





جامعة أحمد بن يحيى الونشريسي
تيسمسيلت-

المعيار

مجلة نصف سنوية متعددة التخصصات
مصنفة " C "

في الآداب، الحقوق والعلوم السياسية، علوم وتقنيات
النشاطات البدنية والرياضية، العلوم الاقتصادية، والعلوم الإنسانية
والاجتماعية

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كلمة العدد

السلام عليكم،

بعد واجب التّحيّة تطل عليكم مجلة المعيار – كما عودتكم – بمجلد جديد وعدد متجدد هو المجلد السادس عشر، العدد الأول، حاملة في طيّاتها مجموعة ثرية ومتنوعة من المقالات العلميّة والبحوث الأكاديمية، التي تتناول طيفا واسعا من المواضيع والقضايا التي تهتم القارئ المتطلّع للمعرفة والفهم العميق.

وكالمتوقع، يتضمن هذا العدد نخبة من المقالات التي كتبت بأقلام نيرة، وبأفكار ناضجة، تجمع بين العمق العلمي والطّرح الجذّاب، وذلك في مجالات شتى، تشمل: الأدب، والقانون، والسياسة، والاقتصاد، والاجتماع، وغيرها وبلسان مختلف اللّغات منها الانجليزية، الفرنسية والألمانية، ومن الميادين التي تتجدّد أهميتها مع متغيرات الواقع وتحديات العصر.

وما يضيفي على هذا العدد طابعا خاصّا، هو ما يتضمنه من أعمال كتبت من داخل الوطن ومن خارجه، في دليل واضح على عمق الامتداد العلميّ للمجلة، وحرصها على جمع الآراء والأصوات العلميّة من كافة الأصقاع، فكلّ مقال يضيف بعدا ورؤية تساهم في بناء معرفة شاملة ورؤية متوازنة نتطلّع من خلالها إلى نيل رضى القارئ والفوز بإعجابه.

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أ.د. عيساني محمد

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Abstract:

This study explores the transformative impact of blockchain technology on modern financial systems. It highlights how blockchain's decentralization, transparency, and immutability can eliminate intermediaries, reshaping capital markets and financial institutions. The research addresses the implications of blockchain for investors, financial services, regulators, and consumers, particularly in regions with inadequate financial infrastructure. Despite challenges in integrating blockchain with traditional finance, such as regulatory ambiguity and job displacement, the technology offers significant benefits, including enhanced security and cost reduction. Case studies, such as the China Construction Bank's adoption of cryptocurrency solutions, illustrate practical applications of blockchain in financial systems. Ultimately, the study anticipates ongoing advancements in blockchain technology and its potential to redefine economic structures in the future.

key words: Blockchain technology; Financial systems; China Construction Bank.

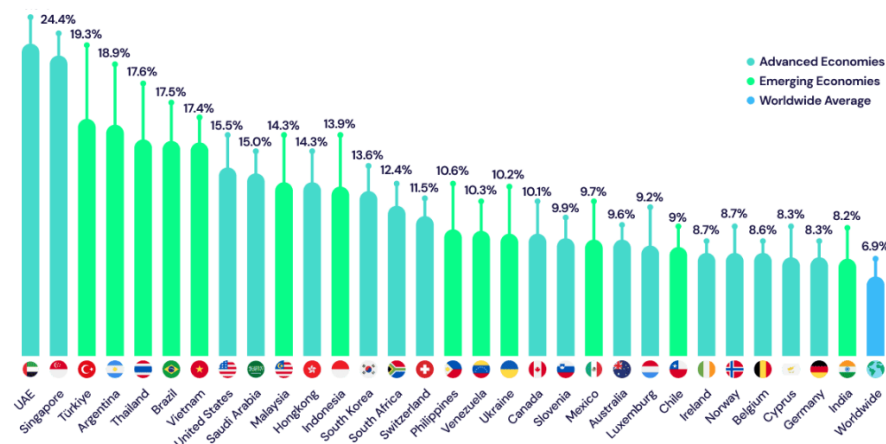
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Introduction:

