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Chapter 1: Introduction

Topic

The title of this research is “The Impact of Blockchain and Cryptocurrency on Payment Processes in Traditional UK Banking.” The study will explore how blockchain and cryptocurrencies influence how banks process payments, manage transactions and maintain financial stability. It will also examine how banks respond to these developments and what this means for the future of payment services in the UK.

Background of the Study

Blockchain and cryptocurrency have become major areas of interest in international finance, and they are increasingly relevant in the United Kingdom. Bitcoin, first introduced in 2009, demonstrated that money could be transferred electronically without the need for a central authority such as a bank (Nakamoto, 2008). Since then, cryptocurrencies have expanded in both use and public attention. Blockchain, the technology underlying cryptocurrencies, records transactions in a secure and decentralised ledger. This is different with traditional banking systems, which depend on centralised databases and trusted intermediaries to approve and record payments (Bank of England, 2022).

In the UK, traditional banks face pressure to modernise their systems. Many banks use legacy payment infrastructures that can be slow, costly and vulnerable to failures. Fintech firms using blockchain offer faster, more efficient and more transparent payment solutions, which has increased competition. UK regulators, including the Bank of England, are also exploring new forms of digital money such as the digital pound, which would aim to support innovation while protecting consumers (Bank of England, 2023). Blockchain therefore brings new opportunities for improving bank payment processes but also raises concerns around risk, regulation and financial stability.

Problem Statement

The UK banking system is undergoing technological disruption as blockchain and cryptocurrency challenge traditional payment methods. These innovations raise questions about security, transaction processing, customer trust and operational efficiency. Banks must continue to protect consumer funds and comply with regulation, even as they try to introduce new digital payment solutions. This creates several issues that need careful examination.

Problems include the difficulty of integrating blockchain with existing banking systems, particularly where banks rely on outdated technology. Another issue is regulatory uncertainty, as UK rules for cryptocurrency are still being developed. Banks also face increasing competition from fintech companies that use blockchain to offer cheaper and faster payment services. Cybersecurity remains a significant concern, especially because cryptocurrency platforms have been targeted by hackers. Finally, there is limited academic research focused specifically on how blockchain affects payment processes within UK banking, which highlights a gap in existing literature.

For these reasons, it is important to study how blockchain and cryptocurrency influence traditional bank payment systems and what steps banks and regulators should take to adapt.

Research Aim

The aim of this research is to examine how blockchain and cryptocurrency influence payment processes in traditional UK banking.

Research Objectives

- Explain the key features of blockchain and cryptocurrency that are relevant to bank payment systems.
- Explore how UK banks are responding to blockchain-based payment innovations.
- Identify the opportunities and challenges blockchain creates for improving payment processes in banks.
- Assess possible future developments in UK bank payment systems as blockchain becomes more widely used.

Research Questions

The study will answer the following research questions:

What features of blockchain, and cryptocurrencies are most relevant to improving or disrupting traditional bank payment systems in the UK?

How are UK banks adapting their payment services in response to blockchain and cryptocurrency innovations?

What opportunities and risks do these technologies create for bank payment operations?

How might blockchain reshape the future of payment processes in UK banking?

Significance of the Study

This study is important because payment systems are central to the operation of banks and the wider financial system. Blockchain technology has the potential to reduce transaction costs, speed up cross-border payments and enhance transparency and security. Understanding these impacts is useful for UK regulators such as the Financial Conduct Authority and the Bank of England, who must manage risks while supporting innovation. Banks will benefit from knowing how blockchain could improve their payment processes and how they can stay competitive in a

fast-changing environment. Consumers also benefit from clearer information on the reliability and safety of new payment technologies. The research provides relevant insights for policymakers, financial institutions, students and researchers.

Purpose of the Study

The purpose of the study is to provide a clear explanation of how blockchain and cryptocurrencies affect payment processes in UK banking. The study aims to describe the changes already taking place, the challenges involved and the potential future of payment services. It also aims to support banks and regulators in making informed decisions about adopting new technologies while maintaining trust and stability.

Rationale of the Study

Most research on blockchain and cryptocurrency focuses on global markets or investment behaviour rather than UK specific banking operations. The UK, however, is one of the leading financial centres in the world and has a strong regulatory environment. UK banks and regulators are actively exploring how blockchain could improve payment infrastructure, as well as the risks it may introduce. This research addresses a gap by analysing how blockchain affects a specific and important part of UK banking like the processing of payments.

Dissertation Structure

The dissertation contains five chapters. Chapter One introduces the topic and outlines the aims and research questions. Chapter Two provides a critical review of existing literature on blockchain, cryptocurrency, and bank payment systems. Chapter Three explains the qualitative research methodology used in the study. Chapter Four will present and analyse the findings. Chapter Five will conclude the study and offer recommendations for banks, regulators and future research.

