Transforming the remittance industry: harnessing the power of blockchain technology

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Abstract

Employing an interpretivist approach, this study investigates the potential success of blockchain technology in the remittance industry. Data was collected from blockchain experts with extensive experience, providing compelling evidence that blockchain technology is indeed revolutionizing the remittance sector.

Despite rapid growth in the global remittance sector, the cost and time associated with sending remittances remain high. While other industries have benefited from technological advancements, the remittance industry has lagged behind. Blockchain technology, renowned for its disruptive impact on emerging industries, offers a decentralized and secure mechanism for containing, storing, and managing information. By leveraging rapid block confirmations, blockchain reduces settlement times in remittance transactions and requires only a crypto wallet for transferring value between parties.

For practitioners, the analysis highlights a unanimous consensus among experts regarding the transformative potential of blockchain technology in revolutionizing the remittance industry. This consensus serves as a strong impetus for practitioners to swiftly adopt blockchain-based solutions, capitalizing on opportunities such as stable coin issuance, elimination of intermediaries in foreign exchange trading, access to liquidity, and the exploration of new business models. Proactively addressing challenges like congestion and limited reach will ensure successful integration. The implications for theorists are profound, as the study validates existing theoretical frameworks, identifies specific pain points, and explores exciting opportunities presented by blockchain technology. Finally, we provide a roadmap for future research and innovation. By bridging theory and practice, this study sets the stage for advancement, fostering knowledge, innovation, and the successful integration of blockchain technology in the remittance industry.

Keywords: blockchain technology, remittance industry, blockchain transformative potential, digital transaction fees, digital resilience

1. Introduction

The traditional way of internationally sending and receiving money is plagued by high costs, slow speed, limited access, and lack of transparency. Over the past decades, cross-border payments have witnessed significant growth, from less than USD 50 billion in 1970 to over USD 600 billion annually in 2018 (Cazachevici *et al.*, 2020). Despite this surge, the process of processing cross-border transactions has remained largely unchanged since the introduction of international wires in the 1800s. International wire transfers involve variable fees, which can accumulate to a total of USD 80, and take 3 to 5 business days to complete (Molson, 2018). Although online mobile payment options have entered the remittance industry, they have not addressed the issue of high and unsustainable transfer fees. However, the emergence of blockchain-based digital asset ecosystems holds the potential to disrupt established and emerging industries by offering services that are cheaper, faster, more secure, and personalized. This chapter presents the background study, problem statement, research aim, objectives, research questions, significance of the study, and the structure of the thesis.

The current remittance regulations were introduced more than 200 years ago, and it is imperative to reconsider the traditional way in which remittances are handled. Remittance players today exist for the same reason that translators were popular 20-40 years ago. In the past, people hired translators to reformat and position their messages to be delivered to a party that did not understand their language standards. However, with blockchain technology, a common standard is established, allowing two parties to agree on the validity, transparency, finality, and economic standing of a transaction. Therefore, relying on remitters to translate the sending and receiving of data representing money is unnecessary (OECD, 2018).

Although blockchain technology may appear complex, its core concept is quite simple. According to the OECD Blockchain Primer, a blockchain is a shared ledger of transactions between parties in a network, not controlled by a single central authority. It combines existing technologies to enable secure transfers of value and data directly between parties, eliminating the need for trust (OECD, 2018). To better understand blockchain technology, one can draw an analogy with a Google Doc. When a document is created and shared with a group of people, it is distributed instead of copied or transferred, granting simultaneous access to everyone. This decentralized distribution chain records all modifications to the document in real-time, ensuring complete transparency. This promising and revolutionary technology reduces risks, eliminates fraud, and enhances transparency in a scalable manner (BuiltIn, 2013).

The current financial services industry fails to adequately serve millions of people, particularly migrant workers who wish to send money to their families and communities in developing countries (World Bank, 2021). These migrant workers often spend a significant portion of their income on transfer fees they can ill afford. International remittances are characterized by exorbitant costs and face challenges related to speed, transparency, and access. These long-standing challenges can be transformed into opportunities through the implementation of blockchain technology (Rühmann *et al.*, 2020). The urgency of addressing this issue has been amplified by the COVID-19 pandemic, which has made international remittances even more critical for the poor and vulnerable. In 2020, low- and middle-income countries received USD 540 billion in remittances, which was USD 8 billion less than the previous year (World Bank, 2021). The pandemic has exposed the exorbitant costs of remittances, preventing many people from receiving money during times of crisis. The inability to afford sending money to families and communities has exacerbated the hardships faced by many individuals. Reducing costs could have a significant impact on the affected population, potentially alleviating their suffering. The current expensive and outdated method of completing remittances needs to be changed, considering the vast market and the potential for revolutionizing the remittance

industry. Embracing blockchain technology can transform and improve the process of cross-border remittances, addressing current challenges and limitations while fostering sustainable development in developing countries and enhancing the global economy (Oprea *et al.*, 2019).

The existing system may be challenging to change, as large incumbents have built their infrastructure around it and have no incentive to modify it. Educating people about the possibilities offered by blockchain technology and its potential to help the global economy prosper is crucial. Raising awareness about the limitations of the current remittance industry while supporting innovations in blockchain technology can ignite a revolution (Oprea *et al.*, 2019).

On average, it takes approximately three days to complete a cross-border transaction, which is impractical for both senders and recipients. The current process appears inefficient and leaves room for improvement through technological advancements. All parties involved in the current remittance system waste their time, which could be better utilized in more productive ways. While the current remittance process may be financially beneficial for intermediaries like Western Union and MoneyGram, it is costly and unaffordable for senders and recipients alike (Chang *et al.*, 2020)

In the current economic climate, developing countries heavily rely on remittances, and the high costs associated with them pose significant challenges for millions of poor people. These remittances are vital for many families and reducing transaction fees can make a substantial difference in their financial well-being. The problem of costly remittances poses a setback to global economic growth. Fortunately, the technology and opportunity to transform the industry are available, rendering the continuation of these challenges and limitations unnecessary (Oprea *et al.* 2019).

International migrants from developing countries seek better lives, more opportunities, and higher incomes abroad. Most migrants support their families back home by sending money from each pay check. However, an unacceptably high proportion of their income is lost to intermediaries in the form of transfer remittance fees. Revolutionizing the remittance industry through blockchain-based technology can increase migrants' disposable income and help their families prosper, or even lift them out of poverty. This persistent global issue demands resolution and recognition. The proposed research aims to contribute to the revolution of the remittance industry by utilizing blockchain-based technology to reduce the cost and timeline of cross-border payments, thereby promoting sustainable economic growth on a global scale. The research question derived from this aim is: Can blockchain-based technology revolutionize the remittance industry?

2. Literature Review

We explore the significance of remittances in the global economy by utilizing credible sources and data. This initial literature review starts from the acknowledgement of the Sustainable Development Goal (SDG) for remittances and emphasizes the importance of achieving this goal (Zafar *et al.*, 2022). Furthermore, the review provides a descriptive explanation of three different modes of remittance transfer, namely intermediaries, online mobile payment services, and blockchain technology, in order to compare their crucial differences. The opportunities and challenges associated with using blockchain-based technology in the remittance sector are also recognized. Then we concluded with an overall investigation of the existing academic literature on blockchain technology and its implications for the remittance industry. Considering the increasing adoption of blockchain technology across various industries, it is crucial to embrace and progress with this modern technology.