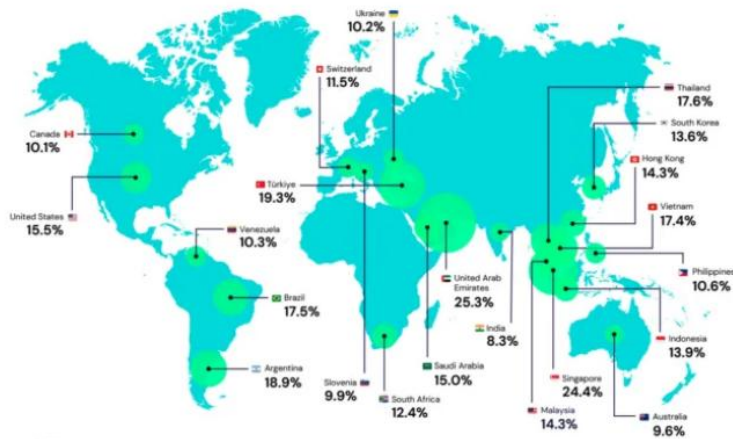
Blockchain technology continues to advance, and it is the most anticipated and anticipated element of contemporary finance, transforming capital markets and related institutions in the process. The technology has the potential to eliminate intermediaries, thus transforming society in various ways (Irfan et al., 2024). The strategic objective formulated with this conclusion in mind took into account the convergence of variables relevant to investors, financial services, regulators, and individual investors. These implications are particularly relevant given the growing popularity of cryptocurrencies and other financial sectors. As these various services become more popular, the need to understand the financial services they facilitate has become increasingly important in the broader economy. In countries with inadequate financial services, individuals and institutions often have to allocate resources to important intermediaries. In such economies, the activities of these intermediaries restrict many alternatives, thus limiting the enabling environment for investment (Zhang et al., 2020). This has led to significant research on traditional financial services integrating with new applications of blockchain technology despite the perceived obstacles. These forays raise distinct issues; the landscape is consolidating, and the formulation of such provisions remains uncommon. This study addresses these difficulties through a refined methodology, examining theories and practices related to traditional finance, cryptocurrencies, and blockchain technologies. Furthermore, we intersect with each of these future aspects and outline the historical emergence of these potential pitfalls in the introduction (Kayani & Hasan, 2024).

1. Global Trends in Cryptocurrency Adoption

In 2024, the worldwide adoption of cryptocurrencies has achieved a significant milestone, as reported by Triple-A, indicating a rise to 562 million owners, reflecting a 34% increase from 2023. This notable development indicates the increasing prevalence of digital currencies, currently possessed by roughly 6.8% of the global populace.



Source : <https://beincrypto.com/https://beincrypto.com/>



Source : <https://beincrypto.com/https://beincrypto.com/>

The survey additionally emphasizes the demographic composition of bitcoin proprietors. The predominant demographic is the 25-34 age cohort, constituting 34% of the overall population. The subsequent age group, 35-44, comprises 31%. The gender disparity persists, with 61% of proprietors being male and 39% female.

