

# A Comprehensive Review of Digital Lending and Financial Performance in India's Banking Sector

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**Abstract:** The digital lending market of India has undergone a fundamental change during the last few years, given that its growth pace is driven by catapulting strides in digital technologies and changing socio-economic dynamics. Advanced technologies have primarily fuelled this change of the credit delivery process, including artificial intelligence and machine learning, blockchain, and big data analytics that enabled wider accessibility while improving the operational efficiency of credit. It defines and redefines what a creditworthy entity is by using unorthodox data sources-transaction histories, utility payments, social media activity-and, therefore, expands financial services toward the underserved and excluded populations and pushes the world toward financial inclusion. Technologies like UPI, along with Aadhaar's adoption for biometric authentication, demystified financial transactions, reducing complexity in onboarding. Lending became faster, more transparent, and user-centric, which brought explosive growth to this sector. In terms of views, both startups and traditional institutions are aligned on customization, efficiency, and access to lending through these technologies. Still, the sector is still beset on several sides-from refusal to adapt to regulations to the danger of hacking. Data privacy issues, phishing, and the fraudulent literature remain a scourge for lenders and borrowers alike. Over-indebtedness and predatory practices also call for tighter controls on issues that might affect consumer interests. This paper analyzes the effect of digital lending on Indian banks and fintech companies' financial performance outcomes in terms of profitability, risk management, and operations. In addition, strategic importance of the collaboration between banks and fintech is stressed with an emphasis on a request for technology innovation and Omni channel strategy in ensuring competitiveness within more digitalized financial ecosystems.

**Keywords:** Digital Lending, Financial Inclusion, Artificial Intelligence, Blockchain, Financial Performance

The impact of technology on financial services has thus been so broad that it has led to some significant and innovative changes in the industry. Indeed, 'fintech' is the combination of both 'finance' and 'technology', which may indeed eventually change the entire manner of managing finance. Technology, thus, has changed both the financial markets and society entirely over the past 10 years. It is not a very recent phenomenon, but, indeed, the integration of technology in the financial sector has significantly changed over the last decade. The second element is the tremendous amount of diversity within the financial technology industry and, most notably, the size in terms of companies [1]. The COVID-19 pandemic saw tremendous momentum in credit cards in the India market. Card payments have increased from INR 6,30,414 crore in FY 2020-21 to INR 10,49,065 crore as of September FY23. Although there is significant credit demand, only around 6% of Indians, or 86 million, have credit cards as of April 2023. Low credit card adoption may be attributed to the reluctance of traditional banks to provide this service to customers with low or non-existent credit score. This presented an opportunity for Fintech companies, NBFCs, and others in such category to leverage their skills and infrastructure to provide credit services to this customer group. That is, borrowers who had no credit history could avail such services without much paper work. Moreover, through mobile app-based ubiquitous technology, Fintech companies could also access and on-board large numbers of potential credit customers [2].

In this regard, a wide range of DLAs, like consumer durables loan, scan and pay, Buy Now Pay Later (BNPL), etc. are being marketed through mobile and web-based applications today. Balance sheet lenders (BSL), just like banks and NBFCs, can use their in-house DLAs to directly offer their own credit products and services to potential customers. Alternatively, banks may outsource some of the credit functions such as customer acquisition, underwriting and pricing support, monitoring and recoveries of loan, etc. to one or more third-party Lending Service Providers (LSPs), who may do so using their own digital platforms and capabilities. Therefore, acting as an agent for one or more banks, the LSP becomes an intermediary between the credit customer and the bank

## I. INTRODUCTION

[3]. Financial performance is a basic issue of the economic entities and all businesses have to make efforts to achieve the highest financial performance. There are various factors that influence the financial performance of a business. These factors may be either internal factors or external ones. There are many studies proving the capital structure impact on financial performance for businesses currently, though their results ultimately prove to be dissimilar to one another. Moreover, any certain business sector is characterized by its specific properties and types of capital management, and therefore the level of influence is highly diversified as well [4].

