

Received: 27 December 2024; Revised: 14 January 2025; Accepted: 26 Januari 2025; Published: 31 January 2025

## **The Digital Rupiah and The Future of Accountants: A Central Bank Digital Currency (CBDC) Study**

**SYIFA AULIA ZAHRANI<sup>1</sup>, THEODORUS SENDJAJA<sup>2</sup>**  
**Accounting, Perbanas Institute, South Jakarta, Indonesia**  
**\*Email: [syifa.aulia71@perbanas.id](mailto:syifa.aulia71@perbanas.id), [theodorus.sendjaja@perbanas.id](mailto:theodorus.sendjaja@perbanas.id)**

### **ABSTRACT**

*The financial sector has undergone digital transformation, including establishing digital currency issued by central banks (CBDC) such as Digital Rupiah, which has transformed Indonesia's payment and monetary systems. These changes are expected to have a major impact on the roles and competencies of accountants, who are responsible for ensuring financial transparency, accountability and efficiency. This research examines the effects of Digital Rupiah on accountants' work, such as changes in financial reporting, auditing, and risk management. This research utilizes a qualitative methodology, which includes a literature study to gauge accountants' readiness for the Digital Rupiah. The results show that Digital Rupiah can improve the efficiency of financial transactions and open up new opportunities for the accounting profession, such as requiring expertise in blockchain technology and digital financial data analysis. But issues such as unfamiliarity with technology and unwillingness to change must be overcome. This research finds that Digital Rupiah is not only a monetary innovation but also transforms the accounting profession. These results add to the literature on digital accounting developments and help professional accountants anticipate the future of CBDC-based financial systems.*

**Keywords:** *Central Bank Digital Currency (CBDC), Blockchain, Digital Rupiah, Accounting transformation.*

### **ABSTRAK**

Sektor keuangan telah mengalami transformasi digital, termasuk pembentukan mata uang digital yang diterbitkan oleh bank sentral (CBDC) seperti Rupiah Digital, yang telah mengubah sistem pembayaran dan moneter Indonesia. Perubahan ini diharapkan berdampak besar pada peran dan kompetensi akuntan, yang bertanggung jawab untuk memastikan transparansi, akuntabilitas, dan efisiensi keuangan. Penelitian ini mengkaji dampak Rupiah Digital terhadap pekerjaan akuntan, seperti perubahan dalam pelaporan keuangan, audit, dan manajemen risiko. Penelitian ini menggunakan metodologi kualitatif, yang mencakup studi literatur untuk mengukur kesiapan akuntan terhadap Rupiah

\*Corresponding author's e-mail: [syifa.aulia71@perbanas.id](mailto:syifa.aulia71@perbanas.id)  
<http://openjournal.unpam.ac.id/index.php/JIA>

Digital. Hasilnya menunjukkan bahwa Rupiah Digital dapat meningkatkan efisiensi transaksi keuangan dan membuka peluang baru bagi profesi akuntansi, seperti membutuhkan keahlian dalam teknologi blockchain dan analisis data keuangan digital. Namun, masalah seperti ketidaktahuan dengan teknologi dan keengganan untuk berubah harus diatasi. Penelitian ini menemukan bahwa Rupiah Digital tidak hanya merupakan inovasi moneter tetapi juga mengubah profesi akuntansi. Hasil ini menambah literatur tentang perkembangan akuntansi digital dan membantu akuntan profesional mengantisipasi masa depan sistem keuangan berbasis CBDC. Kata Kunci: Kinerja Keuangan, Rasio Keuangan, Evaluasi Keuangan

**Kata Kunci:** Kinerja Keuangan, Rasio Keuangan, Evaluasi Keuangan

## 1. INTRODUCTION

The journey of digital currencies began in 1992 when the Bank of Finland launched the Avant card, which was billed as the world's first central bank digital currency (Torre & Xu, 2023). The card resembled a debit card, but was not linked to a bank account. Instead, transactions were recorded via a chip inside the card, allowing users to make transactions anonymously (Tourpe, 2023). However, the project failed and was eventually discontinued. Then after the Avant era, digital currencies came back into the limelight, mainly due to the rapid growth of cryptocurrencies, the decline in the use of cash, and the increasing popularity of e-money services from banks and digital financial institutions (Huber, 2023). Central banks began to feel the need to take action to adjust to the digitalisation of finance while maintaining their authority over an increasingly digital financial system (Butarbutar et al., 2022).

Not many people were interested in the idea of Central Bank Digital Currency (CBDC) in 2016. However, four years later, 35 countries started considering implementing it. Today, more than 114 countries, accounting for 95% of global GDP, have reviewed or launched CBDCs, making it one of the most important innovations in transforming the world's financial system (Topan, 2024). The urgency to develop a Central Bank Digital Currency (CBDC) is increasing, driven by various global factors affecting the financial system. Firstly, the massive penetration of digital technology has changed the way people transact, with a significant decline in the use of cash in many countries. This change calls for alternatives that are efficient, secure, and fit the needs of the digital age. Second, the emergence of cryptocurrencies such as Bitcoin and stablecoins issued by private entities has created new challenges for monetary authorities.