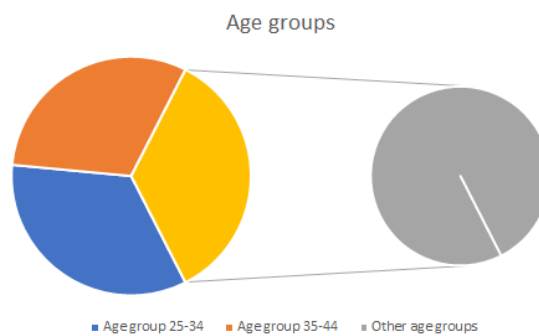


Figure 1: Prepared by researchers based on Excel

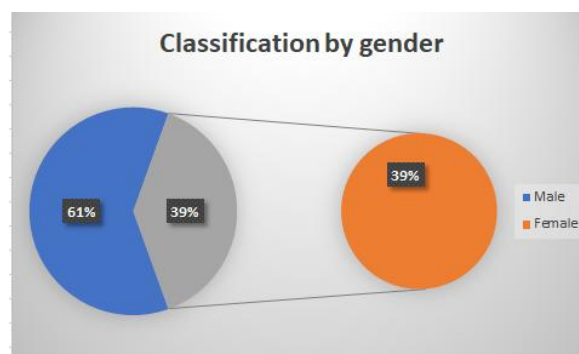


Figure 2: Prepared by researchers based on Excel

A digital currency is an asset with a series of characteristics based on blockchain technology. It is an electronic asset that is generated and handled independently and is held and transacted by a wide range of the general public (Pan and Qiu2020). With the rapid development and widespread use of blockchain, digital currency has emerged and become one of the research hotspots in the financial field (Hu et al., 2024). The emergence of digital currency is a revolution in traditional currency and the

financial system, which is also a new round of subversive succinct summary since the construction of the global currency and payment system. With the rapid progress, the concept, process, mechanism, and regulatory status of digital currency are continuously revised.

Because of the above-mentioned financial and technological progress associated with cryptocurrencies, this new and innovative financial asset class is of great interest to both practitioners and researchers (Christophers, 2024). Although few, the advantages include being transferred directly to the Internet without going through a bank; fewer fees; ease of use with mobile phones; and the speed of transactions (van Zanden, 2023). The impossibility of counterfeit money, because as an accounting unit based on a block of lines, the cryptocurrency is technically almost impossible to forge, even more difficult than many legal currencies. According to market debates, the evolution of currency has moved from gold to fiat to digital currency. Challenges include the potential for loss, risky security, irreversible transactions, and restrictions for young people. This study discusses the impact of government regulation and public perception of digital currencies on the value and volatility of currencies.

2. Understanding Blockchain Technology:

Blockchain, a potent new technology that has rapidly gained traction due to its fundamental characteristics of decentralization, transparency, and immutability, holds significant potential applications and ramifications for the finance sector across multiple dimensions. A blockchain is fundamentally a transparent, distributed, decentralized, and immutable ledger consisting of a sequence of blocks that are validated and stored across the network by individual participants, referred to as nodes or miners (Arora and Nagpal 2022). Every successive block incorporates the cryptographic hash of the preceding block in the chain, thereby enhancing security and guaranteeing that previously recorded transactions remain immutable (Velmurugadass et al. 2021). This characteristic has since been utilized to support cryptographic digital currencies, including cryptocurrencies like Bitcoin. Although cryptocurrencies are founded on blockchain technology, blockchain has extended its utility beyond mere financial applications, presently gaining traction in sectors such as finance, insurance, supply chains, healthcare, and numerous other domains (Skaf, 2023).

Blockchain functions comparably in both public and private applications, wherein the integrity of the records maintained within the blockchain is safeguarded by an architecture that disseminates information over a network of validators operated by a decentralized community. Public cryptocurrency systems utilize tokens to compensate validators for using their computational resources essential for securing and executing transactions (Rouhani & Deters, 2021). Conversely, private or permissioned implementations depend on predetermined participants or validators deemed trustworthy to engage in transactions, utilizing advanced authentication and access control mechanisms to guarantee that only authorized node validators partake in transaction validation, block generation, consensus, and private transactions among peers. Hereafter, we shall utilize the term ledger to denote the blockchain (Praitheeshan et al., 2021).

