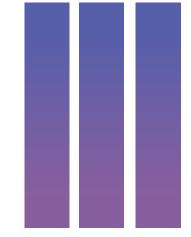


# GHANA FINTECH REPORT Q2 2023 EDITION

A Sustineri Attorneys' Quarterly Fintech Newsletter



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### **FORWARD**

Dear Readers,

We are pleased with the numerous humbling feedbacks and commendations on the first quarter's report; a report which among others comprehensively reviewed the regulatory framework for the licensing, supervision, and regulation of financial technology (Fintech) innovations in Ghana.

In this Q2 report, we delved into the dynamic landscape of Fintech innovations, capturing the evolving trends, risks, and regulatory challenges that are reshaping the financial sector. Also, we explored the profound impact of artificial intelligence (AI) and provided insights into the future of money and new business models that will shape how money is used, exchanged, and stored.

Ghana's Fintech sector has witnessed remarkable growth and innovation in recent years – and as technology continues to redefine financial services, it is crucial to stay informed about the latest developments and their implications. It is for this reason that this report seeks to build on what we covered in our Q1 report offering valuable insights for industry professionals, policymakers, and investors.

We have provided an in-depth analysis of emerging innovations with real potential of changing the regulatory landscape and discussed the implications for both industry players and regulators. Our insight on the future of money is of great significance in any planning for the future of finance and we have examined the transformative potential of digital currencies, decentralized finance, and other emerging trends that are reshaping traditional financial systems. We hope this report contains the resources needed to facilitate a better understanding of regulatory responses that should nurture innovations while promoting greater financial inclusion, fostering economic growth, and redefining the way we transact, save, and invest.

We are immensely indebted to our contributors for their expertise and dedication to ensuring this report is comprehensive, accurate, and forward-looking.

As the Fintech landscape in Ghana continues to evolve, staying informed is paramount. And we consider this report as a guiding compass, offering a holistic view of the Fintech sector for Q2 2023 (March to June) and identifying opportunities for growth and innovation.

We hope it provides you with the knowledge and foresight needed to navigate the exciting journey that lies ahead.

Richard Nunekpeku Managing Partner



### **PUBLISHERS - SUSTINERI ATTORNEYS PRUC**

We are Ghana's foremost Fintech and Start-up focused law firm, committed to providing differentiated legal services by leveraging our experience as proven entrepreneurs, business managers, and business lawyers which allows us to think and act like the entrepreneurs, business owners, and managers we work with at all times.

As a team of young legal practitioners, SUSTINERI ATTORNEYS PRUC takes pride in acting with integrity, avoiding conflicts, and working with clients to design innovative legal solutions that meet their specific needs.

At SUSTINERI ATTORNEYS PRUC, we consider every client's brief as an opportunity to use our sound understanding of Ghana's business, commercial and legal environment, professional experience, and sound commercial knowledge to provide solutions that do not only address immediate legal needs but also anticipate future challenges and opportunities.

Our pride as the foremost Fintech and Start-up focused law firm stems not only from our understanding of the potentials of emerging technologies and our belief in the ideas of many young people but also from the difference our network of resources and experience can make when working closely with founders and entrepreneurs. To this end, we operate a 24-hour policy urging our clients to reach out to us at any time and on any issue.

We strive for excellence, ensuring that our solutions provide sustainable paths for our clients' businesses by adopting a common-sense and practical approach in our value-added legal service delivery – and employing our problem-solving skills.

Our goal is to help businesses to become commercially sound and viable, as well as regulatory compliant, by engaging in legal and beneficial transactions to promote their business competitiveness for sustained operations and investments.

And as our name implies, our priority is to always leverage legal means to promote the sustainability (long-term viability) of our clients' businesses.

We are different, and the preferred partner for growth.

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# EMERGING INNOVATIONS RESHAPING FINANCIAL SERVICE REGULATION

Globally, regulators (central banks) of financial services are facing compelling pressure to adopt and normalize outcomes of emerging innovative technologies whose primary focus is to democratize the regulation of money. And the increasing consumer adoption and use of these advanced technological outcomes are generating some regulatory responses although at a slow pace. In this analysis, we assess three (3) such innovations with immense impacts on the future of financial sector regulation in Ghana.

#### **CENTRAL BANK DIGITAL CURRENCY (CBDC)**



Central Bank Digital Currencies are digital representations of a country's fiat currency issued and regulated by the central bank. CBDCs aim to pro vide a secure and efficient medium of exchange, preserve financial stability, and foster financial inclusion by combining the benefits of traditional fiat currencies with the efficiency and security of digital technologies.

Considering the reluctance of most nations to adopt legislation for cryptocurrencies and or authorize their use by reason of their volatility and scalability issues and lack of insurance, central banks across the world have moved towards the adoption of digital currencies as an alternative to cryptocurrencies. The adoption of CBDCs has been influenced by central banks' unwillingness to give up their monopoly in issuing currencies, as well as the risks associated with the use of cryptocurrency. The fears of governments of the wide use, adoption, and trade in cryptocurrencies are not unfounded and governments have resorted to issuing warnings to their citizens on the risks involved in the trade in cryptocurrencies. The collapse of the infamous FTX, a US-based cryptocurrency platform in November 2022 merely reinforced most governments' adamance to legislate cryptocurrency trade and use.

Like cryptocurrency, CBDC can potentially enhance financial inclusion by providing individuals who lack access to traditional banking services with a secure and convenient means of transacting digitally. Also, it can streamline cross-border transactions, reducing costs and increasing efficiency. Additionally, CBDCs offer improved transparency, as every transaction can be recorded on a blockchain or other distributed ledger, reducing the risk of corruption and illicit activities.

Moreover, CBDCs provide central banks with more control over monetary policy, enabling them to implement measures more effectively. However, the implementation of CBDCs also raises concerns. Privacy and data security must be carefully addressed to protect individuals' financial information. There are also potential implications for the commercial banking system, as CBDCs may compete with or replace traditional bank deposits. Therefore, the design and implementation of CBDCs require thoughtful consideration of these factors to ensure a balanced and inclusive financial system for the future.

In terms of adoption of CBDCs, the Bahamas was the first country to launch a global central bank digital currency (CBDC) called the "Sand dollar" in May 2020 but Sweden's eKrona is the first digital currency to hit the market with the backing of a major economy.

The US launched research into the creation of its CBDC (eDollar) through its Project Hamilton, and reports indicate that considerations are still being made on the adoption and/or launch of the eDollar. China has also launched a pilot project for its digital Yuan to assess the use of the digital currency in its economy and is currently expanding its use to more cities. Countries like England, Canada, Singapore, Thailand, and Japan are equally considering plans to launch a digital version of their nations' fiat currency but with no definitive timelines.

In Africa, the Central Bank of Nigeria launched its eNaira digital currency in October 2021 following a ban it placed on the use and trading of cryptocurrencies in the country sometime in February 2021. Studies show that about 80% of central banks around the world are also conducting pilot tests. The Bank of Ghana in 2022 launched a pilot project to test the feasibility and acceptability of a digital version of the Ghanaian Cedi, called the e-Cedi. The e-Cedi is intended to complement the existing forms of money and facilitate digital payments, financial inclusion, and monetary policy effectiveness. It will be issued by the Bank of Ghana and backed by its reserves, making it a legal tender and a safe and secure means of payment.

#### **CRYPTOCURRENCY**



Cryptocurrencies are digital assets that use cryptography to secure transactions and control the creation of new units. They are not issued or regulated by any central authority and operate on decentralized systems based on blockchain technology, which is a distributed ledger that records all transactions across a network of computers.

The most well-known and widely used cryptocurrency is Bitcoin, introduced in 2009. Over the years, other cryptocurrencies like Ethereum, Dogecoin, Tether, and Binance have equally gained popularity and have seen wide use, trade, and adoption by users.

As a digital currency, it is available exclusively in electronic form. It makes use of an electronic ledger system that creates a network of computing nodes to process transactions, i.e., the use of cryptographs to anonymize user identity and transaction details. Typically, digital currencies have utility similar to that of physical currencies – they can be used to purchase goods and pay for services as well. The classic features of digital currencies have been identified as their existence only in digital form; storage and transfer of value; decentralized with no regulatory authority.

One of the primary use cases of cryptocurrencies is facilitating peer-to-peer transactions. Cryptocurrencies enable individuals to send and receive funds directly without the need for intermediaries such as banks. This allows for faster, cheaper, and more accessible cross-border transactions, particularly for individuals in regions with limited banking infrastructure. Similarly, Cryptocurrencies have become a popular investment asset class. Many people buy cryptos as a speculative investment, hoping that their value will increase over time.

The volatility of cryptocurrency markets, while presenting risks, also offers opportunities for traders to profit from price fluctuations. Investors can buy and hold cryptocurrencies, trade them on exchanges, or participate in initial coin offerings (ICOs) and token sales.

In terms of fundraising, Cryptocurrencies have revolutionized fundraising methods, allowing startups and projects to raise capital through ICOs, token sales, or initial exchange offerings. These methods provide an alternative to traditional venture capital funding, allowing for greater access to capital and a global investor base. The erstwhile Signature Bank and Silvergate Bank were major cryptocurrency trading and lending banks before their collapse earlier in the year.

However, some identified significant challenges to the use and adoption of the digital asset include issues of regulatory uncertainty as governments worldwide grapple with how to classify and regulate these digital assets. Also, issues such as the volatility and price fluctuations of cryptocurrencies deter their use as stable mediums of exchange. Scalability and security issues pose a strain on the acceptance, use, and trade by people of this digital asset. Energy consumption and environmental concerns in the face of ESG considerations, as well as privacy and regulatory compliance issues, further impact the widespread adoption of cryptocurrencies.

Despite the challenges, cryptocurrencies have gained significant popularity and are evolving beyond just digital currencies. They have paved the way for innovative applications such as decentralized finance (DeFi), non-fungible tokens (NFTs), and smart contracts. These applications extend the functionality of cryptocurrencies, enabling new possibilities in areas like lending, trading, digital art, and more.

Cryptocurrencies are not recognized as legal tender in Ghana and their use is subject to high risks and uncertainties. The Bank of Ghana has warned the public against dealing with unlicensed entities that offer cryptocurrency services and has stated that it will consider working on a regulatory framework for cryptocurrency operations in Ghana.

#### **OPEN BANKING**



Open banking is a system that allows customers to access and share their financial data with third-party providers, such as fintech companies, through secure digital platforms – Application Programming Interface (API), and in return providing the customer access to varying financial products and services.

It is a revolutionary concept that aims to enhance competition, innovation, and customer-centric services in the financial industry.

Additionally, open banking allows customers to securely share their financial information, such as transaction history and account details, with authorized third-party providers, including fintech companies and other financial institutions. This data sharing enables these providers to develop innovative applications and services that offer personalized financial solutions, such as budgeting tools, savings apps, and loan comparison platforms. The trend has been marked by the Consultative Group for the Avoidance of Poverty (CGAP) as a major driver of financial inclusion, in terms of products and services tailored based on the data accessed by financial institutions and fintech companies.

One of the primary benefits of open banking is the increased competition it fosters within the financial sector. By allowing authorized third-party providers to access customer data, open banking breaks down the traditional barriers that limited competition to a few dominant players. This promotes innovation and the development of new financial products and services that cater to specific customer needs. With greater competition, customers can enjoy improved product offerings, enhanced customer experiences, and potentially lower costs.

Open banking also encourages collaboration between banks and fintech companies. Through APIs, banks can partner with innovative fintech startups to offer new services and solutions. This collaboration promotes the exchange of ideas, expertise, and resources, ultimately leading to the development of groundbreaking financial products and technologies. By leveraging the strengths of both traditional financial institutions and agile fintech players, open banking creates a dynamic ecosystem that benefits customers with a wider range of innovative services.

Globally, the UK is considered to be a leader in open banking, as it was the first country to introduce a mandatory open banking standard in 2018. The standard requires the nine largest banks to share customer data and offer payment initiation services through secure APIs to authorized third-party providers (TPPs). The UK Open Banking Implementation Entity (OBIE) oversees the development and operation of the open banking ecosystem, which has more than 300 TPPs and 3 million users as of June 2021. Brazil equally introduced its open banking regulation in 2020, which establishes a phased implementation of data sharing and payment initiation services between banks and TPPs. The regulation aims to promote competition, innovation, and financial inclusion in the Brazilian market. The Central Bank of Brazil (BCB) is the main regulator for open banking, while the National Monetary Council (CMN) sets the general guidelines and principles.

