European Journal of Business and Management
ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)
Vol.14, No.16, 2022

An Exploration of the Development of Central Bank Digital Currencies in Selected Countries

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Abstract
In this paper, we explore the developments of Central Bank Digital Currencies (CBDC) in selected countries across the globe. The main objective of the study is to critically review the literature on the development of CBDC in selected jurisdictions. We adopted the methodology that made use of narrative literature review and mainly reviewed peer-reviewed journal articles that are published focusing on selected Central Banks. The key databases used in this study included Science Direct, JSTOR and Ebscohost information services and digital libraries. This is a novel study and the articles and other scholarly literature reviewed were taken from Q12018 to Q12022. The literature is in it's infancy and mainly from developed and emerging economies. The literature brought out different approaches and relationships between the different jurisdictions and the approaches of CBDC and design considerations.
Keywords: Central Bank Digital Currencies (CBDC), Critical Review, Exploration of Developments, Bahamas, China, Eswatini, Ghana, Nigeria
DOI: 10.7176/EJBM/14-16-02
Publication date: August 31st 2022

1. Introduction

Several Central Banks in many jurisdictions have been considering the feasibility of a Central Bank Digital Currencies (CBDCs) and there has been increasing attention in the recent past. Both developed and emerging and developing economies are accelerating their CBDC research, pilot and launch efforts. They are moving from theoretical research to proof of concept and pilot projects. The Bank for International Settlements (BIS, 2018) survey on central bank digital currency estimates that 86% of central banks are engaging in some form of CBDC work. This is a response to mitigate the risks posed by virtual currencies, the changing market and consumer needs, driven mostly by advances in technology. Already, surveys show more than 86% of central banks are researching CBDCs, with some working on proofs of concept that could eventually lead to the introduction of fully functional CBDCs. In addition, the report indicates that out of the surveyed central banks, 10% plan to offer a retail version of a CBDC in the next three years, with another 20% set to make the move in under six years. The following are the jurisdictions that are actively working on CBDCs.

2. Continental CBDC Initiatives

The Bank for International Settlements (BIS) in its research (BIS, 2020) reviewed that 86% of all central banks in the world are working on some type of research, proof of concept of piloting CBDC. In Africa, most central banks are at the research stage and the advanced jurisdictions towards the proof of concerts include the South African Reserve Bank (SARB), Central Bank of Eswatini, National Bank of Rwanda (NBR), Bank of Ghana (BOG), Central Bank of Nigeria (CBN), Central Bank of Tunisia (BCT) and Central Bank of Egypt (CBE) in North Africa (BIS, 2020). Zambia could learn from experiences with the CBDC research outcomes from these African countries and come up with compelling motivations to consider issuing CBDC in its jurisdiction.

2.1 International Developments

2.1.1 People's Bank of China (PBoC)

Research by (Jinze & Etienne, 2019), in the paper on the overview of the expected characteristics from China's CBDC, contends that in 2009 the People's Bank of China allowed cross-border trade to be settled in RMB on a trial basis in Shanghai and Beijing, which was arguably the starting point for the currency's internationalization. It was the first CBDC to be announced from a major economy and since then, several additional initiatives have been deployed to help bolster trust in the Chinese currency (RMB) and increase its usage. Subsequently, the People's Bank of China began researching a digital RMB (e-CNY) in 2014 and six years later, in April 2020, the central bank said its CBDC which was called the digital currency electronic payment (DC/EP) was ready to

launch. The initial pilot programs were then established in major cities including Shanghai, Chengdu and Beijing.

