



## Disruptive Technologies and Finance Professionals Engagement: Post Covid-19 Survival Signal

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**Abstract:** The reality of the fourth industrial revolution (4IR) has been forced on the less tech-savvy by the disruptive virus popularly known as covid-19. In this context, the responsiveness of finance professionals to job-related disruptive technology prior Covid-19 is a key indicator to their survival in the 4IR era. The study investigated the extent to which the Nigerian finance professionals engaged in online transactions prior the global pandemic. It also examined the level of ownership of digital currency both by individual finance professionals and by the organizations they work for. Quantitative data were purposively sourced from a sample of 250 accounting professionals which were selected from a population of 1300 using a structured questionnaire. Descriptive statistics and correlation analysis were employed to analyse data. In spite of the high level of engagement with online transaction, results revealed a low level of ownership of digital currency among professionals and zero level of ownership by organisations. The study signaled a low level of responsiveness to digital currency transactions, which has a high potential of displacing the service of finance professionals in the near future. The study concluded that the apathy exhibited by the finance professional prior covid-19 could deprive them the possible dividend of digital currency as a disruptive technology in the industry.

**Keywords:** Fourth Industrial Revolution; Finance industry; Digital Currency; Covid-19

**JEL Classification:** M41; O32

### 1. Introduction

The finance industry in the world of today is at the centre of technological metamorphosis. Over decades and across continents, crucial services such as keeping of financial records, banking, insurance, tax computation, preparation of financial statements, auditing and capital market analysis, have been rendered to organisations both in the private and public sectors of the economy by the professionals in the industry including the accountants, bankers, auditors, financial analysts and investment managers among others (Association of Chartered Certified Accountants (ACCA, 2012); International Federation of Accountants (IFAC, 2019); Kaka, 2020. While the provision of these services remains paramount to the operational success of all forms of organisations, the currently evolving technological innovations and disruption, however, pose a serious threat to the profession in the performance of its key functions. (Conti et al., 2018; Salawu et al., 2018). According to PricewaterhouseCoopers (PWC, 2016), areas identified by FinTech for most disruption include

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consumer banking, fund transfer and payments, investment and wealth management, brokerage services, market operations and exchanges, commercial banking, insurance intermediation and investment banking among others.

New solutions instruments of digital financial services include distributed ledger technologies such as mobile payments, crypto-assets and peer-to-peer application among others (Agur, Peria & Rochon, 2020). Digital currency (cryptocurrency) is one of such disruptive technologies which according to Seetharaman, Saravanan, Patwa and Mehta (2017), could render paper currency as a thing of the past and as argued by Devries (2016), cryptocurrency could be pushed into acceptance by investors who simply want a refuge from sinking global markets. The hysterical advent of the earliest known form of cryptocurrency (Bitcoin) presaged the need for accountants to recognize unpredictable upsurge to the global financial system. Bitcoin was built on blockchain technology as a decentralized, peer-to-peer digital asset without any central issuing authority (Nakamoto, 2008; Bohr and Bashir, 2014; Boel, 2016; Piazza, 2017). According to Cvetkova (2018), a successful distributed cryptocurrency is an open-source software, decentralised, peer-to-peer, global, fast, reliable, secure, sophisticated and flexible, automated, scalable, and a platform for integration of digital finance and digital law to support smart contracts. Virtual currencies are entirely digital without geographical boundary (Ly, 2014; Kondor et al., 2014; Richter et al., 2015; Tsanidis et al., 2015; Richter et al., 2015). According to Carlsson-Szlezna, Reeves and Swartz (2020) nations of the world should consider digitalizing their economy as a panacea to possible future crisis. Interacting with the mode of operation of Bitcoin by professional Accountants is fundamental and inevitable because, the blockchain as the underlying technology of Bitcoin is capable of revolutionising the finance industry, particularly, digital trade markets, in the near future through its popular features such as digitised distributed ledger, exceptional transparency and authenticated security of financial records (Piazza, 2017; Woodside et al., 2017; Seetharaman et al. (2017); Blanke (2018); Fyrigou-Koulouri, 2018). More importantly, Accounting professionals are responsible for managing the affairs of companies both in the public and private sectors and they are expected to demonstrate expertise in all forms of financial engagements of their client companies to provide timely and accurate financial services, hence the need for this study.

The following research questions are raised: In an era that is witnessing thousands of virtual digital currency, how responsive are the finance professionals in their engagement with online transactions? To what extent do finance experts own digital currency? Do the corporate bodies in Nigeria own cryptocurrency and to what extent? The study seeks to provide an answer to these questions in order to determine the extent of engagement with online transactions, the extent of ownership of digital currency (Bitcoin) by finance professionals as well as corporate bodies in Nigeria prior the global pandemic which is indicative of their level of preparedness for possible future disruptions with usual and direct impact on the operations of the finance industry experts. This study is increasingly relevant as countries within and outside Africa continent including Malasia, Brazil, China, United States of America, are introducing and implementing peer-to-peer financing (Agur, Peria & Rochon, 2020).

