system during socio distancing restrictions–back to the future. *International Journal of Advanced Research in Engineering and Technology*, 11(6).
19. Pratiwi, I. E., Affandy, F. F., & Rosalina, Y. (2020). Determinan Penggunaan Digital Banking Pada Generasi Milenial Muslim: Pendekatan Technology f Acceptance Model (Studi Kasus Di Kota Jayapura, Indonesia). *Jurnal Ilmiah Ekonomi Islam*, 6(3), 478-487.
20. Singh, S., & Srivastava, R. K. (2020). Understanding the intention to use mobile banking by existing online banking customers: an empirical study. *Journal of Financial Services Marketing*, 25(3-4), 86-96.
21. Kitsios, F., Giatsidis, I., & Kamariotou, M. (2021). Digital transformation and strategy in the banking sector: Evaluating the acceptance rate of e-services. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 204.
22. Koomson, I., & Danquah, M. (2021). Financial inclusion and energy poverty: Empirical evidence from Ghana. *Energy economics*, 94, 105085.
23. Omar, M. A., & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of economic structures*, 9(1), 37.
24. Vasquez Quintero, A., Arai, R., Yamazaki, Y., Sato, T., & De Smet, H. (2020). Near-field communication powered hydrogel-based smart contact lens. *Advanced Materials Technologies*, 5(12), 2000702.
25. Mikki, S. (2020). Theory of nonsinusoidal small antennas for near-field communication system analysis. *Progress In Electromagnetics Research B*, 86, 177-193.
26. North, R. (2018, November 6). *THE ROLE OF DIGITAL BANKING IN INDIA – IMPORTANCE OF DIGITAL BANKING IN INDIA*. Retrieved from Enterprise Edges: <https://www.enterpriseedges.com/role-of-digital-banking-india>
27. Riza, A. F. (2019, August). Customer acceptance of digital banking in Islamic bank: Study on millennial generation. In *Proceeding of Conference on Islamic Management, Accounting, and Economics* (pp. 66-74).
28. Darryl Proctor. (2019, December 19). *temenos*. Retrieved from What is Digital Banking?: <https://www.temenos.com/news/2019/12/19/what-is-digital-banking/>
29. Loh, H.-S. C. (2020, May). Physical Frictions and Digital Banking Adoption. 1-50.
30. GDS Modellica. (2020, September 14). *10 Key Benefits of Digital Banking for Users*. Retrieved march 16, 2021, from .gdsmodellica: <https://www.gdsmodellica.com/10-key-benefits- of-digital-banking-for-users/>

---

#### Acknowledgement

Not applicable

---

#### Funding

I acknowledge this manuscript is not funded by agencies or institutions.

---

#### Conflict of interest

The authors declare that they have no conflict of interest