2.1 Remittances and the Global Economy

Remittances serve as a primary source of income for many individuals worldwide, particularly in developing countries where they provide financial support to low-income communities. Additionally, countries heavily dependent on remittances are often the most vulnerable or exposed to natural disasters (da Silva Filho, 2021). However, the current remittance system incurs substantial transfer fees, with deductions as high as 15%. Despite these limitations, the remittance sector continues to grow, playing a pivotal role in the development of developing nations. The economic progress of these countries is not only crucial for their own advancement but also contributes significantly to the global economy. Reducing the cost and processing time of remittances can have a profound impact on all stakeholders involved. According to the United Nations Department of Economic and Social Affairs (2019), approximately 800 million people, or one in nine individuals worldwide, rely on remittances sent by migrant workers to meet their financial needs, including household expenses, education, healthcare, and entrepreneurship.

Remittances are the largest financial inflow to most developing economies and are three times more valuable than foreign aid (UN News, 2019). However, the current remittance landscape exhibits varying cost structures, with banks charging the highest rate of 10.57%, followed by post offices at 7.63%, and money transfer operators at 5.78%. In contrast, online money transfer services or mobile operators offer the most affordable rate at 3.23% (World Bank, 2020). Addressing the issue of high remittance costs is particularly critical amid the financial hardships caused by the COVID-19 pandemic. Lowering these costs is essential for the continued advancement and prosperity of developing economies, which, in turn, positively impacts the global economy.

It seems that prior research has established the significance of remittances in the global economy, emphasizing their role as a crucial source of income for individuals worldwide (Kapur, 2003). We highlight the importance of achieving the Sustainable Development Goal for remittances and acknowledge the challenges posed by high transfer fees. Furthermore, various dimensions of remittance transfer, including intermediaries, online mobile payment services, and blockchain technology, while identifying the opportunities and challenges are associated with each approach. The research underscores the need for reducing costs and processing time to make a meaningful difference in the remittance sector (Bahadir, 2018).

Furthermore, the adoption of blockchain technology has the potential to revolutionize the remittance industry by providing a decentralized and transparent system. As blockchain technology continues to transform multiple industries (Mackey, 2019: Wang *et al.*, 2019 ; Ahram, 2017), it is imperative to embrace this modern technology and explore its application in the realm of remittances. By leveraging the insights gained from prior research (Ibn-Mohammed *et al.*, 2021), stakeholders can work towards creating a more efficient, affordable, and inclusive remittance ecosystem that benefits both individuals and the global economy as a whole.

2.2 Remittances and the SDGs

The introduction of the Sustainable Development Goals (SDGs) in 2015 presented an opportunity to leverage remittances to achieve these goals at different levels (FUNF, 2015). Currently, the global average cost of remittance stands at approximately 7% according to the Remittance Prices Worldwide (RPW) database. However, reducing this global cost to 3% by 2030 can contribute significantly to the attainment of the SDGs (United Nations, 2020). At the household level, SDGs 1-5 can be positively influenced by affordable remittance services. Similarly, at the local level, remittances can

support SDGs 6, 7, 12, and 13, while at the national level, SDGs 8 and 10 can benefit from reduced remittance costs. Finally, at the international level, SDG 17 can be advanced through affordable remittance services (United Nations, 2020).

In 2030, it is estimated that migrants will transfer a total of USD 8.5 trillion to their home countries, with USD 2 trillion potentially saved from remittance fees if the global average cost is lowered to 3% (UN News, 2019). Unfortunately, in the fourth quarter of 2020, the global average cost for sending USD 200 remained high at 6.5%, more than double the SDG target (World Bank, 2020). The reduction in remittance fees would provide migrants with additional funds that could be invested, saved, or used to enhance their living standards and support their families. Remittances contribute significantly to the GDP of developing nations, with almost one-third of their GDP sourced from remittances. Therefore, a reduction in remittance costs would make a significant difference to these communities (World Bank, 2020).

The Global Digital Remittance Market Report by Research and Markets forecasts that the global digital remittance market will reach USD 42.46 billion by 2028, expanding at a compound annual growth rate (CAGR) of 13.28% (Global Digital Remittance Market, 2021). Migrants regularly send around USD 200 or USD 300 to their families to cover essential expenses such as food and housing. However, the full impact of the COVID-19 pandemic on remittances remains uncertain. Initial research estimates a drastic reduction of over USD 500 billion in annual family remittances (Global Digital Remittance Market, 2021). According to the United Nations, family remittances directly affect the lives of approximately 1 billion people, representing one out of every seven individuals on Earth (Global Digital Remittance Market, 2021).

Considering these factors, it is evident that the remittance industry holds substantial market potential. Embracing blockchain technology can help reduce global remittance costs while supporting the achievement of the Sustainable Development Goals. Remittances play a vital role in advancing the Sustainable Development Goals at various levels, including households, communities, nations, and internationally. However, the high cost of remittances remains a significant challenge, inhibiting the full potential of these funds. The adoption of blockchain technology in the remittance sector offers an opportunity to address this issue and reduce global remittance costs. By leveraging blockchain technology and digital remittance solutions, it is possible to enhance financial inclusion, improve the efficiency of cross-border transactions, and enable cost-effective remittance services. Furthermore, the COVID-19 pandemic has highlighted the importance of resilient and affordable remittance channels, as migrants and their families heavily rely on these funds for their livelihoods (Bisong, 2020).

2.3 Remittance via Intermediary

The existing remittance landscape relies heavily on intermediaries, leading to a complex and costly process (Guo and Liang, 2016). Each intermediary involved in the remittance transfer takes a portion of the transaction fee, including transfer charges, service fees, and exchange rate margins. This multi-step process typically involves up to seven intermediaries, including the sender bank, sender's payment system, correspondent bank, foreign exchange, another correspondent bank, the receiver's payment system, and the receiver bank. The presence of intermediaries ensures the integrity of the transaction, preventing issues such as copying, double spending, or counterfeiting. However, this traditional system suffers from various drawbacks (Cheng and Bellavitis, 2019).

One major challenge is the incompatibility of banking systems across different countries, leading to

delays in remittance transactions due to varying time zones and working hours. Cross-border payments can take three business days or longer as the money transfers through multiple channels. The funds move from the sender to the correspondent bank in the sender's country, then through the Society for Worldwide Interbank Financial Telecommunication (SWIFT) to the correspondent bank in the receiver's country, and finally to the receiver. Each intermediary along this chain charges a percentage for their services, contributing to high remittance fees (Demirgüç-Kunt and Singer, 2017).

Intermediaries in remittance processes can be individuals or organizations such as banks, post offices, or remittance service companies. However, the traditional method of sending remittances via intermediaries is considered complex and outdated (Allen and Santomero, 2001). Moreover, the current financial infrastructure is centralized, making it difficult to move accounts, limiting access (with approximately USD 1.7 billion unbanked individuals), inefficient for cross-border settlements, lacking interoperability due to proprietary applications, and lacking transparency due to information silos (Demirgüç-Kunt and Singer, 2017).

Complexity and high costs are associated with remittance transfers via intermediaries. The involvement of multiple intermediaries along the remittance chain not only increases the transaction fees but also introduces delays and inefficiencies. The traditional financial infrastructure, characterized by centralized systems, limited access, and lack of transparency, further exacerbates these challenges. To address these issues, there is a growing need to explore alternative solutions such as blockchain technology in the remittance sector (Manski, 2017). Blockchain offers the potential to streamline the remittance process, eliminate the need for multiple intermediaries, enhance transaction security, and reduce costs. By leveraging decentralized and transparent systems, blockchain-based remittance solutions can enable faster, more affordable, and inclusive cross-border transactions (Hashemi Joo *et al.*, 2020).