2.1. Definition and Key Concepts:

"Blockchain" denotes a decentralized database technology intended to facilitate the preservation and documentation of transactions across numerous computers, resulting in a secure and pseudo-anonymous ledger of economic value. Blockchain systems archive transactions in interconnected blocks of data that collectively form a blockchain (Vivekanadam, 2020). The data blocks are

cryptographically interconnected, with each block having a cryptographic hash of the preceding block's data (Velmurugadass et al. 2021). Blockchains employ consensus techniques to establish agreement on the database's state, which is preserved and managed by numerous non-trusting nodes inside a peer-to-peer network (Capocasale et al., 2023). Blockchain systems typically consist of the following elements: Data Segments: Blocks encapsulate a collection of transactions within a specific "container." Every piece of data within a block is digitally authenticated. Upon validation, a block's signature verifies the integrity of its data and that of all preceding blocks. This functionality is essential for data resilience and security (Habib et al. 2022). Chains: Each block is interconnected with a reference to the hash of the preceding block. This establishes a sequence of blocks that, once inscribed, are nearly immutable—indicating that it is computationally impractical to modify a single block without affecting all subsequent blocks. When blockchains are maintained on the network, ensuring that all full nodes possess a complete copy, this architecture is capable of withstanding a single point of failure and preserves data even during a comprehensive node failure event (Zhao).

3. Evolution of Financial Systems

The fundamental basis of human civilization is established on the exchange of resources among individuals. Previously, hunted animals were exchanged for a gram of gold; however, contemporary financial techniques and instruments have advanced significantly, often undermining evolutionary progress in the process (Herder, 2024). These exchanges are central to the financial industry: initially dominated by gold and silver during the Industrial Revolution, evolving through personal interactions and agreements, and ultimately transitioning into a digital era, where financial products are aggregated and traded on a global scale (Challoumis, 2024). The trend indicates a broader phenomenon - finance has fluidly transformed, much to tectonic plates, to accommodate the requirements of the contemporary economy (Booß-Bavnbek et al. 2023).

Until March 2008, centralized financial systems were the sole vehicle via which participants, including banks, businesses, and individuals, conducted transactions with one another. These methods have traditionally been vulnerable to financial crises, corruption, economic cartelization, and governmental monitoring, among other inefficiencies and shortcomings. Key actors in these centralized domains can independently affect, eliminate, or manipulate financial transactions in the economy to align with their political ambitions or commercial interests (Saha & Sen, 2023). The world economy, valued at nearly 63 trillion USD in the 1960s, currently exceeds 92 trillion USD as of 2019 (Slawotsky, 2020). The expansion of the global financial network not only requires an update of the infrastructure but also underscores the longstanding disparity in capability and accessibility within the previous system. A new solution should be requisite, potentially in the form of a technological underground railway where assets are transmitted over the internet, as opposed to the cold steel and IRUs of the past (Grove, 2021).

3.1 Existing Financial Systems

Financial systems form the backbone of modern economies, enabling the movement of capital and ensuring that resources are allocated efficiently across markets. These systems come in various forms, evolving over time to meet the changing needs of individuals, businesses, and governments. In this section, we will explore the existing financial systems, starting with the traditional models that have long served as the foundation of global financial activities.

3.2 Traditional Financial Systems

A variety of academics have endeavored to delineate financial systems. We adopt the traditional perspective of the financial system, understanding it as an assemblage of institutions, services, and resources that enhance and regulate the economy's liquidity, funding, credit, and investment needs. It consists of various intermediaries responsible for overseeing the transfer of money, cash, securities, payment systems, data exchange for securities trading, and regulatory bodies that assure compliance with applicable laws and regulations (Begenau & Landvoigt, 2022).

A contemporary banking system can be defined as an institution that regularly accepts deposits from the public. In the context of current accounts, fixed deposits, and various deposit kinds, they facilitate credit by providing and extending loans to clients, in addition to issuing secured or unsecured debentures (Matthews et al., 2023). Banks function as financial intermediaries connecting depositors seeking loans with borrowers intending to invest or engage in promotional and commercial endeavors. Banks function as mediators in the borrowing and lending of funds for their clients, alongside these primary activities. Moreover, specialized financial institutions, including investment banks, savings banks, cooperative banks, and a central bank, within the payment and clearing framework, maintain numerous branches and Automated Teller Machines to facilitate various banking and financial processes (Dömötör and Ölvedi 2021). The stock market and regulatory bodies have also become increasingly influential regarding blockchain-based applications as alternative methods for crowdfunding (Liu et al. 2022).