Four aspects are usually considered while categorizing financial performance indicators: profitability, operating capacity, solvency, and development capacity. Theoretically, two major perspectives explain how a firm's financial performance impacts its market value. One is

absolute valuation theory, where the intrinsic value of a firm will be derived based on financial data. Although it is very accurate, it remains impractical due to issues like discount rate estimation and more. The second theory states that in a perfectly rational and efficient capital market, where all available information is embodied in share prices, no superior returns are possible to analyze the shares. Both theories state that firm's market value is positively and significantly correlated with the financial performance of the firm, particularly its profitability, in both developed and emerging markets [5]. Figure 1 Comparison of Traditional Lending Process with Digital Lending Process. Traditional method involves manual applications, underwriting, physical documentation, and manual repayments, meaning the processing is longer. Digital process prefers automated processes such as online application, data-driven underwriting, instant approvals, and digital servicing for quicker and faster loan management.

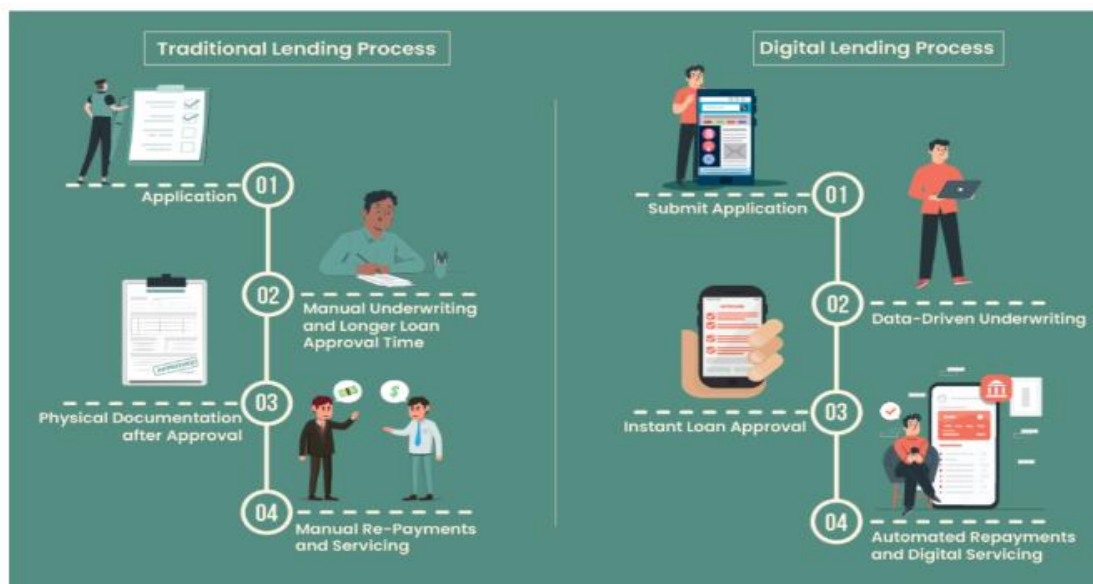


Figure 1: Traditional Lending Vs. Digital Lending [6]

## II. EVOLUTION OF DIGITAL LENDING IN INDIA

The turning point has come in the form of the demonetization policy that was introduced in 2016. It hastened, rather helped speed up, the use of digital finance because consumers were looking towards paperless and cashless alternatives. This then led to the digital lending platforms, taking advantage of this growing trend of convenience and speed, while regulatory support was also issued through the Reserve Bank of India's introduction of frameworks to encourage innovation while also safeguarding consumers. Initiatives such as the Account Aggregator framework and regulatory sandboxes have been the bed of support under which digital lending has grown exponentially [7]. Several factors have underpinned the expansion of digital lending. Technological progress, especially in AI and ML, has transformed credit scoring and risk assessment. In addition to these technologies,

widespread digital payment systems have also simplified loan disbursement and repayments. Also, changing consumer preferences, specifically for millennials and Gen Z, have fueled adoption because both demographics are increasingly prioritizing convenience and speed when it comes to financial transactions. The COVID-19 pandemic further accelerated the sector, as lockdowns and increased restriction on physical interactions further boosted demand for digital solutions [8].