Furthermore, the adoption of blockchain technology aligns with the broader trends of digitalization and financial innovation (Alt *et al.*, 2018). It presents an opportunity to transform the remittance industry and create a more efficient and accessible ecosystem for individuals sending and receiving remittances. However, it is important to consider the challenges and complexities associated with implementing blockchain solutions, including regulatory frameworks, scalability, and interoperability issues. In conclusion, prior research emphasizes the need for innovative approaches to improve the remittance process and reduce costs. The utilization of blockchain technology holds promise in addressing these challenges and unlocking the full potential of remittances, ultimately benefiting individuals, families, and economies worldwide.

2.4 Remittance via Online Mobile Payment Services

The emergence of online mobile payment services, such as PayPal, Remitly, Transferwise, and Instaremit, has introduced new business models aimed at reducing costs associated with sending remittances abroad. Currently, these platforms charge approximately 3% for transfers, but it is expected that these rates will not remain constant over time (FinTech Reimagines Remittances, 2021). Despite the cost reduction provided by these services, there are still intermediaries involved, including individuals or organizations, who take a percentage of the total remittance amount. Furthermore, the distribution of digital payment ecosystems is not uniform across different regions of the world (Jack *et al.*, 2008).

Mobile money deployments have seen significant growth, with 272 live deployments in 90 countries (Naghavi and Andersson-Manjang, 2019). Sub-Saharan Africa accounts for 45.6% of these

deployments, followed by South Asia with 33.2% and East Asia and Pacific with 11%. Although there are 866 million registered mobile money accounts, only 298.7 million of them are active within a 90-day period. Cash-in and cash-out transactions still dominate mobile money flows, particularly in cash-based societies, where remittances are primarily used for consumption purposes (Alt *et al.*, 2018).

Despite the cost reduction achieved by online mobile payment services, the global average cost of sending remittances remains at 7%, which is 4% higher than the Sustainable Development Goal target of 3%. However, blockchain technology presents an alternative solution that enables instant cross-border money transfers at significantly lower costs, and these rates are expected to be sustainable in the long term (Naghavi and Andersson-Manjang, 2019). The involvement of intermediaries and the uneven distribution of digital payment ecosystems pose challenges to achieving lower costs on a global scale. While these services have made progress in cost reduction, they still fall short of the Sustainable Development Goal target.

In this context, blockchain technology emerges as a promising solution for remittances, offering the ability to instantly transfer funds across borders at considerably lower costs. By leveraging blockchain technology, the remittance industry can move closer to achieving the desired cost reductions and promoting financial inclusion worldwide. To fully capitalize on the potential of blockchain technology and online mobile payment services, it is essential for stakeholders, including service providers, financial institutions, and regulatory bodies, to collaborate and create an enabling environment for the adoption and integration of these technologies. Through continued research, innovation, and industry partnerships, the remittance industry can enhance efficiency, reduce costs, and improve the overall accessibility and affordability of cross-border transactions.

2.5 Remittance via Blockchain Technology

The emergence of blockchain technology, first introduced by an anonymous person or group known as Satoshi Nakamoto in 2008, has brought significant advancements to the financial industry (Aste *et al.*, 2017). With the release of the Bitcoin white paper, blockchain technology and cryptocurrencies were introduced as innovative concepts for peer-to-peer electronic cash transfers, bypassing the need for traditional financial institutions (Nakamoto, 2008). Since then, blockchain technology and cryptocurrencies have found their applications in the remittance industry.

Stable coins, a type of cryptocurrency pegged to another asset or digital currency, emerged in 2012 and offered the benefits of cryptocurrencies while minimizing the notorious volatility associated with traditional cryptocurrencies (Sam, Azim, and Alonzi, 2020). They provide secure and convenient transactions, making them suitable for various use cases. As the form of money is progressively shifting towards digital, the financial infrastructure of the global economy needs to adapt. Blockchain's efficient network enables faster and cheaper transfers compared to traditional remittance channels, with approvals taking place 388 times faster and at a cost 127 times cheaper (Soufaih, 2020).

Ripple, a prominent blockchain platform, introduced reliable cross-border payments using blockchain technology and digital assets. Since its inception in 2012, Ripple has revolutionized the remittance industry by offering instant and low-cost transactions, with a transaction cost of 0.000010 XRP (Rühmann *et al.*, 2020). By leveraging blockchain technology, Ripple and similar platforms have the potential to disintermediate banks, reshape the financial landscape, and significantly reduce the costs associated with cross-border transactions. In Japan alone, 61 banks are utilizing Ripple's technology,

benefiting from its fast transaction speed and capacity to handle high transaction volumes (Qiu, Zhang, and Gao, 2019). The integration of cryptocurrencies in these platforms allows for speedy transfers, completing transactions within minutes and lowering costs by up to 60%, thereby providing an efficient and reliable means of payment while supporting the Sustainable Development Goals target of a 3% global transfer fee.

The advent of cryptocurrencies and stable coins has paved the way for faster, more secure, and cost-effective cross-border transactions (Gomber *et al.*, 2018). Platforms like Ripple have demonstrated the practical application of blockchain technology in facilitating instant and low-cost payments, challenging traditional banking systems and driving financial innovation.

The adoption of blockchain technology in remittances not only offers operational advantages, such as faster transaction speeds and reduced costs, but also aligns with the broader goals of the Sustainable Development Goals. By leveraging blockchain-based solutions, the remittance industry can contribute to achieving the SDG target of a 3% global transfer fee, promoting financial inclusion and supporting economic development worldwide (Aysan *et al.*, 2021; Gomber *et al.*, 2018).

However, while blockchain technology shows great promise, there are challenges that need to be addressed, including regulatory frameworks, scalability, and interoperability issues. Future research and industry collaboration are necessary to overcome these hurdles and fully unlock the potential of blockchain technology in revolutionizing the remittance industry. As the financial landscape continues to evolve, embracing these innovative solutions can lead to a more efficient, inclusive, and affordable remittance ecosystem, benefitting individuals, families, and economies globally.

2.6 Blockchain Technology Opportunities

The emergence of blockchain technology has opened up a realm of opportunities across industries, with the remittance sector being a prominent beneficiary (Zafar *et al.*, 2022). The borderless nature of blockchain technology eliminates profile discrimination and enables global accessibility to the financial system (Qiu, Zhang, and Gao, 2019). By shifting the focus to verifying the authenticity of funds rather than scrutinizing sender and recipient profiles, blockchain technology ensures that individuals of all backgrounds can participate in financial transactions.

Beyond accessibility, blockchain technology offers streamlined and efficient remittance processes by eliminating intermediaries such as banks. Transactions conducted on the blockchain are confirmed within seconds, enabling near-instantaneous transfers (Qiu, Zhang, and Gao, 2019). Additionally, the immutability of blockchain transactions enhances security and instils trust in the remittance process.

The implementation of blockchain technology in the remittance industry has the potential to generate significant cost and time savings for both senders and receivers. By reducing remittance costs, individuals in developing countries and migrant workers can allocate more funds for their families or personal savings (Kapur, 2003). These cost savings not only benefit the immediate participants but also contribute to the overall economic development on a global scale (Maimbo and Ratha, 2005).

Remarkable opportunities associate with the implementation of blockchain technology in the remittance industry. The borderless nature, streamlined processes, and cost savings offered by blockchain technology can lead to financial inclusion, economic empowerment, and enhanced efficiency. Moreover, the transformative potential of blockchain extends beyond remittances, offering possibilities for innovation in diverse sectors.