Further, the People's Bank of China (PBoC) working group on e-CNY published a white paper on its e-CNY retail CBDC (PBoC, 2021) that confirmed that e-CNY would be issued by the PBOC and distributed by commercial banks. The white paper also states that the e-CNY was initially designed for domestic use and was later tested and proved to be usable across borders, while acknowledging monetary sovereignty issues (PBoC, 2021). Furthermore, PBoC acknowledges the challenges that came with the internationalization of CBDCs though digital currencies more generally have multiple benefits. For example, they provide financial inclusion for those who do not have access to bank accounts and have the potential to lower the cost and increase the speed of domestic and international payments. In October 2020, the People's Bank of China also published a draft law laying out the legal foundations of the DC/EP, which gives the CBDC the same legal status as RMB. As a result, it is deemed legal tender, and refusing it as a means of payment is, therefore, illegal in China. Currently, the DC/EP is being issued through a two-tier system, whereby the People's Bank of China has authorized eight banks, including the six largest state-owned banks, to distribute it.

The study by (Kumhofa & Nooneb, 2021) outlines the challenge of the DC/EP to other global major currencies like the US dollar. The study reviews that in the short term, if issued and rolled out on a large scale, the e-CNY is unlikely to unsettle the US dollar's dominance and could also act as a complement to its current cross-border infrastructure. The RMB is already used for settlement in China's international trade and has been applied to smaller-value trade settlements in wholesale markets will likely continue to be settled in dollars. In addition, there is still a need for DC/EP to prove its robustness and so far, the in-country user adoption has been low and there are no obvious benefits to using the instrument over other payment methods following the pilot trials. The paper further suggests increased efforts to facilitate interoperability with the already dominant mobile financial services hosted by Alipay and WeChat.

2.1.2 Central Bank of the Bahamas

The Central Bank of Bahamas launched the world's first central bank digital currency (CBDC) which went live in October 2019. A publication by Bloomberg (Bloomberg, 2021), reviews how the tiny Bahamas island beat most global giants in the race to issue E-Currencies. The paper also outlines how John Rolle, central bank governor since 2016, describes what his country has learned so far from its pioneering role in central bank digital currencies. Also known as the sand dollar, the currency's motivations were to digital payments infrastructure to quickly recover from natural extreme weather disruptions such as tornados and typhoons that the islands are suspectable. Another paper by the central bank of Bahamas (Central Bank, 2019) cites other motivations for the sand dollar such as the promotion of financial inclusion, modernizing the payment system, and making private wallet systems interoperable.

The publication further outlines that the Sand Dollar is the digital version of legal tender just like cash which is issued by the Central Bank of the Bahamas. Like cash, you keep Sand Dollar in a wallet, a digital wallet. The main goal of the Sand dollar is to be accessible and not to exclude users based on technology. Therefore, the currency is available on a smart card, not just on smartphones, to help with the elderly. At the other end of the age scale, children often run errands and have pocket money, so they need to have access to digital cash. The write up states that the Sand Dollar is much safer than cash and if a holder's digital wallet is lost or stolen, the cash is gone forever. On the other hand, however, if the holder's mobile phone is lost or stolen the Sand Dollars are safe because they are not stored on the device. The Sand Dollar also provides an excellent record of income and spending, which can be used as supporting data for micro-loan applications. Further, the Sand Dollar can be accessed flexibly with either a mobile phone application on both iOS and Android mobile operating systems or using a physical payment card to access your digital wallet and the Sand Dollar presents zero transaction fees for individuals.

3. CBDC Developments in Africa

The Bank for International Settlements (BIS) in its research (BIS, 2020) reviewed that 86% of all central banks in the world are working on some type of research, proof of concept of piloting CBDC. In Africa, most central banks are at the research stage and the advanced jurisdictions towards the proof of concerts include the South African Reserve Bank (SARB), Central Bank of Eswatini, National Bank of Rwanda (NBR), Bank of Ghana (BOG), Central Bank of Nigeria (CBN), Central Bank of Tunisia (BCT) and Central Bank of Egypt (CBE) in North Africa (BIS, 2020). Zambia could learn from experiences with the CBDC research outcomes from these African countries and come up with compelling motivations to consider issuing CBDC in its jurisdiction.