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In Africa, some African countries have started to develop regulatory frameworks that support open banking and data protection. In the last quarter of 2022, Nigeria became the first ever African country to adopt a Regulatory Framework for Open Banking. The framework aims to promote the sharing and leveraging of customer-permissioned data by banks in order to build solutions and services that provide efficiency, greater financial transparency, the ability to review all customers' banking and financial information in a central location, options for account holders and to enhance access to financial services in Nigeria. It also establishes principles for data sharing across the banking and payment ecosystem. It recognizes the ownership and control of data by customers of financial institutions. The framework is expected to promote innovations and broaden the range of financial products and services available to bank customers. Generally, the framework aligns with the Nigeria Data Protection Regulation (NDPR), which sets the principles and requirements for data processing and privacy.

Currently, in Ghana, open banking is not a regulated activity by the central bank although there have been calls on the regulator to consider extending its regulatory frontiers to cover open banking having regard to the significant advantages it has.

In spite of the significant advantages open banking provides, it also poses significant challenges and risks, such as data privacy, cybersecurity, and consumer protection. Security and data privacy are paramount concerns, and robust measures must be in place to protect customer data from unauthorized access or breaches. Additionally, ensuring standardized APIs and interoperability between different financial institutions is crucial to create a seamless and efficient open banking ecosystem.

Consequently, there is a need for a regulatory framework in Ghana that can balance the benefits and risks of open banking and ensure a level playing field for all stakeholders. A regulatory framework for open banking should address the following aspects: data governance, technical standards, licensing and supervision, consumer rights and redress, and cross-border cooperation.



# A SPOTLIGHT ON SECURITIES AND EXCHANGE COMMISSION (SEC)



The Securities and Exchange Commission (SEC) established by the Securities Industry Act, 2016 (Act 929) is required to carry out multifaceted mandates that encompass the comprehensive regulation of the securities industry to ensure optimal efficiency, fairness, and transparency in the capital market. Acting as a guardian of investor protection and market integrity, the SEC undertakes a range of responsibilities to fulfill its mission.

One of the core functions of the Commission is the development and enforcement of robust regulatory frameworks that govern the securities industry. These regulations are meticulously designed to foster a level playing field, safeguard the interests of investors, and maintain the overall integrity of the market. Through proactive supervision and rigorous enforcement, the SEC ensures compliance with these regulations by all market participants, thereby upholding the principles of transparency and accountability.

In its commitment to nurturing a vibrant capital market, the Commission is responsible for licensing and regulating market intermediaries, such as brokers, investment advisors, and fund managers. By imposing stringent licensing requirements and continuous monitoring, the Commission establishes a strong foundation of professionalism, competence, and ethical conduct within the industry. This framework not only protects investors from potential malpractices but also contributes to the overall stability and growth of the market.

Furthermore, the SEC plays a pivotal role in facilitating capital formation by approving public offerings and securities listings. By conducting thorough reviews and assessments, the SEC ensures that the issuance of securities complies with relevant regulations and provides investors with accurate and reliable information. This oversight not only promotes investor confidence but also encourages companies to access capital markets as a viable avenue for growth and expansion.

Recognizing the evolving landscape of financial innovation, the SEC, in collaboration with the central bank, also regulates the Equity and Debt models of crowdfunding in Ghana. The Commission is actively engaged in finalizing comprehensive Crowdfunding Guidelines, which will be made available to the public in due course. To effectively supervise and monitor crowdfunding activities during this transitional period, the SEC has established a Regulatory Sandbox. This allows for a controlled environment where crowdfunding initiatives can operate, while still ensuring compliance with existing regulatory frameworks. Approvals for crowdfunding activities are currently granted on a case-by-case basis, with a strong emphasis on the viability of proposed business models, supported by well-developed and workable business plans.



#### **FRAUD**



In a recent notice titled "NOTICE-NO-BOG-GOV-SEC-2023-08", the Bank of Ghana released a report highlighting fraudulent activities affecting Banking Institutions, Specialized Deposit-Taking Institutions (SDIs), and Payment Service Providers (PSPs). The comprehensive report sheds light on the attempted and successful fraudulent activities recorded between January 1st and December 31st, 2022, offering valuable insights into the evolving landscape of fraud within Ghana's banking system while providing insights into the various forms of fraud observed during the same period.

It also highlights the measures undertaken by the Bank of Ghana to address these challenges and promote the integrity of the banking system. Notably, the report reveals that in 2022, there were 2,998 cases of attempted fraud in the banking and SDI sectors, accounting for a significant increase of 27.74% compared to the 2,347 cases reported in 2021.

However, despite the rise in attempted fraud cases, the total loss value recorded in 2022 amounted to approximately GH¢56 million, indicating a decrease of 7.88% from the GH¢61 million reported in 2021. The 2021 report identified the top five fraud types that impacted most institutions in the sector, including forgery and manipulation of documents, fraudulent withdrawals, cheque fraud, cyber/email fraud, and cash theft (cash suppression). Notably, forgery and manipulation of documents emerged as the predominant fraud type.

Regarding the specific fraud categories in 2022, the top five included cash theft (cash suppression), cyber/email fraud, fraudulent withdrawals, impersonation, and e-money fraud, in descending order. Cash theft (cash suppression) was the most prevalent fraud type, primarily affecting the Rural and Community banking sector, showing a 6.01% increase from 1,530 cases in 2021 to 1,622 cases in 2022. Cyber/email fraud also witnessed a significant upsurge, with the number of cases rising from 50 in 2021 to 422 in 2022, representing a staggering increase of 744%.

Furthermore, the report highlights that the PSP sector also faced attempted fraud and associated losses due to the growing use of electronic channels for transactions. The two main types of mobile money fraud reported by PSPs were transfers made to the wrong recipients and cash reversals. The PSP sector witnessed a substantial number of mobile money fraud incidents and reported higher loss values in 2022.

Although fraud incidents decreased slightly compared to 2021, the total value of fraud reported by PSPs in 2022 amounted to approximately GH¢27 million, significantly surpassing the GH¢14.2 million recorded in 2021. This represents a remarkable percentage increase of 47%. Specifically, the total loss value associated with E-Money transactions reported by PSPs in 2022 reached approximately GH¢26 million, with 149 cases recorded, marking a staggering 103% jump from the GH¢12.8 million and 116 cases reported in the previous year.

These findings highlight the persistent challenges posed by fraud within Ghana's banking system and emphasize the need for continued vigilance and innovative use of technology to combat these threats. The Bank of Ghana and industry stakeholders must work collaboratively to develop robust strategies, enhance security protocols, and promote awareness among customers to ensure the integrity and resilience of Ghana's financial ecosystem.

#### UNLICENSED MICROLENDING



The financial sector in Ghana is currently facing a significant challenge due to the rapid increase in unlicensed lending activities facilitated by mobile applications and social media platforms. While microlending solutions provided by financial service providers play a vital role in enhancing financial access and inclusion, the proliferation of unregulated lending activities raises concerns regarding compliance with existing regulatory frameworks.

While the Bank of Ghana has expressed its unwavering support for fintech companies and financial service providers, it has emphasized the importance of adhering to regulatory guidelines to ensure consumer protection and the stability of the financial system.

In response to the rise of unauthorized lending activities by unlicensed entities, the Bank of Ghana released a notice, BG/GOV/SEC/2022/10 last year warning the public and highlighting the risks associated with engaging the services of such entities. The central bank had cause to issue further notice earlier in June identifying some 97 microlending entities involved in providing lending services through mobile applications. The increase in unlicensed lending activities is a cause for worry as it not only jeopardizes data privacy and security but also poses risks to the stability and integrity of the financial system and the welfare of borrowers.

The unregulated nature of these lending activities exposes unsuspecting borrowers to various risks. Firstly, borrowers may unknowingly provide sensitive personal and financial information to unlicensed entities, putting their data privacy at risk. The lack of oversight and regulatory checks also increases the chances of fraudulent activities and the misuse of borrower data, potentially leading to identity theft or financial fraud. Moreover, these unlicensed lending activities may involve predatory lending practices, exorbitant interest rates, and unfair debt collection practices, which can have severe financial consequences for borrowers who may already be financially vulnerable.

Also, considering that these entities operate outside the purview of existing regulations, bypassing important safeguards and consumer protection measures, they potentially undermine the financial sector's overall stability, leading to economic imbalances and systemic risks. Furthermore, the unregulated nature of these activities can contribute to money laundering and financing of illicit activities, further compromising the integrity of the financial system.

To address the challenges posed by unlicensed lending activities, the Bank of Ghana is taking proactive measures by working to strengthen and enforce existing regulatory frameworks to ensure compliance and consumer protection. It is collaborating with relevant stakeholders, including fintech companies and financial service providers, to enhance the accessibility and inclusivity of microlending solutions while mitigating risks. The Bank of Ghana has therefore stressed the need for consumers to only deal with licensed and/or authorized entities, hence, the publication of this list of unlicensed lending entities. This approach aims to strike a balance between promoting innovation in financial services and maintaining regulatory oversight.

In addition to regulatory actions, we hold the view that promoting consumer education and awareness is crucial in combating unlicensed lending activities. Educating the public about the risks associated with borrowing from unlicensed entities through mobile applications and social media platforms can empower individuals to make informed financial decisions. Financial literacy programs, public awareness campaigns, and partnerships with consumer advocacy organizations can help raise awareness about the importance of verifying the licensing and legitimacy of lending platforms before engaging with them.

#### JOINT CYBERSECURITY COMMITTEE OPERATION



A collaborative effort among three regulatory agencies has resulted in the apprehension of some 422 individuals who are suspected of operating illicit mobile lending applications. The operation was carried out by a joint technical task force consisting of the Economic and Organised Crime Office (EOCO), Bank of Ghana (BoG), and Cyber Security Authority (CSA) – the Joint Cybersecurity Committee.

The committee conducted thorough investigations into approximately 270 cases involving cyberbullying, fraud, extortion, and the misuse of customer data reported by victims over the past six months, leading to this raid. The complaints were reported to the joint cyberse-curity committee's Computer Emergency Response Team (CERT). This initiative was undertaken subsequent to the publication by the central bank, which highlighted the presence of some 94 unlicensed micro-lending entities engaging in unlawful lending services through mobile lending applications and other social platforms.

The operation took place at the premises of four illegal digital lending companies: Mascedi Consult, Valley A. Consult, Makto Technology Limited, and FourCredy. As part of this extensive exercise, the task force successfully seized 654 mobile phones, 22 laptop computers, and approximately 800 SIM cards.

This collective effort serves as an assurance that regulatory agencies are committed to safeguarding the unsuspecting public from the dangers of illicit financial activities and ensuring a secure digital landscape for all.



#### E-COMMERCE AS A GROWING FINTECH TREND

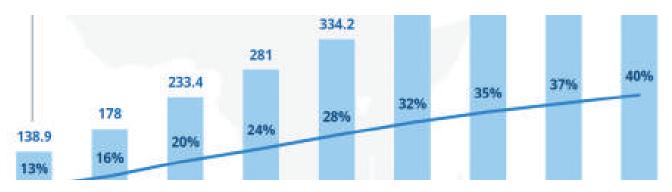


Digitalization has revolutionized the behavior of businesses and individuals, reshaping the way we interact, transact, and conduct our daily lives. With its transformative power, digitalization has not only changed the way people manage their finances but has also revolutionized consumer buying habits and paved the way for the convergence of industries. This convergence has generated a wide spectrum of new opportunities for further growth and development.

In this landscape of technological innovation, fintech has emerged as a frontrunner, swiftly embracing, and harnessing the potential of fast-evolving technologies. By leveraging cutting-edge solutions such as artificial intelligence, blockchain, and mobile applications, fintech has introduced a plethora of products and services that have breathed new life into countless businesses, particularly in the e-commerce space.

It is therefore imperative to delve into the growing phenomenon of e-commerce as a fintech trend, exploring its implications for businesses, consumers, and the broader digital economy.

#### THE RISE OF THE E-COMMERCE INDUSTRY IN AFRICA



The progression of commerce in Africa has undergone a significant transformation, transitioning from the traditional barter system to the contemporary era of e-commerce. This shift was propelled by the widespread adoption of consumer internet and electronic payment methods, leading to a global rise in e-commerce in the 1990s.

While global e-commerce giants like eBay and Amazon emerged in 1995, Africa experienced its own e-commerce revolution nearly two decades later, during the early 2010s. This period saw the emergence of African e-commerce startups, including Jumia, Konga, and Takealot.com. These startups capitalized on a surge in venture capital investments and predominantly adopted Western business models as their framework for growth.

Likewise, the late 2000-2010s witnessed a mobile revolution and the advent of digital payments in Africa. In 2007, the launch of M-PESA in Kenya by Vodafone and Safaricom revolutionized mobile money, making secure and convenient digital transactions possible. E-commerce platforms quickly adopted services like Lipa Na M-PESA, also introduced by Safaricom in 2012, to facilitate secure online payments and easy integration with business systems and other financial systems. Flutterwave, a Nigerian fintech company, also played a significant role in enabling seamless cross-border payments for African e-commerce businesses starting in 2016. Dubbed as the next Amazons of Africa, these startups encountered a myriad of difficulties that ultimately resulted in the downfall of many. From 2017 to 2019, prominent startups like Dealday, Efritin, OLX, and Konga underwent downsizing, restructuring, or complete shutdown.