To fully harness the opportunities presented by blockchain technology, collaborative efforts among

stakeholders, including financial institutions, regulators, and technology providers, are essential (Kouhizadeh, 2021). Continued research and development, coupled with regulatory support and industry partnerships, will pave the way for the widespread adoption and integration of blockchain technology. By leveraging its unique features, blockchain technology has the potential to create a more inclusive, efficient, and cost-effective remittance ecosystem, benefiting individuals, communities, and the global economy as a whole.

2.7 Blockchain Technology in Enhancing Cross-Border Remittance Transactions for International SMEs

Blockchain technology can reduce costs, enhance efficiency, and improve competitiveness for SMEs in the global market. At the same time certain challenges arise. In this literature review section we also identify strategies for successful adoption and resolutions. International SMEs play a crucial role in global trade, but they often face obstacles in executing cross-border remittance transactions due to traditional financial systems' complexities (Adams et al, 2023; Gomber et al, 2018). Blockchain's decentralized nature and elimination of intermediaries can significantly reduce remittance costs for international SMEs (Kheira, 2021). Furthermore the economic implications of reduced transaction fees, lower foreign exchange rates, and minimized overhead expenses are highlighted by Tian et al, (2023). Real-time and near-instant settlement capabilities can enhance the speed and efficiency of cross-border remittance transactions for SMEs. In turn this has a direct impact of transaction speed on working capital management and overall financial flexibility (Yu and Sampat, 2022). Blockchain's security features and transparency aspects offer increased data protection and transaction traceability for international SMEs due to reducing risks related to fraud and unauthorized access (Alshareef and Tunio, 2022) .

Despite the above benefits there are certain challenges that prohibit scalability concerns, regulatory compliance, integration complexities with existing systems, and user acceptance. These elements seem to be the obstacles that need to be addressed as the way forward (Adams et al, 2023,). Streamlined remittance processes can definitely increase global competitiveness by expanding market access, attract international investment, and foster innovation for SMEs that want to drive growth safely and quickly (Cortina Lorente and Schmukler, 2018).By mitigating costs, enhancing efficiency, and bolstering security, blockchain offers promising opportunities for SMEs to gain a competitive edge in the global marketplace. Nonetheless, certain challenges require prudent strategies and cooperation between stakeholders to achieve successful blockchain adoption (Rakshit et al, 2022; Rühmann et al, 2017; Maupin, 2017)

2.8 Blockchain Technology and its Impact on International Entrepreneurship

Blockchain technology has emerged as a transformative force in the realm of international entrepreneurship, offering numerous benefits to businesses operating across borders. Similarly to what it was discussed before, blockchain's decentralized nature allows international entrepreneurs to conduct transactions and access resources without the need for intermediaries or traditional financial institutions. This feature fosters global accessibility, enabling businesses to expand their reach and connect with customers and partners worldwide more efficiently (Li et al., 2018; Yli-Huumo et al., 2016). By eliminating intermediaries in cross-border transactions, blockchain significantly reduces transaction fees, currency conversion costs, and related expenses for international entrepreneurs. This cost-saving potential enhances businesses' financial performance and competitiveness in the global market (Raval, 2016; Crosby et al., 2016). Moreover, blockchain's immutability and transparency ensure the security and integrity of data stored on the network. For international entrepreneurs, this

feature builds trust among global partners and customers, as they can independently verify transactions and information, mitigating the risk of fraud (Ahi *et al.,* 2022*;* Kshetri, 2017)). Similarly the real-time settlement capabilities of blockchain enable near-instantaneous cross-border transactions. For international entrepreneurs, this translates to improved cash flow and enhanced operational efficiency (Cole *et al.*, 2019). Furthermore, smart contracts on the blockchain automate processes based on predefined conditions. This feature streamlines supply chain management, simplifies payment terms, and reduces administrative burdens for international entrepreneurs, leading to increased productivity and resource optimization.

Blockchain-based fundraising methods, such as Initial Coin Offerings (ICOs) and Security Token Offerings (STOs), offer international entrepreneurs alternative means of raising capital from a global pool of investors. This broader access to funding opportunities fuels innovation and expansion (Gan *et al.*, 2021; Kondova and Simonella, 2019). Blockchain's transparency and traceability make it ideal for supply chain management. International entrepreneurs can track the movement of goods and verify product authenticity, enhancing supply chain efficiency and consumer trust (Bai, 2022, Sunny *et al*, 2020). By leveraging blockchain technology, international entrepreneurs can explore new markets, connect with global customers, and collaborate with partners worldwide more easily. This expanded market access opens up new growth opportunities and diversifies revenue streams (Gan *et al.*, 2021). On top of that we believe that blockchain can be utilized to timestamp and store intellectual property rights, creating an immutable record of ownership. For international entrepreneurs, this feature enhances the protection of innovations and intellectual assets in different jurisdictions (Distefano *et al*., 2021). Finally, when it comes to entrepreneurs on the international arena, blockchain's transparent and auditable nature simplifies regulatory compliance for international entrepreneurs. By maintaining accurate records and ensuring transparency in transactions, businesses can mitigate compliance risks and maintain a positive reputation in global markets Gorkhali and Chowdhury, 2022).

2.9 Blockchain Technology Challenges

The integration of blockchain technology in the remittance industry brings forth several challenges that need to be addressed to harness its full potential. One of the primary concerns raised by banks is the issue of risk management and the perception that cryptocurrencies, which are often associated with blockchain, offer a certain level of anonymity (Dierksmeier and Seele, 2018). Addressing these concerns and establishing robust risk management frameworks is crucial to gain wider acceptance and adoption of blockchain technology in the remittance sector.

Implementing blockchain technology for remittances also entails various other challenges. Last-mile delivery problems limited financial inclusion, digital divide, regulatory hurdles, and data privacy risks are among the obstacles that may be encountered (Qiu, Zhang, and Gao, 2019). These challenges necessitate collaborative efforts between banks, regulators, and industry stakeholders to develop appropriate solutions and frameworks.

While the adoption of blockchain technology may take time, the current remittance infrastructure needs to embrace modern advancements to thrive. The challenges associated with blockchain implementation are expected to be gradually overcome as more people adopt and use the technology. It is essential for banks and countries to acknowledge the potential of blockchain and work towards its acceptance and integration into existing systems (Reyna *et al.*, 2018).

The current remittance infrastructure heavily relies on intermediaries, resulting in exorbitant fees and lengthy transaction periods lasting 3-5 days. While online mobile payments have offered some relief in terms of cost, the fees associated with these services remain unsustainable and unreliable. Blockchain technology, along with cryptocurrencies, presents a viable solution to address these challenges, offering cost-effective and efficient remittance options (Qiu, Zhang, and Gao, 2019).

To achieve the Sustainable Development Goal for the remittance industry by 2030, the early implementation of blockchain technology is crucial. Established remittance market players, such as Western Union, charge high fees, whereas innovative companies like Ripple offer greater efficiency and cost-effectiveness. Creating a favourable ecosystem for blockchain technology requires collaboration between innovators and regulators, ensuring a smooth transition and adoption of the new technology (Schmeiss, 2019).

While concerns around risk management and regulatory frameworks need to be addressed, the potential benefits, such as reduced costs, increased efficiency, and improved financial inclusion, make blockchain technology an attractive solution (Reyna *et al.*, 2018). To overcome the challenges, stakeholders must collaborate to develop robust risk management protocols and address regulatory hurdles Zheng, *et al.*, 208). By embracing technological advancements and allowing blockchain to revolutionize the remittance industry, the Sustainable Development Goal of reducing costs and improving financial accessibility can be realized (Lu, 2019). Continued research, industry partnerships, and regulatory support are vital to navigating the challenges and unlocking the transformative potential of blockchain technology in the remittance sector.

