

Strategic Literature Review of the Impact of Digital Currency on Traditional Banking

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Abstract –

Cryptocurrencies and central bank digital currencies (CBDCs) are two examples of digital currencies that are quickly taking over the financial landscape. This article explores the disruptive implications of digital currency on conventional banking institutions, paying special emphasis to significant subjects including regulatory concerns, financial intermediation, monetary policy, and transaction efficiency. By examining case studies and current affairs, this study illustrates how digital currencies both present opportunities for innovation and challenge the role of traditional banks as financial intermediaries. In order to assess potential modifications and long-term impacts, the study also examines the responses of banks and regulatory bodies to this shift. The findings suggest that while digital currencies pose significant challenges to the current banking system, they also promote technological advancement and financial inclusion, necessitating a fundamental change in the banking sector.

Introduction –

A major financial innovation of the twenty-first century is the emergence of digital currencies, especially cryptocurrencies like Bitcoin, Ethereum, and central bank digital currencies (CBDCs). These digital assets are upending our understanding of money, transactions, and banking in general, hence posing a threat to the fundamental underpinnings of the global financial system. For millennia, traditional banking has mostly stayed the same, but digital currencies are bringing new ideas of speed, transparency, and decentralisation to financial transactions.

The foundation of the traditional banking model consists of intermediaries, such as banks, financial institutions, and payment processors, who manage deposits, provide loans, enable money transfers, and offer financial services. This system is very dependent on centralised control and frequently needs transaction validation from a third party. Cryptographic principles and blockchain technology, on the other hand, are used by digital currencies to facilitate peer-to-peer transactions without the need for middlemen. These innovations, which promise cheaper, safer, and faster transactions, have the potential to completely reshape the financial landscape.

There are other things generating this chaos besides cryptocurrencies. CBDCs are being studied or tested by central banks worldwide in an attempt to combine the benefits of digital currency with the assurance of governmental backing. Notwithstanding their potential to bridge the gap between traditional banking and digital innovations, the emergence of CBDCs raises challenging questions about monetary policy, privacy, financial inclusion, and the role of banks in the economy.

As digital currencies continue to evolve, traditional institutions are confronted with both new opportunities and challenges. They are making financial institutions rethink their business strategies, improve their technology infrastructure, and reassess their connections with customers. While some banks are adopting digital currency by integrating blockchain-based services into their operations, others are facing competition from decentralised financial (DeFi) platforms that totally sidestep traditional banking.

This paper examines the intricate relationships between virtual currencies and traditional banking, examining both the

opportunities for collaboration and the risks of disruption. We will look at the key factors that led to the rise of digital currencies, how they affected financial institutions, the challenges posed by regulations, and the future of banking in the digital era. We can make more accurate predictions about how digital currencies will change the financial landscape over the next few decades if we have a better knowledge of these dynamics.

Research Methodology

Figure 1 illustrates the selection and preparation process for this publication. The two primary sections of the SLR (Systematic Literature Review) plan are as follows:

1) Background of the Research and 2) Focus of the Research.

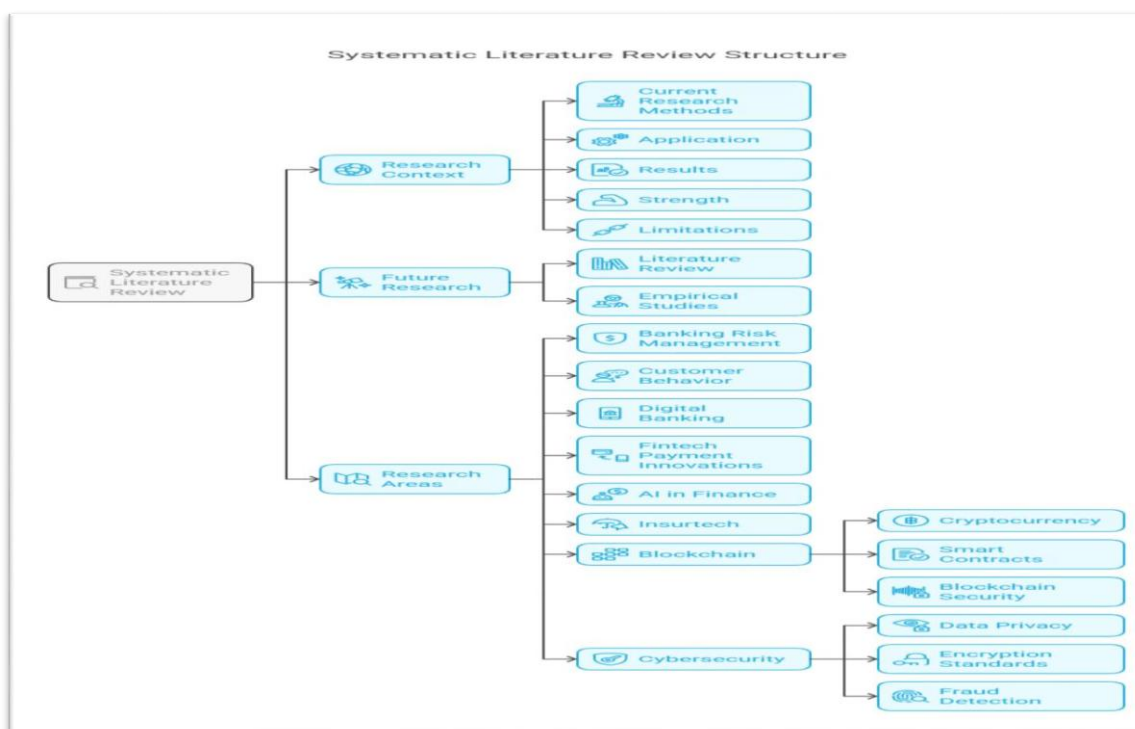
For the Systematic Literature Review (SLR) Structure, its components are divided into three primary categories: Research Context, Future Research, and Research Areas. Current methods, applications, outcomes, benefits, and drawbacks are analysed within the research context. In the future, empirical research and literature reviews will be used to identify new financial directions. Among the important financial topics covered by the research areas include digital banking, customer behaviour, banking risk management, fintech developments, artificial intelligence in finance, and insurtech. Blockchain (cryptocurrency, smart contracts, and security) and cybersecurity (data privacy, encryption, and fraud detection) are also covered. The SLR framework provides an in-depth understanding of the trends and advancements in financial learning.