Chapter 2: Literature Review

Definition and Characteristics

Blockchain is a decentralised digital ledger that records transactions across a shared network without the need for a central authority such as a bank. Each transaction is time stamped and stored in a block, which cannot easily be changed once added to the chain (Nakamoto, 2008). This contrasts with traditional UK banking systems, where records are stored centrally and banks have full control over verifying and approving payments. Cryptocurrencies, including Bitcoin and Ethereum, operate on blockchain networks and enable peer-to-peer transfers without the involvement of a bank (Bank of England, 2022). Because blockchain transactions are direct and transparent, they challenge the long-established role of banks in processing payments.

While most authors agree that blockchain is highly secure due to its cryptographic structure, some question whether this security can be maintained at large scale. For example, Nakamoto (2008) highlights the strength of decentralisation, whereas the Bank of England (2022) notes that external systems such as exchanges may introduce vulnerabilities. This suggests that while blockchain offers strong internal security, risks may still arise when banks integrate blockchain with existing systems.

Conclusion of Section: The literature shows that blockchain's decentralised structure could significantly change how banks process payments, but integration with traditional systems introduces new security questions that must be addressed in later research.

Importance and Theoretical Models

Many studies argue that blockchain has the potential to improve the payments infrastructure used by banks. The Bank of England (2022) states that blockchain could make cross-border payments faster and cheaper, addressing long standing inefficiencies in traditional systems. Similar views are expressed in studies that highlight blockchain's ability to reduce reliance on intermediaries and streamline payment flows. However, some researchers argue that the benefits depend heavily on regulatory support and technological readiness within banks.

Disruptive Innovation Theory suggests that new technologies can replace older systems when they offer simpler or more efficient solutions (Christensen, 1997). This helps explain why fintech firms using blockchain are becoming strong competitors to traditional banks. The Technology Acceptance Model (Davis, 1989) adds that adoption depends on whether banks and customers believe blockchain will genuinely improve payment services. Institutional Theory (Scott, 2001) highlights the importance of regulatory approval and industry standards, which means blockchain adoption will only progress if regulators create clear rules.

Although the theories provide useful explanations, they do not fully agree on the pace of adoption. Christensen (1997) expects rapid disruption, while Scott (2001) suggests adoption will be slower because banks must follow regulations. This difference indicates that blockchain adoption in UK banking will likely depend on both innovation pressure and institutional control.

Conclusion of Section: The literature and theories together show that blockchain could transform bank payment systems, but the extent of change will depend on regulation, customer acceptance, and the ability of banks to update legacy systems.

Advantages

Many studies agree that blockchain could bring clear benefits to UK banks, especially in payment processing, but they differ on how easily these benefits can be achieved. Sajjan et al. (2024) argue that faster settlement times and lower costs could significantly improve bank competitiveness, particularly in cross-border payments. This view supports the idea that blockchain can reduce delays caused by multiple intermediaries. However, the Bank of England (2022) is more cautious, suggesting that while efficiency gains are possible, they depend on how well blockchain systems are integrated with existing banking infrastructure. For UK banks, this comparison suggests that blockchain has strong potential to improve payment services, but the benefits will only be realised if banks successfully modernise their systems rather than simply adding blockchain to outdated processes.

Disadvantages and Challenges

The literature also shows differing views on the risks blockchain creates for UK banks. The Bank of England (2023) highlights regulatory and financial crime risks, warning that banks must be

careful when engaging with cryptocurrency-based payments. In contrast, some academic studies place more emphasis on technical and operational challenges, such as cybersecurity and system integration. While both perspectives recognise risk, regulators focus more on stability and compliance, whereas researchers highlight cost and technical complexity. For UK banks, this means that blockchain adoption is not only a technical decision but also a regulatory one, requiring careful balance between innovation, security and legal compliance.

Cybersecurity concerns are also important. Although blockchain itself is secure, cryptocurrency platforms and external systems have been targets of hacking. Banks must therefore invest in strong cyber defences if they plan to adopt blockchain-based payment solutions. Another challenge is the cost of updating old banking systems so they can work with new blockchain technology. This requires financial investment and specialist training, which some banks may struggle to implement quickly.

Overall, the literature shows that blockchain and cryptocurrency have strong potential to change how payment systems operate in UK banking, but there is debate about how quickly and safely this change can happen. Some studies talk about efficiency, speed and cost reduction, while others focus on regulation, cybersecurity and system integration challenges. These debates highlight that blockchain adoption in UK banks is shaped not only by technology, but also by regulatory control and organisational readiness. This mixed evidence supports the need for a qualitative study that examines existing research, regulatory reports and industry views together. As a result, a qualitative, secondary research approach is best for exploring these this and understanding how theory and practice connect in the UK banking context, which leads directly into the methodology used in this study.

Chapter 3: Research Methods and Methodology

Research Philosophy

This research will follow a pragmatic research philosophy, but with a focus on qualitative understanding. Pragmatism is suitable because the study aims to explore real-world issues affecting UK banks, such as how they respond to blockchain and cryptocurrency. Pragmatism allows the researcher to use different types of secondary information, including academic studies, reports and industry analysis. It also supports examining practical problems, such as the challenges and opportunities blockchain creates for bank payment systems. This philosophy is appropriate because the study uses qualitative secondary data to understand different viewpoints and experiences (Saunders et al., 2019).