The existence of these private digital currencies may threaten central banks' control over monetary policy, financial system stability, and consumer protection. Therefore, CBDC is a strategic solution to defend monetary authorities in an

increasingly complex financial environment. Third, global competition in financial technology innovation is driving countries to enhance their digital capabilities. Countries such as China with e-CNY and the Bahamas with Sand Dollar have been pioneers in CBDC implementation, creating pressure for other countries to follow their lead. The development of CBDC is not only a tool for payment system modernisation, but also part of the national strategy to strengthen economic competitiveness in the digital era (Huber, 2023).

In addition, the COVID-19 pandemic has accelerated many things, including the way we transact. With mobility restrictions and strict health protocols, cash transactions have become increasingly difficult. As a result, people have started to turn to digital payments that are more secure and practical. This creates an urgent need to deliver an efficient, contact-free and reliable payment system (Torre & Xu, 2023). Digital economy transactions increased during the pandemic. For example, in the second quarter of 2020, the information and communication sector experienced a growth of 10.88%. This shows that people are increasingly dependent on digital technology for their daily needs. The pandemic changed the way people shop and accelerated the adoption of technology in various industries (Rizkinaswara, 2020).

To respond to these changes, a number of countries have started trialling Central Bank Digital Currency (CBDC). Clear examples of how CBDCs can be an important part of modern financial infrastructure are China's e-CNY and Sweden's e-Krona. Digital currencies were created to ease transactions, increase efficiency, and keep the monetary system stable during the global crisis. In addition, CBDC has great potential to increase access to financial services for more people. With this technology, communities in remote areas or who previously faced difficulties in getting banking services can have wider access to the formal financial system. Bank Indonesia designed the Indonesia Payment System Blueprint 2025, which aims to drive an inclusive and efficient economic recovery through payment system digitalization. This plan not only addresses the challenges of the pandemic but also prepares Indonesia for the increasingly competitive and complex future of the digital economy.

From then on, the development of Central Bank Digital Currency (CBDC) has become a hot topic around the world, including in Indonesia, especially with the plan of Bank Indonesia (BI) for the issuance of Digital Rupiah. In countries such as China, CBDC has been widely tested, while in Indonesia, public consultation on the issuance of Digital Rupiah is still ongoing (Nurdiansyarani, 2024). According to (Igor & Kaj, 2021) Central Bank Digital Currency (CBDC) is digital money that is issued, and its circulation is controlled by the central bank, unlike commonly known cryptocurrencies, such as Bitcoin or Ether, which are issued by central banks in certain countries. According to (Bank Indonesia, 2022) Central Bank Digital Currency (CBDC) is digital money issued and distributed by central banks. CBDC serves as a digital representation of a country's currency and is used as a legal tender to replace currency notes.

By adopting CBDC as a legal tender, it is expected to speed up the payment system, reduce costs, and increase the speed of existing transactions in Indonesia. However, from the perspective of (Hendarta, 2022) the issuance of CBDCs presents many problems for the central bank. Therefore, to create a CBDC, the central bank must weigh the benefits and risks. In the process of developing CBDC, there are three main elements that must be considered. Firstly, the design of the CBDC must keep in mind the central bank's functions and the public interest. For transactions between banks and financial institutions or for direct use by the public, CBDCs can take a retail form (Huber, 2023). The retail form can also serve as a basis for the development of retail CBDCs. Secondly, CBDCs should support ongoing payment digitalization initiatives, including the development of Open APIs, Rapid payment systems, and QR Standards, as well as the provision of offline services for remote, frontier, and disadvantaged areas. And thirdly, CBDCs should be integrated and connected with existing financial infrastructure and payment systems because this includes considering international transactions (Maulana, 2024).

During the process of establishing and implementing CBDC by Bank Indonesia, there are several challenges that must be faced by Bank Indonesia, the public, and industry players related to the establishment and implementation of CBDC. Looking from the aspect of Bank Indonesia's challenges in developing the Digital Rupiah as Central Bank Digital Currency (CBDC), the first is to build a technological infrastructure that can enable large-scale the digital transactions. The Indonesian Payment System Blueprint (BSPI) 2030 initiative, launched by Bank Indonesia, aims to make digital transactions easier and more convenient for everyone (Rachman, 2024). Secondly, as cybersecurity risks increase along with digitalisation, a strong security system is needed to protect users' data and transactions.

Meanwhile, in terms of society, acceptance of the use of digital currencies such as the Digital Rupiah could face several barriers. Many individuals, especially in remote areas, may not be familiar with digital technology or do not have access to adequate devices. This may hinder the development of Digital Rupiah among the public (Hendarta, 2022). Third, from the aspect of industry players, the implementation of Digital Rupiah requires adjustments in the existing accounting and reporting system. Industry players will have to adopt new standards in recording digital transactions and adjust their accounting processes to suit the use of digital currencies. This includes understanding how to record and report transactions made with Digital Rupiah. Financial reporting and auditing processes involving digital transactions require new approaches in reporting, monitoring, and reconciliation techniques, in order to still ensure the accuracy and transparency of the resulting financial information (Meria et al., 2024).