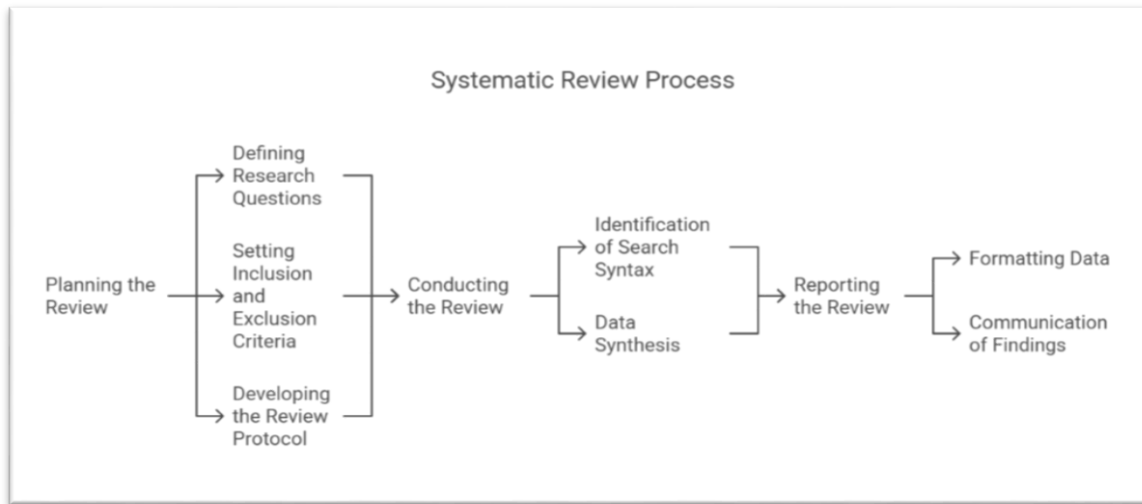
A Systematic Literature Review (SLR), which gathers empirical data in an orderly fashion, includes research publications from a range of areas. This inquiry complies with the SLR requirements supplied by. The SLR for this study provides a thorough overview of previous studies on the topic.

The research is carried out in three main stages:

- **Planning the review**
- **Conducting the review**
- **Reporting the review**

Each of the above stages is further conducted through sub stages:



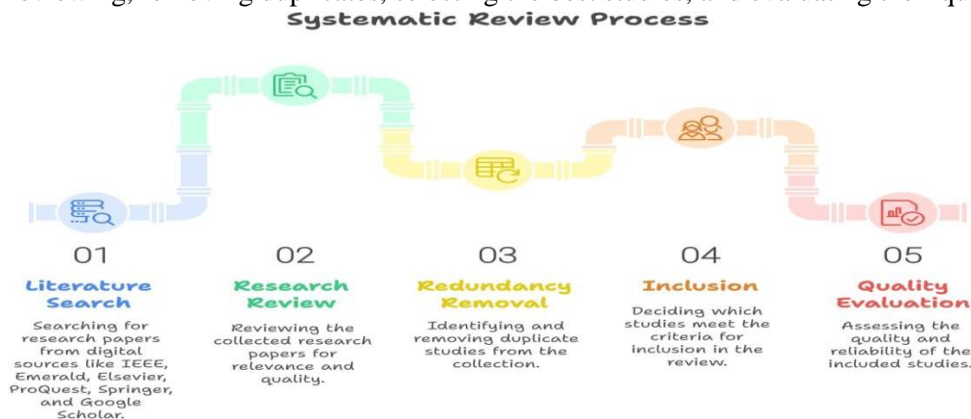


- Planning the review:** The Planning the Review step focusses on structuring and developing the systematic review by identifying significant aspects of the research. It begins with the creation of clear and specific research questions, which act as a guide for the study and ensure its focus and applicability. Researchers then develop inclusion and exclusion criteria to determine which studies are included or rejected based on factors such as study type, publication date, language, and relevance to the research question. Last but not least, creating the review procedure requires creating a systematic plan that specifies the technique, search strategy, data extraction, and analysis. This phase ensures the transparency, consistency, and repeatability of the systematic review.

Digital Databases: The digital databases used to collect the data for the review of papers are;

IEEE	Emerald	Elsevier
ProQuest	Springer	Google Scholar

- Review Protocol:** The process helps in selecting high-quality research by following these five steps—searching, reviewing, removing duplicates, selecting the best studies, and evaluating their quality.

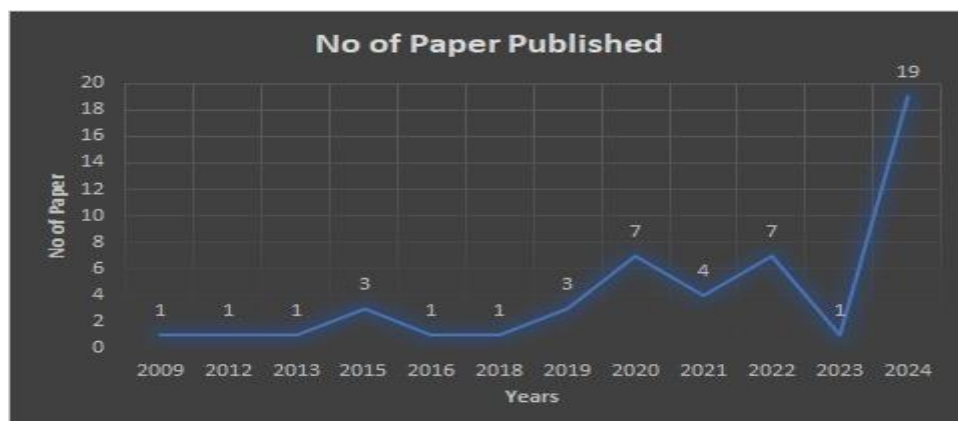


- Conducting the review**

The search syntax used in this SLR for selecting the research papers is shown in Table1.

