1. Introduction

FinTech, an abbreviation for Financial Technologies, represents the fusion of financial services with cutting-edge technology, aiming to deliver innovative solutions that redefine the way we engage with finance. In this dynamic landscape, the launch of Bitcoin stands out as a pivotal moment, profoundly reshaping the FinTech industry. Bitcoin's unique features, including decentralisation, a trustless system, blockchain technology, and peer-to-peer transactions, have played a pivotal role in this transformation. This essay explores the historical evolution of FinTech, highlighting key developments that paved the way for Bitcoin. It delves into how Bitcoin has impacted and revolutionised the conventional financial system. Furthermore, this essay offers insights into current FinTech trends with illustrative examples. By drawing comparisons between Bitcoin and earlier FinTech developments, as well as contrasting it with current trends, we aim to reveal the transformative influence of Bitcoin on the financial technology landscape.

2. Key Fintech Developments Before Introduction of Bitcoin

One of the pre-Bitcoin FinTech developments is credit cards and ATMs. The adoption of credit cards and ATMs became widespread in the mid-20th century. The advent of credit cards not only significantly influenced the buying decision but also revolutionised the purchasing method of society. This revolution stems from its core concept, Buy Now, Pay Later (BNPL), where users are allowed to defer payment and enjoy the benefits of products and services in advance. Furthermore, the users are allowed to pay off the bills through instalment to avoid spending a large amount at once to control their cash flow (Guttman-Kenney, Firth and Gathergood 2023). Meanwhile, since ATMs began to be installed by banks in various cities and provide all-day services, consumers can withdraw cash with their credit cards from the ATMs without needing to visit banks physically, eliminating the need to carry cash when going out and bringing unparalleled convenience for the users (Scholnick, Massoud et al. 2008).

Another crucial pre-Bitcoin FinTech advancement is online banking and electronic payment, which was ushered in due to the emergence of the Internet. Since the 1990s, financial institutions and banks began to provide online banking services, where clients can check or manage their bank accounts and conduct banking activities such as funds transfer and bill payments via official websites without their presence in physical branches (Alkhowaiter 2020). Additionally, electronic payment further propelled the digitisation of financial transactions by introducing debit or credit cards and e-wallets, achieving a transition from traditional cash to digital money. These innovations enable users to make purchases online and offline with high speed, efficiency, and high security.

3. Bitcoin’s Impact on FinTech Industry and How It Revolutionised the Traditional Financial System

The emergence of Bitcoin has profoundly impacted the FinTech industry, positioning itself as a revolutionary force in reshaping traditional financial systems. In 2009, an unknown individual or group released a “white paper” under the pseudonym Satoshi Nakamoto, perceived as a response to the global financial crisis. Bitcoin's core concept is to disrupt the centralised nature and intervention of intermediaries in traditional financial systems using the underlying blockchain technology, known as Distributed Ledger Technology (DLT), paving the way for FinTech innovations (Nakamoto 2008).

Bitcoin's revolutionary nature lies in its ability to eliminate the need for public trust in intermediaries such as banks or payment processors. Traditional financial systems rely on central authorities to record and validate transactions, while Bitcoin decentralises this authority by recording transactions in a network of nodes, known as the blockchain, maintaining the ledger transparently and publicly (De Filippi and Loveluck 2016). This disruption challenges traditional financial structures, creating opportunities for FinTech innovations based on decentralised technologies.

The decentralised nature and transparency of the blockchain eliminate double spending issues. Transactions undergo multiple verifications by nodes, and the ledger's transparency allows miners to trace transactions easily, making it impossible for any miner to spend the same bitcoin twice (Nakamoto 2008). Compared to the traditional financial system, Bitcoin showcases higher tamper-proofing ability. While a miner theoretically could attempt to erase records by creating a new subchain, this would not be acknowledged by the public due to the consensus on the longest chain (Amores-Sesar, Cachin and Parker 2021). Achieving this would require superior algorithmic skills and an immense workload, making it highly improbable. These features, coupled with Bitcoin's impact on the FinTech industry, position it as a disruptive force reshaping traditional financial systems.

4. Current Trends in FinTech Industry

Insurtech disrupts traditional insurance by employing novel models, including peer-to-peer arrangements where groups of customers pool premiums to collectively manage risks. An emerging trend in Insurtech involves integrating innovative technologies like Artificial Intelligence (AI) for clients to tailor insurance policies precisely (Gómez and Pineda 2023). Lemonade, a prominent Insurtech company, has revolutionised the conventional insurance model by integrating AI and behavioural economics. Using a peer-to-peer platform, Lemonade pools premiums from customers, and claims are paid out from this collective pool. Central to this model is Maya, an AI-driven chatbot, streamlining insurance workflows, reducing costs, and offering a more personalised user experience (High 2020).