3.1.1 South African Reserve Bank (SARB)

The Republic of South Africa remains one of Africa's strongest economies. In its press release of May 2021, the South African Reserve Bank (SARB, 2021) reviewed that it had commenced a feasibility study for a general-purpose retail central bank digital currency. The main purpose is to investigate the feasibility, desirability and appropriateness of a central bank digital currency (CBDC) as electronic legal tender, for general-purpose retail use, complementary to cash. They defined a retail CBDC can be a digital form of cash aimed at providing the

best attributes of both cash and electronic payments. Furthermore, the SARB stated that the objective of the feasibility study was to consider how the issuance of a general purpose CBDC would feed into the SARB's policy position and mandate. The study further focused on the issuance of a domestic CBDC that could be used by consumers in South Africa for general retail purposes.

Consequently, the report states that the feasibility study included practical experimentation across different emerging technology platforms, taking into account a variety of factors, including policy, regulatory, security and risk management implications (SARB, 2021). The SARB in the past had also run a proof of concept on tests that looked at using the distributed ledger technology (DLT) to speed up payment systems in the country on high-value transactions settlement on the blockchain in a project called Project Khokha (SARB, 2019). The SARB also maintained that it should be noted that while the CBDC feasibility study was different from Project Khokha, which focused on the settlement of high-value transactions between commercial banks and other stakeholders at the wholesale level, it was expected that the two studies would result in better policy alignment and coordination.

3.1.2 Central Bank of Eswatini

The central Bank of Eswatini in its diagnostic study findings signaled a green light for the next phase of the CBDC diagnostic for the country. The main objective of the first phase of the CBDC diagnostic study was to evaluate whether there were clear use cases that existed for the introduction of a retail and or wholesale CBDC specifically within the context of the Eswatini jurisdiction. According to the diagnostic study (CBE, 2020), the findings from the first phase of the investigation indicate that three potential use cases motivate further consideration by the CBE Board of Directors for the possible pilot testing and introduction of CBDC within Eswatini. More specifically, the study (CBE, 2020), outlines that since the strength of each use case is neither equal nor unconditional, the first phase of the findings suggests the need for further exploration under the second phase of the CDBDC diagnostics to determine whether Eswatini satisfies the key prerequisites needed to make CBDC gains a reality.The diagnostic study publication on the Eswatini CBDC presents three use cases for the context of the country with varying degrees of strength. The strongest use case is for CBDC to provide an efficient and functional payment system for the country through the current National Payments Systems (NPS) in Eswatini which still remains a resilient and secure payment systems platform. The retail clearing house is notably underutilized and currently lacks the functionality to enable real-time payments and payment channel ubiquity. The financial stability study further reviews that wholesale and or retail CBDC can play a role in addressing these constraints in line with the current ambitions of the CBE to develop a fit-for-purpose national payment architecture, or switch (CBE, 2019). This could be achieved by specifically designing the newly proposed payment architecture to be overlaid with both retail and potentially wholesale CBDC. This solution offers the potential not only to increase consumer convenience through enabling channel or instrument interoperability and real-time payments but also to considerably decrease reconciliation costs for providers, thereby improving operational efficiency and allowing lower prices for end consumers. The paper views that this enhances retail payment system interoperability, speed and efficiency of payments, inclusiveness especially for presently excluded MMOs) and cost-effectiveness will provide more financial robustness and convenience for both providers and consumers, as well as encourage greater use of digital financial services to increase the utilization of NPS infrastructure (CBE, 2019).