In an event initiated by the Institute of Chartered Accountants in England and Wales (ICAEW) together with the Indonesian Accountants Association and Bank Indonesia, and supported by SW Indonesia, Dr. Ardan Adiperdana,

President of the Indonesian Accountants Association (IAI), said, ‘CBDCs represent a paradigm shift in the evolution of money and finance, unlike cryptocurrencies. CBDCs also serve as a digital form of physical money issued by the government, with security rather than money. Having said that, I also call on accountants to become more adept and flexible when it comes to this novelty. Because digital money offers inevitable efficiency and transparency (Sayekti, 2024). However, in the future, Digital Rupiah will still function as a medium of exchange, storage, and unit of calculation. However, due to the different manufacturing cost factors compared to banknotes that must be printed first, transactions in this digital era will be provided more flexibly and efficiently. Therefore, it is important for industry players to learn how the accounting profession can adapt to these changes.

Research Ramadhani et al., (2024) is one of the previous studies that examined Blockchain Technology and Accounting Systems regarding its Potential and Challenges. The study found that accountants can use blockchain technology to improve transparency and distribution. However, there are issues in accounting systems with the adoption of blockchain technology relating to scalability, expenses, regulations, and integration of existing systems. With this research, there is an opportunity to improve accounting information systems through blockchain technology. However, to implement it, it still needs to be well considered. Further research by (Rahayu et al., 2024), Research shows that the role of accountants as digital consultants in managing information in the industry 4.0 era has changed significantly. Accountants are expected to maintain their profession and contribute significantly to supporting digital change in the company.

The digital transformation brought about by the Digital Rupiah and blockchain technology not only presents challenges, but also opens up great opportunities for the accounting profession to thrive. However, in this era, accountants can no longer rely solely on traditional skills such as recording transactions or compiling financial reports. They need to expand their competence to master technologies that support the management of financial data in an automated, transparent, and efficient manner. One of the key skills needed is an understanding of blockchain technology. Accountants need to know how blockchain works, from how transactions are recorded to how security is maintained. In addition, the ability to analyse data is also very important. With data being so abundant in the digital age, accountants need to be able to process this information to provide insights that help companies make smarter decisions.

To support this adaptation, professional training and certification in accounting technology is crucial. Programmes that focus on digital auditing, data analytics, or even how to utilise blockchain can help accountants stay relevant in the workforce. In addition, technologies such as Artificial Intelligence (AI) and Machine Learning (ML) are also increasingly used in decision-making, so accountants need to familiarise themselves with these tools to improve the

efficiency and accuracy of their work. With these new skills, accountants can not only adapt to change, but also become a key part of a company's digital transformation. They will be better able to provide strategic insights, increase transparency, and ensure that financial processes remain compliant with existing regulations. Ultimately, the role of accountants in the Digital Rupiah era will be more strategic and have a greater impact on the company's success.

Further research by (Emanuella, 2021), the research generally discusses innovation in various industries, including banking, which is driven by technological advances. The increasing number of digital currencies encourages central banks to create digital currencies that can be used as a substitute for digital currencies independently. Various central banks around the world have chosen Central Bank Digital Currency (CBDC), and a number of countries have conducted studies on the application of CBDC in terms of design and risks in the financial, operational and legal fields.

The purpose of this research is to look at how the implementation of CBDCs, specifically the Digital Rupiah, can affect various aspects of the financial system and the accounting profession. It will look at how the digitalization of transactions brought about by CBDCs can change the way financial transactions, reporting processes, and auditing practices exist today. In addition, the purpose of this study is to identify how an accountant can adapt to this technological advancement, specifically in terms of digital bookkeeping, transaction recording, and auditing of transactions using Digital Rupiah. With the Digital Rupiah, it is projected that accounting processes will be more automated and integrated with digital systems.

## 2. RESEARCH METHOD

This research is conducted using a qualitative method with a Systematic Literature Review (SLR) approach that will concentrate on collecting, analysing, and synthesising literature relevant to two main topics: Digital Rupiah as an example of Central Bank Digital Currency (CBDC) and its impact on the accounting profession in the future. This SLR will provide insight into the development of CBDC, its implications for the financial system, and how it will affect the roles and responsibilities of accountants. A total of 30 journal articles were selected through literature searches using keywords such as "Digital Rupiah," "CBDC," "Central Bank Digital Currency," and "the impact of CBDC on accounting" in databases like Google Scholar and Scopus. The selected articles were published between 2020-2024, with inclusion criteria covering articles that discuss the development of CBDC as well as its applications and implications for the accounting profession. Exclusion criteria include articles that are irrelevant to the topic or lack sufficient data for analysis. The selection and filtering process of the articles was carried out following a systematic procedure. First, a broad

literature search was conducted using relevant keywords. The articles found were then screened based on abstracts and topic relevance. Subsequently, the articles that met the inclusion criteria were further evaluated to ensure their quality and credibility. This process resulted in a total of 30 articles that were analyzed in greater detail.

This method helps in providing a comprehensive and transparent overview of the research already conducted on a particular topic, by following a systematic and structured process. The Systematic Literature Review approach allows researchers to build a more comprehensive understanding of the Digital Rupiah, as well as project its impact on the accounting profession and the regulations needed to support this transformation (Triandini et al., 2020). By utilising the results of previous studies, this research can provide evidence-based recommendations for policy development and necessary adjustments in the accounting system in Indonesia. The steps taken in the Systematic Literature Review methodology in this study are Literature Search, Inclusion Criteria, Selection and Filtering, and Data Extraction.