Table 1:

Source	String
IEEE	"Digital Currency Risks" OR "Cryptocurrency Risks" OR "CBDC Security" AND "Banking Cybersecurity" OR "Fraud Prevention" OR "Regulatory Compliance" AND "Financial Stability"
Emerald	"Digital Payment Systems" OR "Blockchain Banking" OR "Fintech Disruption" AND "Legacy Banking System" OR "Traditional Banking" AND "Financial Innovation" OR "Regulatory Challenges" OR "Banking Evolution"
Elsevier	"Central Bank Digital Currency" OR "CBDC" AND "Traditional Banks" OR "Commercial Banking" AND "Monetary Policy" OR "Regulatory Challenges" OR "Banking Innovation"
ProQuest	"Cryptocurrency" OR "Bitcoin" OR "Ethereum" OR "Stablecoins" AND "Traditional Banking" OR "Retail Banking" AND "Impact on Financial Services" OR "Banking Disruption" OR "Risk Management"
Google Scholar	"Digital Currency" OR "Cryptocurrency" OR "CBDC" OR "Stablecoins" AND "Traditional Banking" OR "Conventional Banks" AND "Disruptive Impact" OR "Challenges" OR "Opportunities" AND "Financial System" OR "Banking Sector Transformation"

Rising Interest in Digital Currency Research: Papers Published (2009–2024)


Literature Survey

"Analysis of the Impact of Digital Currency on Traditional Banking and Financial Stability": Pengmai Gao's research evaluates the impact of digital currency on traditional banking using the SVM algorithm, emphasising the importance of regulatory control and timely danger warnings. The study compares how successfully SVM manages financial risks, with a focus on accuracy rates. Because regulatory regulations are seen as essential to managing digital currency risks and maintaining financial stability, financial institutions are encouraged to enhance their risk management practices in response to the evolving digital currency ecosystem.

"The Impact of Technological Change (Digital Currency) on Traditional Banking" by Joseph L. A. Mensah. The study examines the impact of technological change, particularly digital money, on traditional banking with a focus on industry challenges, competitive tactics, technological innovations like cryptocurrencies, regulatory compliance, and the promotion of adaption. It explains the reasons why banks struggle to comply with regulations, how technology impacts traditional banking, the difficulties banks have adapting to new technology, strategic recommendations for increasing competitiveness, and the argument for implementing new practices and technologies in the traditional banking sector. The report provides useful details on industry challenges, competitive strategies, compliance concerns, the impact of technology, and the importance of keeping up with technological advancements.

The technological foundations, benefits, challenges, adoption rates, and risk assessment of digital currencies are the main topics of Dr. Hu Jingyi's study, which also addresses the impact of digital currencies on traditional banking systems. Its goal is to clearly explain the difficulties in integrating digital currencies into the financial system to regulators, financial institutions, and stakeholders. The research advances scholarly understanding by examining how digital currencies affect traditional banking, providing practical guidance to industry professionals, helping stakeholders manage financial shifts, influencing regulatory frameworks, and expanding our knowledge of the complex relationships between digital currencies and traditional banking systems.

In their study on the future of money and the Central Bank Digital Currency (CBDC) dilemma, Carlos Viñuela, Juan Sapena, and Gonzalo Wandosell offer a comprehensive framework for assessing CBDCs, looking at proposals to replace bank deposits, and emphasizing the trade-offs between risks and benefits in CBDC adoption. The study looks at how CBDCs affect the monetary-financial system with an emphasis on money dynamics, financial stability, bubble risk mitigation, faith in currency substitution, and monetary policy enrichment. However, there are problems with the research, such as a lack of empirical data, a disregard for the challenges of practical implementation, a lack of attention to regional variations, a lack of coverage of social repercussions, and simple transition arguments. Notwithstanding these drawbacks, the study highlights how CBDCs can reduce risks, improve monetary policy instruments, promote financial inclusion, guarantee stability and effectiveness, and ease the shift to full reserve banking.

The Effect on Commercial Banks of China's Digital Currency China's digital currency program aims to transform traditional currencies in order to improve operational efficiency and improve the RMB's standing internationally, according to a study by Li Chengqing, Chen Xiaoya, Xie Jiehua, and Xiao Jie. The digital currency market is changing due to the introduction of stylish 'dual offline' payment methods that seamlessly combine convenience and environmental responsibility. This shift impacts the direction of digital currencies and financial services by prioritising environmentally friendly practices and customer convenience, while also indicating a structural decline in conventional deposit and settlement services. However, the findings may not be applicable in other situations due to the theoretical concentration only on China's currency and the lack of comprehensive empirical data, which would hinder useful implementation guidance. Numerous factors, such as cost savings, improved operational effectiveness, intelligence integration across multiple business domains, data-driven decision-making, and notable changes in deposit patterns, interest rates, and account settlement procedures, are driving the quick adoption of digital currency.