#### E-COMMERCE AND THIRD-PARTY MARKETPLACE PLATFORMS



African companies that utilize online platforms to facilitate the sale of third-party goods play a pivotal role in the evolving landscape of e-commerce. From a technical perspective, these online platforms employ sophisticated e-commerce infrastructure to support their operations. They develop robust online platforms that incorporate features such as search engines, recommendation systems, and personalized user interfaces to enhance the customer experience.

These platforms are designed to handle a diverse range of products and sellers, providing a seamless and efficient marketplace for buyers.

One significant advantage of this approach is the ability to tap into the vast pool of diverse products offered by third-party sellers. Businesses across the continent operating on the e-commerce market can curate a diverse range of goods, spanning various industries and categories, thereby catering to the diverse tastes and preferences of consumers. This breadth of product offerings enhances the appeal of the e-commerce platform and attracts a larger customer base seeking convenience and access to a wide selection of products.

Furthermore, African companies involved in third-party e-commerce play a crucial role in empowering local businesses, particularly small and medium-sized enterprises (SMEs). These platforms provide a level playing field for SMEs to compete in the digital marketplace, leveling the economic landscape and fostering entrepreneurial growth. By leveraging the power of e-commerce, African companies enable smaller sellers to overcome traditional barriers to entry, such as limited financial resources and limited physical infrastructure, while connecting them to a broader customer base.

To ensure the success of their online platforms, African companies engaged in third-party e-commerce must address various challenges. One of the key considerations is establishing robust mechanisms for trust and transparency. Building trust between buyers and sellers is essential to foster a secure and reliable e-commerce ecosystem. This involves implementing effective verification processes, ensuring accurate product descriptions, facilitating secure payment methods, and addressing customer concerns promptly.

Logistics and order fulfillment are also critical components of third-party e-commerce. African e-commerce startups need to establish efficient delivery networks and partnerships to ensure timely and reliable product shipments. This includes addressing challenges related to last-mile delivery, optimizing supply chain management, and providing tracking mechanisms to enhance the customer experience.

Additionally, these businesses must navigate regulatory frameworks and legal considerations to operate within the boundaries of the law. Compliance with consumer protection laws, data privacy regulations, and intellectual property rights is crucial for maintaining credibility and fostering customer trust. By upholding ethical and legal standards, these companies can create a secure and reliable online environment that protects the rights and interests of all stakeholders.

#### E-COMMERCE AND THE ONLINE FOOD DELIVERY



Since the emergence of the global pandemic in early 2020, the landscape of business operations and human activities in general has undergone a significant transformation, driven by the adoption of digitalization. This transformation has been particularly pronounced in the realm of e-commerce, where companies are increasingly leveraging online platforms to connect with customers and drive sales.

One sector that has experienced significant growth and adaptation in the digital landscape is the online food delivery market.

Local producers and restaurants have readily embraced this evolution, utilizing online platforms to reach new customers and expand their businesses. Moreover, key delivery startups in the online food delivery sector, such as Jumia, Glovo, and Hubtel have played a pivotal role in reshaping the supply chain and facilitating the entry of new participants into the market.

Consumers are increasingly seeking quick and hassle-free options for their meals, and online platforms have become the go-to destination for discovering a diverse range of food choices. By embracing e-commerce, local food businesses have not only managed to retain existing customers but also tap into new market segments that were previously inaccessible.

These platforms have not only provided a marketplace for restaurants and food vendors to showcase their offerings but have also revolutionized the supply chain by introducing efficient logistics and delivery services. This has allowed smaller, independent food businesses to enter the market and compete on an equal footing with established players, fostering a more diverse and competitive landscape.

The continued growth and evolution of e-commerce in the food sector is expected to reshape the way we interact with food in Africa. As the African e-commerce market continues to embrace digitalization, the future holds immense potential for further innovation and expansion in the e-commerce space.

#### CONTEMPORARY LEGAL ISSUES IN THE E-COMMERCE INDUSTRY



The e-commerce industry in Africa is experiencing a remarkable surge, driven by advancements in technology and increasing internet penetration.

However, consumers engaging in e-commerce face various risks stemming from a lack of understanding regarding internet operations. This challenge is compounded by a range of legal issues that have been largely addressed in more technologically advanced countries but continue to be grappled with in developing nations across the continent, where online commerce is still relatively new.

These issues include the extent to which the communication between the parties is protected (data protection), taxation, the formation of contracts on the Internet, determining appropriate methods of payment in e-commerce, resolving jurisdictional disputes that may arise from Internet contracts, and establishing the applicable laws governing such transactions.

Additionally, the rise of cybercrimes poses a threat to e-commerce, and there is a need to establish reliable methods for evidencing internet-related transactions.

These reasons call for a robust e-commerce regime and necessary protection to ensure that consumers are safe online:

■ **Privacy and Data Protection:** Privacy and data security are significant concerns in the e-commerce industry in Ghana. With the increasing reliance on digital platforms for transactions, consumers are becoming more cautious about the protection of their personal information. The collection, storage, and use of customer data by e-commerce companies raise questions about privacy rights and data security measures.

Ghana recognizes the significance of safeguarding privacy and data security in the e-commerce industry. As provided in the 1992 Constitution, the right to privacy is enshrined as a fundamental human right. In line with this constitutional provision, Ghana has taken a proactive approach by enacting robust legislation specifically addressing data protection and privacy known as the Data Protection Act 2012, (Act 843).

Act 843 is a comprehensive legal framework that has been in operation for a decade, ensuring the protection of personal data in various sectors, including e-commerce.

As the digital marketplace continues to expand, a significant amount of consumer data is being collected and stored across various e-commerce platforms and servers. It is the responsibility of institutions or businesses that handle this data (referred to as data controllers) to ensure that it is processed in a lawful and reasonable manner without infringing on the consumers' rights.

Processing a consumer's data without their consent is not permissible under the law. However, there are certain exceptions allowed by law, such as when the processing is necessary to protect the consumer's legitimate interests, required for the performance of a contract, authorized by law, or pursued in the legitimate interest of the data controller. Unless permitted by law, consumers engaged in e-commerce transactions have the right to object to the processing of their data.

The law requires data controllers to register with the Data Protection Commission. The Commission grants a certificate of registration after registration, and this certificate is renewed every two years.

■ **Taxation:** In Ghana, businesses that are registered and operate within the country are required to adhere to various tax laws depending on the nature of their activities. These tax obligations encompass a wide range of taxes, including corporate, transfer, excise, sales, property, and value-added tax (VAT).

For foreign businesses operating remotely in Ghana, the establishment of a permanent presence through an independent agent may lead to the same tax obligations as local businesses. In such cases, the Ghana Revenue Authority (GRA) considers these foreign businesses to have a permanent establishment and imposes the same tax responsibilities as if they were registered entities in Ghana. Even if a foreign business does not have a permanent establishment, it is still required to fulfill VAT obligations as stipulated by the law.

As part of the government's efforts to promote voluntary tax compliance and embrace digitalization, Ghana has since 1st April 2022 introduced an e-commerce and digital services registration portal. This platform aims to collect an 18.5% tax from non-resident companies such as Netflix, Alibaba, Amazon, Google, and online betting platforms.

The implementation of this tax was projected to generate approximately ¢2.7 billion (\$372 million) for the state in its initial year. This measure is designed to ensure that all institutions, regardless of where they operate, contribute their fair share of taxes.

Also, in compliance with the new changes in the VAT legislation in Ghana, the ride-hailing startup Uber B.V. is now mandated under legislation to apply VAT charges to its services, effective from 8th May 2023. Customers will notice a VAT charge on Uber's service fee reflected in their payment statements, calculated at a rate of 21.9%. Uber will then fulfill its obligation by remitting the collected VAT to the Ghana Revenue Authority (GRA).

■ Intellectual Property: In the evolving landscape of e-commerce in Ghana, intellectual property (IP) rights serve as the foundation for fostering innovation, creativity, and economic progress. In this digital era, where online transactions and digital content distribution have become the norm, protecting, and respecting intellectual property is vital for the growth and sustainability of businesses operating in the e-commerce space.

Two key types of intellectual property (IP) that are relevant to the e-commerce industry are copyright and trademark. Copyright grants businesses an exclusive right to reproduce, publish, or perform original literary, artistic, or audiovisual works. This right typically applies to images and other published materials featured on their websites or social media platforms.

Additionally, copyright protection extends to the software that underlies online platforms. In Ghana, copyright protection for corporations lasts for 70 years, while for individuals, it extends for their lifetime plus an additional 70 years after their death.

As an owner or operator of an e-commerce platform, it is therefore essential to register your copyright and display copyright notices prominently on your platform.

One effective method of safeguarding intellectual property is by utilizing digital watermarks, which involve embedding undetectable digital codes within digital images or audio files posted on the platform. Additionally, it is imperative to seek permission from the copyright holder before utilizing any copyrighted material, such as images, audiovisuals, or publications, on an e-commerce platform.

Trademark registration provides protection for distinct names, logos, and the visual representation of goods and services. This protection remains valid for ten years from the date of application. Preserving these elements of a business is crucial as they contribute to its brand identity.

Similar to copyright protection, a business can assert its trademark rights through terms of service agreements. Operators of e-commerce platforms must avoid making false trade descriptions that infringe upon the trademarks of other businesses. Moreover, website designers or owners should avoid using any trademarked logos, names, or identifying marks without obtaining permission from the rightful owner.

By understanding the significance of IP rights in e-commerce, businesses in Ghana can proactively protect their innovations, brand assets, and digital content. It not only ensures the sustainability and growth of individual enterprises but also contributes to the overall development of a vibrant and thriving e-commerce ecosystem in the country.

■ **Consumer Protection:** In Ghana, the e-commerce consumer protection regime is not one-dimensional but fragmented with many legal and regulatory frameworks governing different sectors and institutions and consists of both public and private law mechanisms.

From a Common Law perspective, consumers can rely on contract and tort law principles to address consumer protection issues. In terms of legislation, the Electronic Transactions Act, 2008 (Act 772) and Payment Systems and Services Act, 2019 (Act 987) have provided consumer protection provisions for transactions made online.

Act 772 serves as the primary legislation governing e-commerce activities, including online marketplaces, in Ghana. It establishes the legal recognition and validity of electronic transactions while also outlining the legal and regulatory framework that governs electronic commerce in the country.

Act 987 governs the regulatory oversight of payment, clearing, and settlement systems, as well as the activities of institutions engaged in electronic money business and payment services in the e-commerce space.

The Act has also outlined specific consumer protection provisions. These provisions codify the established international principles of financial consumer protection such as the equitable, honest, and fair treatment of all customers, especially vulnerable groups, disclosure and transparency, and data privacy among others.

While the existing regulations are laudable, they fall short in providing sufficient protection for consumers involved in e-commerce.

There is, therefore, a pressing need to develop a robust consumer protection law that encompasses crucial aspects often neglected, including fair advertising and marketing practices, online auction sales, and establishing reliable confirmation procedures for online transactions. By addressing these pertinent consumer concerns, we can ensure a more secure and transparent environment for e-commerce activities.

\* **Cybersecurity:** The issue of cybersecurity is of paramount importance in the e-commerce industry in Ghana, particularly in light of the increasing frequency and sophistication of cyber threats.

The Cybersecurity Act, 2020 (Act 1038) plays a critical role in addressing these concerns by providing a comprehensive legal framework for the protection of information systems and networks. Act 1038 creates the Cybersecurity Authority which is mandated to regulate cybersecurity activities in the country. The Authority is mandated to establish codes of practice and standards for public and private sector owners of critical information infrastructure. The Authority is also to certify cybersecurity products and services in accordance with established standards.

This centralized authority enables proactive monitoring, detection, reporting, and response to cyber incidents that may impact e-commerce platforms and their users. The Act also emphasizes the importance of risk management and requires entities engaged in e-commerce to implement robust cybersecurity measures. This includes adopting appropriate security protocols, conducting regular security assessments, and implementing safeguards to protect sensitive customer information.

#### **CROWDFUNDING: A GROWING FINTECH TREND IN GHANA**



In recent years, crowdfunding has emerged as a powerful tool within the realm of financial technology (fintech) disrupting traditional funding channels and democratizing access to capital in Ghana. It has revolutionized the way entrepreneurs, startups, and social enterprises raise capital to fund their projects and ventures.

Ghana, a country known for its vibrant entrepreneurial ecosystem, is no exception to this global trend. Crowdfunding has gained significant traction in Ghana, providing a new and innovative financing option for individuals and organizations seeking capital, as well as fostering entrepreneurial growth.

According to Statista,<sup>1</sup> the transaction value in the crowdfunding market in Ghana is projected to reach US\$32.56k in 2023, with an average funding per campaign of US\$127.90. It is further reported that the crowdfunding market will see an Annual Growth Rate of CAGR of 6.17% in transaction value between 2023 and 2027.