### **Literature Review**

In this Literature Search section, it is explained about developing a search strategy such as Scopus and Google Scholar. Using keywords such as, Central Bank Digital Currency, Digital Rupiah, CBDC and accounting, Impact of digital currencies on financial reporting.

### **Inclusion Criteria**

The sample criteria that the researcher wants for research purposes, namely:

1. Published within a certain period of time (Maximum, the last 5 years).
2. Focus on Digital Rupiah, CBDC, its impact on economy, financial system, and accounting profession.
3. Academic journals that have gone through the peer-review process

### **Exclusion Criteria**

Sample criteria that the researcher did not want for the purpose of the study, namely:

1. Research that only focuses on cryptocurrencies such as Bitcoin and Ethereum, with no relation to CBDC.
2. Non-credible sources such as, articles from personal blogs, or publications that are not peer-reviewed.
3. Literature published more than 5 years ago, unless it has historical significance or underlying theory that is still relevant.

### **Selection and Screening**

At the selection and screening stage, the researcher applied a two-stage screening process based on Title, Abstract and Full Text to identify relevant studies.

1. Title and Abstract Screening: The initial screening involved evaluating the title and abstract of studies to determine their relevance to the topic of Digital Rupiah and its impact on the accounting profession.
2. Full Text Review: Relevant studies from the first stage were then reviewed in full to ensure they met the inclusion criteria, such as peer-reviewed status, publication within the last five years, and a focus on the implications of Central Bank Digital Currency (CBDC) on financial practices.

### **Data Extraction**

Develop a data extraction form to obtain relevant key information,

1. Identify the concept and definition of CBDC and how it impacts the country's economy and finances.
2. Analyse the impact of CBDC in influencing monetary policy, payment systems, and operational elements of financial accounting and reporting.
3. Changes, challenges, and opportunities for the accounting profession in adapting to CBDC in terms of reporting and auditing.

### **3. DATA ANALYSIS AND DISCUSSION**

Central Bank Digital Currency (CBDC) is entering a new phase of its journey. More and more countries are starting to trial or even launch these digital currencies for real. One of the most prominent examples is China with Digital Currency Electronic Payment (DCEP) (Zhang, 2021). In (Zhang, 2021), it is said that China has become a pioneer in the use of CBDC for daily transactions, where DCEP is already widely used in various major cities. This technology helps people make payments quickly, safely, and without the need for cash. Meanwhile, The Bahamas made history with Sand Dollar, becoming the first country in the world to implement CBDC for national use (Zuchroh et al., 2025). This step was taken to address the island nation's geographical challenges, where many remote areas have difficulty gaining access to traditional financial services.

Also, from various examples around the world, we can see some interesting patterns. Many countries use CBDCs to make payments faster and cheaper. In addition, these digital currencies are also becoming an important tool to reach people who have not been connected to the banking system, especially in developing countries. However, not everything goes without a hitch. One of the main challenges is keeping user data safe and ensuring that the technology is truly trustworthy. As more and more major countries such as the United States, the European Union, and India explore the potential of CBDCs, we can see that these digital currencies will not only change the way we make payments, but also have a major influence on the world's financial system in the future (Zhang, 2021).

After applying the predetermined Systematic Literature Review (SLR) criteria, the researcher systematically identified relevant studies on the implementation of Central Bank Digital Currency (CBDC), with a specific focus on Digital Rupiah as an example. The screening process involved searching



multiple databases such as Google Scholar, Scopus, with using keywords like 'Digital Rupiah', 'CBDC', and 'impact on accounting profession'. A total of 30 papers were obtained after applying the screening process. These papers were sourced from reputable academic journals, and each was assessed for relevance to the topic of Digital Rupiah and the role of CBDCs in the accounting profession. The screening results from each source were as follows:

1. Google Scholar: 30 articles were identified, 20 of which were relevant and selected for further analysis.
2. Scopus: 18 articles were initially found, 10 of which met the inclusion criteria and were included in the review.

As a result of the following literature analysis process some important points were found such as, the economic and financial influence on the digital rupiah is expected to bring significant efficiency in Indonesia's financial system due to several advantages seen in the digital rupiah such as, faster payment process and lower transaction costs, the presence of blockchain technology that supports accurate and transparent transaction tracking that helps increase public trust (Ramadhani, 2024), and the direct control exercised by the Bank of Indonesia, thus allowing better supervision of financial flows.

Based on research (Emanuella, 2021), as the only institution authorised to manage currency in Indonesia, Bank Indonesia has full responsibility in the issuance and management of Central Bank Digital Currency (CBDC). Since its function is similar to conventional currency, all aspects of Rupiah management, such as planning, printing, circulation, and revocation, also apply to CBDC. In this case, Bank Indonesia needs to conduct thorough risk management before issuing CBDC. Key risks include digital security risks that could threaten the integrity of the system (Cybersecurity), risks related to the implementation of monetary policy and financial stability, legal risks related to regulation and accountability in the management of CBDC, and risks from third parties such as potential threats from the service providers involved. For example, management of user information or misuse of digital assets.