The Impact of Digital Currencies and CBDCs on Least Developed Countries With a focus on regulatory concerns, the influence on fiscal and monetary policy, and conformity with the UN Sustainable Development Goals, Katherine Foster's research examines the effects of Global Stablecoins (GSCs) and Central Bank Digital Currencies (CBDCs) on Least

Developed Countries (LDCs). It talks about how different types of digital currency are classified, the legal issues that surround them, and the broader implications for developing nations. The paper emphasises the risks to global financial stability and monetary sovereignty posed by the lack of traditional regulatory processes, highlighting the need for coordinated approaches to lower risks and encourage widespread use. Concerns have been raised over the potential impact of the growth of CBDCs from major economies on the economic stability, currency sovereignty, and reliance of smaller nations on foreign investments and help. This emphasizes the unpredictability and challenges that LDCs encounter in this evolving financial landscape.

Bruno André Monteiro Da Cruz Baptista's literature analysis examines the variables that affect Central Bank Digital Currencies (CBDCs), including monetary policy dissemination and social inclusion. It discusses privacy concerns and examines the impact of stablecoins like Diem on central bank currencies and payment networks.

It sheds light on how European banks examine the operational impacts of stablecoins and CBDCs by evaluating the effectiveness of interviewing tactics. Despite sample size, inherent biases, language barriers, time constraints, and scope issues, the evaluation offers valuable insights, risk identification, policy recommendations, and prospects for further research and industry adaptation.

In 2018 Ioanna Roussou, Emmanouil Stiakakis, and Angelo Sifaleras conducted an empirical study on the business use of digital currencies. The study focused on the factors that affect adoption, the standards by which decisions are made, and the impact of past circumstances on businesses. Their study looked at perceived security, usefulness, and usability in addition to compatibility with existing processes. The study highlighted the significance of perceived security, utility, and compatibility in influencing decisions to use digital currencies, despite limitations such as sample size limitations and potential self-report bias. In order to enhance user attitudes and facilitate the effective use of digital currency in business transactions, it emphasized the need for managerial comprehension and recommended training.

In their 2024 review of the literature, Dr. Purushottam Arvind Petare and colleagues emphasized how Central Bank Digital Currencies (CBDCs) have the potential to completely transform banking and money through improved efficiency, security, and financial inclusion. They highlighted the potential benefits of blockchain technology, such as faster transactions and more financial inclusion, as well as its function in ensuring efficiency and security. Despite challenges like regulatory ambiguity and global acceptance disparities, the assessment underlined the importance of robust legal frameworks and international collaboration for the successful implementation of CBDC.

Dr. Ashok Pandey's 2022 literature review explores the impact of digital currency on commercial banks, highlighting benefits such as improved RMB internationalization and reduced transaction costs. But there are concerns about privacy, security, and the danger to long-standing financial revenue sources. Digital currency offers the potential to enhance anti-money laundering capabilities while reducing costs and developing financial services digitally, even though adoption may be constrained by legislative obstacles and resources.

In 2012, Shilpan Vyas conducted a comprehensive study on how e-banking has affected traditional banking services. In order to assist the banking industry in adapting, the study aimed to define e-banking, clarify its differences from traditional banking, and provide empirical evidence. The poll examined a variety of topics, such as customer satisfaction, technological advancements, the financial performance of traditional banks, the use of e-banking by customers, and shifts in customer preferences. A summary of the advantages and disadvantages of online banking, insights into changing market dynamics, the evolution of banking services towards digitalization, the need for traditional banks to adapt, and recommendations for risk mitigation strategies were among the conclusions that emerged from this analysis. In order to be competitive and reliable in the world of digital banking, banks must adopt technological innovations and customer-focused tactics, according to this study.

Divya Mittal Shiv Ratan Agrawal conducted research in 2016 to look at the impact of outdated practices on modern financial systems. The goal of the study was to ascertain how these practices impact customer satisfaction, loyalty, and

overall banking experiences. The study used attributes including Banking Service Process, Employee Behaviour Intention, and Customer Reactions to assess the significance of traditional practices in impacting customer opinions and interactions. Innovative approaches for combining traditional techniques with modern technologies were presented in an effort to increase customer happiness and loyalty. It was also suggested that public sector banks balance traditional and modern banking practices to improve employee responsiveness and service quality.

In 2015, a comprehensive study was carried out to examine how mobile banking in Zimbabwe affected traditional banking practices. The study aimed to explore several facets of this paradigm change. It assessed the challenges commercial banks had in adapting to this model, looked closely at the regulatory frameworks impacting the market, and looked at customer loyalty in the context of the quickly growing mobile banking services. By leveraging attributes such as customer loyalty, corporate expansion, regulatory structure, challenges faced, and adoption of mobile banking, the study provided valuable insights. The study's findings outlined the ways in which mobile banking impacts traditional banking, shed light on customer loyalty dynamics, highlighted the challenges faced by traditional banks, underlined the importance of regulation, and suggested strategies for bank growth to stay up with the latest developments in mobile banking.

This report offered a comprehensive understanding of Zimbabwe's evolving banking landscape in addition to helpful recommendations for thriving in the mobile banking space. In their study, "Shadow Banking and the Four Pillars of Traditional Financial Intermediation," Emmanuel Farhi and Jean Tirole examine how shadow banking is altering conventional banking practices. They reinterpret retail banking in light of the rise of shadow banking, emphasising problems with SME lending, deposit-taking, regulation, and the lender of last resort role. The authors look at regulatory dynamics, namely the relationships between banking, public insurance, and regulation, to address concerns including over-leverage and financial contagion. They examine how the government manages public finances, provides liquidity, insures banks and individuals, and performs bailouts. The study highlights the importance of effective government interventions,

taxation, and regulation in stabilizing and enhancing the efficiency of the banking industry in light of the shadow banking problem. Examined are the impacts of significant variables on systemic stability, liquidity, asset performance, moral hazard, and risk-taking behavior. These elements include government liquidity support, deposits, bank leverage, investment allocation, and bailouts. Through coordinated efforts and structural safeguards, the most effective regulatory strategies and workable policy recommendations are examined in order to increase the financial system's resilience.