The growth of the crowdfunding market can be attributed to several factors, such as the growing acceptance of crowdfunding as a legitimate means of fundraising, the increasing accessibility of crowdfunding platforms, the rise of social media, and the impact of the COVID-19 pandemic on online fundraising.

#### REGULATORY FRAMEWORK FOR CROWDFUNDING

Crowdfunding is a form of digital capital raising that allows individuals or groups to collect small sums of money from a large number of people to fund projects or causes, typically through the Internet. Crowdfunding has become a growing fintech trend in Ghana, as more people use online platforms or mobile money wallets to support various initiatives, such as business ventures, charity works, or creative endeavors.

According to the Bank of Ghana, there are four types of crowdfunding models: equity crowdfunding, peer-to-peer lending or debt crowdfunding, donation crowdfunding, and reward crowdfunding. Equity crowdfunding and peer-to-peer lending involve the investment of funds and are regulated by the Securities Industry Act, 2016 (Act 929).

Ordinarily, the Bank of Ghana only provides licensing approval for donation and reward crowdfunding models, as these models require the ability to perform payment services that are covered by the Banks and Specialised Deposit-Taking Institutions Act, 2016 (Act 930). Donation crowdfunding and reward crowdfunding involve the collection, holding, and disbursing of payments and are regulated by the Payment Systems and Settlement Act, 2019 (Act 987). Additionally, Dedicated Electronic Money Issuers (DEMIs) can also provide these services under their license as defined in Act 987. However, the funds collected must reside in a wallet with transaction limits applying. The Bank also requires enhanced due diligence for merchant wallets that are created for the collection of donations. Equally, Enhanced Payment Service Providers, under the permissions of Act 987 can perform the crediting and debiting functions under this type of crowdfunding model but will need to partner with a bank or specialized deposit-taking institution to fully deliver the service and secure license approval from the regulator.<sup>2</sup>

However, Equity and Debt models involve the investment of funds, and investment is not within the permissible activities of any institution licensed under Act 987. Thus, any entity in that category would have to partner with another entity that is duly regulated under the Securities Industry Act, 2016, Act 929, to seek approval. To this end, Equity and Debt crowdfunding would also require the approval of SEC to operate.<sup>3</sup>

Importantly, the Securities and Exchange Commission (SEC) of Ghana is set to rollout the GHANA SECURITIES INDUSTRY (CROWDFUNDING) GUIDELINES to regulate and promote the growth and development of an efficient, fair, and transparent securities market for crowdfunding activities. The guidelines cover the general provisions, requirements, obligations, and restrictions for the participants of crowdfunding, such as issuers, investors, and crowdfunding intermediaries. It also specifies the disclosure and reporting obligations for the issuers and the crowdfunding intermediaries, as well as the prohibited activities and non-permitted issuers for crowdfunding transactions.

#### LICENSING REQUIREMENTS FOR CROWDFUNDING4

No.	Туре	License Approval	Regulatore Body
1	Donation/Reward	Enhanced Payment Service Provider and Dedicated Electronic Money Issuer (DENI) in partnership with a Bank or Specialized Deposit-Taking Institution (SDI)	Bank of Ghana
2	Equity	Banks, Specialized Deposit-Taking Institution (SDI), Enhanced Payment Service Provider and Dedicated Electronic Money Issuer (DEMI) in partnership with an approved entity by the Securities and Exchange Commission (SEC)	Bank of Ghana Securities and Exchange Commission (SEC)
3	Debt	Banks, Specialized Deposit-Taking Institution (SDI), Enhanced Payment Service Provider and Dedicated Electronic Money Issuer (DEMI) in partnership with an approved entity by the Securities and Exchange Commission (SEC)	Securities and Exchange Commission (SEC)

#### THE GROWTH OF CROWDFUNDING IN GHANA

In Ghana, crowdfunding has experienced remarkable growth and popularity, driven by a number of factors that have created a fertile environment for its success. Ghana's vibrant entrepreneurial ecosystem, combined with the rapid expansion of fintech and widespread internet accessibility, has laid the foundation for crowdfunding platforms to thrive.

The emergence of fintech solutions has transformed the entire crowdfunding landscape, streamlining processes from initial fundraising campaigns to secure transactions and transparent fund tracking. By harnessing digital platforms and mobile applications, fintech has empowered individuals to connect effortlessly with a global network of potential backers, expanding the reach and impact of crowdfunding initiatives. Moreover, fintech has introduced innovative financial instruments like peer-to-peer lending and equity crowdfunding, allowing investors to actively participate in funding opportunities and share in potential returns.

Increasingly, startups, small businesses, and social enterprises are turning to crowdfunding as a means to overcome traditional funding challenges and bring their innovative ideas to fruition. By leveraging technology and online platforms, crowdfunding connects entrepreneurs with potential investors or donors who are eager to provide financial support. Notable crowdfunding platforms in Ghana, such as GoFundMe, Co-Fundie, Kwidex, Chango, Airfunding, and Nserewa, cater to diverse sectors like social entrepreneurship, technology, agriculture, healthcare, and construction.

Crowdfunding holds immense potential to fuel the growth and development of various sectors in Ghana by providing access to alternative sources of funding. Its advantages include increased capital accessibility, fostering innovation, creating social impact, expanding networks, and reaching broader markets. Additionally, crowdfunding has played a pivotal role in addressing the funding gap that often hinders small businesses and startups in Ghana.

By leveraging the power of social networks and online platforms, entrepreneurs can overcome traditional financing obstacles and secure the necessary capital to launch and scale their ventures. This has not only contributed to the growth of the local economy but also generated employment opportunities and stimulated innovation.

As crowdfunding gains momentum in Ghana, it is crucial to acknowledge and address potential challenges and risks associated with this funding model. Ensuring transparency, accountability, and investor protection should be prioritized to foster the sustainable growth of the crowdfunding ecosystem. The development of regulatory frameworks and industry standards will safeguard the interests of all stakeholders involved and maintain the trust and credibility of crowdfunding platforms.

#### CONCLUSION

Crowdfunding is an emerging fintech trend that holds great promise for Ghana's entrepreneurial ecosystem. By leveraging advanced technologies and digital platforms, fintech has overcome traditional limitations, allowing crowdfunding to flourish on a global scale. It has and keeps providing an alternative method of financing, breaking down barriers to capital access and encouraging innovation.





StartOA, a leading strategic fintech investment, and advisory firm, is making significant strides in the local fintech industry and expanding its presence into new and emerging markets. With a strong focus on helping founders unlock growth capital, access strategic advisory services, and expand their operations, StartOA is committed to driving fintech innovation across the continent.

In recent months, StartOA has been actively engaging with investors, industry experts, and founders, sparking meaningful conversations about fintech investments, trends, and future prospects. These engagements have provided valuable insights and paved the way for exciting opportunities in the fintech ecosystem.

As part of its ongoing efforts to foster innovation and collaboration, StartOA is pleased to announce the launch of its flagship program, Upscale. This exclusive program offers a unique opportunity for ten promising startups in at least three fintech markets to pitch their ideas to investors for potential funding and partnership opportunities. The Upscale program will feature a deal-room style event, providing a platform for founders to showcase their innovations and connect with key stakeholders in the industry.

StartOA is dedicated to strategically partnering with and supporting founders who are building groundbreaking and compelling innovations in the fintech space. By providing access to funding, industry expertise, and a network of investors, StartOA aims to empower these visionary entrepreneurs and fuel their growth and success.

With its strong track record and commitment to driving fintech innovation, StartOA is well-positioned to play a pivotal role in shaping the future of the industry. By identifying and backing high-potential startups, StartOA is contributing to the growth and transformation of the fintech landscape across the continent.

In pursuit of its investment commitment, it has developed the Upscale Pitch Event, an initiative geared towards connecting digital e-commerce and fintech startups with potential investors and funding partners. The application process for this event has concluded, and StartOA is presently in the process of evaluating the submitted applications.



## THE FUTURE OF MONEY: ROLE OF EMERGING TECHNOLOGIES AND NEW BUSINESS MODELS



Some 55 years ago, innovation trends in the banking sector and the use of money fueled general speculations about the future of money. In a comment on the raging speculations at the time, Jack Lefler in the July 24, 1968 edition of the Las Cruces Sun-News (Las Cruces, NM) noted that "As a result of the proliferation of credit cards, there has been widespread speculation about the possibilities of a checkless, cashless society in the future". However, for more than 5 decades, cash is still king despite an apparent trend toward a cashless society.<sup>5</sup>

It is also evidently true that in the last three (3) years, we have witnessed tremendous changes to our ways of work and life than we experienced some decades ago. This is largely due to the advances in emerging technologies, global responses to global challenges such as the Covid-19 pandemic, and the surge in entrepreneurial pursuits resulting in new Startups leveraging the opportunities of advanced technologies to address existing and new consumer pain points. The result has been the digitalization of almost all activities including using money. And rightly as noted by Dan Schulman, CEO of PayPal, "Physical money, whether it's checks or cash or credit card, is digitizing in front of us".

The trend of emerging technologies, their uses, and large-scale adoptions through new business models is influencing the current wave of changes and cannot be discounted in any prediction of the future of money. This is as a result of money (cash) demonstrating the tenacity to remain king in spite of the long history of innovations that have underpinned developments in the global financial sector for decades.

It is instructive to note that the global financial sector, and Ghana's financial sector in particular is undergoing various structural and operational changes influenced by several factors which this article cannot comprehensively discuss. Therefore, this article only aims to assess how some of the emerging technologies and new business models with significant impact on the global financial sector may influence the future of money.

#### MONEY TODAY - THE CONTINUING EVOLUTION

According to Koenig & Bauer<sup>6</sup> "Cash works but it could work better. No other payment tool enjoys such a unique range of defining attributes, ease of access and use, simplicity, or resilience. As humans, we can, and we do depend on cash. Today cash and in particular, banknotes, represent the bedrock of economic stability, trade, social inclusion, and freedom to exchange value." This is an apt representation of money (cash) and is most appropriate for this context.

Money in its current form - banknotes and coins have undergone various forms of transformations over centuries. In tracing its early development, Citi GPS<sup>7</sup> noted that "... around 3500 BC, money moved from clay tokens to clay tablets. Precious metal-based money followed, with coins circulating in Asia Minor around 550 BC. Paper money was invented by the Chinese, initially starting as promissory notes during the Tang Dynasty (618-907 AD)".

The characteristics – universality of acceptance, the finality of transactions, and anonymity and uses - of the early developed forms of money remain uniquely tied to modern forms of money. Today, money continues to essentially serve three (3) historical functions namely:

- 1) As a unit of account, assisting in measuring the value of a particular good or service;
- 2) As a medium of exchange (payment) for paying for goods and services; and
- 3) As a store of value, which can be saved, retrieved, and exchanged at a later time.8

Banknotes have been around for centuries and the way they are used, moved, and accessed has evolved in line with public needs and technological advances. Today, money (banknotes) continues to enjoy universal acceptability due to its ability to provide comprehensively for what consumers value in a payment instrument – trusted as legal tender; has a near 100% availability and reliability; consider free of charge to use; retains anonymity; offers direct settlement; offers a safe haven and fallback; tangible and helps with budgeting and offers inclusion in a national payment tool for marginalized sectors of society9

Banks - first established in 1474 in the Tuscan city of Siena have developed as part of the institutional arrangement to regulate the use of money. In Ghana, the earliest banking activities started in 1896, when the Bank of British West Africa (which later became Standard Chartered Bank in 1985) opened its first branch in Accra. Today, the modern history of banking operations in Ghana has been facilitated by several financial sector reforms, policy initiatives, guidelines, and enactments key among them being the 1992 Constitution of Ghana and the Bank of Ghana Act, 2002 (Act 612) as amended and its allied legislations.

With constitutional authority,10 the Central Bank (the Bank of Ghana) exercises the sole responsibility for the issuance of the national currency - the Ghana Cedi ( ), a central bank-backed currency also referred to as "fiat money". As it relates to its mandate, the Bank of Ghana also regulates, licenses, and supervises commercial and retail banking activities facilitating the use of money in Ghana. This regulatory and operational structure, consistent with global practice has enabled the development and use of money in Ghana.

Over the years, an overarching goal of regulations, 11 policies, and initiatives 12 that have underpinned the development of the financial sector and the use of money in Ghana has been the promotion of "financial inclusion for all". This goal reflects the vision of the current National Financial Inclusion and Development Strategy (NFIDS) (2018 – 2023) which is "increasing the availability of a broad range of affordable and quality financial services that meet the needs of all Ghanaians and are provided by sound, responsible, and innovative financial institutions".

Although the NFIDS is still under implementation till the end of the year, a survey by the Ministry of Finance – the Official Ghana Demand Side Survey 2021 - to measure the impact of the various policy interventions and programs has revealed tremendous progress in bridging the financial services gap for Ghanaians.