2.10 Key insights and conclusions from the literature review

The remittance industry stands at a critical juncture, with the potential for transformative change through blockchain technology and online mobile payment services. This comprehensive literature review has shed light on the opportunities and challenges associated with these emerging technologies and their implications for the cost, speed, and accessibility of remittance transactions (Aysan *et al.*, 2021).

The previous theoretical investigation underscores the disruptive potential of blockchain technology. Its borderless nature challenges the traditional remittance landscape, promising to eliminate profile discrimination and dismantle the stronghold of intermediaries. By enabling global accessibility and near-instantaneous transactions, blockchain technology holds the key to streamlining the remittance process, enhancing security, and significantly reducing costs. Furthermore, the immutable nature of blockchain transactions offers unprecedented levels of trust and transparency, revolutionizing cross-border transfers (Ly, 2019). When it comes to SMEs these effects seem to be even more beneficial since blockchain technology in cross-border remittance transactions by reduces costs, enhances efficiency, and improving competitiveness in the global market (Adams *et al.* 2023)

However, the literature review also exposes the limitations and obstacles hindering the widespread adoption of these transformative technologies (Sternberg *et al.*, 2021, Prewett *et al.*, 2020). Online mobile payment services, while commendable in their efforts to reduce costs, continue to grapple with intermediaries and a lack of even distribution within the digital payment ecosystem. The challenges of last-mile delivery, financial inclusion, regulatory compliance, and data privacy risks loom large, presenting formidable barriers to the full realization of the potential benefits.

The shortcomings of the current remittance infrastructure cannot be overlooked. The entrenched reliance on traditional intermediaries and exorbitant transaction fees exemplify an archaic system that

stifles financial inclusion and burdens senders and receivers alike. The urgency to embrace innovative solutions, such as blockchain technology and online mobile payment services, becomes evident as they offer the prospect of fundamentally disrupting the existing remittance paradigm.

In conclusion, this critical analysis of prior research underscores the transformative power of blockchain technology and online mobile payment services within the remittance industry. However, it also reveals the imperative for concerted efforts from regulators, industry stakeholders, and researchers to overcome regulatory hurdles, address risk management concerns, and foster a favourable environment for technological adoption. The success of these innovations hinges on proactive collaboration, continual research, and strategic partnerships to realize the full potential of blockchain technology and online mobile payment services in revolutionizing the remittance industry and propelling global economic growth into a new era. Failure to embrace these disruptive technologies risks perpetuating an outdated and inefficient remittance system that fails to meet the evolving needs of individuals, families, and the global economy at large.

3. Methodology

This study employs a rigorous and convincing methodology, integrating human interest as a qualitative approach for data collection to ensure a comprehensive understanding of the research topic. The philosophical foundation of interpretivism, encompassing social constructivism, phenomenology, and hermeneutics, was deliberately chosen to provide valuable insights into the complex nature of the remittance industry (Collins, 2018).

The qualitative research design, utilizing interviews and observations, allows for a deep exploration of the subject matter, capturing the rich and nuanced experiences of blockchain experts (Kozinets and Gambetti, 2020). The use of interpretivism aligns with the aim of understanding the meanings, perceptions, and contextual factors that shape the role of blockchain technology in the remittance sector. This approach enables researchers to delve into the social and cultural dimensions of the phenomenon, shedding light on its complexities (Tuli, 2010; Heracleous, 2004).

The general inductive approach was selected as the qualitative data analysis method. This method offers several advantages, including flexibility and efficiency in extracting themes and patterns from raw data without imposing preconceived categories or frameworks (Thomas, 2003). By allowing the emergence of research findings from the data itself, the general inductive approach fosters a rich understanding of the remittance industry's dynamics and the transformative potential of blockchain technology.

The strengths of the interpretivist paradigm in this study are evident. Firstly, interpretivism allows for in-depth exploration and description of objects, humans, and events within their social context. This approach is particularly valuable for uncovering authentic and contextualized information about blockchain technology and its impact on the remittance industry (Tuli, 2010). Secondly, the interactive interview method employed in this study provides a unique opportunity to access interviewees' thoughts, perspectives, and experiences, enabling a comprehensive understanding of their viewpoints (Wellington and Szczerbiknski, 2007).

It is important to acknowledge that alternative methodologies exist; however, they are not as suitable for addressing the research question at hand. Quantitative approaches, for instance, often prioritize generalizability and statistical analysis, which may overlook the nuanced aspects of individuals' experiences and the contextual factors that shape the remittance industry (Bluhm at al., 2011). Qualitative research in management: A decade of progress. Journal of management studies, 48(8),

pp.1866-1891.. By employing qualitative methods, this study aims to capture the depth and complexity of the subject matter, providing a comprehensive understanding of blockchain technology in the remittance sector.

Quantitative approaches also rely on predefined variables and structured methodologies, which may limit the exploration of emerging themes and unexpected findings. In contrast, the qualitative nature of this study, grounded in interpretivism, allows for a flexible and exploratory analysis, ensuring that no relevant aspect is overlooked (Cohen *et al.*, 2011).

Moreover, the interpretivist approach acknowledges the subjective nature of social phenomena and emphasizes the importance of understanding individuals' perspectives and the context in which they operate. This nuanced understanding is essential for capturing the intricate dynamics of the remittance industry and the potential of blockchain technology to revolutionize it (Mack, 2010).

In conclusion, the chosen methodology of integrating human interest as a qualitative approach, specifically interpretivism, along with the general inductive approach for data analysis, offers unique advantages for investigating the role of blockchain technology in the remittance sector. By embracing qualitative methods, this study ensures a comprehensive understanding of the complex interplay between technology, social context, and individual experiences. The qualitative approach stands as the most convincing and appropriate methodology for this research, providing rich insights into the potential implications of blockchain technology in the remittance industry.

3.1 Protocol

This research study rigorously employs an analytic and convincing methodological protocol that strengthens the credibility and validity of the findings. The protocol, as presented in Appendix A, outlines a meticulous process for interview questions development, guided by three prominent themes derived from an extensive review of the literature (Braun and Clarke, 2022). These themes, namely blockchain technology, the remittance industry, and the potential of blockchain in remittances, have been deliberately chosen to craft relevant and incisive questions for the participants.

By incorporating these key themes into the interview questions, we ensure that the data collected is directly aligned with the research objectives, enabling a comprehensive exploration of the subject matter (Byrne, 2022). The structured protocol consists of 12 questions, with the initial three focusing on collecting demographic information to provide contextual insights. The subsequent nine questions delve deep into the core themes, enabling us to capture the participants' nuanced perspectives and experiences regarding blockchain technology and its potential in the remittance sector.

To ensure the robustness and reliability of the findings, a thorough data inspection and cleansing process has been meticulously conducted. This process involved a careful review and analysis of the responses provided by the participants, as well as consideration of any additional information, such as linked articles or statistical news, that the participants voluntarily shared (Cloutier and Ravasi, 2021). The data collected through this diligent process forms the bedrock of concrete evidence upon which our study is built, guaranteeing the validity and trustworthiness of our conclusions.

The research design features a purposive sampling approach, specifically targeting 25 blockchain experts who possess a minimum of four years of practical experience in the field (Johnson *et al.*, 2020). This deliberate sampling strategy ensures that the insights and opinions gathered are based on substantial expertise and informed perspectives. The 12 questions protocol, carefully tailored to the identified themes from the literature review, provides a structured framework for collecting rich and relevant data.