RegTech (regulatory technology) in FinTech addresses compliance processes and mitigates risks related to legal and regulatory requirements, using tools like AI. Some companies specialise in anti-money laundering (AML) or facilitating the know-your-customer (KYC) process (Chao, Ran et al. 2022). Cybersecurity-focused RegTech firms use AI to identify policy violations and ensure robust security protocols. Some companies also extend their reach to diverse sectors such as tax management and trade monitoring (Palmié, Wincent et al. 2020). ComplyAdvantage, a leading RegTech company, specialises in mitigating risks related to financial crimes, leveraging AI and machine learning to elevate compliance processes. Through its platform, ComplyAdvantage uses real-time data and analytics to recognise and thwart financial crimes, ensuring businesses adhere to regulatory standards. The company's offerings extend beyond anti-money laundering, encompassing areas like sanctions screening. This comprehensive approach helps organisations remain compliant with ever-evolving regulations, safeguarding their operations against potential legal risks (Thompsett 2023).

5. Compare Bitcoin with Previous Advancements in FinTech Industry

The central bank's centralised nature in traditional banking raises concerns about a single point of failure (SPOF). In finance, SPOF implies that if a critical component or process experiences downtime, the entire financial system could potentially be disrupted. For instance, a bank server crash could prevent consumers from performing online banking, leading to inconvenience and financial disruptions (Gosha 2021). Bitcoin, with its decentralised nature, inherently avoids such issues. Unlike traditional banks, Bitcoin doesn't rely on centralised servers. It utilises decentralised servers distributed globally among network nodes to maintain the ledger. Therefore, if one node experiences downtime, the others remain unaffected and continue to operate. Additionally, Bitcoin's automated system ensures that each node records a copy of the transaction, preventing data loss if one node crashes (Schatsky and Muraskin 2015).

Besides that, the traditional banks' centralised nature makes the online banking service vulnerable to cyberattacks. This weakness increases the probability of fraud and scams, which will cause the customers who rely on banks to experience substantial financial losses. In contrast to banks, Bitcoin operates on a decentralised system, reducing the risk of a single point of failure. Furthermore, the miner uses anonymous IDs and private keys for transaction authorisation, while others use public keys and addresses for authentication, enhancing tamper-proofing and security, making cyberattacks nearly impossible (David 2022).

6. Compare Bitcoin with Current Trends in FinTech Industry

Bitcoin operates on a decentralised system where transactions are recorded on each node of the network, known as the blockchain. This system inherently eradicates the involvement of intermediaries and improves security. Unlike Bitcoin, RegTech can either adopt a centralised or decentralised approach, contingent on the particular application. Nevertheless, to maintain precision and consistency, most RegTech tools tend to concentrate on centralising and automating compliance processes. Similar to RegTech, Insurtech can be either centralised or decentralised as well. Insurtech seeks to streamline and centralise insurance processes for increased efficiency and cost reduction.

As a decentralised cryptocurrency, Bitcoin does not possess the ability for scam detection due to its nature of irreversible transactions and pseudonymous characteristics, posing difficulties in tracing or preventing fraudulent activities. In contrast to Bitcoin, RegTech utilises tools such as machine learning, AI, and data analytics to improve regulatory compliance processes by detecting non-compliant, fraudulent, and irregular activities. Similarly, Insurtech also employs technology to enhance various aspects of the insurance industry, including fraud prevention and risk assessment. However, it is not foolproof, and scams still have the potential to occur.

7. Conclusion

In conclusion, Bitcoin's emergence as a decentralised force has marked a pivotal moment in the FinTech industry, fundamentally altering the traditional financial landscape. Its unique features, such as decentralisation, blockchain technology, and peer-to-peer transactions, have challenged the centralised nature of traditional financial systems. By disrupting the need for trust in intermediaries, Bitcoin has not only introduced innovative financial solutions but has also paved the way for further FinTech advancements. The comparison with pre-Bitcoin developments highlighted its advantages, notably in avoiding single points of failure. The ongoing trends in InsurTech and RegTech showcase a dynamic industry responding to technological shifts, with Bitcoin serving as a catalyst for transformative change. In essence, Bitcoin's significance in FinTech lies in its role as a disruptor, inspiring continuous innovation and reshaping the future of financial technology.

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