The Indian digital ecosystem has placed a strong base for growth in digital lending. Seamless integration between lenders and borrowers is made possible through platforms such as UPI and broader infrastructure of India Stack. Startups like Paytm, Lendingkart, and KreditBee have emerged as key players in offering innovatively tailored products to diverse customer needs. At the same time, the

sector has also attracted significant investments, and venture capital and private equity financing were crossing more than \$2 billion for the period between 2016 and 2022 [9]. Digital lending has had considerable socio-economic implications. It has democratized credit access to underserved segments like micro, small, and medium enterprises (MSMEs) and rural consumers. The alternative data sources empower the digital lenders to bridge the gap left by traditional financial institutions and, thus promote financial inclusion, job creation, and entrepreneurial growth. Despite its success, the sector experiences various challenges such as regulatory compliance, cybersecurity threats, and the risk of over-indebtedness among borrowers. However, blockchain and decentralized finance (DeFi) innovations are bound to shape the next phase of growth [10]. Figure 2 charts the growth trajectory of digital lending in India since the 2016 demonetization event, which picked up on the uptake of digital financial services. This is underpinned by central regulatory support, technological advancements, and the development of digital ecosystems and new startups. It also features innovations like AI, UPI, and blockchain, while discussing the challenges that include regulatory compliance as well as cybersecurity risks.

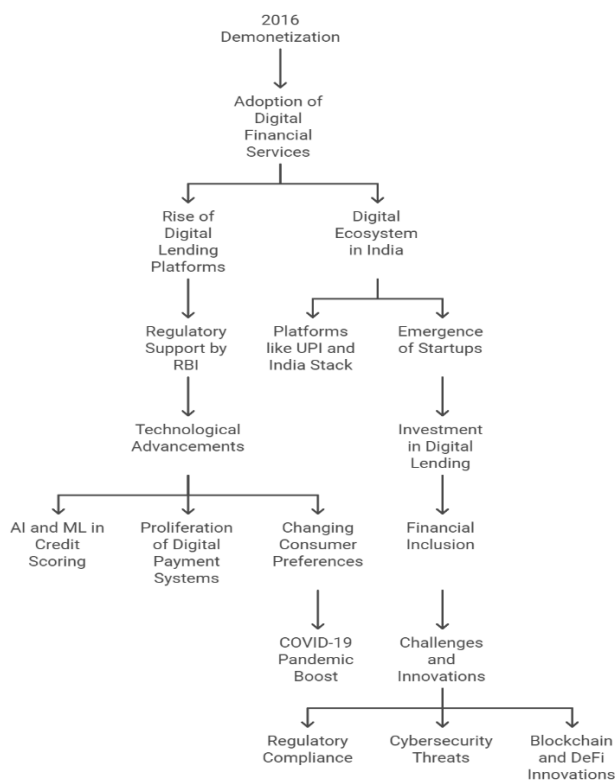


Figure 2: Growth and Evolution of Digital Lending in India [10]

In India, the rapid emergence of digital lending has far been catalysed by serious technological changes at the base level, fundamentally reshaping the kinds of credit accessed, assessed, and issued. Innovations in this direction have made it possible for financial institutions to deliver efficient,

unjarring, and highly personalized financial services, catering to the varied socio-economic challenges of the entire country. An increasing body of literature reveals that AI and ML at their core redefine the digital lending processes. Credit risk assessment and underwriting are founded on these technologies and rely on huge amounts of data, comprising structured as well as unstructured data, for forming strong credit profiles. Specifically, they can serve customers who have little or no formal credit history, thereby inclusive financial services to formerly excluded communities [11]. Big Data Analytics extends this even more by leveraging non-traditional sources of data like transactional records, social network activities, and even utility payment records as means of evaluating creditworthiness especially for the underbanked in rural and semi-urban geographies [12]. Blockchain technology is something that has revolutionized the face of digital lending, bringing with it greater transparency, security, and efficiency within the ecosystem. Its ability to guarantee unalterable, permanent records of transactions has reduced fraud occurrence significantly while increasing the comfort levels of all the stakeholders involved. Smart contracts utilized it to facilitate easier compliance and automate primary processes, such as loan agreements, thereby increasing operational efficiency [13]. Similarly, cloud computing has transformed scalability in the digital lending world by providing the infrastructure to handle massive volumes of data, the rapid roll out of applications, and maintenance of interruption-free service delivery [14]. Biometric authentication, in conjunction with India's Aadhaar system, further streamlined the customer onboarding process by quickly and correctly verifying identity, minimizing fraud risks, and hastening Know Your Customer (KYC) compliance [15].