While alternative methodologies exist, it is important to highlight the distinct advantages of our chosen approach. The qualitative nature of our study, anchored in interpretivism, allows for a deep understanding of the phenomena within its social context. By utilizing methodologies such as grounded theory, ethnography, case study, and life history, we can uncover authentic information from natural settings, providing valuable insights into the personal experiences and perspectives of blockchain experts (Tuli, 2010). The interactive interview method further enriches our understanding by enabling probing into the interviewees' thoughts, values, perceptions, and perspectives (Wellington & Szczerbiknski, 2007).

Nevertheless, it is crucial to acknowledge the limitations associated with interpretivism. While it allows for a comprehensive understanding of the research phenomena within their complex contexts, it does not lend itself well to generalization across different populations and contexts. This limitation arises from the emphasis on in-depth exploration and the subjective nature of interpretivist research, which can restrict the verification of research outcomes through traditional scientific procedures (Cohen, Manion, & Morrison, 2011). Additionally, the ontological stance of interpretivism leans toward subjectivity rather than objectivity (Mack, 2010).

Considering the advantages and disadvantages outlined above, our study adopts an interpretivist approach to provide valuable evidence regarding the personal experiences of blockchain experts. By focusing on qualitative analysis over quantitative analysis, we can generate nuanced insights into the potential of blockchain technology to revolutionize the remittance industry and other emerging sectors. The application of the general inductive method for qualitative data analysis ensures the emergence of research findings from the inherent themes and patterns in the raw data, allowing for a rich exploration of the research phenomena (Thomas, 2003; Strauss & Corbin, 1990).

This methodological protocol demonstrates a rigorous and convincing approach to studying the impact of blockchain technology on the remittance industry. The careful interview protocol/questionnaire development, aligned with the identified themes from the literature review, facilitates the collection of valuable insights from a targeted sample of blockchain experts (Lopes *et al.*, 2021). The thorough data inspection and cleansing process enhances the reliability and validity of the findings. By incorporating interpretivism and qualitative analysis, we gain a deep understanding of the research phenomena within their social contexts. While alternative methodologies exist, our chosen approach offers unique advantages that align with the research objectives.

Finally, when it comes to ethical considerations, conducting qualitative research necessitates careful attention to ethical considerations to ensure the protection of individuals and uphold the values and principles governing human affairs (Bhasin, 2020). In this study, several ethical considerations were carefully addressed and prioritized to ensure the ethical integrity of the research process.

3.2 Ethical Considerations

First and foremost, informed consent was obtained from all participants, emphasizing the voluntary nature of their participation. This ensures that participants were fully aware of the study's purpose, procedures, and potential risks or benefits before providing their consent to participate. Respecting participants' autonomy and ensuring their voluntary involvement is fundamental to upholding ethical standards in research (Thunberg and Arnell, 2022).

To safeguard the well-being of participants, measures were taken to ensure that no harm was inflicted

upon them throughout the research process. This involved minimizing any potential physical, psychological, or emotional risks associated with their participation (Husband, 2020) . Additionally, steps were taken to maintain confidentiality and anonymity, ensuring that participants' personal information and responses were kept strictly confidential and that their identities remained undisclosed in any published or disseminated materials.

Moreover, the research focused solely on assessing relevant components related to the themes of blockchain technology and the remittance industry. By concentrating on pertinent aspects, the study aimed to maximize the utility of the research while minimizing any potential intrusion into participants' privacy or the collection of unnecessary data (Suri, 2020).

By adhering to these ethical considerations, this study ensures that no actions were taken that could be detrimental to society or individuals involved. Respecting participants' rights, protecting their well-being, maintaining confidentiality, and focusing on relevant components are all essential steps in conducting research ethically and responsibly. These ethical considerations establish a solid foundation for the study, instilling confidence in the integrity and validity of the research outcomes.

4. Analysis and Discussion

The present study employs a rigorous thematic analysis approach to interpret and analysed the findings derived from the 25 responses. The thematic analysis findings consisting of three key themes, namely blockchain technology, the remittance industry, and the implementation of blockchain technology in remittances, serve as a robust foundation for examining the data. By aligning the analysis with these themes, the study ensures a comprehensive exploration of the potential success of blockchain technology in revolutionizing the remittance industry.

The data collected provide substantial evidence to support the researchers' claims regarding the transformative impact of blockchain technology. Each of the 25 responses has been thoroughly analysed, addressing all the questions posed to the participants. Through this meticulous analysis, a rich understanding of the participants' perspectives and insights emerges, shedding light on the significant implications of blockchain technology in remittances.

To illustrate the depth and relevance of the findings, one exemplary response will be presented as evidence. This exemplar will showcase the participants' views and experiences, substantiating the study's claims regarding the potential success of blockchain technology in the remittance industry. By highlighting a concrete example, the analysis provides a clear and compelling demonstration of the implications drawn from the data.

Utilizing thematic analysis, presents a robust and convincing examination of the potential impact of blockchain technology in the remittance industry. The comprehensive analysis of the data, organized around the identified themes, offers valuable insights into the transformative capabilities of blockchain technology, enhancing our understanding of its potential success in revolutionizing remittances.

4.1 Discoveries on Blockchain Technology

The qualitative research paper employed a rigorous thematic analysis approach to examine the responses gathered from the interviews, focusing on the theme of blockchain technology. This

analysis aimed to gain deep insights and understandings from the participants, shedding light on the transformative potential of blockchain technology in the remittance industry.

Question #4 sought to elicit respondents' own explanations of blockchain technology. One particularly noteworthy response came from Respondent C, who possesses a commendable 7 years of experience in the blockchain field. Their response provided a concise yet comprehensive description of blockchain technology, highlighting its key features such as disintermediation, decentralization, trustlessness, and data security ensured through economic game theory and cryptography. This response effectively conveys the essence of blockchain technology in a straightforward and understandable manner, reflecting the respondent's expertise and clarity of thought.

Question #5 delved into the valuable features of blockchain technology in the remittance sector. Respondent B, currently employed by Circle, offered an intriguing response that underscores the trustworthiness of blockchain technology in updating the existing transaction systems of the remittance industry. The respondent identified several key features, including governance and consensus mechanisms for trust, protocols and standards (e.g., ERC20) for interoperability, smart contracts for enhanced functionality, censorship resistance for privacy, and scanners for transparency and finality/settlement. This comprehensive list of valuable features showcases the potential of blockchain technology to address the specific needs and challenges of the remittance sector, as articulated by an industry insider.

The analysis of question #6 revealed a remarkable consensus among all the interviewees. They uniformly acknowledged the revolutionary impact of blockchain technology on the remittance industry, emphasizing its ability to eliminate third-party intermediaries, reduce costs, and expedite cross-border transactions. This unanimity of responses underscores the widespread recognition of blockchain technology as a transformative force in the remittance sector.

In conclusion, the analysis pertaining to blockchain technology provides compelling evidence of its potential to revolutionize the remittance industry. The responses from experienced professionals and industry insiders highlight the key features and benefits of blockchain technology, conveying a clear message of trust, efficiency, and cost reduction. The unanimous agreement among participants regarding the transformative impact further solidifies the notion that blockchain technology is already reshaping the remittance landscape. This analysis contributes to the growing body of knowledge on the potential of blockchain technology, paving the way for future advancements in the remittance industry.

4.2 Discoveries on the Remittance Industry

The second theme was on the remittance industry including its current limitations and effects on the global economy. The qualitative research paper conducted a comprehensive thematic analysis focusing on the remittance industry, aiming to uncover its limitations and potential effects on the global economy. This analysis shed light on key aspects through the examination of responses obtained.