The Eswatini FinScope study of 2019 highlighted the deepening consumer demand and usage of digital financial services as an intermediate requirement for digital currencies since access to financial services in Eswatini is relatively high at 87% on aggregate (FinScope, 2019). Unfortunately, the use of digital payment methods continues to be surpassed by cash across most P2B, B2P and B2B use cases, according to the study. The publication also reviews those digital payments are playing a role in P2P remittances and the 18% of MSMEs who conduct B2B digitally. Mobile money has played a significant role in the former, with over 80% of remittances currently taking place through mobile money. Despite the gains, mobile money still faces constraints to achieving greater usage across P2P and P2B use cases. These constraints include high (cash-in, cash-out) CICO costs for consumers and a lack of interoperability with other providers, thus inhibiting greater ease of transfer for consumers. Retail CBDC presents a unique opportunity to assist (mobile money operators) MMOs to overcome these constraints. (CBE, 2020) also maintains that by underpinning the design of all mobile money offerings and relying on the existing rails of mobile money, retail CBDC could potentially assist to reduce provider costs that are passed onto consumers/MSMEs and enable de facto interoperability between different mobile money services. Furthermore, given that mobile money already enjoys large penetration and trust from the population in Eswatini, the monetary and convenience gains that CBDC could provide should motivate deeper and enhanced use of mobile money for additional payment use cases. (CBE, 2019) further argues that it is important to note, that for retail CBDC to increase the use cases of mobile money beyond P2P towards P2B, B2B and G2P payments, several contextual and market factors may need to be addressed as prerequisites to implementation and hence making this use cashless direct. These factors include expensive merchant and mobile money agent business models around cash-in cash-out (CICO) fees at mobile money agents; the need to address

value chain digitization; and the risk of excluding currently, marginalized population segments such as the rural people who depend on cash and may experience an increased digital divide.

The paper highlights the least compelling case for the CBDC as the economic policy strengthening monetary policies whose main objective is for price and financial systems stability. The fiscal policy was evaluated in terms of assessing whether there are opportunities or scope for CBDC to improve or strengthen current implementation and whether there is any possibility that CBDC could undermine policy objectives. The diagnostic study (CBE, 2020) also reviews that retail CBDC offers the clearest opportunity in terms of fiscal resources. If coupled with a robust digital identity system, CBDC can optimize both government spending and tax collection. Not only will government ghost workers be made visible, but taxpayers can be more easily traced to increase tax revenue. A minimal use case exists for CBDC and monetary policy due to the limitations emerging from the MMA, which binds domestic monetary policy to the South African repo rate in terms of price stability. The actual effect of CBDC for peg maintenance, if it continues to satisfy the MMA, is likely to be neutral but ultimately depends on the approach chosen by the CBE in this regard. Similarly, while CBDC does not seem to offer a direct use case for or against financial stability, it is within the CBE mandate to determine how CBDC can be best designed and implemented to mitigate any potential risks to the financial system. The diagnostic study (CBE, 2020) concludes that the next steps on the journey to an Eswatini issued CBDC suggest that the CBDC can add value to the economy and financial system in three important ways – namely; the payment system efficiency, consumer demand and fiscal consolidation. This indicates that exploring the possibility to pilot-test or eventually implementing a CBDC of some form in Eswatini is not only relevant but also beneficial for the country, and the CBE is tasked with promoting a sustainable, efficient, inclusive and modern financial system in line with long-run economic development. However, while these results are positive, further research is warranted to investigate whether the necessary prerequisites are currently in place to enable the identified CBDC use cases. The proposed subsequent investigation would therefore seek to address the following:

1. To identify whether key infrastructure and market prerequisites are in place to support the payment use case and the long-term gains on the fiscal policy side via existing identity systems.
2. To identify whether key preconditions are present to encourage merchant and consumer acceptance/adoption of CBDC.
3. To evaluate whether regulation and sufficient institutional capacity exist in Eswatini to bring CBDC into effect safely and securely, and to assess whether institutions are ready and capable of ensuring its success.

3.1.3 National Bank of Rwanda (BNR)

The Central Bank of Rwanda in its 2019 to 2020 annual report (BNR, 2020), suggests studying the possibilities of issuing its own Central Bank Digital Currency in response to global trends in digital currency. The digital currency in this case represents any currency or money that is managed or exchanged on digital computer systems, especially over the internet and never converted into physical form at any point. Globally, the considerations of central bank digital currencies have increasingly become common following the popularity of decentralized cryptocurrencies such as Bitcoin and Ethereum, which are not managed by any governments and central banks, a Rwanda financial publication reported.