In the conventional banking and financial system, input and central clearance operate through a network of brokers and middlemen. Stock exchanges categorize their members according to the activities permitted and the corresponding shares involved. In the securities markets, shareholders or institutional investors acquire or divest assets, such as industrial instruments, goods, or services, exchanging currency and shares via both physical and virtual transfers facilitated by brokers and depository institutions from the buyer's bank account to the seller's account. Regulatory bodies adhere to legal statutes and regulations, overseeing market activity and supervising financial institutions.

Although central authorities have functioned adequately, these longstanding financial procedures and safeguards have endured for centuries and are enhanced by the increasing digitization of data, processes, and information technology (Broby, 2021). There exist specific loopholes and constraints that facilitated the expansion of blockchain-based enterprise-wide projects. Despite the evolution of technology leading to intricate links inside the system, its fundamental operation remains unchanged from two centuries ago. Consequently, numerous companies and investors are either excluded from or encumbered in trading and engaging in international capital and banking markets due to elevated fees and protracted delays in transactions, which may extend for days or weeks for trading and settlement processing, in addition to intermediaries' commission fees (Blankespoor et al. 2020).

4. Integrating Blockchain into Financial Systems

Organizations are actively looking to integrate blockchain into their existing operations. One of the primary applications of blockchain within the financial system is international payments, which is crucial for global trade and labor remittances. Banks in many countries are forming a consortium to create a permissioned blockchain system to execute transactions efficiently and cost-effectively (Chowdhury et al. 2021). A second prevalent application of blockchain is the implementation of smart

contracts. Smart contracts encode agreements between parties into a code, facilitating complex transactions without intermediaries (Zheng et al. 2020). The resulting dataset will lead to an expanding, if not exhaustive, enumeration of areas that benefit from blockchain, including finance (Khatri et al. 2021; Baïod et al. 2021).

In the context of blockchain products, it is essential to adapt existing technological features and operational procedures to align with the standards of financial systems and business process sectors (Hariguna et al. 2021). Most blockchain systems are private; to effectively integrate blockchain into financial systems, it is necessary to establish technological standards and ensure alignment between regulatory requirements and financial standards, as well as clarity regarding government regulation of blockchain (Yang et al. 2020). These technologies are open platforms that lack interoperability, which complicates or even jeopardizes collaboration between financial institutions on a shared blockchain (Ali et al. 2020). The industry must also address overarching concerns, including speed, security, and settlement capacity in payment systems. Central banks and financial authorities must ensure that the industry can overcome these hurdles before deploying services using blockchain technology. Banks need to ensure that integrating blockchain technology will enhance operational efficiency and reduce costs (Carvalho et al. 2021). Researchers seek to understand the potential risks associated with integrating this technology and how to mitigate or manage them. It is also clear that not all blockchains are suitable for integration into the existing financial system, which necessitates evaluating each use case based on its specific merits. Although blockchain adoption is complex, it is possible (Elghaish et al., 2020).