## 2. Review of Related Literature

### 2.1. The Dilemma of Finance Professionals with Cryptocurrency

Despite the compelling attributes of Blockchain as the underlining technology of Bitcoin, the professionals in the finance industry still grapple with investing and/or managing investors' wealth in cryptocurrency. Concerns around this development are perceived to be in respect to the following:

**Conflicting Categorization:** With continuous evolution and multiplicity of cryptocurrency, Ernst and Young (2018) observed the difficulty of classifying it as cash or cash equivalents, financial assets (other than cash), intangible assets, or inventories in line with International Accounting Standards 7, 2 and 38. This stems from divergent views of users and researchers as evidenced by Devries (2016) and Gröblacher (2018). It is argued that cryptocurrencies fail to meet the criteria for currency which include medium of exchange, unit of account and store of values (Pandey, 2017; Henry et al., 2018; EY, 2018). Crypto-assets unlike real assets are also known to suffer high volatility which could motivate or demotivate potential investors depending on their attitude to risk.

**Rules versus Absence of Control:** The finance industry is highly regulated by the government and relevant professional bodies. Relevant professional bodies both at national and international level such as ACCA; CIMA; CPA; ICAWES etc do moderate the ethical behaviour of members as well as strengthen the professional standards of the finance industry. While the industry is open to innovation and technological advancement, absence of relevant legislation on accounting treatment of cryptocurrency could erode the confidence of professionals in the finance industry (Salawu & Molo, 2018; Gröblacher, 2018; Agur, Peria & Rochon, 2020). Little is known about any professional bodies with the roles of moderating the excesses of cryptocurrency miners constitute the majority owners of Bitcoin (Bohr & Bashir, 2014). Inexistence of a responsible central authority to moderate their various activities could discourage finance professionals to invest in it. The transactional relationship between the developer of crypto-assets and the investor in crypto-assets generates both the legal and accounting problem because there exists no contractual relationship between the two parties for determining the liability of either party in case of default (EY, 2018). The lack of contractual agreement between trading parties are alien to the principles of accounting.

**Confidentiality versus Anonymity:** Blockchain is an efficient and sophisticated platform that guarantees security and confidentiality of information and cryptocurrency algorithm is deemed to be more secure and more reliable to use than credit cards (Beck, Avital, Rossi & Thatcher (2017); Fanzi & Paiman, (2020). This is complementary to the practice of finance industry where confidentiality of clients' information is critical. In the case of digital currency, especially, cryptocurrency, although, personal details of users are secured with the use of complex keys. However, studies have shown that fraudster's with controlling interest in the amount of stake and harsh power could hack the entire system (Wiśniewska, 2016; Campbell-Verduyn, 2017; Reddy & Minnaar, 2018). Also, transferring clients' wealth to their beneficiaries in the event of death is not made possible.

**Reliance on Fiat Currency for Implementing Transactions:** Bohr and Bashir (2014) found there was 43% cash involvement in cryptocurrency trading among the members of the cryptocurrency community. Woodside et al. (2017) documented that large financial firms including the big 4 accounting firms, venture capitalists, mainstream vendors (Microsoft, Subway, Tesla, and Expedia); Cloud vendors (Alibaba Cloud, Microsoft Azure, RedHat, OpenShift); financial institutions (Bank of America, Merrill Lynch, Santander, Union Bank of Switzerland), Virtual Private Network (VPN) providers, games, casinos and web stores were researching and investing into one form of

cryptocurrency or the other (Campbell-Verduyn, 2018). However, Ernst and Young (EY, 2018), pointed out that those multinationals did not hold the currencies for transactional needs. Conversion of the crypto-assets to fiat currencies required an intermediary. These findings complemented the argument of Bech et al. (2018) about the significance of fiat currency in the era of cashless economy. This window could have made transacting or investing in cryptocurrency less attractive to finance experts.

## **2.2. Individual and Organizational Ownership of Digital Currency**

Bohr and Bashir (2014) surveyed the Bitcoin community and found that users (respondents) were largely from the United States and were majorly young people with an average age of 33 years and 95% men. More recent findings emphasise the role of cryptocurrency, especially, bitcoin as a safe-haven for the United States (Goodell & Goutte, 2020).

At the individual level, empirical literature showed that adoption and ownership of Cryptocurrency is low and most times insignificant. Tsanidis et al. (2015) found from the online survey in Greece that about 17% of the online respondents surveyed had used Bitcoin out of about 68% that were aware. Also, out of the 17% users, only less than 5% had used it more than once. Arsov (2017) found that only 1% of the participants surveyed in Germany had ever used Bitcoin, although, about 44% of the sampled respondents were aware of its existence.