The communications from the Director of Payment Systems at the Central Bank of Rwanda told a briefing that their assessment and studies were focusing on economic, financial and technical aspects related to CBDC as well as the operationalization model, taking into account the local Rwanda context. Further, the study was also analyzed the implication of the CBDC on monetary policy and financial stability in the country. The study also observed that there were limited countries and case studies to bench market from as only one country globally had since officially launched a CBDC. The Bahamas was listed as the only country at the time of writing this paper to have so far launched a central bank digital currency, the sand dollar, with many others exploring the feasibility. The study from the Bank for International Settles (BIS, 2020), also stated that other African Central Banks were looking into the subject, while Nigeria and Ghana were also reported to be exploring the feasibility of issuing a CBDC.

Furthermore, evidence from a study by (BNR, 2020), noted that there is not much literature in terms of global standards and reliable benchmarks on the CBDC subject at present but, nevertheless, the Central Bank of Rwanda is benchmarking with countries that are at more advanced stages, learning both on the positive and negative experiences. BNR is basing its research on the work that is already done by international institutions such as the International Monetary Fund, World Bank, and the World Economic Forum, respectively. The other stakeholders like the Rwanda Blockchain Association also noted that among the most important aspects to look into is the necessity of a CBDC, and whether or not it would bring value to the economy. They state that a CBDC should retain the best attributes of both cash and existing e-wallet solutions, and also that cash can be exchanged offline, without restrictions or fees, while digital payments such as mobile money allow for instant long-distance transfers. The other CBDC priority areas include inclusivity in the payment systems landscape and

contrary to private interests, the central bank is mandated with the financial inclusion of all Rwandans and, therefore, the adoption of the solution would be expected to be applicable and relevant to the different user categories. The other important characteristic of the CBDC noted is the need for interoperability, as the proposed CBDC solution must interoperate and at least work with the AfCFTA by facilitating instant settlements and standards between central banks and other already existing payment platforms so that people and machines pay each other instantly and the systems have to be inclusive for all.

Other global studies and projections (IMF, 2020), (Agur, Itai; Ari, Anil; Dell'Ariccia, Giovanni, 2021), (Griffoli, et al., 2018) have postulated that digital currencies hold multiple benefits such as faster payments and transfers, less expensive international transfers as opposed to high fees charged to move funds from one country to another. The other projections are that digital currencies could support in reaching out to the unbanked in the general public as they will have the financial history and are the main stakeholders who will be using the CBDC for their day-to-day transactions.

3.1.4 Bank of Ghana (BOG)

A publication by the Bank of Ghana on 11th August 2021 (BOG, 2021), observed that it had partnered with Giesecke+Devrient to pilot the first general purpose Central Bank Digital Currency (CBDC) in Ghana, a first on the African continent. The Bank of Ghana announced that G+D would provide the technology and develop the solution adapted to Ghana's requirements, which would then be tested in a trial phase with banks, payment service providers, merchants, consumers and other relevant stakeholders. The Bank of Ghana has since signed an agreement with G+D to implement a pilot CBDC project as a precursor to the issuance of a digital form of the national currency, the Cedi.

The publication further stated that the project was part of the 'Digital Ghana Agenda', which involved the digitization of the country of 30 million people and its government services. The digital Cedi, or 'e-Cedi', was intended to complement and serve as a digital alternative to physical cash, thus driving the Ghanaian cash lite agenda through the promotion of diverse digital payments, while ensuring a secure and robust payment infrastructure in Ghana (BOG, 2021). The initiative also aims at facilitating payments without a bank account, contract, or smartphone, by so doing boosting the use of digital financial services (DFS) and financial inclusion amongst all demographic groups. Furthermore, the project was divided into three phases starting with the design, the implementation and finally conducting a pilot. The publication also reviewed that in the design phase, all the framework parameters for the CBDC pilot would be specified and defined. These framework parameters include the economic, regulatory and technical requirements of the West African country as well as the definition of the parameters for the test phase. In accordance with these individual requirements, G+D's CBDC solution would be adapted for the Ghanaian context in the second phase. In the pilot phase, a user group of diverse demographic and socio-economic backgrounds would test the solution in the field using different channels and form factors such as mobile apps and smart cards. Throughout the pilot project, a study would be conducted on the acceptance of the e-Cedi from the end users' perspective.