According to the survey, financial access has increased from 41% in 2010 to 95% in 2021 for formally served (collectively served by banks and other formal financial institutions) surpassing the target of 85% by 2023. Equally, financial access for other formal (non-bank) financial institutions increased from 20% in 2010 to 94% in 2021 driven largely by Mobile Money (MoMo) which had an 87% contribution. Consequently, the excluded population from financial services reduced from 44% to 4% within the same period bridging the unbanked population gap and pushing Ghana to the 2nd position as Africa's "least financially excluded country".

With the high recorded financial inclusion rates, access to key financial services in terms of savings and investments; borrowing and credits; insurance and risk; and remittances have been enabled for a growing percentage of Ghanaians who hitherto had no access. Innovations within the financial sector notably Mobile Money are accounting for these new opportunities and possibilities of financial sector participation by all. Mobile Money agents have become the closest financial service providers within 30 minutes of reach for 92% and 76% of urban and rural adults respectively with bank branches, ATMs, and Microfinance Institutions (MFIs) remaining the least accessible.<sup>13</sup> Mobile Money agents have grown to become an important part of every mobile network service, by continuously driving industry expansion and being responsible for two-thirds of all cash-in transactions in the year 2022 according to GSM.<sup>14</sup>

Mobile Money has become a mainstream financial service in Ghana, reflecting the dominance of payment solutions in our fintech ecosystem. Despite the enactment and implementation of the Electronic Transfer Levy Act 2022 (Act 1075) as amended, introducing a 1% tax on any electronic transfer including Mobile Money above the daily threshold amount of GHS100.00, Payment System Data published by the Bank of Ghana still shows a significant increase in MoMo transactions from a total transaction volume of 365 million with a total value of 76.8 billion in February 2022 to 497 million and 134 billion respectively in February 2023<sup>15</sup>. Globally, digital transaction value grew by 22% between 2021 and 2022 from \$1 trillion to around \$1.26 trillion while the share of cash-based transactions in the overall transaction mix declined, with cash-in and cash-out transactions dropping nearly 2% due to the significant rise in digital transactions particularly interoperable bank transfers and bill payments according to GSM16. Digital payments, as a category of digital transactions according to Capgemini Invent<sup>17</sup>, will grow from approximately \$87 billion currently to more than \$200 billion by the year 2028 with Peer-to-Peer lending also growing from an approximate \$80 billion to more than \$700 billion by the year 2030.

Rightly noted by the CBN<sup>18</sup>, the growth in the payment market will be driven by emerging trends such as Request for Payment (RfP); virtual cards; contactless card payments; near field communication (NFC) on mobile devices, wearables, and internet of things (IoT); USSD payments; quick response (QR) codes; voice-initiated payments through services such as Alexa, Siri, and Google Assistant among others. The switch to electronic payments will further be accelerated by interoperability and the exchange of cash for digital counterparts; the mobile-first generation preferring instant access to funds than long queues in traditional banks; the continued adoption of mobile and digital wallets for end users and merchant accounts and the emergence of frictionless payments which will remove the need for one-time passwords (OTPs).<sup>19</sup>

With the recent rise in digital forms and uses of money, the use of traditional banknotes and coins is set to decline. While the power of financial innovations – functionality, and relevance - is important in driving change, the changes in the use of money can primarily be attributed to regulatory responses and permissions. The enactment of enabling legislations, the setting up of a new functional supervisory office at the Central Bank for new financial technology innovations<sup>20</sup>, and the implementation of government policy initiatives<sup>21</sup> have created a coordinated approach to harnessing the benefits of a shift from cash to digital payments by developing a national inclusive digital payments ecosystem where every individual can make and receive payments digitally.<sup>22</sup> Nonetheless, the attitude and response of innovators, the government, and the regulator are not suggestive of the intention to replace money – in the form of banknotes and coins. At best, the structural shift from cash to digital is to drive a "cash-lite (light)" economy where consumers will use less physical cash and transact predominantly using licensed and permitted digital platforms. To this end, money in the form of banknotes and coins will remain relevant in the disruptive digital financial era and co-exist with alternatives in the growing multi-payment ecosystem as banknotes in circulation have grown over 400% since the introduction of the first ATM in 1967<sup>23</sup>.

#### THE FUTURE OF MONEY: PROPHESIES AT BEST

Fundamentally, the three historical functions of money – use as a unit of account; the medium of exchange, and the store of value - will not change going forward. This is likely the only certainty one can predict about the future of money. The goal to displace cash as noted by the Central Bank of Nigeria (CBN)<sup>24</sup> "through a cashless and efficient electronic payment system infrastructure that facilitates financial services in all the sectors of the economy and provides secured, reliable, and user-centric financial solutions in compliance with international standards" is taking center-stage in regulatory efforts across the world to manage money now and in the future.

To maintain sovereign control over the issuance and use of money, Central Banks across the world are amplifying efforts to define, regulate or outrightly ban and build stronger oversight over new forms of money being pursued by private players as ways of democratizing the control of Central Banks over the issuance and use of money.

The competition for the future of money is bound for two ends – one end driven by the continued desire by Central Banks and/or governments to centralize, issue, and control the current form of money (fiat) and its emerging digital versions – Central Bank Digital Currencies (CBDCs) and the other being to permit the decentralized and independent private limited supply of money facilitated by emerging technologies such as blockchain - as the case of Cryptocurrencies. This competition is further reflected in the state of the two regulatory worlds. First, the adoption of a regulatory regime for the issuance and use of fiat money with consistent improvements that enhance the security and durability of banknotes as the stable and widespread use of fiat money has increased over the years. On the other hand, an unregulated regime and/or outright bans dominate the growing interest in digital currencies.

The International Monetary Fund (IMF) describes CBDCs as new forms of money with three particular characteristics<sup>25</sup>:

- 1) They are in a digital/electronic form;
- They are issued by a country's central bank; and

<sup>20</sup>Fintech and Innovations Office at the Bank of Ghana <sup>21</sup>Such as "Toward a Cash-lite Ghana – Building an inclusive digital payments ecosystem", the National Payment Strategy, Digital Financial Services (DFS) policy among others. <sup>22</sup>Ministry of Finance, Toward a Cash-lite Ghana – Building an inclusive digital payments ecosystems: Digital Payments Roadmap

<sup>23</sup>Koenig & Bauer (n 2).

TBOSSU, Itatani, Margulis, Rossi, Weenink and Yoshinaga, Legal Aspects of Central Bank Digital Currency:

Central Bank and Monetary Law Considerations, November 20, 2020) https://www.imf.org/en/publications/wp/issues/2020/11/20/ (accessed May 4, 2023)

#### 3) They are intended to serve as a legal tender.

These defining characteristics make Central Banks the only institutions with the authority to issue and regulate CBDCs. And Central Banks are participating fully in the disruptive digital evolution and taking advantage of emerging technologies to pilot and roll out various forms of CBDCs. According to Citi GPS, to be able to issue and control CBDC as a digital form of fiat money, Central Banks must either elect to centralize CBDCs through a single proprietary system or through a decentralized system using distributed ledger technology (DLT).

Additionally, Central Banks must contend with the type of CBDC to issue and regulate. As noted by Henri Arslanian<sup>26</sup>"...there are two types of central bank digital currencies — wholesale CBDCs and retail CBDCs. Wholesale CBDCs are issued by the central bank but operate between the central bank and member banks. The public does not touch wholesale CBDC. By contrast, retail CBDC is a digital currency accessed by the public, like a digital banknote. Retail CBDCs can have a significant impact on the financial services ecosystem. We can segregate wholesale CBDC into two — the first is national wholesale CBDC, which is the use of wholesale CBDC within a country. Although there are pilots, their impact is likely to be limited as many countries already have well operating national payment systems like Real Time Gross Settlement (RTGS) networks. Although they may not be perfect, they work fine. So, there is not much urgency there. The second category of wholesale CBDCs are cross-border CBDCs, which although more complicated, are interesting as the system today has a lot of flaws, with a clunky network of correspondent banks and legacy systems. This is one area a lot of central banks have been trying to explore if they can improve with CBDCs. However, CBDCs are likely to have a bigger impact at the second type - retail CBDC.

Within retail CBDCs, we have three main categories. First is a two-tiered retail CBDC. In such a case, the central bank issues a retail CBDC, but it is issued via regulated intermediaries, e.g., banks. As a result, it does not disintermediate banks. It is similar to how things operate today, with the exception that the public has access to a digital form of central bank money (same way banks distribute physical banknotes via an ATM). China, the Bahamas, and some pilots in Sweden are good examples of a two-tier retail CBDC.

The second model is synthetic CBDCs, where the central bank allows tech firms and others access to a central bank account. These firms can issue stablecoins backed by central bank reserves. Unlike a bank and a fractional banking model, these stablecoins are backed 100% with reserves at the central bank. This idea was advanced by the IMF two years ago and is not too dissimilar to the debate that took place in the U.S. around narrow banking a couple of years back.

The third form of retail CBDC is when the central bank works to create a tech platform allowing banks and non-bank FinTechs to participate. The Bank of England and even Sweden's Riksbank were leaning towards such a model".

The complexities surrounding the type of CBDC to adopt and the lack of uniformity account for the delays in widespread rollout by Central Banks across the world. As of the end of March 2023, according to a research briefing published by the House of Commons Library<sup>27</sup>, only 4 CBDCs<sup>28</sup> were operational and 114 other countries<sup>29</sup> were exploring the concept, with the Bank of England saying it has no plans yet to introduce a digital pound - and would not be deciding on its introduction for several years to come.

<sup>&</sup>lt;sup>28</sup>External Expert View, Henri Arslanian on CBDC published in Citi GPS: Future of Money – Crypto, CBDCs and 21st Century Cash (2021)

<sup>29</sup>Browning and Evans, Central Bank Digital Currencies, The Digital Pound, 8 March 2023) <Central bank digital currencies: The digital pound - House of Commons Library (parliament.uk)> accessed May 4, 2023

<sup>29</sup>One of such countries is Nigeria where eNaira has been rolled out.

<sup>29</sup>The Bank of Ghana has concluded the piloting of eCedi and is reviewing the results for a possible commercial rollout.

Apart from investments into new technologies, systems, people, and processes to support the rollout of CBDCs, most Central Banks are struggling with how to align implementation to the existing developed financial sectors. As a guide, the Bank of England together with the Bank for International Settlements published a report on the "foundation principles" that must guide the implementation of CBCDs citing three key principles:

- 1) CBDC should coexist with cash and other types of money in a flexible and innovative payment system
- 2) Any introduction should support wider policy objectives and do no harm to monetary and financial stability
- 3) Features should promote innovation and efficiency<sup>30</sup>

Despite the challenges of policy considerations underlying the rollout of CBDCs by Central Banks, CBDCs have immense advantages which according to the CBN include the reduction in the cost of cash management; prevention of counterfeiting due to its cryptographic design; allowing real-time auditing and tracking, facilitating better compliance with Anti-money laundering (AML) and Counter Financing of Terrorism (CFT) frameworks; improving payment efficiency; fostering competition and control among others<sup>31</sup>. Additionally, CBDCs have the potential to act as an interoperable payment instrument and a tool for bank reserves, balance sheets, and liquidity management for central banks and commercial banks<sup>32</sup>.

The ability of Central Banks to manage the related risks associated with the rollout of CBDCs will have significant impacts on its adoption and use by private citizens. As noted by Citi GPS, CBDCs have inherent risks relating to the following:

- 1. Central banks competing with private players
- 2. Loss of privacy due to the risk of excess surveillance as transactions will not be anonymous unlike traditional cash transactions
- 3. Loss of bank deposits
- 4. Limited uptake as demonstrated by the rollout in Nigeria where less than 0.5% of Nigerians are using the eNaira.33

The above considerations however will not discourage Central Banks from the ongoing CBDC framework evaluations for commercial rollouts. The world of money is being turned on its head with CBDCs of major currencies coming our way towards the second half of this decade. We could have \$5 trillion of CBDCs circulating in major economies in the world and could be used by 2-4 billion users globally by 2040<sup>34</sup> and Ghana<sup>35</sup> may not be an exception to the growing phenomenon.

A CBDC is central bank-issued digital money denominated in the national unit of account and represents a liability of the central bank<sup>36</sup>. This essential characteristic is the point of departure for CBDC from other forms of digital payment instruments currently being pursued by private entities.

The issuance, control, and supervision of money have historically been the preserve of public institutions led by central banks. However, we are witnessing an ongoing challenge by private institutions to democratize and break the public monopoly over the issuance and use of money through leveraging advanced technologies to create other digital formats of money. The result of this competition is the design of hitherto unknown and unused forms of digital "currencies" set by supply and demand known as "cryptocurrencies" - currencies that have no legal par value and public institutional liability backing.