API integration and the open banking framework have transformed data-sharing practices between financial institutions, giving birth to open banking frameworks-an initiative that is promoting more transparency and even allowing for personalized loan products. One such impactful product is the Account Aggregator framework, which guarantees secure data-sharing based on consent for better credit decisions [16]. Growth in the digital payment infrastructures, especially through the Unified Payments Interface (UPI), complemented all these developments by enabling real-time loan disbursement and repayment processes, thereby enhancing the convenience of borrowers while also increasing the efficiency of lenders' operations [17]. RPA also has emerged as an important player by taking up the task of automating repetitive and resource-intensive tasks such as document verifications, thereby drastically reducing processing times and improving the overall customer experience [18]. Mobile technology, led by large smartphone penetration and affordable internet, has expanded the online reach of digital lending to millions of users in both urban and rural India. Mobile applications offer

user-friendly interfaces for loan requests, tracking, and support that make digital lending very accessible to different demographic segments [19]. Lastly, as digital lending platforms expand their reach and scope and grow in complexity, cybersecurity has emerged as an essential focus area. Improvements in encryption technologies, multi-factor authentication, and AI-driven threat detection systems ensure the protection of sensitive financial and personal data, fostering trust among users [20]. Table 1 table provides a comprehensive comparison of key technological advancements, their primary functions, and their specific impacts on the digital lending ecosystem.

	and repayment of loans	speed for borrowers
RPA [18]	Automation of repetitive tasks like document verification	Operational efficiency, reduced processing time
Mobile Technology [19]	User-friendly mobile apps for loan application and tracking	Accessibility for rural and urban populations, improved customer experience
Cybersecurity Enhancements [20]	Encryption, multi-factor authentication, threat detection	Secured borrower data, increased user trust

### III. IMPACT OF DIGITAL LENDING ON FINANCIAL PERFORMANCE

Table 1: Comparative Table of Technological Advancements in Digital Lending

Technology	Function	Impact on Digital Lending
AI and ML [11]	Credit risk assessment, fraud detection, loan optimization	Precise underwriting, robust credit profiling, improved fraud prevention
Big Data Analytics [12]	Analysis of unconventional data sources (e.g., social media, transaction history)	Enhanced creditworthiness assessment for underserved populations
Blockchain Technology [13]	Immutable transaction records, smart contracts	Increased transparency, fraud reduction, streamlined compliance
Cloud Computing [14]	Data management, application deployment, real-time processing	Scalability, cost efficiency, uninterrupted service delivery
Biometric Authentication [15]	Identity verification via fingerprints or facial recognition	Faster onboarding, reduced fraud, streamlined KYC
API Integration [16]	Secure data sharing between financial institutions	Improved decision-making, personalized loan products
Digital Payments (UPI) [17]	Real-time disbursement	Enhanced convenience and

The entry of digital lending has significantly impacted financial performances by commercial banks, non-banking financial companies (NBFCs), and fintech institutions in the country. Digital lending platforms, via advanced technologies such as artificial intelligence, machine learning, and big data analytics, have renovated existing mechanisms of traditional credit delivery for profitable returns, efficiency, and risk management. Some of the key performance indicators that can be used to evaluate financial performance in the context of digital lending are profitability, operational efficiency, and NPA management [21]. Profitability metrics like ROA and ROE speak to the financial payback from digital lending innovations, because these platforms have helped banks increase their customer base, reduce the cost of transactions, and enhance loan recovery rates. Efficiency metrics like cost-income ratio and loan processing times have highlighted the operational improvements from automating processes such as credit risk assessment, document verification, and loan disbursement. Digital lending has also helped in better NPA management through data-driven credit scoring with mechanisms for fraud detection that can act as early detectors for risk mitigation and monitoring [22, 23].