The implementation of Central Bank Digital Currency (CBDC) has a significant impact on the overall financial system stability and monetary policy transmission mechanism. In terms of monetary policy transmission, CBDCs offer great potential to enhance the effectiveness of central bank policy instruments through several fundamental mechanisms. Firstly, CBDC provide more direct control over the velocity of money, which allows central banks to monitor and influence money velocity with more precision. Its digital characteristics allow real-time tracking of the movement of funds, which provides a better understanding of investment and consumption behaviour in the economy. In addition, due to the advent of CBDC central banks have more freedom to apply a wide range of interest rates, including more effective application of negative interest rates. In the conventional system, the application of negative interest rates

is often constrained by the presence of physical cash which provides an effective lower bound on interest rates. However, with CBDC, central banks have more freedom to implement interest rate policies, including the implementation of negative interest rates, which can be an important instrument in responding to certain economic conditions, such as deflation or deep economic recession (Tourpe, 2023).

Digital Rupiah, as a form of Central Bank Digital Currency (CBDC), brings a wind of change to the world of accounting in Indonesia. Its presence changes the way accountants work, from reporting to financial oversight (Tourpe, 2023). This new challenge also opens up great opportunities for accountants to expand their roles in the digital era. One of the most noticeable changes is in the financial reporting process. With all transactions digitally recorded through blockchain technology, accountants can now utilise a more automated and integrated system. Imagine, financial reports that used to take time to compile can now be updated in real-time (Zhang, 2021). This not only makes work more efficient, but also gives management immediate access to accurate financial information whenever needed. Another big change is in the world of auditing. All digitally documented transactions allow auditors to work faster and more precisely. With the help of technology such as data analysis tools, they can easily detect unusual or suspicious transaction patterns (Sally Chen, 2023). For example, if there are anomalies in transactions, the system can provide early warnings, so auditors can immediately take the necessary steps. This process makes audits more effective while helping to maintain confidence in financial statements.

In risk management, Digital Rupiah gives accountants the ability to be more proactive. Transaction data available in real-time allows accountants to analyse income and expenditure patterns, so that potential financial problems can be detected earlier. Technologies such as machine learning can also be used to predict cash flow trends based on historical data and market conditions. With these tools, accountants can help companies avoid crises before they happen. However, this transformation also requires accountants to learn and adapt. Technologies such as blockchain and data analytics will become must-have tools. Training and certification in information technology is key to keeping accountants relevant. For example, an understanding of how blockchain works will help accountants ensure financial information is properly managed in this new system (Torre & Xu, 2023).

In addition, with the implementation of Digital Rupiah, accounting standards also need to be updated. Accountants must contribute to creating new rules for recording and reporting digital transactions, as well as audit procedures that are compatible with CBDC-based systems. These changes ensure that the financial transformation continues to be transparent, accurate, and trustworthy. With all these changes, the role of accountants is now more than just transaction recorders. They have become strategic partners who help companies adapt to the digital era. The Digital Rupiah is not only changing the way accountants work,

but also paving the way for them to take a bigger role in shaping the future of the financial system in Indonesia (Bineet Mishra & Eswar S. Prasad, 2023).

From the results of research (Zuchroh et al., 2025) said that the implementation of CBDC from the perspective of financial system stability, presents a number of important considerations that need to be anticipated carefully. One of the main concerns is the risk of banking disintermediation, where there is a possibility of massive movement of deposits from commercial banks to CBDCs. The existence of CBDCs can have a major impact on the way banks work, especially in providing loans and becoming a financial link between the community and the business world. Moreover, if many people start moving their money to CBDCs, banks may find it difficult to collect deposits. Meanwhile, these deposits are the main source that banks use to provide credit. Therefore, the central bank needs to be careful in designing the CBDC system.

With the implementation of Central Bank Digital Currency (CBDC), there is a great opportunity to create a more transparent and effective financial system. However, this transparency also poses new challenges, especially with regard to privacy and ethics. While this makes it easier to monitor and enforce financial rules, CBDCs provide direct access to individual transaction data, which may have previously been hidden in conventional banking systems. However, this wider access to data also increases the risk of data misuse (Nelson, 2024). The development of CBDC requires a balance between privacy and transparency, especially in the modern technological era. One of the key challenges is creating a system that protects user privacy while still providing the level of transparency required for regulatory oversight and compliance. To implement the privacy protection features of CBDC, an advanced technological approach is required. Utilising modern cryptographic methods such as zero-knowledge proofs allows verification of transactions without revealing sensitive transaction details. The principle of 'privacy by design' can be applied in system design, where privacy protection is incorporated into the initial planning process, rather than as an additional feature (Zuchroh et al., 2025).

In (Mishra, 2023) said that, a tokenisation system can help protect the identity of users when they perform daily transactions because their personal data does not need to be disclosed in every transaction. Instead, a unique token is used as the user's identity, which cannot be identified without special authorisation. In terms of privacy, a layered approach can also be applied, where small-value transactions will be more anonymous than large-value transactions. Therefore, strict yet effective control mechanisms are required to prevent data misuse. Systems can be built with the ability to detect suspicious activity without accessing all transaction details.

Transparency factors relating to data management must also be considered. Users should know how their data is being used and shared, and be able to update it as needed. To facilitate this, a secure self-service portal can be built that has a robust notification mechanism for any significant changes in data usage. On the

monitoring side, a thorough monitoring system is required to ensure compliance with data protection and privacy policies. To enable reconstruction of activities when required for investigations without compromising data confidentiality, a detailed audit trail should be conducted.