4.1 The Intersection of Digital Currencies and Blockchain

Blockchain technology and digital currencies are, by design, closely related. Cryptocurrency relies on blockchain to securely process and validate every transaction and maintain a transparent transaction history. Blockchain data-sharing makes these transactions public and tamper-proof, allowing secure peer-to-peer transactions, transfers, and payments with no intermediaries

(Yu et al., 2022). Hundreds of digital currencies are currently in circulation, employing a number of different technical processes to conduct transactions (Mattsson et al., 2023). Some large global digital currencies are based on complex expenditures of computational energy. Others have developed blockchain technologies that are considered "cheaper" or "faster" to operate. Digital currencies, with specialized blockchain support, efficiently process and store transactions, transfers, and payments. One of the most common uses of the current work in digital currency and blockchain is the use of Ethereum as a mechanism for Initial Coin Offerings (Krichen et al., 2022). This relatively new funding approach uses cryptocurrency and blockchain to give investors a piece of the issuer's digital currency or assets. At the close of the initial coin offering, the asset is supposed to be listed on a digital currency trading exchange. As these assets are being traded directly and without intermediaries, a transaction was previously conducted on the blockchain, free from the final settlement time. This represents a shift from centralized financial institutions to decentralized technologically based markets that use digital currency in lieu of fiat currency (Ahlqvist et al., 2022 ; Mohan, 2022). This trend communicates the potential of digital currencies and the blockchain to fully replace countries' fiat banking systems, which are based on a sovereign central bank. These countries may then support centralized, private financial service sectors (Mărgulescu & Mărgulescu, 2021).

4.2 Benefits and Challenges

As financial systems evolve, it's important to evaluate both the advantages and the challenges associated with them. Every financial model, whether traditional or modern, comes with its unique set of benefits and hurdles. Understanding these aspects helps stakeholders from individuals and businesses to policymakers navigate the complex landscape of financial services. In this section, we will explore the key benefits and challenges inherent in the existing financial systems, including the traditional structures as well as emerging innovations.

4.2.1 Benefits

Besides decreasing transaction duration, a primary benefit of blockchain technology is its elevated security level (Habib et al. 2022). The dependability of blockchain is contingent upon the military-grade encryption employed to authenticate and document each transaction inside the chain. The decentralized structure of this technology mitigates the risks of hacking and fraud prevalent in conventional equity or financial markets. Furthermore, in the realm of digital payments, blockchain possesses the capacity to mitigate fraud without requiring intermediary participation. Consequently, it obviates the necessity for institutions to engage a third party for transaction verification and facilitates expedited cross-border transactions (Bhatti et al. 2022).

Another benefit of utilizing blockchain is the potential for decreased expenses in existing financial transactions, along with enhanced access to financing. Blockchain possesses the capacity to substantially reduce annual expenditures for global enterprises by minimizing infrastructure and operational costs. Moreover, blockchain facilitates the establishment of micro-savings accounts for the impoverished and unbanked, characterized by minimal operational expenses, hence promoting financial inclusion. Consequently, blockchain and financial technology companies employ conventional credit score metrics and utilize big data analytics to ascertain credit pricing and provide particular credit information (Slatvinska et al., 2022).

4.2.2 Challenges

Despite its appeal, the implementation of blockchain remains questionable due to the ambiguity created by disparate decisions and legislation across many countries, including those inside the European Union. Inadequate management of these possible hazards may swiftly jeopardize the prospects for blockchain adoption (Dehghani et al. 2022). The amalgamation of fintech and blockchain technology within the banking sector will result in the replacement of specific labor components. Nonetheless, the peril lies not in the possibility that job creation will exceed net job losses. A transition in job structure, resulting in a disparity between development and availability, is thus contemplated. While employment opportunities will expand in fintech and associated sectors, numerous traditional banking positions held by lower middle-skilled workers may be supplanted (Kingsly, 2022).

5. Regulatory Frameworks and Compliance

The blockchain landscape, while continually evolving, is already under worldwide regulatory scrutiny. The legislation applicable to a specific blockchain application generally depends on the application's intended usage (André et al. 2021). This presents difficulties for authorities, exacerbated by the swift advancement of blockchain technology. Various countries provide guidelines on fintech, including blockchain, within their financial systems (Territt, 2024). This section will elucidate their respective approaches, including their regulatory orientations according to established assertions (Baird et al. 2021).