The thesis further demonstrated that, for the CBDC to be effective, the IT security of the infrastructure, the impact of the project on monetary policy and payment system, and the legal implications should also need to be effectively evaluated (FATF, 2020), (Arakpogun, Elsahna, Nyuurb , & Olan, 2020). The insights from pilot user experiences would provide the Bank of Ghana and G+D with valuable lessons for a nationwide rollout of the e-Cedi. The Governor of Bank of Ghana at the time of this study, Dr. Ernest K. Y. Addision, also echoed the sentiments that "CBDC presents a great opportunity to build a robust, inclusive, competitive and sustainable financial sector, which is spearheaded by the Central Bank and from all indications, the concept of the CBDC has a significant role to play in the future of financial service delivery globally." Furthermore, a study by the Bank for International Settlements shows that 86% of all central Banks around the world are exploring the introduction of digital money as legal tender (BIS, 2020). The Ghanaian government is one of the first African countries now entering a pilot phase, as the G+D's CBDC solution, combines the advantages of today's cash with the needs of users in an increasingly digitized world. The solution also guarantees outstanding security, high availability and resilience, as well as the ability to protect user data while complying with regulatory requirements. In addition, the solution enables secure, consecutive offline payments in case no network connection is available.

3.1.5 Central Bank of Nigeria (CBN)

According to reports by (CryptoPlus, 2021), the Central Bank of Nigeria (CBN) has been doing some studies on the feasibility of CBDC and revealed the official wallet for its digital currency, e-Naira, the speed wallet in August of 2021. The Central Bank made it clear that the electronic Speed Wallet would not serve as a competition to existing banks but serve as a means to transact value, depending on when banks and other innovators can provide their own wallets for CBDC storage. The study further reviews that the Speed Wallet has three tiers of operations, with the first tier allowing users with no bank account to use the Speed Wallet. In order to meet the Know Your Customer (KYC) regulations, the users would have to submit a passport photograph, name, place and date of birth, gender, address and active phone number to the authorities.

The Central Bank of Nigeria (CBN) was set to launch the electronic Naira (eNaira) on October the 1st, 2021 which is the digital representation of the paper Naira currency issued by the Central Bank of Nigeria. Arguably, (CryptoPlus, 2021) also notes that the eNaira will be a complimentary legal tender in Nigeria, having the same exchange value as the Naira, and will aim to maintain a parity of value with the Naira. The eNaira is the digital form of the Naira, issued by the CBN in line with Section 19 of the CBN Act. It is a direct liability of the Central Bank, a legal tender and will form part of the currency in circulation and will be at par with the physical Naira at a 1:1 ratio. The eNaira shall complement traditional Naira as a less costly, more efficient, generally acceptable, safe and trusted means of payment. In addition, it will improve monetary policy effectiveness, enhance the government's capacity to deploy targeted social interventions and boost remittances through formal channels. The reports further note that the e-Naira will not earn any interest to holders and the digital currency will be built on a blockchain open ledger technology and this will protect against the duplicate or fake eNaira counterfeits making every eNaira unique.

According to the publication, on the regulatory guidelines of the eNaira (CBN, 2021), the guidelines were published to apply to all financial institutions and users of the eNaira in Nigeria. During the onboarding process, users shall have the option to disclose whether the eNaira wallet being created will be operated for themselves or as trustees. The guidelines further state that the Central Bank of Nigeria, under the CBN Act 2007 and the Banks and other Financial Institutions Act (BOFIA) 2020, is empowered to issue legal tender currency, ensure the financial system and promote the development of an electronic payments system. The Central Bank of Nigeria in furtherance of its mandate issued the following guidelines for the operation of the eNaira.