Various case studies of selected commercial banks in India indicate that digital lending has positively impacted their

financial performances. For example, State Bank of India and ICICI Bank have developed strong digital lending strategies that continue to incorporate AI-powered platforms and mobile applications aiming at streamlining loan origination and servicing. SBI's YONO platform and ICICI's InstaLoan service have reported significant growth in customer acquisition, particularly among millennials and first-time borrowers. These platforms have also contributed to a marked reduction in operational costs, as digital channels require fewer physical resources and manual interventions [24,25]. In a similar vein, the implementation of digital lending solutions at HDFC Bank has seen improved turnaround times, customer satisfaction, and a decline in delinquency, thus directly contributing to improvement in profitability. These case studies clarify how digital lending can solve age-old problems related to traditional models, such as processing costs and delays, and restricted reach [26]. Figure 3 demonstrates how digital lending could utilize advanced technologies to improve financial performance. By reducing the costs and optimizing operations leading to increased profitability, lenders manage their NPAs much better and become more efficient. These changes lead to a spurt in expansion of the customer base for institutions, thereby completing the innovation-expansion cycle in the financial industry.

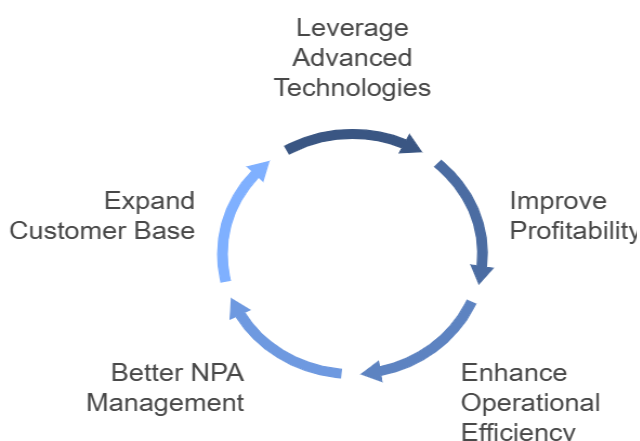


Figure 3: Digital lending Impact Cycle [26]

#### IV. STRATEGIC IMPLICATIONS FOR INDIAN COMMERCIAL BANKS

Digital lending has brought transformative implications for Indian commercial banks, challenging old paradigms and making institutions introduce innovative strategies to remain relevant and competitive. In order to leverage the full potential of digital lending, banks need to embrace extensive best practices to integrate technology with optimal customer engagement and address the challenges of risk management. By leveraging cutting-edge technologies like AI and ML, a bank could get sophisticated credit scoring, fraud detection, and customer segmentation [27]. These technologies allow banks to go beyond traditional considerations, such as credit scores and documentation of income, and assess the creditworthiness of the customer using alternative data sources such as payment histories and utility bills, and even behavioral patterns on digital platforms. Automation of loan origination processes can cut the processing time hugely, allowing for near-instant credit approvals-an important driver of retaining customers in an increasingly competitive landscape. Banks also need to improve the user experience through intuitive digital platforms, personalized offerings, and end-to-end paperless processes to cater to the rising share of tech-savvy customers [28, 29].

In this competitive digital lending space, banks are seeing mounting challenges from fintech startups and non-banking financial companies, which have utilized agility and innovation in disruption of the old models of lending. Challengers have capitalized on technological advancements to offer faster, more accessible, and customized forms of lending solutions mostly targeting underserved and niche markets that conventional banks have found difficult to penetrate [30]. Fintech companies shine in small-ticket loans, buy-now-pay-later products, and microfinance services, all areas where commercial banks lag behind. To overcome this, the banks need to rethink how to present their age-old strengths: strong regulatory compliance and a well-established trust factor, by fusing with the type of agility and innovation offered by digital lending models. Building an omnichannel presence, wherein digital and physical banking services complement each other, is critical to the sustenance of the broad customer

base. Furthermore, using scale to offer favorable interest rates and terms-something fintech companies may not be able to maintain because they have a relatively higher cost of capital [31].