Regulatory frameworks will likely be applied inconsistently, as each stage of a process may involve diverse applications of blockchain technology. Adherence to regulatory frameworks will almost invariably govern blockchain utilization, as non-compliance may lead to regulatory intervention or the termination of a service (Bakhshi and Ghita 2021). Consequently, individuals seeking to utilize blockchain technology or present peer-reviewed blockchain applications to clients must be cognizant of the legal landscape. The involvement of multiple entities addressing the same issue may lead to inconsistencies, and the establishment of international standards will alleviate this problem. The advancement of blockchain technology can consistently influence consumers and alter the regulatory dialogue. What is prohibited today may be permitted tomorrow after a legal framework is established and legislators address the early dilemmas related to a new product and its associated technologies. (Xu and Choi, 2021).

6. Case Studies of Blockchain Implementation in Financial Systems

Blockchain technology has gained significant momentum in recent years, especially in the financial sector, where it is being explored for its potential to enhance efficiency, security, and transparency. In this section, we will explore real-world case studies of blockchain technology's application in financial systems, with an overview of the China Construction Bank.

6.1 Overview of China Construction Bank

China Construction Bank was established in October 1954 as a mixed ownership legal entity, owned by the People's Republic of China and legal entities. It is headquartered in Beijing (Wu & Tao, 2023). The bank provides a full range of international commercial banking services, which include commercial banking business (private banking, personal and retail banking, corporate banking, and financial institutions), treasury services (currency trading, precious metal trading, and MSI trading), and other lines of business (asset custody). In 1999, the bank was restructured into China Construction Bank Corporation, wholly owned by the Chinese government, and in 2005, CCB became a public company trading on the Hong Kong Stock Exchange. CCB's other strategic shareholders include Texas Pacific Group, Singapore's Temasek Holdings, and DeAWM Investment Funds. CCB is mainly engaged in commercial lending, deposit and withdrawal services, capital settlements, domestic settlement, and trade financing (Allen et al., 2020). The bank also provides services such as financial markets, foreign exchange markets, bond markets, and other forms of financing, as well as investment banking in various fields. CCB performs settlement work for the People's Bank of China, State Administration of Foreign Exchange, China Banking Regulatory Commission, and China Securities Regulatory Commission. Currently, China Construction Bank has seven operational units: chief risk officer, chief technology officer, chief financial officer, consumer banking, asset custody, credit card center, and general affairs departments. CCB has many subsidiaries influenced by regional or city factors, which are in the same group as CCBN, located in 34 provinces or cities. China Construction Bank has branches worldwide, including those in Southeast Asia, Japan, Korea, Hong Kong, Macau, and Europe. China's economic reform started around 1978. Since opening up to the world, China has become the world's second-largest economy. With the support of its extensive base of clients, significant levels of operations, and the ability to generate income adequately, the People's Republic of China's CCB is rated domestically, with a domestic credit rating referred to as AAA and having a stable outlook. China Construction Bank Corporation has a short-term IDR of 'A+' in foreign and local currency with a stable outlook. It was established in October 1954 as a mixed ownership legal

entity, of which the government owns 49% of the shares. Its scope of business and market has expanded rapidly over the past few years and is continuously expanding. After its reform and innovation, financial technology has been a powerful backing strength in the development of China's financial systems (Luan, 2022).

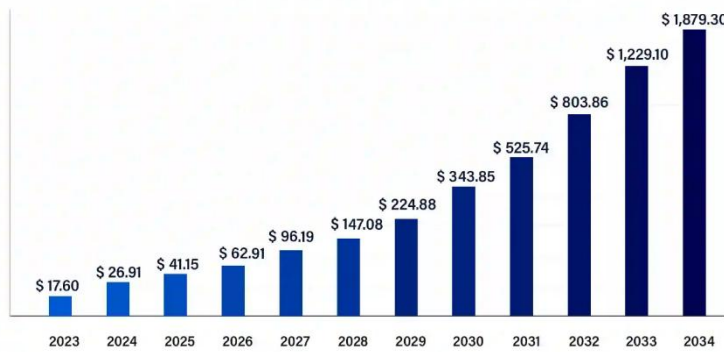
6.2 China Construction Bank – Cryptocurrency Wallet and Digital Yuan