1. The eNaira shall be administered by the CBN through the Digital Currency Management System (DCMS) to mint and issue eNaira.
2. Financial institutions shall maintain a treasury eNaira wallet for holding and managing eNaira on the DCMS.
3. The Financial institutions (FI) suite will be the primary application used by the FIs to manage their digital currency holdings, requests, and redemption with the CBN.
4. The eNaira stock wallet belongs solely to the CBN and it shall warehouse all minted eNaira.
5. The two-factor authentication and other cybersecurity measures shall be adopted to ensure the security of the eNaira wallet.
6. The charges for eNaira transactions shall be in line with the Guide to Charges by Banks, other Financial and Non-bank Financial Institutions.

The CBN further clarifies that the Financial Institutions are required to comply with the Money Laundering Prohibition Act of 2011, the Terrorism Prevention Act of 2011 and all subsisting anti-money laundering laws and regulations as may be issued by the CBN from time to time. The CBN Journal of Applied Statistics (CBN, 2021), stated that the first tier of the digital wallet has a daily limit of N50,000, for send and receive. The minimum requirement for using the Wallet at this level is a telephone number which will be validated as a National Identity Number (NIN) and has an cumulative balance daily fixed at N300,000. For the second tier, users are allowed to own an account with an existing bank and can only send and receive N200,000 daily with an accumulative daily balance of N500,000 and the minimum requirement for this level is the Bank Verification Number (BVN). The third Tier allows daily transacting of up to N1,000,000 with the accumulative daily balance of N5,000,000 a BVN used as the minimum requirement. Furthermore, the merchant level allows the third tier user type to transact daily up to sending and receiving N1,000,000. However, merchants will have no limit to the amount of money they can move to their bank accounts with the minimum requirements being the KYC requirement stipulated by the CBN AML/CFT Regulations.

According to the paper (CBN, 2021) on the design principles and objectives of the eNaira payment system, the paper outlines its core pillars as a medium of exchange and as a payment system. Primarily, the eNaira is meant to meet three common principles espoused by the Bank for International Settlements which are: to do no harm, coexistence and allow for innovation and efficiency in a payment's platform. Based on these three general principles from the BIS and in consideration of the objectives of the eNaira, the CBN developed five Nigeria-specific principles to guide the design of the eNaira as outlined in Figure 3.1.

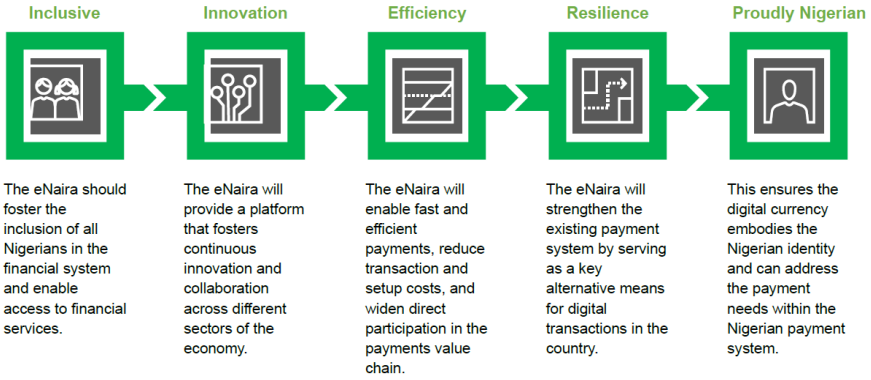

Figure 3.1: eNaira Design Principles (Source: (CBN, 2021))

4.0 Limitation of the Study

Central Bank Digital Currencies are recent development from the last five years and most jurisdiction are still researching, performing proof of concepts or piloting. The major limitations of the study were mainly because CBDC are still a developing area. Therefore, most pof the literature is still in it's infancy and is mainly from developed and emerging economies.

5.0 Conclusion

In conclusion, many Central Banks around the world in different jurisdictions have been considering the feasibility of a Central Bank Digital Currencies (CBDCs) and there has been increasing attention in the recent past. Both developed and emerging and developing economies are accelerating their CBDC research, pilot and launch efforts. They are moving from theoretical research to proof of concept and pilot projects. The Bank for International Settlements (BIS, 2018) survey on central bank digital currency keeps increasing and almost all Central Banks globally are engaging in some form of CBDC work.

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