Question #7 addressed the limitations and challenges associated with remittances conducted via intermediary and online mobile payment services. Respondent A provided an insightful response that highlighted a fundamental limitation of these services—the inherent vulnerability of the underlying currency. The respondent astutely pointed out that fiat currencies, commonly used by third-party providers, are susceptible to inflation caused by factors such as money printing or quantitative easing.

This observation not only emphasized the high fees and sluggish transaction speeds typically associated with these services but also drew attention to the depreciation of wealth over time. The response further emphasized the potential of cryptocurrencies as a superior alternative to fiat currencies. This descriptive and critical analysis effectively conveyed the limitations and challenges faced by remittances conducted through intermediary and online mobile payment services.

Question #8 sought to gain insights into the potential impact of the remittance industry revolution on the global economy. Respondent D offered a thought-provoking response, emphasizing that the revolution would redirect value from remittance agents, such as Western Union, to various parties and counterparties involved in the process. By pointing out the redistribution of value, the respondent highlighted the transformative nature of blockchain technology in creating a sustainable and equitable space for all players within the remittance industry. This insight suggests that the revolution in the remittance industry has the potential to reshape the global economy by challenging the dominance of established intermediaries and promoting a more inclusive and efficient ecosystem.

The final question of this thematic analysis, question #9, explored the perceived outdated nature of the current remittance industry. All five respondents aligned in their perspective, asserting that the remittance industry is in dire need of revolution through the adoption of blockchain-based technology. This unanimous agreement underscores the consensus among the participants regarding the potential benefits and opportunities that such a revolution could bring. The respondents envisioned the transformation of the remittance industry as a catalyst for the prosperity of developing countries, as well as a means to streamline and economize cross-border transactions.

In summary, we provide valuable insights into its limitations, potential impact on the global economy, and the need for revolution. The responses offer critical perspectives on the vulnerabilities of current remittance services, the redistribution of value in a blockchain-driven ecosystem, and the overall outdated nature of the industry. These findings highlight the potential of blockchain technology to address the challenges faced by the remittance industry, promote financial inclusivity, and foster economic growth. The thematic analysis contributes to a deeper understanding of the transformative potential of blockchain technology within the remittance landscape and provides a foundation for future research and advancements in this field.

4.3 Discoveries on Blockchain Technology in Remittances

The qualitative research paper employed a meticulous thematic analysis to explore the implementation of blockchain technology in the remittance industry, focusing on the opportunities it presents and the potential challenges it may encounter. The analysis captures the unanimous agreement among respondents regarding the obsolescence of remittances as the first and most apparent industry to be disrupted by blockchain technology.

Question #10 sought to identify the potential opportunities that the adoption of blockchain-based technology could bring to the remittance industry. Respondent E provided a comprehensive and descriptive response, highlighting various opportunities. Firstly, the respondent emphasized the significance of stablecoin minting, burning, and governance, suggesting that remittance players should explore consortiums like Centre and decentralized autonomous organizations (DAOs) like Maker to leverage open blockchain networks and issue stablecoin liquidity in non-dollar digital currencies. Additionally, the response mentioned the gradual elimination of foreign exchange (FX) traders as intermediaries, with blockchain technology facilitating cross-currency transfers while bringing liquidity into these markets. The respondent further proposed the utilization of blockchain

networks to access dollars for settlements, opening up new business models. Lastly, the response acknowledged that as blockchain adoption progresses, the remittance application itself will become obsolete, requiring industry players to monetize through alternative business models. This insightful and knowledge-driven response showcases the extensive investigation conducted by an experienced blockchain expert, highlighting the wide range of opportunities presented by blockchain-based technology not only within the remittance industry but across various domains.

Question #11 aimed to identify the possible challenges associated with blockchain technology. Respondent A astutely identified three key challenges. Firstly, the respondent pointed out congestion issues, particularly on layer one technologies, where low user numbers can result in relatively high fees. Secondly, the reach of layer one blockchain technologies is sometimes limited per transaction, leading to the development of layer two solutions to enhance transaction speed and scalability. Lastly, the respondent emphasized the lack of knowledge surrounding blockchain technology, often leading to skepticism due to concerns related to criminal activities and scams. This concise identification of challenges demonstrates a scientific and analytical approach to assessing the potential limitations and obstacles that may arise during the implementation of blockchain technology in the remittance industry.

Lastly, question #12 sought additional insights and opinions from the experts regarding the revolutionary potential of blockchain-based technology in the remittance industry. Respondent C provided a powerful and straightforward response that strongly supported the study. The respondent highlighted how blockchain rails can replace traditional banking infrastructure, such as SWIFT and SEPA, with a modern, interoperable, cost-efficient, scalable, open-source, and community-built system. Furthermore, the response emphasized that remittance players who adopt blockchain rails to facilitate transactions and provide off-ramps to individuals and businesses lacking on-chain infrastructure will have a competitive advantage over the next 5-10 years. This response reinforces the study's focus on the transformative power of blockchain technology and solidifies the argument for its potential to revolutionize the remittance industry.

These findings contribute to a compelling argument for the revolutionary potential of blockchain-based technology in the remittance industry, supported by insights from knowledgeable experts. The thematic analysis enhances the credibility and persuasiveness of the research paper, establishing a robust foundation for further investigation and advancement in this field.

5. Conclusions

From the previous analysis it is evident that experts unanimously recognize the power of blockchain technology to revolutionize the remittance industry. The themes explored—blockchain technology, the remittance industry, and the implementation of blockchain technology—each provide valuable insights that carry significant implications for both practitioners and theorists. We highlight the unanimous agreement among experts regarding the potential benefits of blockchain technology. The identified opportunities, such as stablecoin liquidity, elimination of intermediaries, and access to open networks, offer concrete pathways for practitioners to enhance their operational efficiency and customer experience. It is important to also recognize the challenges that come with blockchain adoption. The highlighted issues of congestion, reach limitations, and the lack of knowledge underline the need for careful planning, infrastructure development, and education. Overcoming these challenges is crucial to ensure the successful integration of blockchain technology into remittance services. By addressing these challenges, theorists can contribute to the development of comprehensive frameworks and models that consider both the benefits and limitations of blockchain

technology in the remittance context.

With regards to international entrepreneurs and SMEs growth, blockchain technology offers a wide array of benefits ranging from cost reductions, improved efficiency to increased security, transparency, and access to global markets. By leveraging these advantages, international entrepreneurs can drive innovation, expand their reach, and gain a competitive edge in the dynamic global business landscape. In conclusion, the findings of this analysis highlight the immense potential of blockchain technology in revolutionizing the remittance industry. Practitioners are encouraged to seize the identified opportunities while being mindful of the challenges that may arise. The theoretical implications of this research underscore the need for continued exploration and innovation, aiming to develop robust frameworks that account for the intricacies of blockchain technology in the remittance industry. By embracing these insights, practitioners and theorists can shape the future of the remittance industry, fostering efficiency, transparency, and financial inclusion.

6. Recommendations and Implications

The comprehensive analysis and thematic analysis conducted in this study offer compelling insights that carry significant implications for both practitioners and theorists operating in the realms of blockchain technology and the remittance industry.

a) Implications for Practitioners:

The analysis of interviews clearly demonstrates a unanimous consensus among experts regarding the immense potential of blockchain technology to revolutionize the remittance industry. This consensus serves as a strong and compelling argument for practitioners to swiftly adopt blockchain-based solutions in order to enhance their operational efficiency and maintain a competitive edge in the rapidly evolving landscape. Numerous concrete opportunities facilitated by blockchain technology emerge such as the issuance of stablecoins offering enhanced stability by mitigating the volatility typically associated with traditional cryptocurrencies. Following in the same line of thinking, we can have streamlined transactions through near-instantaneous transfers with reduced settlement times compared to traditional remittance methods.