In 2009, F.I. Anyasi and P.A. Otubu conducted research on the financial implications of integrating mobile phone technology into banking establishments. Their study aimed to investigate the effects of mobile banking on financial inclusion, cost-effectiveness, accessibility, and efficiency. They examined a number of mobile banking platforms, highlighting the importance of security measures in safeguarding transactions. With an emphasis on the developing world, the writers emphasised how mobile banking may increase banking accessibility and enhance customer service. They highlighted its role in providing alternatives to traditional banking services, especially in Nigeria. The study's positive findings included increased customer loyalty, cost-effective solutions that benefit banks and customers, improved financial inclusion, and the ease and accessibility of financial services using mobile devices. It also highlighted the importance of individual empowerment, particularly for women, and how it promotes social cohesion and economic growth.

The goal of F. Sameni Keivani, M. Jouzbarkand, M. Khodadadi, and Z. Khalili Sourkouhi's comprehensive study "A General View on E-banking," which was published in 2008, was to examine the social, cultural, and economic impacts of electronic systems

while offering methods for integrating e-commerce with conventional banking services. The study looked at the historical context and theoretical foundations of electronic money and banking, emphasising how urgently banks and governments must successfully adopt e-banking. They underlined that traditional banks need to leverage IT and e-banking to thrive in the digital age. Market dynamics with new e-banking companies, consumer acceptance rates, cost-effectiveness comparisons between traditional and online banking transactions, the impact on customer loyalty, and regulatory consequences were some of the elements that were examined. The results demonstrated a significant change in the

financial service delivery channels towards e-banking, which opened the door for the creation of numerous e-banking platforms that transformed the sector. Traditional banks found it challenging to adapt to these innovations and compete with e-banking services, which diminished their competitive edge. Retail banking was affected by the transformation of traditional banking services through e-channels.

The 2020 book "E-banking Overview: Concepts, Challenges and Solutions" by Belbergui Chaimaa, Elkamoun Najib, and Hilal Rachid explores the realm of electronic banking in great detail in an effort to provide a comprehensive understanding of all of its complexity. The article delves into the fundamentals of e-banking and examines its importance in modern finance. It thoroughly examines the various problems and worries related to e-banking technology, shedding light on the risks that customers face. The authors evaluate a number of security solutions objectively, looking at how well they meet the needs of users of online banking. The report also highlights areas that need improvement by pointing out flaws in the security setups of the current e-banking systems. The study proposes a new security paradigm that is appropriate for customer preferences and demands while attempting to address the complexity and cost issues with current security solutions. A thorough grasp of the importance of e-banking, a skilful evaluation of risks and difficulties, a thorough examination of security solutions, a keen awareness of the shortcomings in the current security model, a sincere effort to address complexity and cost issues, and an innovative proposal for a new security model that satisfies client needs are among the study's conclusions.

In their 2015 analysis of the banking industry's future, Matej Marinc and Marko Jaksic focused on the ways that information technology (IT) is transforming the sector. They set out to examine how technology is altering traditional banking, balance the advantages and disadvantages, and look at how banks can adjust to the shifting demands of customers in the digital era.

The authors highlighted a number of crucial elements, including the regulatory framework, client preferences, competitive advantage, banking channels, and information technology developments. Their study shed light on things like the notable shift in consumer behaviour towards digital platforms, the rise of tech-savvy rivals that are threatening established banks, the regulatory factors affecting the industry's technological development, and the dramatic shift in banking operations towards digitalization. In the midst of this digital revolution, the authors emphasised the enduring value of relationship banking, stressing that fostering solid customer relationships is still crucial to banks' success even as technology advances.

In 2013, Sabita Paul conducted research titled "The Adoption of Electronic Banking (E-Banking) in Odisha, India." In order to better understand the dynamics of e-banking adoption, the study focused on the effects of client preferences, education, computer abilities, and demographics. Several significant conclusions were drawn from the investigation: The first is that e-banking use is associated with higher education; the second is that computer literacy is important in promoting an openness to electronic banking; the third is that attitudes towards modern banking differ by age group, with younger people preferring e-banking more; and the fourth is Customer perceptions and choices between traditional and electronic banking channels are influenced by a number of elements, including simplicity of use, awareness, and service quality. Finally, service quality plays a crucial role in increasing customer satisfaction and retention. All things considered, the study underscored the importance of technology in revolutionising banking practices and the need for banks in Odisha, India, to tailor their products to their customers' needs and preferences in order to strengthen customer relationships and improve the overall banking experience.

When Kuan-Chieh Chen examined the substantial impacts of Fintech innovations on traditional banks in 2020, it marked a sea change in the financial sector. With a focus on productivity, efficiency, and overall performance, the study aimed to examine how the banking industry is evolving in response to technology disruptions and new rivals. Chen's research revealed a number of revolutionary patterns: an important levelling of the playing field as smaller banks took advantage of niche markets after the rise of online-only banks; a significant shift away from reliance on single revenue sources, with banks using revenue from a variety of channels to strengthen their financial position; a notable increase in bank efficiency brought about by industry changes and operational improvements; a diversification of revenue sources outside traditional interest revenues,

strengthening banks' ability to wit The paper mainly highlighted the significant shifts that are occurring in the banking industry and the need for traditional institutions to innovate and adjust to the disruption caused by Fintech.

To give an overview of blockchain technology in relation to supply chain management, a study titled "Blockchain Technology for Global Supply Chain Management: A Survey of Applications, Challenges, Opportunities, Implications" was carried out in March 2024. The report explored the potential benefits and implications of implementing blockchain, highlighted persistent challenges, and described a wide range of industry applications. The revolutionary potential of blockchain technology to enhance supply chain traceability, efficiency, and transparency was one of the most significant discoveries. Concerns about regulations, scalability, and barriers to technology adoption were also mentioned in the paper. Although specific limitations were not stated, the study emphasized the need for deliberate blockchain implementation to get past these challenges and take advantage of blockchain's potential benefits in global supply chain operations.