Research Paradigm

The research will use a qualitative research paradigm. The study will use qualitative data only, such as written reports, policy documents and academic articles. These sources help explain how banks and regulators understand blockchain, how they are reacting to change and what risks and opportunities they identify. A qualitative paradigm is suitable because the research

does not involve numbers or statistical testing but instead aims to interpret information already available.

Research Approach

A deductive approach will be used in this study. This means the research begins with existing theories such as Disruptive Innovation Theory (Christensen, 1997), the Technology Acceptance Model (Davis, 1989) and Institutional Theory (Scott, 2001). These theories help explain why banks may adopt blockchain or why they may face difficulties. A deductive approach works well for a qualitative, secondary study because it allows existing theories to guide the analysis of documents and reports. By using theory as a framework, the research can examine whether current evidence from UK banking supports or challenges these established ideas.

Research Methodology

The research will use a qualitative secondary research methodology. This study does not use a case study approach and does not focus on any single bank. Instead, it analyses a range of existing documents, including academic journals, official reports from the Bank of England and the Financial Conduct Authority, bank publications and industry reports. This approach is appropriate because it allows the research to examine broader trends and views across the UK banking sector rather than focusing on one organisation. Removing a case study focus ensures clarity and consistency in the research design.

Research Strategy

The research strategy will involve secondary data analysis and document analysis. This includes reviewing official reports, academic publications and trusted industry sources. Document analysis helps the researcher understand how banks describe blockchain, how regulators view risks and how different studies explain its impact on payment systems. This strategy is suitable because banking information is well documented and publicly available, and it provides enough depth to answer the research questions.

Sampling Methods

A purposive sampling method will be used. This means the researcher will select documents that are directly related to blockchain, cryptocurrency and UK banking. Examples include Bank of England publications, reports from major UK banks and fintech companies, and academic papers on blockchain in finance. Purposive sampling ensures that every document contributes useful information to the research and helps answer the research questions (Saunders et al., 2019).

Data Collection Methods and Tools

Data will be collected from secondary sources such as academic databases, government websites, bank reports and consultancy publications. Only reliable and credible sources will be selected. Information will be organised into themes, such as innovation, risk, regulation and payment efficiency. Simple tools like Microsoft Word or Excel may be used to keep notes and organise themes. No statistical tools will be needed because the research is fully qualitative.

Data Interpretation

The data will be interpreted using thematic analysis. This involves reading the documents, identifying common ideas and grouping them into themes. Examples may include themes such as “faster payments,” “regulatory uncertainty,” “blockchain benefits,” or “system challenges.” The themes will then be compared with the research objectives and theories discussed earlier. Thematic analysis is appropriate because it helps make sense of written information and supports clear conclusions.

Below is a rough timeline.

Activity	M1	M2	M3	M4	M5	M6
Topic refinement and proposal writing	■■■					
Literature review	■■■	■■■				
Methodology development		■■■				
Secondary data collection		■■■	■■■			
Thematic data analysis			■■■	■■■		
Writing findings and discussion				■■■	■■■	
Final editing and completion					■■■	■■■

References

- Bank of England (2022) Cryptoassets and decentralised finance: Financial stability in focus. Available at: <https://www.bankofengland.co.uk> (Accessed: 25 Nov 2025).
- Bank of England (2023) The digital pound: A new form of money for households and businesses. Available at: <https://www.bankofengland.co.uk> (Accessed: 26 Nov 2025).
- Christensen, C.M. (1997) The innovator's dilemma. Boston, MA: Harvard Business School Press. Accessed 28 Nov 2025
- Davis, F.D. (1989) 'Perceived usefulness, perceived ease of use and user acceptance of information technology', MIS Quarterly, 13(3), pp. 319–340. 29 Nov 2025
- Nakamoto, S. (2008) Bitcoin: A peer-to-peer electronic cash system. Available at: <https://bitcoin.org/bitcoin.pdf> (Accessed: 29 Nov 2025)
- Sajjan, V., Patel, A. and Yadav, R. (2024) 'Blockchain adoption and financial transformation in the UK', European Economic and Legal Studies Journal, 3(1), pp. 22–35. Accessed 25 Nov 2025
- Saunders, M., Lewis, P. and Thornhill, A. (2019) Research methods for business students. 8th edn. Harlow: Pearson Education. Accessed 29 Nov 2025
- Scott, W.R. (2001) Institutions and organizations. 2nd edn. Thousand Oaks, CA: Sage Publications. Accessed 30 Nov 2025
- Yin, R.K. (2018) Case study research and applications: Design and methods. 6th edn. Thousand Oaks, CA: Sage Publications. Accessed 30 Nov 2025