We also outlined the cost reduction by eliminating intermediaries and leveraging decentralized networks while increasing global accessibility. International entrepreneurs and SMEs can ensure transparency and traceability of their transactions while maintaining cost and supply chains control At the same time adhering to regulatory requirements and maintaining compliance in the remittance industry and access to liquidity through open networks are crucial to business success and economic growth. Moreover, we highlight the exploration of new business models that can lead to innovation and better adaptability. By capitalizing on these opportunities, SME managers and entrepreneurs can optimize their processes, reduce costs, accelerate transaction speeds, and significantly improve the overall customer experience. Additionally, the challenges highlighted in the analysis, such as congestion, reach limitations, and the lack of knowledge surrounding blockchain technology, serve as vital signposts for practitioners to navigate potential hurdles effectively. By proactively addressing these challenges, practitioners can ensure a seamless and successful integration of blockchain solutions into their remittance services.

b) Implications for Theorists:

The implications for theorists within the field of blockchain technology and the remittance industry are far-reaching since our results offer a ground for further theoretical exploration. The aforementioned unanimous agreement among experts on the transformative power of blockchain technology in revolutionizing the remittance industry serves as empirical validation and further bolsters existing theoretical frameworks. It also reaffirms the foundational understanding of the disruptive impact that blockchain technology can have. The second thematic focus on the limitations and challenges of the remittance industry offers theorists valuable insights into specific pain points that can be effectively addressed through blockchain-based solutions. These findings contribute to the theoretical understanding of the industry's intricacies and provide a roadmap for future research and innovation. The third theme, exploring the implementation of blockchain technology in the remittance industry, introduces exciting opportunities for further investifation:

Stablecoin governance: comparative analysis of stablecoin governance models, evaluating their effectiveness, examining the involvement of community stakeholders in decision-making processes and the impact on stability and trust within stablecoin ecosystems, assessing how the governance structure and mechanisms of stablecoins affect user adoption and market acceptance as well as security and risk management in stablecoing governance.

Elimination of foreign exchange traders: disintermediation of foreign exchange traders through blockchain technology, potential disruptions, and transformations that blockchain technology can bring to the traditional foreign exchange markets, including the elimination of intermediaries and increased transparency. On this avenue also worth examining the development and functionality of decentralized platforms that leverage blockchain technology to facilitate direct currency exchange between individuals or entities, bypassing the need for traditional foreign exchange traders.

Facilitation of cross-border lending: investigate how blockchain technology can improve the accuracy and efficiency of credit risk assessment for cross-border lending, explore how smart contracts on blockchain platforms can automate and enforce loan agreements, facilitate cross-border transactions, and enhance the security and efficiency of lending processes, investigate financial inclusion through blockchain-enabled cross-border lending through affordable cross-border lending options for individuals and businesses in underserved regions, and assessing the social and economic impact of such initiatives.

The analysis conducted in this study serves as a bridge between theoretical and practical implications for both practitioners and theorists in the field of blockchain technology and the remittance industry. Practitioners can leverage the theoretical foundations and identified opportunities to enhance their operations and gain a competitive edge, while theorists can refine existing frameworks, address challenges, and propose novel solutions based on the practical insights. This symbiotic relationship between theory and practice propels the advancement of knowledge, facilitates innovation, and ultimately drives the successful integration of blockchain technology in the remittance industry.

7. Limitations and Suggestions for future studies

The present study on the potential of blockchain technology in the remittance industry has shed light on valuable insights. However, it is essential to critically examine the limitations and consider future research directions that not only address these limitations but also contribute to the creation of a new stream of rigorous academic research.

Methodological Limitations:

The reliance on online interviews due to the COVID-19 pandemic restricted the depth of data collected. Future research should embrace a mixed-methods approach, incorporating in-person interviews, focus groups, and case studies to gather more comprehensive and nuanced insights. This will enable a deeper understanding of the complexities and dynamics surrounding blockchain technology in the remittance industry.

Limited Academic Literature: The scarcity of academic journals specific to blockchain technology hinders the ability to build upon existing knowledge. Future researchers should seize the opportunity to bridge this gap by publishing robust studies, theoretical frameworks, and empirical evidence that contribute to a growing body of literature. By doing so, they can foster academic rigor and establish a solid foundation for future advancements.

Validity of Internet Sources: The presence of opinion-based articles and unreliable sources on the internet challenges the credibility of the information used in this study. Future research must prioritize rigorous sourcing, relying on reputable academic journals, peer-reviewed publications, and industry reports. By engaging with high-quality sources, researchers can ensure the validity and reliability of their findings, enhancing the scientific rigor of their work.

Participant Selection: The challenge in finding participants who meet specific criteria, such as having extensive experience in blockchain, may have introduced sampling biases. Future studies should strive for a diverse participant pool, encompassing professionals from various backgrounds, industries, and levels of expertise. This inclusive approach will provide a more comprehensive understanding of the remittance industry's perspectives on blockchain technology.

Suggestions for future research that pave the way for a new stream of academic rigor include:

Comparative Studies: Conduct comparative research to analyze the effectiveness and efficiency of different blockchain-based solutions within the remittance industry. By examining various platforms, protocols, and implementation strategies, researchers can identify best practices and foster innovation in the field. Moreover, comparative studies can take place exploring the practices between different SMEs from developing nations and different cultural contexts since blockchain serves as a tool for international growth.

Longitudinal Studies: Undertake longitudinal studies to track the long-term impact and evolution of blockchain technology in the remittance industry. This approach will offer valuable insights into the sustainability, scalability, and adaptability of blockchain solutions over time, fostering a deeper understanding of their real-world implications.

User-Centric Research: Focus on user experiences, perceptions, and adoption factors related to blockchain-based remittance services relating to international entrepreneurs. By investigating usability, trust, and acceptance among remitters, recipients, and intermediaries, researchers can identify barriers and design user-centric solutions that facilitate wider adoption and improved outcomes.

Regulatory and Policy Analysis: Explore the legal, regulatory, and policy implications of blockchain technology in the remittance industry. Analysing the challenges and opportunities posed by regulatory frameworks, cross-border transactions, and data protection will guide policymakers and industry stakeholders in creating conducive environments for blockchain-based innovations.

In conclusion, through critical analysis and a commitment to rigorous research methodologies, scholars have the opportunity to create a new stream of research that advances the understanding of

blockchain technology in the remittance industry. This analytic approach will drive innovation, challenge existing paradigms, and contribute to evidence-based decision-making, ultimately enabling practitioners and policymakers to harness the full potential of blockchain technology while mitigating risks and maximizing societal and economic benefits.

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Table1: Interview protocol development

Theme	Questions	References
Blockchain Technology	1. What is blockchain technology in your own words? 2. Which blockchain technology features are most valuable in the remittance sector? 3. Does blockchain technology have the potential to reduce the cost and time period of remittances?	Literature Review 2.6
Remittance Industry	1. What are the main limitations and challenges of remittances via intermediary and online mobile payment services? 2. Will the implementation of blockchain technology in the remittance industry improve the global economy? 3. Is the current remittance infrastructure outdated?	Literature Review 2.2, 2.4

Implementation of Blockchain Technology in the Remittance Industry	1. What are some opportunities when implementing blockchain technology in the remittance industry? 2. What are some challenges when implementing blockchain technology in the remittance industry? 3. Does blockchain technology have the potential to revolutionize the remittance industry?	Literature Review 2.7, 2.8