In addition, it is important to ensure that CBDCs do not destabilise banks so that these digital currencies remain accessible to everyone. One possible way is to limit the number of CBDCs that can be owned by one person, so that money does not completely leave conventional banks. In addition, special interest rates can be applied to CBDCs so that people still have an incentive to save in banks. With this combination of privacy and stability management strategies, CBDC implementation can provide optimal benefits (Rizkinaswara, 2020). A well-designed system not only protects user privacy, but also ensures the sustainability of the traditional banking system, which is still an important foundation in the financial ecosystem.

According to (Lens, 2023) the development of digital rupiah is also expected to increase access to digital financial services, improve payment efficiency, and reduce transaction costs. Therefore, it is expected to increase financial inclusion, especially in areas that do not yet have access to banking services. In addition, (Lens, 2023) also mentioned that the implementation of digital Rupiah allows Bank Indonesia to strengthen the centralised system and increase the effectiveness of monetary policy transmission. So that the digital rupiah can help maintain financial system stability (Yuniarto, 2024). In addition, Bank Indonesia also needs to pay attention to the system used to distribute digital rupiah, that the system has high resilience to the risk of cyber attacks (Lens, 2023).

To ensure the system can handle national transaction volumes while maintaining an optimal level of security, the development of CBDC infrastructure requires in-depth consideration. The CBDC system must have the capacity to handle millions of transactions per second without compromising performance. This challenge is made even more difficult because the system must be able to handle large changes in transaction volumes, especially during peak times such as holidays or major shopping moments. According to experience in implementing large-scale digital payment systems, the system architecture must consider flexibility and scaling capabilities (Koonprasert, 2024). Given the potential systemic impact of security breaches, the cybersecurity aspect of CBDC implementation requires a comprehensive approach. A layered security architecture is essential to protect the system from various kinds of attacks. Each layer of security must be built in a way that can detect and handle specific threats, ranging from DDoS attacks to more sophisticated hacking attempts. Multi-factor authentication mechanisms and strong cryptographic protocols are essential in a comprehensive security strategy (Chen et al., 2023).

The system should have backup and recovery mechanisms that can restore services in a disruption situation while maintaining the integrity of data and

transactions. In addition, the business resilience plan should cover extreme situations such as natural disasters or massive cyberattacks, as well as clear protocols for escalation and crisis management. To address the cybersecurity challenges that arise with the implementation of CBDC, central banks cannot work alone. They need to engage technology and cybersecurity experts to design systems that are robust and resilient to threats. One important step is to build internal capabilities, for example by training their technology teams to understand the risks that may arise. On the other hand, collaboration with third parties who have specialised expertise is also indispensable, such as experienced cybersecurity companies or technology consultants (Zuchroh et al., 2025).

In addition, CBDC systems must be continuously tested for reliability. Conducting regular security audits and stress testing is a mandatory step to ensure that the system remains secure even in the face of new threats in the digital world. With this comprehensive approach, central banks can ensure that CBDC is not only efficient and easy to use, but also trustworthy (Zhang, 2021).

Then, there are changes in the accounting profession which is one of the biggest impacts of the digital rupiah. So that accountants, now must adapt to new technologies such as, accountants must understand blockchain technology and have data analysis capabilities to make optimal use of transaction information (Desryadhi et al., 2024). Digitalisation of transactions certainly requires the application of financial reporting standards that better support automation systems and digital integration, such as the creation of modern audit techniques or technology-based audits, which are needed to ensure the accuracy and security of financial data (Rahayu et al., 2024). Digital audits and technology-based audits are needed to ensure the accuracy and security of financial data. Accountants must be able to apply audit techniques that use technology to improve the transparency and accuracy of financial statements. In research (Nurulhidayah et al., 2024) also stressed that digital transformation in the accounting profession brings major changes in audit techniques, where accountants must be able to analyse financial and non-financial data and provide strategic management advice.

The development of digital technology has brought about major changes in the world of accounting. Accountants are no longer just tasked with recording transactions, but also become strategic partners for management in making important decisions. The digital era requires them to adapt to various new technologies and play a more significant role in supporting the company's business strategy. One of the biggest changes is the shift in focus from manual record-keeping to data-driven strategies. With automation and digital integration, accountants can now contribute more to in-depth analyses and provide relevant recommendations to help management design more effective business strategic.

The financial reporting process has also undergone a major transformation, with new standards designed to support modern technology. The automation of routine tasks such as bookkeeping and financial reporting has also reduced the administrative burden, allowing accountants to focus more on strategic tasks. The

role of accountants now also extends to digital consulting. They help companies utilise digital technology to improve transparency, efficiency and accuracy of financial reports. With these capabilities, accountants are becoming essential partners for organisations in the face of rapid change in an increasingly competitive business world. However, this transformation also presents challenges. Data security is one of the main concerns, as more and more financial data is stored digitally.

Accountants must ensure that strong security systems are in place to protect sensitive company information. In addition, they also need to continuously hone new skills, such as an understanding of the latest technology and more in-depth data analysis capabilities, to stay relevant in the digital age. By addressing these challenges, accountants can not only survive in the digital age, but also make a greater contribution to the company. These changes are a great opportunity for the accounting profession to evolve and take a more strategic role in the business world (Nelson, 2024).