Collaborations and partnerships with fintech companies have now become one of the utmost strategies undertaken by banks as ways to leverage their ability to do digital lending while conserving on the hefty cost and time associated with their in-house development. Fintech partnerships, in essence, help banks integrate cutting-edge technology solutions like real-time credit underwriting, blockchain for secure transactions, and digital wallets for easy repayments. Such collaboration with the fintechs may help banks incorporate the new age customer acquisition models-most notably social media-driven campaigns or gamification-based loan education tools among others. Co-lending models are a whole other strategic segment where, based on the structure, banks and the fintechs would share the risks and rewards of loan disbursement. This approach not only pushes the banks to expand their portfolios into new customer segments but also helps fintechs use the low cost of capital and compliance abilities of the banks. These partnerships are also most effective in rural and semiurban areas, where fintech's digital-first models aligned with those of banks' existing networks can drive financial inclusion [32, 33].

Strategic partnerships are empowering banks to tap into the real benefits of open banking, which provides good access and security for sharing data via APIs. The Account Aggregator framework by RBI is a great illustration of how banks can avail of consent-driven data sharing for delivering personalized loan products. Further, the partnership with technology houses will allow banks to use AI-driven chatbots and robo advisors for enhanced customer support and improved operational efficiency [35]. Another avenue to differentiation and to engaging customers in co-creating digital ecosystems is through super apps with a holistic servicing approach that integrates banking services with e-commerce, insurance, and investment platforms. This line of

expansion, however, presents banks with challenges including increased regulatory oversight and cybersecurity concerns [36]. Digital lending poses risks of data privacy violation, phishing attacks, and system vulnerabilities on institutions; thus, a solid cybersecurity infrastructure is an important investment. Moreover, regulators, including the Reserve Bank of India (RBI), are closely monitoring the digital lending space to ensure transparency, prevent predatory lending practices, and safeguard consumer interests. Banks must therefore balance innovation with compliance, ensuring that their digital lending models adhere to regulatory frameworks and ethical standards [37].

## V. CONCLUSION

Digital lending has emerged as a transformative force in India's financial landscape, redefining access to and delivery of credit by shifting paradigm attitudes. Its path forward spells out a growth trajectory on account of technological innovation, regulatory support, and changing consumer behaviors-meaning the long-standing challenges facing the financial sector may get addressed. These technologies of AI and ML enable accuracy in credit risk assessment while blockchain and biometric authentication usher in unprecedented levels of transparency and security. All these technology interventions have really worked to enhance financial performance metrics of lenders related to profitability, operational efficiency, and management of nonperforming assets. Case studies of leading Indian banks, such as SBI and ICICI, help bring on-ground realizations of the benefits of putting in place digital lending platforms. These measures will directly lead to improved customer acquisition, reduced transaction costs, and increased recovery of loans. However, there are challenges in this sector as well. Regulatory scrutiny, cybersecurity threats, and the risk of over-indebtedness require robust frameworks to ensure sustainable growth.

Strategically, commercial banks have to align their operations' models to operate with the speed and innovation that fintech players offer to stay ahead. This includes

embracing state-of-the-art technologies, developing alliances, and omnichannel banking. Probably through partnerships with fintechs, banks will be able to use innovative tools for access into new markets, especially in rural and semi-urban. The Account Aggregator model is an exemplary regulatory framework that emphasizes data-driven decision-making and personalized financial products. Conclusion The emergence of digital lending marks a paradigm shift within India's banking sector, tackling crucial socio-economic challenges that drive further financial inclusion and economic growth. Navigating the regulatory landscape as well as harnessing the very latest technological advancements, it can continue shaping the future of financial services.