35As eCedi has already been piloted and currently under review

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Cryptocurrencies are private digital and decentralized attempts at innovating digital payment instruments. Leading these innovations are Big Tech and other private entities. Big Tech has been focused on securing regulatory approvals for Stablecoins which are designed as block-chain-based digital currencies collateralized to the value of an underlying asset (usually a claim or a reserve). In the process, four approaches have been developed in the design of stablecoins namely fiat collateralization; commodity collateralization; crypto collateralization; and non-collateralization with fiat currencies such as the US dollar (USD), euro (EURO), or British pound (GBP) being the commonly collateralized stablecoins. Examples of stablecoins include Tether and USDC<sup>37</sup>.

Other cryptocurrency formats have aggressively been pursued up until November 2022 when the collapse of the world's second-largest cryptocurrency exchange platform, FTX, led to the historic joint warning by three US regulators – US Federal Reserve, Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency about the associated cryptocurrency risks including potential fraud, legal uncertainty, and misleading disclosures by digital asset firms. Bitcoin (BTC) and Ethereum which lead this category are designed on a peer-to-peer architecture which allows digital values to be transferred without a central authority such as the central bank. The reliance on cryptography – the mathematical process of encoding and decoding information helps in ensuring the security of transactions (over a decade of history of not being hacked), operating on an anonymous basis and without assigning control to any single participant. Developed as a decentralized crypto, BTC and others do not use a central repository which could wipe out all the holdings in case of a server crash or if a user misplaces his or her private key – a distinguishing characteristic from stablecoins.

In a long explanation of how Bitcoin works in reality, Citi GPS noted that "Bitcoin miners are computers running the Bitcoin core software client. Each instance of the software maintains a copy of the Bitcoin ledger or database. The Bitcoin ledger is maintained in the form of a chain of blocks in which each block stores the cryptographic hash of the previous block (hence block-chain). An owner of a Bitcoin, sends it to a receiver by signing a transaction and transmitting to the Bitcoin chain through a node. The transaction signature is created based on the (1) sender's private key; (2) receiver's public key; (3) transaction timestamp; and (4) transaction amount. The nodes verify the authenticity of the transaction.

All valid transactions are then put in a queue called 'Mempool' from where miners pull out the transactions and start bundling them in a block, the hash of which takes in individual transaction signatures, hash of the previous block and timestamp, and a random nonce to create hash of the current block. The hash of the new block must meet some conditions set by the Bitcoin protocol — this is the cryptographic puzzle that miners solve. Each block requires solving a different mathematical puzzle chosen from a very large set of similar puzzles. Each block's problem is equally hard to solve. In order to solve this mathematical problem, a lot of computational power is used (and thus a lot of electricity).

The 'proof-of-work' is the computational power expended to create a hash of the new block that meets the conditions set by the protocol and it is achieved through brute force by trying out different values of nonce as the input for hash function. Once the cryptographic puzzle is solved (Bitcoin protocol conditions are met), the miner then transmits the block to the network and other miners will verify it by looking for a random number that, once inserted into the hash function, yields the right number of leading zeroes in the output. Once verified, the block can be added to the blockchain and is distributed to all other nodes on the network. All the nodes in the network will update their copy of the Bitcoin ledger with this new block. The miner that mined the block will then be rewarded with a 'block reward' aka 'mined Bitcoins'. After the block is added to the chain, every block added on top of it counts as 'confirmation' for the block.

If the current blockchain is 625 blocks long and my transaction is in the 620th block — that means my transaction has 'five' confirmations.

It is referred to as a confirmation because every time another block is added on top of it, the blockchain reaches consensus again on the complete transaction history, including your transaction and your block. In other words, your transaction has been confirmed 5 times by the blockchain at that point. The more confirmations your transaction has, the deeper the block is embedded in the chain and harder it is for attackers to alter it<sup>38</sup>".

The complex chain of computerized operations driving Bitcoin innovations has been extended in decentralized finance (DeFi) by enabling complex P2P, mutualized, financial instruments and applications that run on smart contracts on public permission-less blockchains – mostly built on the Ethereum blockchain<sup>39</sup>. The programmability, transparency, permission-less, non-custodial, and lack of intermediaries among others make DeFi solutions attractive for consideration despite their risks and challenges.

Bitcoin and others are not developing without criticism. Many including Agustin Carstens, General Manager of the Bank for International Settlement continue to highlight 3 main issues - value stability, technical robustness, and efficiency as major concerns cryptocurrencies must address. And for skeptics such as Willem Buiter, Bitcoin remains, "an asset without intrinsic value, whose market value can be anything or nothing<sup>40</sup>

A full-scale analysis of all emerging digital payment instruments cannot be achieved in an article. It relates more to the back-end than the front-end results. Nonetheless, the true measure of the outcomes of the ongoing contest between a fully developed form of money – fiat and it's evolving digital version (CBDC) - controlled, issued, and supervised by a central authority and private decentralized efforts to eliminate intermediaries between participants in the use of money will greatly be influenced by regulatory responses and consumer adoptions in the coming years. It is an undeniable fact that the gig economy is upon us, and the digital revolution is amplifying the adaptation of everything digital. However, the dynamics of the current global financial sector do not offer a clearer picture for the prediction of the future of money with any degree of certainty. What will not turn out to be a fake prophecy is that money (in terms of banknotes and coins) will continue to co-exist with all emerging digital payment instruments - public and private. At worse, private decentralized efforts may fade and give way to the dominance of money and its digital versions - CBDCs - as two kings cannot rule over the same kingdom. And Jeremy Hunt is right to say that "Cash is here to stay"41

#### THE CHANGING LANDSCAPE - WHAT ARE THE ENABLERS

In the midst of the competitive challenge, the uses of traditional money – banknotes, and coins are not changing. People still use "money" either as a unit of account, a store of value, or as a medium of exchange. The changes we are experiencing are in the end user behavioral landscape influencing what money is being used for; advances in technologies permitting convenient, fast, and secure ways of payments and/or the use of money, and new business models that are pushing the conventional limits and innovating the forms and uses of payment instruments generally.

Emerging technologies have become a key enabler for the current changes and a likely future of the form and uses of money. And in the process, new business models are evolving as challengers to traditional financial service providers, some of which are considered below.

#### (I) THE NEW NORM: THE INFLUENCE OF EMERGING TECHNOLOGIES

Improvements in existing payment instruments such as cheques, banknotes, coins, etc. were made possible and have been enabled by technology. Moreso, the advances in technology drove the current development of digital payment tools and is enabling new ones such as CBDCs, cryptocurrencies - Bitcoin, and Stablecoins among others. In recent times, Artificial Intelligence (AI) has proven to be the foremost important driver of technology's influence on financial services. Although the influence of Al is being felt across all industries resulting in a high global adoption rate which according to McKinsey Digital was 2.5x higher in 2022 than in 2017<sup>42</sup>, it is the ability of AI to analyze large datasets (big data) and provide deep insights into payments flows offering the opportunity for the greater operational controls, risk management, fraud prevention, and data-driven decision making which makes AI uses exciting for the financial sector. 43

Al has been normalized and its capabilities are embedded in processes allowing automation, computer vision, natural-language text understanding, virtual agents, or conversational interfaces among others significantly improving the customer relationship management of service organizations. The field of AI has seen the fastest evolution. Innovations in terms of algorithms and modeling as well as in terms of technologies are accelerating. While the last few years have seen the democratization of deep learning and cloud computing, the next few years could bring algorithmic and technological disruptions, with the emergence of new paradigms (edge Al, low-code, etc.)44. Closely linked to AI is Machine Learning (ML). While AI illustrates the capacity of a computer system to mimic human cognitive functions such as learning and problem-solving, ML aids mathematical models of data to help a computer learn without direct instructions from humans with the possibility to continually learn and improve on its own based on its experience.

Following the increasing levels of automated processes and digitized transformations in financial services, service providers are leveraging AI and Machine learning in handling "Big data" and predicting market trends. A key enhancement to this technology is the Al-powered chatbot and virtual assistants which have been pre-programmed to provide solutions to customers through data analysis of consumer patterns over a period. Although these changes will not have any impact on the form of money, their relevance is in the operational advantages they provide to service providers in cutting down operational costs while efficiently serving customers' needs and making more accurate predictions.

Developing on the back of AI and ML is blockchain technology – a back-end infrastructure technology without a prominent consumer interface, unlike AI. Blockchains are a peer-to-peer network based on cryptography that creates a decentralized, immutable ledger that records information and transaction free from any central authority although could be private or public<sup>45</sup>. Its utility is underscored by its use in the design of new digital currencies like CBDCs either linked to distributed ledger technology (DLT) or not, enabling the transfer of financial value. All blockchains are DLT - a digital database held and updated by distributed network participants independent of any central authority. The process of the creation of tokens (tokenization) which are codes on a blockchain has enabled the trading and transfer of ownership and titles of value independently and directly via a digital ledger either as real-world assets or financial assets the basis of cryptocurrencies, stablecoins, and CBDCs. These are some of the real use cases of blockchain technology in the design of new payment instruments – providing open-source platforms that anybody can use and build on, spurring innovation and network effects, and giving rise to new, interoperable financial services and vibrant ecosystems.<sup>46</sup>

However, the successful adoption of blockchain into the mainstream requires the help of other technology enablers including decentralized digital identities, zero-knowledge proofs, oracles, and secure bridges<sup>47</sup>.

Technology generally holds the key to ensuring these enablers are enhanced in the bid to realize blockchain's full potential as the bedrock of emerging digital payment instruments.

**Internet-of-Things (IoT):** the collective invisible network of connected devices permitting communication between internet-enabled devices and cloud services. With this innovation, devices connected to the internet are integrated and powered to allow seamless connectivity and access over multiple smart devices such as computers, cars, mobile devices, wearables, and home appliances among others. The opportunity of IoT which is linked to the real-time collection and exchange of data across multiple smart devices, IoT applications, and graphical user interfaces is to allow financial service users to participate in emerging financial services on multiple connected devices. With 5G technology on the horizon, the opportunities for connectivity will become unimaginable.

Voice authentication, augmented reality, and virtual reality: Generally, people are preferring to talk than call or type as part of communication with others. And we are beginning to see the effects on the purchase journey of consumers where people are switching to the use of transactional commands through connected devices as part of their digital engagements. Voice authentication technologies are being built and adopted to provide security for transactions forming part of this wave of engagement. Further, being integrated into the purchasing processes are authentication methods using computer vision such as facial recognition, behavior biometrics, and gesture-based biometrics for a faster, and more secure online experience.

**Digital identity and user authentication technologies:** Gradually, the use of PIN will give way to new identity forms – normalization of digital identity and authentication. This will enable biometric-based verification at all end-user touchpoints for financial services, reducing fraud immensely. Two-factor authentication will become the minimum level of user authentication as more robust security systems which trigger notifications and alerts are emerging.

#### (II) THE BIG CHANGES: THE NEW BUSINESS MODELS

The banking (financial) sector which provides institutional support for the form and use of money is undergoing a drastic transformation. Quite rapidly, new service models underpinned by new financial services and products are emerging. These trends are contributing to the call for the complete digitalization of money including CBDCs, and cryptocurrencies.

Apart from Central Banks shaping the future of financial services through regulatory permissions and oversights, two key players – traditional banks and fintech companies are also driving new banking business models primarily focused on digital products and services with the aim of promoting financial inclusion for all.

To ensure a robust design and deployment of banking business models of the future, traditional banks must draw on their legacy capabilities such as the long history of operation & heritage, people, established business models, customers, and systems to attract the benefits of technology and innovation, speed, reduced cost of operation, potential reach, and youthful innovators available to fintech companies.