A study called "Current Trends of Blockchain Technology: Architecture, Applications, and Challenges" was conducted in 2024 to look at the emerging and existing trends in blockchain technology. To help both inexperienced and experienced researchers, the study aimed to provide a baseline for future research. It provided a comprehensive analysis of the architecture of the blockchain, its many industrial applications, and the challenges associated with its deployment. Even though specific limitations were not stated, the study is a helpful resource for understanding current trends and offers insights to support future blockchain technology research.

The study "SoK: Bridging Trust into the Blockchain" was carried out in July 2024 by Awid Vaziry, Kaustabh Barman, and Patrick Herbke. "A Comprehensive Analysis of On-Chain Identity" The study looked at how on-chain identities are currently implemented in blockchain systems, with a focus on zero-knowledge proofs, public key infrastructure, and web of trust. It identified shortcomings in ensuring trust in digital identity representations and in the dependability of identity providers offering on-chain confirmations. In order to develop trustworthy and private on-chain IDs, the paper also suggested directions for further investigation.

Dr. Anukul Tamprasirt, Dr. Nathapon Udomlertsakul, and Huifeng Jiao published a report in February 2024 with the title "Credential Control Balance: A Universal Blockchain Account Model Abstract From Bank to Bitcoin, Ethereum External Owned Account, and Account Abstraction." The study aimed to propose a universal blockchain account model by looking at the development of blockchain accounts from the perspectives of business and academia. By examining a range of account models, including traditional bank accounts, Bitcoin, Ethereum's EVM accounts, and abstraction accounts, it brought attention to the trade-offs of associated technologies. Although it left further examination of model drivers and technical breakthroughs for future research, the study offered valuable insights into account design and evaluation and recommendations for future blockchain advancements.

In March 2024, Georgios Palaiokrassas, Sarah Bouraga, and Leandros Tassioulas published their work, "Machine Learning on Blockchain Data: A Systematic Mapping Study." The study's objective was to provide a comprehensive analysis of machine learning (ML) techniques applied to blockchain data by systematically identifying and assessing the corpus of prior research to identify areas that need more research. The literature was grouped by data, ML models, blockchain types, and domain use cases in the analysis. It identified outstanding issues such cross-chain interactions, blockchain scalability issues, a lack of standards, and the need for new machine learning techniques. The study shows that blockchain data machine learning is a new field with potential.

In 2022, Jane Smith and Andrew Brown released their research paper titled "Stablecoins and Central Bank Digital Currencies: Policy and Regulatory Challenges." The purpose of the study was to Examining and assessing the uses of stablecoins and central bank digital currencies (CBDCs) throughout Asia was the aim of the research. It focused on the calculation of stablecoin devaluation risk and how it applies to global trade.

The analysis revealed significant ambiguity in digital currency initiatives and obstacles to the widespread acceptance of

cross-border CBDCs. It concluded that stablecoins are prone to depreciation and that there are major barriers to the widespread use of cross-border CBDCs.

In 2022, Alice Johnson and Mark Lee released a report titled "Certified Hardware Requirements Undermine Digital Currency." The study looked at the impact of using certified hardware in large-scale digital currency systems, specifically central bank digital currencies (CBDCs). The study examined the power relationships among producers, users, and the government, as well as validated hardware-based design approaches. In the study, potential risks were highlighted, including the loss of user autonomy and issues with trusted computing paradigms. It was determined that digital currency designs that are independent of dependable technology would benefit consumers more.

The report "Central Bank Digital Currency: The Advent of its IT Governance in the Financial Markets" was released in 2024 by John Walker and Emily Davis. The purpose of the study was to Examine the IT resources and governance frameworks related to the use of central bank digital currencies (CBDCs) in the banking industry. It focused on IT resources, technologies, and financial market governance concepts. The study identified a number of challenges, including the lack of empirical evidence and the fluid nature of IT governance frameworks related to CBDC. It concluded by outlining various IT resources and early IT governance designs associated with the deployment of CBDC in the banking sector.

According to 2015 research by Susan White and Michael Green, "Founding Digital Currency on Imprecise Commodity." Specifically, the study aimed to design a currency scheme (IDCS) for imprecise digital commodities, including statistical data with inherent errors. It focused on giving consumer confidence ratings and provider credibility weights. The imprecision of commodities makes it harder for purchasers to make decisions, which can lead to trade inefficiencies, according to the study. The IDCS prototype was introduced as the end result, helping customers decide how to pay for unclear digital products.

In 2022, Kevin Martinez and Laura Young released their paper, "Research on Factors Affecting People's Intention to Use Digital Currency." The study aimed to determine the main factors influencing people's intentions to use digital currency through an empirical

analysis. It looked at survey data on user intentions and factors affecting the adoption of digital currency. The study addressed potential survey biases as well as the sample's limitation to specific demographics or geographic regions. It ended by analysing the primary factors influencing the intention to use digital currencies in order to offer helpful insights on user adoption patterns.

2020 saw the publication of the Bank of England's document "Central Bank Digital Currency: Opportunities, Challenges and Design." Investigating the possible advantages

and challenges of introducing a Central Bank Digital Currency (CBDC) in the UK was the aim of the study. It focused on issues including monetary stability, payment systems, and financial stability. It did not contain any empirical data because it was a discussion paper, but it did draw attention to the potential benefits and drawbacks of CBDC as well as the need for meticulous planning to ensure its successful implementation.

In 2020, Geoffrey Goodell, Paolo Tasca, and Hazem Danny Al-Nakib released a report titled "Digital Currency and Economic Crises: Helping States Respond." According to the report, during economic downturns, the infrastructure supporting digital currencies might be used as a tool for fiscal and monetary policy. Its main objectives were the adoption of digital money, economic resiliency, and policy implementation. The study proposed that digital currencies could boost economic resilience in times of crisis, despite the fact that the concept was theoretical and lacked empirical support.