## REFERENCES

- [1] Asamani, A., & Majumdar, J. (2024). An Empirical Study of Digital Lending in India and the Variables Associated with its Adoption. *BAR-Brazilian Administration Review*, 21(3), e230132.
- [2] Singh, S. K. (2023). DIGITAL LENDING: A Paradigm Shift in Bank Lending. *NICE Journal of Business*, 18(1).
- [3] Chherawala, T., & Vaidya, A. (2023). Digital Lending and Default Loss Guarantee. *Vinimaya*, 44(2), 5-12.
- [4] PHAM, C. D. (2020). The effect of capital structure on financial performance of Vietnamese listing pharmaceutical enterprises. *The Journal of Asian Finance, Economics and Business*, 7(9), 329-340.
- [5] Zhou, G., Liu, L., & Luo, S. (2022). Sustainable development, ESG performance and company market value: Mediating effect of financial performance. *Business Strategy and the Environment*, 31(7), 3371-3387.
- [6] Akhileshwari, A., & Majumdar, J. (2023). Digital Lending: The Phenomena Of Intermediation Through Disintermediation. *Journal of Namibian Studies: History Politics Culture*, 35, 2536-2553.
- [7] Sarkar, K. K., & Thapa, R. (2021). From Social and Development Banking to Digital Financial Inclusion: The Journey of Banking in India. *Perspectives on Global Development and Technology*, 19(5-6), 650-675.
- [8] Srivastava, D. A. K. (2021). Digital Lending in India: The Loan Trap. Available at SSRN 4681458.
- [9] Bhuvaneshwari, R., & Vinitha, K. (2023). USAGE OF DIGITAL LENDING APPLICATIONS AND CUSTOMER INDEBTEDNESS. *College of Management*, 209.
- [10] Trivedi, H. Evolution of Digital Payment System in India: Past, Present and Future.
- [11] Kumar, A., Sharma, S., & Mahdavi, M. (2021). Machine learning (ML) technologies for digital credit scoring in rural finance: a literature review. *Risks*, 9(11), 192.
- [12] Seth, M. S., & Gandhi, M. B. (2023). 15 REVOLUTIONIZING RISK ASSESSMENT AND LENDING DECISIONS: THE IMPACT OF DIGITALIZATION AND DATA ANALYTICS IN INDIAN BANKS. *COMMERCE, ECONOMICS & MANAGEMENT*, 111.
- [13] Surekha, N., Sangeetha, R., Aarthy, C., Kavitha, R., & Anuradha, R. (2022). Leveraging blockchain technology for internet of things powered banking sector. In *Blockchain based Internet of Things* (pp. 181-207). Singapore: Springer Singapore.
- [14] Ghosh, S. K. (2022). Adoption of Digital and Cloud Technologies in Financial Industry during Covid-19 Pandemic. *International Research Journal of Engineering and Technology (IRJET)*.
- [15] Marda, V., & Sinha, A. (2022). FinTech Lending in India: Taking Stock of Implications for Privacy and Autonomy. *Indian JL & Tech.*, 18, 100.
- [16] Pushpa, B. V., & Harsha, H. (2024). Unified Lending Interface (ULI): Transforming the Digital Lending Ecosystem.
- [17] Sharma, A., Bhimavarapu, V. M., Kanoujiya, J., Barge, P., & Rastogi, S. (2022). Financial Inclusion-An Impetus to the Digitalization of Payment Services (UPI) in India. *The Journal of Asian Finance, Economics and Business*, 9(9), 191-203.
- [18] Shidaganti, G., Khandelwal, L., Gupta, K., & Vaswani, H. (2023). Challenges in Banking and Solving Them Using RPA. In *Confluence of Artificial Intelligence and Robotic Process Automation* (pp. 133-156). Singapore: Springer Nature Singapore.
- [19] Aithal, P. S. (2024). Influence of Digital Technology on Microfinance Sector: A Study in Kerala. *International Journal of Applied Engineering and Management Letters (IJAEML)*, 8(2), 186-197.
- [20] Manasseh, C. O., & Ede, K. K. DIGITAL FINANCE, CYBERSECURITY CHALLENGES, AND ECONOMIC DEVELOPMENT IN NIGERIA. *Emerging Trends in Conflict Resolution, Peace and Strategic Studies*, 154.
- [21] Muriuki, M. N. (2023). Effects of Digital Loans on Financial Performance for Commercial Banks Listed at Nairobi Security Exchange (Doctoral dissertation, University of Nairobi).
- [22] Al-shakrhy, E., & Alnassar, W. I. (2021). The impact of traditional and digital financial inclusion on market lending: Evidence from panel data