As noted by Capgemini Invent<sup>48</sup>, financial services of the future must be intelligent financial service products characterized by the ability to customize, advise, adjust, connect, personalize, contextualize, respect, adapt and interact. This means that traditional banks and fintech companies cannot focus their energies on competing but on collaborating to leverage their complementary advantages. The possibility of any of the following emerging business modes<sup>49</sup> to succeed will be highly dependent on such collaborations:

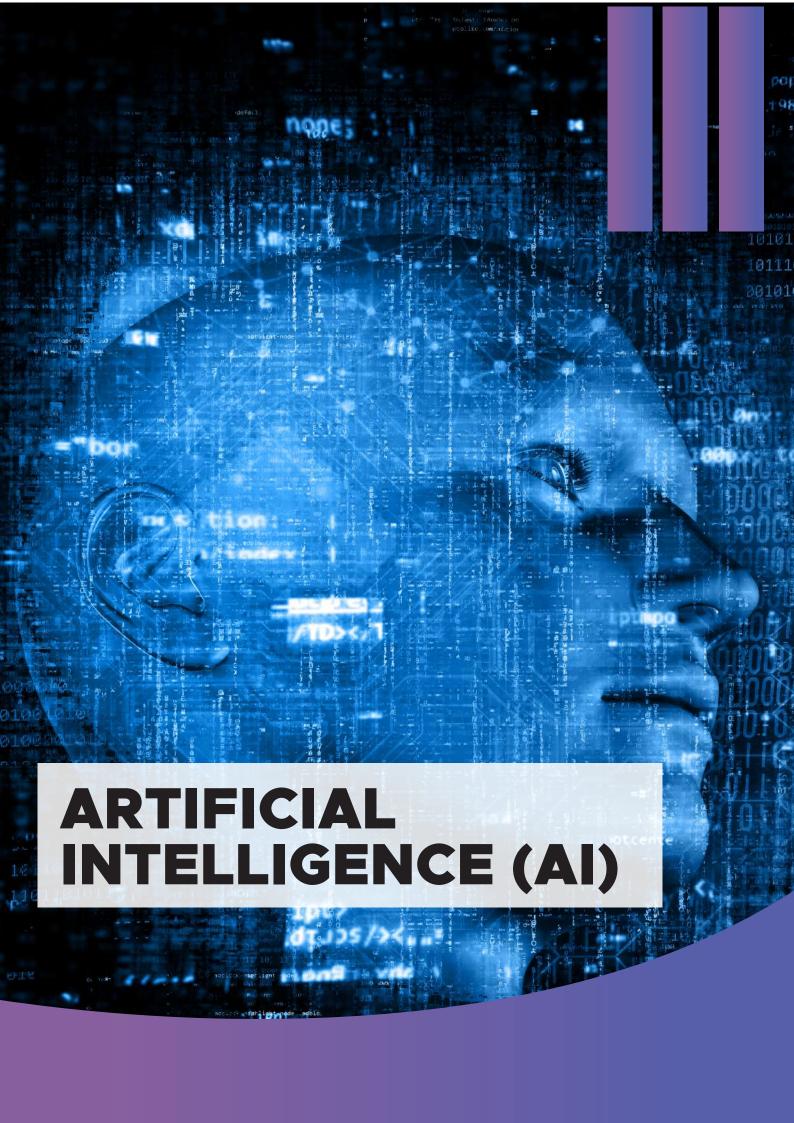
- Banking as a Service: The concept of Software as a Service, which is a shift from the practice of buying, installing, and maintaining software on hardware devices to accessing software through a web-based platform as an on-demand service is emerging strongly. In banking, Banking as a Service is beginning to take shape as the next-generation business model gives banks the ability to leverage their investments in information technology (IT)) by getting other banks usually smaller or local banks to switch from their outdated IT to modern platforms<sup>50</sup>. The adoption of emerging technologies is not without huge financial costs and regulatory compliance demands. Usually, smaller banks are unable to sustain these investments and BaaS offers the opportunity for them to leverage modern banking platforms at a lesser cost. Also, BaaS can enable entities without banking licenses such as retail stores to offer financial products through white labeling as ways of increasing consumer experience, driving sales, and increasing profitability in the future. Other benefits of easy customization, access to low setup and infrastructure costs, scalability, and security among others for SaaS can inure to BaaS models.
- Platform Business Models: Over the years, independent non-banking companies such as tech companies and retail giants have mastered and demonstrated the utility of the platform approach to their business growth. They have created excellent user experiences limiting the need for consumer alternatives. Aggressively, some of these companies are innovating their own financial products to eliminate the need for banking service providers, and traditional banks and fintech companies must work together to build platforms that integrate relevant industry players across multiple value chains for consumer retention. Financial service providers must elevate existing partnerships with selected service providers to co-create programs where data could be leveraged for monetized initiatives via platform designs.
- Embedded banking: New business opportunities are being created by fintech innovations. Some existing rails such as the development digital payment ecosystem in Ghana offer the opportunity for the integration of financial and non-financial products into a single end-user interface. Through embedded finance, banking functionality is absorbed into physical products, technology, or platforms for creating a seamless customer experience<sup>51</sup>. Financial service providers must explore the integration of growing business verticals such as ride-hailing, food & other deliveries, where payments could be integrated with other financial services such as lending, insurance, and investing. The opportunities for new lines of business and revenue streams are limitless.
- Invisible finance: It is an entirely futuristic financial business model with no current comparable. According to Capgemini Invent, "invisible finance will become the most successful species effectively becoming the Homo sapiens of Financial Services business models". It is described as "a non-financial product or service that includes an indistinguishable finance capacity. This goes so far that the necessary financial functions are an integral part of the overall product and hence inseparable from each other...connects banking products with non-financial products and services. From a customer experience perspective, they become invisible. The focus is on connecting and integrating Financial Services advisory and products with life-event-driven products and transactions"<sup>52</sup>. The prospect of creators of non-financial products and services integrating full financial capabilities and making them inseparable from their products or services makes invisible finance a contender of the preferred financial business model of the future given the current changing shopping and purchasing behaviors of consumers.

The above business models are not an exhaustive list of models shaping the future of money. I anticipate the existing traditional banking system with relevant adoption of technology and fintech sole service models such as neo banks will also make significant impacts on the future of money. Technology has widely opened the doors of possibilities and only time, research, and data-driven insights within the boundaries of permitted banking activities can provide some definitive business models that can support the use of money as payment instruments in the future.

#### CONCLUSION

Any predictive task is a difficult one. Getting predictions right is almost near-impossibilities. However, the long history of the structure of the current financial sector, trends, and insights although in a rapidly changing technological era count for some certainty about the future of money. On this note, we are fortified to make the following predictions about the future of money – banknotes, coins, and its allied versions namely:

- \* Cash will continue to dominate payment instruments accounting for not less than 50% of global payments over the next two decades despite the deployment of new digital payment instruments.
- \* Fintech companies and innovations will not be the mainstay of the financial service. Traditional banks will continue to enjoy greater patronage of financial services subject to improvements based on investments in technologies, systems, and people.
- \* Central Banks will continue to exercise state control over the issuance and use of money either as cash or in any digital format (CBDCs or Cryptocurrencies).
- \* Consumer protection will be enhanced with the deployment of emerging technologies against fraud, cyber breaches, identity thefts, etc.



# ARTIFICIAL INTELLIGENCE: A TRANSFORMATIVE TOOL FOR ECONOMIC DEVELOPMENT IN AFRICA

Artificial Intelligence (AI) has emerged as a revolutionary technology that is transforming various aspects of our lives. Its potential for disruption is particularly notable in the economic land-scape. By augmenting human capabilities, AI has paved the way for ground-breaking advancements and opened up new possibilities across industries and professions. In recent times, AI has become a topic of interest across the globe with businesses and individuals particularly incorporating and deploying the technology in their operational processes to enhance their product and service output.

A significant measure of the impact of the technology has been its functional ability to drive economic development through leveraging advanced functional tools such as machine learning and automated processes in the collection, management, analysis, and optimization of data. Notwithstanding the concerns of job losses, the transformative opportunities for businesses and economies in terms of enhancing business operations, reshaping industries, and propelling economic growth are limitless.

This article seeks to explore the transformational abilities of AI and how the technology can fully unlock new potentials for growth, innovation, competition, and economic sustainability.

#### **ARTIFICIAL INTELLIGENCE AND ITS VARIANTS**

Al involves the imitation of human intelligence within machines that are programmed to think, learn, and complete tasks requiring human cognition. It includes a wide range of techniques and approaches to enable machines to understand, reason, and make decisions.

Machine learning as a key subset of AI focuses on developing algorithms that allow machines to learn from data and improve their performance. It involves training models on large datasets to recognize patterns, extract insights and make predictions. It can be divided into three types: supervised learning, unsupervised learning, and reinforcement learning. Supervised learning involves training models on labeled data to make predictions or classifications. Unsupervised learning involves training models on unlabelled data to discover patterns. Reinforcement learning uses an interactive process where models learn through trial and error by receiving feedback in the form of rewards or penalties.

The concept of deep learning draws inspiration from the human brain to create artificial neural networks. It involves training deep neural networks with multiple layers to extract hierarchical representations of data. According to industry reports, deep learning has been highly effective in areas such as image recognition, natural language processing, and speech synthesis.

Generally, AI can be classified as narrow AI or general AI. Narrow AI refers to AI systems designed to perform specific tasks extremely well. Examples include virtual assistants such as google translate, Alexa, Siri, and google assistant, recommendation systems, and image recognition algorithms. On the other hand, machines possessing general AI have the capability of performing any cognitive task a human can perform. While general AI remains a topic of ongoing research, it holds the potential to exhibit reasoning, creativity, and adaptability beyond narrow domains.

Al capabilities have evolved from an ability to excel at specific tasks (narrow Al) to becoming capable of thinking like humans (general Al) and perhaps as arguably projected by industry experts, surpassing humans entirely (ultra-general Al).

#### AI AS A DRIVER OF ECONOMIC DEVELOPMENT

Artificial Intelligence (AI) has significantly progressed from an idealist concept to an indispensable component of our everyday existence. As AI continues to advance, its potential as a key catalyst for economic development and innovation becomes increasingly evident. Discussed below are some of the ways in which AI can drive and boost economic growth.

■ Automation and Efficiency Enhancement: All enhances automation and efficiency in businesses by enabling intelligent systems to perform tasks autonomously and optimize processes. Thus, Al-powered automation reduces the need for manual intervention in repetitive and mundane tasks, allowing employees to focus on more complex and strategic activities. For example, All can automate data entry, document processing, and customer support, saving time and reducing the risk of errors.

This not only increases productivity but also frees up human resources to engage in higher-value work that requires critical thinking and creativity. All also brings efficiency by continuously learning from data and improving performance over time. Machine learning algorithms can analyze large datasets, identify patterns, and make predictions, enabling businesses to optimize operations, resource allocation, and decision-making. This culminates in businesses sustaining their relevancy in a highly competitive market.

The benefits of Al-driven efficiency extend beyond individual businesses. Government agencies can leverage Al to streamline administrative processes, enhance service delivery, and improve citizen engagement. By automating routine tasks and implementing intelligent systems, governments can provide efficient public services, optimize resource allocation, and make data-informed policy decisions.

■ Personalized Customer Experience: One significant advantage of Al-powered automation is the ability to handle data-intensive tasks. All can automate data entry, document processing, and customer support, leading to substantial time savings. This increased efficiency not only boosts productivity but also enhances customer experiences by providing faster and more accurate and/or tailored services and responding quickly to changing market dynamics.

Moreover, Al brings continuous improvement to businesses by learning from data and refining its performance over time. Machine learning algorithms have the capability to analyze vast datasets, identify patterns, and make predictions. This enables businesses to optimize their operations, allocate resources effectively, and make data-driven decisions. By leveraging Al's data analysis capabilities, organizations can uncover valuable insights, detect trends, and anticipate customer preferences, enabling them to stay ahead of the competition and make informed strategic choices.

The impact of AI on efficiency transcends individual businesses to entire industries and government agencies. By streamlining workflows and automating repetitive tasks, AI can drive efficiency gains across sectors such as healthcare, finance, manufacturing, logistics, agriculture, and more. For instance, in healthcare, AI-powered diagnostic systems can analyze medical images and patient data, leading to faster and more accurate diagnoses. In the financial sector, AI algorithms can automate risk assessment and fraud detection, enhancing security and efficiency. By optimizing processes and enabling efficient decision-making, AI contributes to cost savings, improved accuracy, and better resource utilization.

In the digital era, where technological advancements and competition are rapidly evolving, embracing AI-driven automation is crucial for businesses to stay competitive. By integrating AI into their operations, organizations can leverage its potential to enhance efficiency, reduce costs, and gain a competitive edge. However, it is important to ensure ethical considerations, privacy protection, and responsible use of AI technologies to build trust and maintain the integrity of automated systems and the overall protection of consumers.

■ Predictive Analytics and Decision Making: Al-powered predictive analytics leverages historical data to make accurate forecasts and support strategic decision-making. With advanced machine learning algorithms, Al systems can identify patterns, trends, and correlations within data sets that might be too complex or time-consuming for humans to detect.

For instance, in agriculture, Al-powered systems can transform farming practices by analyzing weather data, and other relevant information. By monitoring soil conditions, pest infestations, and optimal planting times in real time, Al enables farmers to make data-driven decisions regarding crop management. This includes optimizing irrigation, fertilization, and pesticide usage, leading to increased agricultural productivity, reduced costs, and improved sustainability.

In terms of health, AI can be leveraged to analyze patient data, medical records, and clinical research, and can assist in diagnosing diseases, predicting patient outcomes, and optimizing treatment plans. This not only improves patient care but also enhances resource allocation, enabling healthcare providers to deliver more efficient and personalized services.

Furthermore, Al-powered analytics can optimize transportation and logistics operations. By analyzing data on routes, traffic patterns, and delivery schedules, Al can improve route planning, reduce fuel consumption, and enhance supply chain management. This leads to cost savings, improved delivery times, and increased operational efficiency.