Through their various important roles, accountants have a strategic contribution to make in driving innovation and improving business productivity. One of their key tasks is to evaluate the financial potential of planned innovations. By analysing implementation costs, impact on revenue, and savings opportunities, accountants help stakeholders understand both the risks and benefits of an innovation. This in-depth evaluation allows organisations to make more informed and strategic decisions. Not only that, accountants also play an active role in developing financial plans that support the implementation of innovations. They project financial needs at each stage of development, identify potential funding sources, and ensure that resources are allocated optimally (Butarbutar et al., 2022). With careful planning, businesses can have a solid financial foundation to execute innovations and realise set goals. Once innovations are implemented, accountants are responsible for evaluating their performance and financial effects.

Accountants assess the extent to which innovations add value to the company using specific financial metrics and indicators. If there are shortcomings, the results become the basis for optimising or improving the innovation. By utilising technologies such as RPA (Robotic Process Automation) and AI (Artificial Intelligence), accountants play an important role in improving the efficiency of business processes (Kamelia, 2024). These technologies allow them to automate routine tasks, so they can focus more on in-depth analysis. In addition, accountants also assist companies in optimising the use of new technologies. Accountants ensure companies remain compliant with applicable accounting regulations and standards, while maintaining the integrity of financial data.

#### 4. CONCLUSION & SUGGESTION

This research shows that as a form of Central Bank Digital Currency (CBDC), Digital Rupiah has great potential to transform the financial system and the role of accountants in Indonesia. However, to make it work, it requires a careful balance between innovation and stability, privacy and transparency, efficiency and inclusiveness. Each element, from technical infrastructure to social impact, requires careful consideration and meticulous planning. To form the ideal CBDC model, the unique characteristics of each country are utilised. The best implementation strategy is determined by variables such as digital penetration, telecoms infrastructure, and people's financial literacy. Meanwhile, to ensure the CBDC system survives in the long term, strong governance and comprehensive risk management are required.

The implementation of the Digital Rupiah as a Central Bank Digital Currency (CBDC) presents transformative opportunities for Indonesia's financial system and the accounting profession. It accelerates transaction processes, reduces costs, and integrates advanced technologies such as blockchain to ensure transparency and accuracy. However, challenges remain, including the readiness of technology infrastructure and the adaptation of regulatory frameworks. Accountants, as key stakeholders, must adapt to these changes by developing expertise in digital technologies and data analytics, ensuring the accuracy and security of financial information in this new era. Furthermore, updating financial reporting standards and auditing techniques will be critical to support the seamless integration of automated systems. This study highlights the potential of the Digital Rupiah to drive inclusivity and efficiency while reshaping the role of accountants into more strategic contributors within the financial ecosystem. Future research should focus on creating comprehensive guidelines for transitioning to CBDC systems, addressing challenges, and maximizing the opportunities of the Digital Rupiah for sustainable economic growth.

#### REFERENCES

- Alya Putri Desryadhi, Emiliana Putri, & Risma Mutiara. (2024). Masa Depan Akuntansi di Era Blokchain: Inovasi Dan Adaptasi. Anggar: *Jurnal Publikasi Ekonomi Dan Akuntansi*, 2(3), 155–164. <https://doi.org/10.61132/anggaran.v2i3.742>
- Arrijal Rachman. (2024, August 26). *RI Bakal Segera Punya Rupiah Digital, Begini Progresnya!* <https://www.cnbcindonesia.com/news/20240826125739-4-566389/Ri-Bakal-Segera-Punya-Rupiah-Digital-Begini-Progresnya>.
- Bank Indonesia. (2022). *Proyek Garuda Menavigasi Arsitektur Digital Rupiah. Bank Indonesia*.