In 2021, Geoffrey Goodell, Paolo Tasca, and Hazem Danny Al-Nakib created the paper "A Digital Currency Architecture for Privacy and Owner-Custodianship." The study's objective was to recommend a digital money system that safeguards privacy and owner- custodianship. It was focused on privacy safeguards, user autonomy, and transaction systems. The architecture that was displayed was merely conceptual and has not yet been implemented. The study proposed a way to give digital transactions the same level of anonymity as cash.

In 2021, Toshiko Matsui and Daniel Perez released their research paper, "Data-driven Analysis of Central Bank Digital Currency (CBDC) Projects Drivers." The study's objective was to investigate the factors influencing the growth of CBDC initiatives using machine learning techniques. It focused on variables such as the financial development index, governance indices, and GDP per capita. The study acknowledged that it might have relied on the available data and may not have included all pertinent elements. It discovered significant economic and technological variables that impact the evolution of CBDC initiatives.

The report "Research on Factors Affecting People's Intention to Use Digital Currency" was released in 2022 by a number of authors. The study used empirical research to determine the main factors that influence people's propensity to use digital currency. It focused on topics like user perception, technology adoption, and security concerns. The study only used survey data, and not all populations may be represented by this data.

Important factors influencing users' acceptance of digital currencies were exposed, and useful data on adoption patterns was provided.

In 2022, the Bank for International Settlements released a report titled "Making Headway – Results of the 2022 BIS Survey on CBDCs." The study's objective was to present the findings of a survey on central banks' use of central bank digital currency (CBDCs). It focused on policy considerations, central bank engagement, and the stages of CBDC development. Even while the survey-based approach might not fully capture all the nuances of CBDC development, the study did observe an increase in central bank participation in CBDC projects globally.

It was released in 2024 by the International Monetary Fund with the title "Central Bank Digital Currency: Progress and Further Considerations." The study examined how central bank digital currencies (CBDCs) function in digital payments and looked into relevant policy concerns. Adoption strategies, cyber resilience, and digital payment systems were its primary subjects. The discussion document emphasised the need for robust structures to facilitate the successful implementation of CBDC, despite the fact that it lacked concrete evidence.

In 2024, Tayo Tunyathon Koonprasert, Natsuki Tsuda, Shiho Kanada, and others released a research titled "Central Bank Digital Currency Adoption: Inclusive Strategies for Intermediaries and Users." Examining strategies for consumers and intermediaries to accept CBDC inclusively was the aim of the study. Its primary subjects were adoption strategies, intermediate roles, and user inclusion. Even though the study was theoretical in nature and lacked empirical implementation data, it highlighted the importance of inclusive strategies for ensuring the successful adoption of CBDCs.

Fernando José Barbin Laurindo, Rodrigo Franco Gonçalves, Mauro De Mesquita Spinola, and Carlos Alberto Durigan Junior were the authors of the 2024 study "Central Bank Digital Currency: The Advent of its IT Governance in the Financial Markets." The study aimed to understand how IT governance will be impacted by the implementation of CBDC in financial markets. Governance frameworks, IT resources, and integration in the digital economy were its primary subjects. Despite being based on a review of the literature and lacking empirical validation, the study identified key IT resources and proposed preliminary governance models to aid in the implementation of CBDC.

In 2024, a number of authors released a report titled "Prospects and Problems of Digital Currency." Examining the advantages and disadvantages of virtual currency was the aim of the study. It examined issues such transaction efficiency,

security, and environmental impact. The study discussed benefits like easy transfers and low costs, as well as disadvantages like the impact of digital currencies on the environment. However, it simply provided a general overview without conducting a comprehensive empirical assessment.

It was released in 2024 by the International Monetary Fund as "Central Bank Digital Currency Data Use and Privacy Protection." The goal of the study was to look into how adopting central bank digital currency (CBDCs) might balance protecting privacy with using data. Regulatory frameworks, user trust, and data privacy were its primary subjects. Although the study was theoretical and lacked real implementation data, it did demonstrate how crucial privacy is to maintaining user trust in CBDCs.

The paper "Central Banks and Digital Currencies: A Major Challenge Not Without..." was released by CaixaBank Research in 2024. The purpose of the study was to investigate the challenges central banks have faced since the advent of digital economy. Its major focus on financial stability, technological innovation, and monetary policy in a European context limited its global applicability. In addition to highlighting significant challenges, the research underlined that strategic planning is necessary for central banks to effectively address these issues.

In 2024, the Reserve Bank of Australia released a report titled "Central Bank Digital Currency and the Future of Digital Money in Australia." Compiling research on Australia's central bank digital currencies (CBDCs) and digital currency possibilities was the aim of the study.

It covered payment systems, the digital economy, and regulatory issues with an emphasis on the Australian context that might not be relevant elsewhere. The research provided a roadmap for Australia's potential adoption of CBDCs, including crucial steps and considerations for the future.

It was released in 2024 by the Congressional Research Service under the title "Central Bank Digital Currencies: Policy Issues." The study's goal was to discuss policy issues related to the usage of digital currencies issued by central banks (CBDCs).

It focused on legal frameworks, economic repercussions, and technological barriers, with a U.S.-centric analysis that might not consider global perspectives. The paper highlighted key policy factors for the establishment of CBDCs and provided insights into the regulatory and economic challenges of creating them in the US.

The report "Research on Factors Affecting People's Intention to Use Digital Currency" was released in 2024 by a number of authors. Through an empirical examination, the study aimed to determine the main factors that influence people's propensity to use digital currency. It focused on human perception, adoption of technology, and security concerns. The study employed only survey data, which may not be statistically representative of all populations. Through the identification of the primary factors influencing users' acceptance of digital currencies, it provided insights concerning the adoption process.