The adoption of cryptocurrency represents a singular facet of the financial world. Yet, China Construction Bank embodies the enthusiasm surrounding it, as seen by unprecedented demand and optimism stemming from its cooperation. A borrower, although detached from the conventional financial system regarding funding, may receive approval for one of these cards within a day, thereby accessing a vast realm of decentralized finance. The EmCeeYuan wallet functions as a cryptocurrency platform for clients in Shanghai. Ultimately, participation in a blockchain offering typically enhances profitability for organizations that embrace blockchain technology, as evidenced by Hywin Holdings, which has accrued net profits of 298.3 million yuan from its investments in consulting and fund transfer firms (Marikyan et al., 2022; Liu et al., 2022).

7. Future Trends and Predictions

The aforementioned trends provide the foundation for experts to formulate predictions. While significant technology advancements may transform blockchains and cryptocurrencies in the future, existing systems are compelled to enhance their efficiency in response to recent energy critiques (Yue et al. 2021). Innovative consensus procedures and more efficient programming applications are now being developed, anticipated to considerably augment and broaden the offers on decentralized financial platforms (Zutshi et al., 2021). Consequently, the implementation of blockchains may render these resources standardized commodities in the future. The correlation between cryptocurrencies and traditional assets may be changing, similar to other alternative investments (Kant, 2021). Various historical and regulatory circumstances may affect this relationship in the future, necessitating more examination (Ahmad & Zhang, 2020).

The foundational concepts of finance may increasingly decentralize, indicating a potential paradigm change in the evolution of economic systems since ancient civilizations. Cross-blockchain interoperability is the most sought-after advancement for investors (Kotey et al. 2023). In the future, a network of independent blockchains will progressively showcase its worth, rather than a network of interconnected contracts. Essentially, the foremost developers globally were first the sole individuals pursuing development on a network functioning under less secure conditions. The establishment of robust interoperability among blockchains would significantly facilitate this, hence promoting effective collaboration. Factors such as compliance and data protection may serve as the foundation for this design, particularly in relation to enterprise applications. Several cryptocurrency exchanges and initiatives have already ventured into this domain, as indicated by the project (Belchior et al. 2021).

Table 1: Blockchain Market Size from 2023 to 2034 (USD Billion)

Source : <https://www.precedenceresearch.com/blockchain-technology-market>

The global blockchain technology market was valued at USD 26.91 billion in 2024 and is projected to attain around USD 1,879.30 billion by 2034, growing at a CAGR of 52.9% during the period from 2024 to 2034. The North American blockchain technology market size attained USD 8.1 billion in 2023.

Conclusion

In conclusion, blockchain technology signifies a profound upheaval in contemporary financial institutions, providing novel answers to conventional difficulties and facilitating new opportunities for digital advancement. Comprehending the fundamental concepts of blockchain and its historical development enables us to ascertain its integration into current financial systems to improve transparency, diminish costs, and augment efficiency.

Although modern technology offers substantial advantages, challenges about regulatory compliance and security hazards must not be overlooked. Stakeholders must cooperate to establish suitable regulatory frameworks that guarantee the secure and efficient utilisation of blockchain technology. Case studies, such the China Construction Bank's implementation of the digital currency wallet and digital yuan, have demonstrated the substantial impact of blockchain technology on the interactions between financial institutions and their consumers and markets. This technology will be a crucial factor in the evolution of global financial systems, necessitating additional research and development for its optimal utilisation.

Ongoing exploration of blockchain applications will certainly yield ideas that will transform the notions of currency and finance in our evolving world.

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