- estimation. *Academy of Entrepreneurship Journal*, 27, 1-13.
- [23] Kokonya, S. R. O., & Kimutai, C. (2024). Evaluating Loan Performance in Kenya's Digital Lending Sector: The Role of Credit Risk Management. *Asian Journal of Economics, Finance and Management*, 327-340.
- [24] Kimatu, T. M., BUNYASI, D. G., & Asoyong, N. (2023). Effects of Digital Payments on Financial Performance of Commercial Banks in Kenya. *International Journal of Interdisciplinary Research in Social Science*, 1(3).
- [25] Vijayalakshmi, B., & Jayalakshmi, M. (2019). A study on digital transactions impact on financial performance of banking sector with reference to SBI and ICICI. *Journal of Leadership, Accountability and Ethics*, 16(6), 1-13.
- [26] Saxena, S., Joshi, A., & Vidani, J. (2024). Digital Banking Pioneers: A Comprehensive Exploration of India's Financial Frontier with HDFC Bank.
- [27] Settibathini, V. S., Kothuru, S. K., Vadlamudi, A. K., Thammreddi, L., & Rangineni, S. (2023). Strategic analysis review of data analytics with the help of artificial intelligence. *International Journal of Advances in Engineering Research*, 26, 1-10.
- [28] Siddique, A., Khan, M. A., & Khan, Z. (2022). The effect of credit risk management and bank-specific factors on the financial performance of the South Asian commercial banks. *Asian Journal of Accounting Research*, 7(2), 182-194.
- [29] Sharma, M., & Choubey, A. (2022). Green banking initiatives: a qualitative study on Indian banking sector. *Environment, Development and Sustainability*, 24(1), 293-319.
- [30] Qasaimeh, G. M., & Jaradeh, H. E. (2022). The impact of artificial intelligence on the effective applying of cyber governance in jordanian commercial banks. *International Journal of Technology, Innovation and Management (IJTIM)*, 2(1).
- [31] Gupta, N., & Mahakud, J. (2020). CEO characteristics and bank performance: evidence from India. *Managerial Auditing Journal*, 35(8), 1057-1093.
- [32] Onson, A., Khamseh, A., & Torabi, T. (2023). Enhancing Cooperation: A Futuristic ANFIS Model for Anticipating Strategic Alliances between Fintech Start-ups and the Banking Sector. *Fuzzy Optimization and Modeling Journal*, 4(3), 16.
- [33] Danladi, S., Modibbo, U. M., & Prasad, M. S. V. (2023). Achieving sustainable development goals through financial inclusion: Collaborative approaches to fin-tech adoption in developing countries.
- [34] Marda, V., & Sinha, A. (2022). FinTech Lending in India: Taking Stock of Implications for Privacy and Autonomy. *Indian JL & Tech.*, 18, 100.
- [35] Mahesh, K. M., Aithal, P. S., & Sharma, K. R. S. (2023). Impact of Digital Financial Inclusion (DFI) initiatives on the self-help group: For sustainable development. *International Journal of Management, Technology and Social Sciences (IJMTS)*, 8(4), 20-39.
- [36] Haddawee, A. H., & Flayyih, H. H. (2020). The relationship between bank deposits and profitability for commercial banks. *International Journal of Innovation, Creativity and Change*, 13(7), 226-234.
- [37] Cheng, L., Nsiah, T. K., Ofori, C., & Ayisi, A. L. (2020). Credit risk, operational risk, liquidity risk on profitability. A study on South Africa commercial banks. A PLS-SEM Analysis. *Revista Argentina de Clínica Psicológica*, 29(5), 5.