- Bineet Mishra, & Eswar S. Prasad. (2023). A Simple Model of a Central Bank Digital Currency. *National Bureau of Economic Research*.
- Catheryn Iona Nelson. (2024, October). *Peran Akuntan di Era Bisnis Digital dan Penerapan Bisnis Digital di UMKM*. <https://Www.Ubm.Ac.Id/Post-Jurusan/Peran-Akuntan-Di-Era-Bisnis-Digital-Dan-Penerapan-Bisnis-Digital-Di-Umkm/>.
- Departemen Komunikasi. (2024, September 23). *Percepatan Digitalisasi Transaksi untuk Memacu Pertumbuhan Ekonomi*. [https://Www.Bi.Go.Id/Id/Publikasi/Ruang-Media/News-Release/Pages/Sp\\_2620624.AspX](https://Www.Bi.Go.Id/Id/Publikasi/Ruang-Media/News-Release/Pages/Sp_2620624.AspX).
- Dominique Torre, & Qing Xu. (2023). *Central Bank Digital Currencies in the Post-pandemic Era*.
- Emanuella, C. S. (2021). *Central Bank Digital Currency (CBDC) Sebagai Alat Pembayaran di Indonesia*. *Jurist-Diction*, 4(6), 2243. <https://doi.org/10.20473/jd.v4i6.31845>
- Farrel Maulana, M. (2024). *Optimalisasi Nilai Tambah Use Case Rupiah Digital Cash Ledger terhadap Implikasi Sistem Keuangan Central Bank Digital Currency*. <https://doi.org/10.11111/dassollen.xxxxxxx>
- Hendarta, F. (2022). *Proyek Garuda: Menavigasi Arsitektur Digital Rupiah BANK INDONESIA*. [Www.Bi.Go.Id](http://Www.Bi.Go.Id).
- Hilda Novikasari Butarbutar, Allya Nadia Itra Ardana Putri, & Fadhila Zahra. (2022). *Transformasi Peran Akuntansi di Era Society 5.0*.
- Ignatia Maria Sri Sayekti. (2024, May 28). Mengulik Tiga Fakta Tentang Kehadiran Central Bank Digital Currency (CBDC). *Pressrelease.Id*.
- Joseph Huber. (2023). *CBDC System Design Principles*. Springer Nature .
- Koonprasert, T. T. (2024). Central Bank Digital Currency Adoption. *Fintech Notes*, 2024(005), 1. <https://doi.org/10.5089/9798400289422.063>
- Leski Rizkinaswara. (2020). *Ekonomi Digital jadi Penopang Perekonomian di Tengah Pandemi*. <https://Aptika.Kominfo.Go.Id/2020/09/Ekonomi-Digital-Jadi-Penopang-Perekonomian-Di-Tengah-Pandemi/>.
- Lista Meria, Mariyanti, T., & Isabella Maria. (2024). Development Of Digital Indonesian Rupiah Through Blockchain Technology. *Blockchain Frontier Technology*, 3(2), 95–101. <https://doi.org/10.34306/bfront.v3i2.449>
- Mikhalev Igor, & Burchardi Kaj. (2021). *CBDC Tracker*. <https://Cbdctracker.Org/>.
- Nurulhidayah, Muryani Aarsal, & Amin, A. R. S. (2024). Pengaruh Kegunaan Dan Kemudahan Terhadap Minat Menggunakan Layanan Mobile Banking BNI Syariah Dengan Kepercayaan Sebagai Variabel Mediasi. *IJMA (Indonesian Journal of Management and Accounting)*.



- Rahayu, R., Aulia, R., Atriani, E., & Aarsal, M. (2024). Pengembangan Industri dan Ekonomi Digital. In *IJMA (Indonesian Journal of Management and Accounting)* (Vol. 5, Issue 2). <https://ejournal.almaata.ac.id/index.php/IJMA/index>
- Ramadhani, A., Aprilia Ananda, D., & Azmi, Z. (2024). Teknologi Blockchain dan Sistem Akuntansi: Potensi dan Tantangan. *Indonesian Journal of Economics*, 1(1).
- Robert Lens. (2023, January). *Apa itu rupiah digital? Apa manfaatnya? Bagaimana tantangannya?* The Conversation.
- Rosali Elvira Nurdiansyarani. (2024, May 6). *Kuliah Tamu FEB Ulas Rencana BI Terbitkan Rupiah Digital*. <https://Unair.Ac.Id/Kuliah-Tamu-Feb-Ulas-Rencana-Bi-Terbitkan-Rupiah-Digital/>.
- Sally Chen, Tirupam Goel, & Han Qiu. (2023). Beyond technology: Considerations for retail central bank digital currency adoption in Asia–Pacific. *Journal of Payments Strategy & Systems*.
- Telly Kamelia, I. Y. H. P. A. B. Y. J. Y. P. (2024, January). *Pengaruh Penerapan Robotic Process Automation terhadap Efektivitas Akuntansi di Perusahaan*. <https://Www.Cemerlangmedia.Com/Artikel/Pengaruh-Penerapan-Robotic-Process-Automation-Terhadap-Efektivitas-Akuntansi-Di-Perusahaan/>.
- Topan Yuniarto. (2024a). *Uang Digital: Pengertian, Mekanisme, dan Dampaknya*. <https://Kompaspedia.Kompas.Id/Baca/Paparan-Topik/Uang-Digital-Pengertian-Mekanisme-Dan-Dampaknya>.
- Tourpe, H. (2023). *A Guide to Central Bank Digital Currency Product Development*. *Fintech Notes*, 2023(007), 1. <https://doi.org/10.5089/9798400253690.063>
- Triandini, E., Jayanatha, S., Indrawan, A., Putra, G. W., Iswara, B., Studi, P., Informasi, S., Bali, S., Raya, J., & No, P. (2020). Metode Systematic Literature Review untuk Identifikasi Platform dan Metode Pengembangan Sistem Informasi di Indonesia. In *Indonesian Journal of Information Systems (IJIS)* (Vol. 1, Issue 2). <https://www.google.com>
- Zhang, T. (2021). Impacts of Digital Currency Electronic Payment (DCEP) on *China's Banking System*.
- Zuchroh, I., Septi Wanti Bere, R., Gemma Galgani, K., Imanuela Lay Rihi, G., Cahyono, B., *Tinggi Ilmu Ekonomi Malangkucecwara*, S., Alamat Kampus, I., Terusan Candi Kalasan, J., & Timur, J. (2025). Transformasi Digital Moneter: Analisis Komprehensif Implementasi Central Bank Digital Currency (CBDC) dan Implikasinya Terhadap Stabilitas Sistem Keuangan. <https://doi.org/10.61132/moneter.v2i3.1055>