Geoffrey Goodell, Hazem, and Paolo Tasca and Danny Al-Nakib produced a study titled "A Digital Currency Architecture for Privacy and Owner-Custodianship." The study recommended a digital currency system that ensures privacy and owner-custodianship. Its main focus was on privacy safeguards, user autonomy, and transaction systems. The displayed architecture was merely conceptual and has not yet been implemented. The study proposed a way to preserve cash-like anonymity in digital transactions.

In 2021, Toshiko Matsui and Daniel Perez released their research paper, "Data-driven Analysis of Central Bank Digital Currency (CBDC) Projects Drivers." Utilising machine learning techniques, the study aimed to investigate the factors influencing the growth of CBDC activities. Metrics including GDP per capita, governance measures, and the financial development index were its main focus. Even while the analysis relied on available data and may not have considered all

contributing factors, it identified significant economic and technological variables driving the development of CBDC efforts.

Fernando José Barbin Laurindo, Rodrigo Franco Gonçalves, Mauro De Mesquita Spinola, and Carlos Alberto Durigan Junior were the authors of the 2024 study "Central Bank Digital Currency: IT Governance's Arrival in the Financial Markets. Understanding how the implementation of CBDC in financial markets will impact IT governance was the aim of the study. IT resources, governance frameworks, and integration in the digital economy were its primary subjects. Although the study was based on a review of the literature and needed empirical validation, it highlighted key IT resources and proposed preliminary governance frameworks to aid in CBDC adoption.

In 2024, Tayo Tunyathon Koonprasert, Natsuki Tsuda, Shiho Kanada, and others released a research titled "Central Bank Digital Currency Adoption: Inclusive Strategies for Intermediaries and Users." Examining strategies for consumers and intermediaries to accept CBDC inclusively was the aim of the study. Its primary subjects were adoption strategies, intermediate roles, and user inclusion. Despite its theoretical character and dearth of empirical support for implementation, the study underscored the importance of inclusive strategies to facilitate the successful adoption of CBDCs.

It was released in 2024 by the International Monetary Fund as "Central Bank Digital Currency: Progress and Further Considerations." The study's objective was to investigate the role of CBDCs in digital payments and associated policy concerns. Digital payment systems, cyber resilience, and adoption strategies were its primary subjects. Despite being a discussion piece without any empirical support, the paper emphasised the necessity of robust frameworks to facilitate the successful implementation of CBDCs.

Year	Author	Objective	Variable	Limitation	Outcome
2016	Divya Mittal, Shiv Ratan Agrawal	Impact of Traditional Practices on Banking Service Process	Banking Service Process, Customer Experience	Limited Sample Scope	Study highlights impact of traditional banking practices
2012	Shilpan Vyas	Concept Introduction: Define e-banking competition & growth	Customer E-Banking Adoption	ATM Safety Concerns	Identifies key advantages and risks of e- banking

2020	Emmanuel Farhi, Jean Tirole	Redefining Retail Banking: Challenges conventional banks face	Bank Leverage, Risk-taking	Oversimplification of Assumptions	Highlights banking system risks
2018	Ioanna Roussou, Emmanouil Stiakakis, Angelo et al.	Factors influencing banking technology adoption	Perceived Security, Ease of Use	Small sample size	Emphasizes security as a key adoption factor
2024	Dr. Purushottam Arvind Petare, Hari Prasad J	Investigation of CBDC fundamentals	Technological Foundations	Limited focus on broad financial impacts	Explores potential of CBDCs in transforming finance
2020	Kuan-Chieh Chen	Internet-only banks and their operational effectiveness	Efficiency, Digital Banking Services	Data Quality issues	Shows efficiency improvements in internet-only banks
2022	Bruno André Monteiro Da Cruz Baptista	Motivations behind digital banking adoption	Consumer Trust, Security Concerns	Limited sample size	Offers insights into customer preferences

2009	F.I. Anyasi, P.A. Otubu	Mobile banking's impact on financial inclusion	Mobile Phone Technology	Digital divide issues	Shows mobile banking as a driver of financial inclusion
2019	Dr. Hu Jingyi	Rise of Digital Currencies	Digital Currency Adoption	Rapid changes in landscape	Academic contribution to digital currency discussions
2015	(Unknown)	Mobile banking's impact on customer loyalty	Customer Loyalty, Trust	Lack of financial statement reflection	Provides implications for banking customer engagement
2022	Dr. Ashok Pandey	Digital Currency impact on commercial banks	Digital Currency Adoption	Privacy and Security Concerns	Highlights efficiency improvement in banking
2019	Joseph L. A. Mensah	Regulatory compliance in digital banking	Regulatory Compliance, Policy Adoption	Reliance on secondary data	Identifies compliance challenges in digital banking
2020	Carlos Viñuela, Juan Sapena, Gonzalo Wandosell	Framework for assessing CBDC implementation	Money Dynamics, Financial Stability	Lack of empirical data	Provides risk mitigation strategies for CBDCs
2013	Sabita Paul	E-banking adoption factors in younger demographics	Education Level, Tech Literacy	Limited scope	Shows education level as a major factor in e- banking adoption

2023	Pengmai Gao	Risk assessment model for digital banking	Digital Currency Market Data, SVM Algorithm	Data limitations	Introduces SVM Algorithm for risk analysis
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Conclusion:

In conclusion, by endangering monetary policy, regulatory frameworks, and financial intermediation, digital currencies—such as cryptocurrencies and central bank digital currencies, or CBDCs—are disrupting long-standing banking practices. In addition to endangering established banking models, they foster technological advancement, improve transaction efficiency, and advance financial inclusion. Blockchain technology and digital asset solutions are helping banks adapt, but regulatory concerns remain a big concern. Future banking will most likely be a hybrid environment that necessitates ongoing transformation as both digital and traditional systems coexist. Digital currencies ultimately operate as both a disruption and an opportunity, pushing institutions to innovate and undergo strategic change

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