■ Fraud Detection: With the exponential growth of digital transactions and the increasing sophistication of fraudulent activities, traditional rule-based systems often struggle to keep up. Al, on the other hand, offers advanced techniques that can analyze vast amounts of data, detect patterns, and adapt to evolving fraud tactics.

One key advantage of AI in fraud detection is its ability to analyze large datasets in real time. Machine learning algorithms can process massive amounts of structured and unstructured data, including transaction records, user behavior, historical patterns, and even external data sources such as social media or public records. By identifying hidden correlations and anomalies within this data, AI models can accurately detect fraudulent activities that may go unnoticed by manual review or rule-based systems.

Furthermore, AI can continuously learn and improve its fraud detection capabilities over time. By leveraging techniques such as supervised learning, unsupervised learning, and reinforcement learning, AI models can adapt to changing fraud patterns and refine their detection algorithms. They can learn from both historical fraud cases and new instances, enabling them to stay ahead of fraudsters who constantly evolve their tactics. For instance, AI-powered algorithms are being utilized for fraud detection, risk assessment, and credit scoring, enabling financial institutions to make more accurate lending decisions and reduce financial losses.

#### CONCLUSION

Undoubtedly, nations and businesses can unlock new opportunities for growth, competitiveness, and sustainable progress by effectively utilizing Al. This will further enhance efficiency, innovation, and growth as it fuels technological advancements, promotes entrepreneurship, and paves the way for a future characterized by unhindered growth and innovation.



#### THE GHANA FINTECH AND PAYMENTS ASSOCIATION (GFPA)



The Ghana Fintech and Payment Association is the foremost fintech community in the Ghanaian ecosystem serving as the sole umbrella body seeking to promote the advancement of financial technologies and payment systems in Ghana. Operating as a Not-for-Profit Organization, the Association is well-positioned to serve financial technology professionals, companies, and start-ups, as well as other entities.

Currently, with 70 community members and growing, membership is open to Fintech startups and companies, banks and financial institutions, insurance and pensions organizations, innovation/acceleration hubs, venture capital, equity firms, angel investment companies, academic institutions of higher learning, legal/law firms, management consulting, and research firms, etc.

The Association has seen rapid engagements and traction in terms of memberships and is continuously growing each day as it aims to utilize credible partnerships to catalyze and drive the adoption of fintech and payments across the region while protecting consumers in line with global standards. The Association seeks to foster an environment conducive to innovation and the continuous evolution of the fintech landscape in Ghana. Through its diverse membership base, the Association harnesses collective expertise and resources to drive positive change, shape industry regulations, and promote sustainable growth within the fintech sector.

#### **PAYANGEL**



PayAngel (www.payangel.com) is the trading name of PayInc Group Limited, a licensed international multi-award-winning remittance business delivering straight-through, affordable remittance and payment solutions to the African Diaspora. Positioned as "Africa's Payment Expert", PayAngel seeks to be a one-stop payment solutions provider, providing Consumer-to-Consumer,

Consumer-to-Business, and Business-to-Business remittance services, and further catering to several other payment needs such as utility and mortgage payments. Remitters using PayAngel can have their remittances delivered to Africa through mobile money, bank deposits, and cash collections.

Licensed to operate in Europe and North America, PayAngel currently operates a multichannel remittance and bill payment service from the United Kingdom, United States, Canada, and Australia and is in the process of expanding to the rest of Europe.



#### 1. PIPE COHORT



The Pipe Cohort is an initiative spearheaded by FXKUDI in collaboration with the Ghana Fintechand Payments Association and StartOA. The program aims to create a collaborative platform for fintech startups in Ghana that specialize in remittance and payment solutions. Its primary goal is to accelerate the growth and expansion of these startups by providing them with valuable opportunities.

The inaugural edition of the Cohort began accepting applications on March 28th and concluded on April 17th, 2023. This edition specifically focused on exploring the latest and emerging innovations in the Ghanaian market, particularly those related to remittances on a B2C level. Eligible participants were expected to have a functional minimum viable product (MVP), a team consisting of at least two co-founders or members, and a scalable business model with potential for growth across Africa. In all, six startups – Glory Health Care, TranzoPay, Eazzier Payment, Infinet, Satretra and SusPay were selected to participate in the maiden edition.

The four (4) week training program focused on training and equipping qualified participants through presentations by resourceful industry personnel and a series of workshops on topical issues such as fundraising and valuation, as well as the regulatory regime. The sessions also featured pitching sessions by participants.

One notable aspect of this program is that selected startups had the opportunity to receive up to \$5,000 in float funding upon successful completion. This financial support serves as an additional boost for startups, helping them to further develop and refine their offerings. Also, selected startups had access to mentorship from industry leaders and are expected to receive comprehensive support from their mentors to help them build robust solutions and effectively serve their target market.

### GHANA FINTECH AND PAYMENTS ASSOCIATION - CORPORATE GOVERNANCE TRAINING



The Ghana Fintech and Payments Association (GFPA), in collaboration with Precepts Advisory Limited and CYBERTEQ, hosted a Roundtable and Corporate Governance Training in May 2023 facilitated by the Bank of Ghana and Sustineri Attorneys PRUC specifically tailored for fintech companies operating in Ghana. This highly anticipated event saw the participation of more than forty-five (45) fintech companies.

The session was distinguished by its exceptional lineup of knowledgeable speakers, including representatives from the central bank, legal experts, and an industry specialist. The primary objective of the training was to provide a knowledge-sharing platform to enable participants to stay informed about the latest trends and adopt effective corporate governance practices within the fintech ecosystem.

The training delved into various key topics, shedding light on the significance of having a robust and independent board overseeing the operations of fintech companies. Emphasis was placed on the necessity of transparent and accountable decision-making processes and the establishment of effective communication channels. Additionally, the training underscored the importance of integrating risk management, compliance, and ethical considerations into the fabric of corporate governance.

Moreover, participants gained valuable insights into the role of technology as an enabler and enhancer of corporate governance practices. The training highlighted how technological solutions can streamline governance processes, ensuring efficiency and effectiveness in decision-making and operational procedures.

Lastly, the event stressed the need for concerted efforts and collaboration among all relevant stakeholders, both internal and external, to foster sustainable business growth within the fintech sector. By emphasizing the significance of collective responsibility, the training aimed to encourage a holistic approach to corporate governance that supports long-term success.

#### **GOOGLE FOR STARTUP BLACK FOUNDERS FUND - 2023 COHORT**



The Google for Startups Black Founders Fund recently out doored the latest cohort of 25 African startups. Now in its third year, the Black Founders Fund aims to address racial inequality in venture capital funding by offering equity-free grants and mentoring to early-stage Black-led high-growth businesses in Europe and Africa. This diverse cohort represents the continent's growing startup ecosystem and showcases its innovation and potential.

The selected cohort includes 25 African startups out of a total of 40 startups from Europe and Africa. Nigeria leads the pack with 10 startups, followed by Kenya with 6, South Africa with 3, Ghana with 2 and Uganda, Senegal, Côte d'Ivoire with one startup each.

An impressive 72% of the selected startups are led or co-founded by women, underscoring the significant role women play in shaping Africa's startup ecosystem. These startups are leveraging technology to address some of Africa's most pressing challenges, ranging from accessible healthcare and efficient logistics to innovative fintech solutions.

The \$4 million fund will provide these businesses with the necessary capital to propel their ventures to the next level and expand into new markets, thereby creating economic opportunities and jobs. Each selected startup will receive non-dilutive cash awards of up to \$150,000, Google Cloud credits of up to \$200,000, advertising support, one-on-one mentoring from industry experts, and invaluable connections within Google's network.

### MONEY SUMMIT EVENT UNITES STAKEHOLDERS TO HIGHLIGHT INDUSTRY CHALLENGES AND OPPORTUNITIES



The highly anticipated Money Summit 2023, organized by the Business and Financial Times (B&FT) took place on 9th May 2023, featuring an opening address by Dr. Godwin Acquaye, the Chief Executive Officer of the B&FT. In his remarks, Dr. Acquaye highlighted the summit's objective of bolstering investor confidence and fostering collaboration among stakeholders in the financial sector.

He highlighted that the aim of Money Summit 2023 was to address challenges faced by the economy and to provide insights on how to alleviate the difficulties experienced by businesses and individuals alike. He further acknowledged the adverse effects of global financial sector challenges on the country's economy.

The annual summit serves as a forum where participants from diverse sectors of the financial industry convene to engage in dialogue, exchange insights, and devise effective approaches on how to address challenges and leverage opportunities within the financial industry. The event was marked by engaging discussions and informative presentations covering a range of topics including capital mobilization, financial inclusion, trade and investment, innovation, and sustainable finance. Participants actively engaged in interactive sessions, exchanged insights, shared experiences, and discussed best practices to shape the future of the financial landscape in Ghana.

Furthermore, the summit underscored the significance of regional integration and collaboration initiatives, such as the African Exchanges Linkage Project (AELP), as well as partnerships between prominent organizations like the African Securities Exchanges Association (ASEA) and the Pan-African Payments and Settlement System (PAPSS). These collaborative efforts aim to break down barriers, facilitate seamless cross-border transactions, boost liquidity, and foster the development of robust financial markets across the continent.



#### THE ECOBANK FINTECH CHALLENGE 2023



The Ecobank Fintech Challenge is designed to identify and collaborate with fintech companies that possess the potential for rapid expansion, granting them unparalleled support and access to opportunities across Ecobank's expansive network spanning 35 African markets. This inclusive challenge invites fintech companies from all corners of the African continent to showcase their capabilities by submitting comprehensive details and an impressive product demo.

These innovative products must address crucial areas such as enhancing customer experience, promoting financial inclusion, streamlining customer onboarding, advancing credit scoring methodologies, facilitating merchant and payment aggregations, as well as enabling offline mobile payment services.

The selected finalists will have the privilege of participating in the grand Ecobank Fintech Challenge Finale, where the ultimate winner will be awarded a generous cash prize of \$50,000. However, the benefits extend beyond the cash reward, as all finalists will become members of the esteemed Ecobank Fintech Fellowship. This fellowship opens doors for the exploration of potential deals, integration opportunities, and commercial partnerships with the influential Ecobank Group. Applications are currently open and are set to close by 21st July 2023.

### AMAZON WEB SERIES' (AWS) FINTECH IN AFRICA ACCELERATOR PROGRAM



Amazon Web Services (AWS) has recently unveiled the inaugural cohort of its Fintech Africa Challenge, a remarkable initiative aimed at fostering innovation in the African fintech landscape. Out of a pool of over 500 applications received through the EMEA Startup Loft Accelerator (SLA) program, AWS selected 25 outstanding fintech startups to participate in this transformative program.

Kicking off this month, the 10-week program will provide invaluable support to these pre-seed and seed-stage fintech startups. Each participant will have access to technical review workshop sessions, generous financial support in the form of up to \$25,000 USD worth of AWS technical credits, and unparalleled mentorship from prominent industry experts and major players, including the Africa Fintech Summit (AFTS), Lendsqr, and Vestbee. These resources are designed to empower startups to refine and strengthen their businesses while receiving world-class guidance and insights.

The cohort comprises a diverse range of fintech startups, with representation from various countries across Africa. Notably, the cohort includes four startups from Ghana, namely Asaana Pay, Edanra, Exxtra, and H28 Technologies. Additionally, there are eleven startups from Nigeria, four from Kenya, two from South Africa, two from Uganda, one from Cameroon, and one from Egypt. This rich blend of talent and regional representation promises to fuel collaboration and the exchange of ideas across the continent.

#### VISA'S AFRICA FINTECH ACCELERATOR PROGRAM



VISA has recently introduced an exciting initiative dubbed the 'Visa Africa Fintech Accelerator' program, specifically designed to empower, and nurture the rapidly growing fintech community in Africa. The VISA Africa Fintech Accelerator program aims to support the growth of up to 40 startups annually, providing them with a comprehensive three-month immersive learning experience focused on expanding their businesses and offering invaluable mentorship opportunities.

Participating businesses will undergo an intensive program that equips them with the necessary knowledge, skills, and insights to accelerate their growth trajectory. Through tailored curriculum and mentorship, VISA aims to empower these startups to scale their operations and contribute to the thriving fintech landscape in Africa.

To ensure widespread participation, the program will follow a biannual application process. The first round of applications is set to commence in July 2023, inviting promising fintech startups from across the African continent to showcase their potential and vie for a spot in this transformative program.

Upon successfully completing the program, the selected startups will not only receive invaluable knowledge and mentorship but also gain access to capital investment to fuel their growth. Additionally, they will benefit from enhanced commercial launch by leveraging VISA's state-of-the-art technology and capabilities. This strategic partnership provides an exceptional opportunity for startups to tap into the extensive resources and expertise of a global leader in digital payments.

Fintech startups are encouraged to seize the opportunity!

## **CONTACT INFO**

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