At the organisational level, the study carried out by Zamani and Babatsiko (2017) found that while more than 50% of businesses in Greece are well informed about the usage of Bitcoin, only about 25% of them had Bitcoin account. About 67% of the business owners were not persuaded about its future prospect while over 70% expressed concern about its security. Connolly and Kick (2015) argued that consumers would not be encouraged to use cryptocurrencies if organisations are not willing to accept them for payment. The existence of only limited parties to transact business with could pose threat to the adoption of cryptocurrencies.

Abboushi (2017) found that businesses including multinational companies like Dell, Apple, Adidas and Toyota among others were investing in crypto-assets. Such investors however still constitute a small group with a high number of Bitcoins in comparison with hundreds of billion transactions with real currencies. A detailed analysis by Henry, Huynh and Nicholls (2018) revealed that the majority of cryptocurrency users with Bitcoin account hold only less than one (<1) Bitcoin.

## **2.3. Covid-19 and the Future Challenge in the Finance Industry**

The emergence of the contagious and pervasive global pandemic (covid-19) has drastically shifted the attention of individuals and governments to considering leveraging on cryptocurrency in the recent times. As the world's continents except Antarctica witnessed compulsory lockdown and imposition of restrictions on human interaction being implemented in various forms including "indefinite stay home", cancellation of public gatherings, closure of land borders and Airports to mention a few, the crisis ignited by covid-19 soon indicated a downward trend in global economy (Ibbotson, 2020). The endemic nature of the pandemic necessitated global restriction to physical trading activities while individuals, businesses, organisations, financial institutions and government largely resorted to digital financial transactions. Shahzad, Bouri, Roubaud, Kristoufek and Lucey (2019) provided evidence that

each of Bitcoin, gold and commodities is considered a weak safe-haven while they vary with time and across stock market indices.

An empirical study by Papadopoulou and Papadopoulou (2020) revealed Accounting professionals as an executive instrument for providing the link between the state and taxpayers for the implementation of emergency measures void of errors and omissions in support of the affected citizens during the global pandemic of Covid-19. Accordingly, the professionals perceived their roles to be more crucial to the state during the crisis period than before the crisis. However, the study found that the finance professionals in Greece rarely worked remotely prior to the pandemic and the negative impact of adapting to emergency changes resulted to work-related stress.

The study of Albitar, Gerged, Kikhia and Hyssainey (2020) found that while many do not perceive Covid-19 outbreak to be a financial crisis, working remotely (work-from-home) by auditor could largely affect audit procedures, audit fees and audit quality among others. Audit firms are expected to explore and invest more on implementation of blockchain, artificial intelligence and digital programs among other to promote flexibility as well as enhance operational efficiency going forward.

On risk management and compliance during and after covid-19 crisis, Kaka (2020) found a drastic reduction in physical business contact in accounting firms and gradual replacement by digital technology. While there may be concerns around online transactions, accountants are obliged to still get involved in order to assist clients and the general public to curtail or minimize possible mismanagement, fraud and corruption as experienced during Covid-19 (Kabuya, 2020). Without requisite knowledge and practical involvement in handling digital transactions by accounting professionals, effective management of funds and strengthening internal controls of institutions by finance professionals as part of the identified support expected from the industry would be a mirage.

#### **2.4. Theoretical Framework**

This study was anchored on innovation diffusion theory propounded by Rogers in 1962 which advocated that new idea or product (cryptocurrency) diffuses through a specific social system (internet) through which individuals perceive the idea or new innovation and embraces it.

Bonneau, et al. (2015) opined that Bitcoin, the first known cryptocurrency, was a rare case where practice seemed to be ahead of theory. According to Chen (2018), the creation of cryptocurrency and the acceptance of the same by entrepreneurs promote innovation. Such innovation according to Richter et al. (2015) and Kshetri (2018) could be potent in enhancing organisational supply chain thereby transforming the important chain of activities with the resultant effect on transparency and accountability. The early majority would only buy into the idea when there is considerable assurance or security against loss. The late majority and the laggards according to Rogers are the skeptical and the conservative people who would rarely accept a new innovation unless the probability of success is certain.

### **3. Methodology**

The study surveyed a group of professionals in the finance industry in Nigeria during the Annual Accountants' Conference of the Institute of Chartered Accountants of Nigeria (ICAN) in 2017. The financial experts were selected for the study because of the envisaged impact of digital currency on their job. The services rendered by the professionals include management and analysis of investment, banking, insurance, taxation, preparation of financial statements, auditing and consultancy services among others.

The population for the study comprised about 1300 finance professionals out of which 250 willingly participated in the survey. Going by Yamane (YEAR) formula for determining sample size, the selected sample size yielded a 0.056 margin of error which was a good representation of the total number of the participants.

Research on digital currency (cryptocurrency) was still in its infancy in Nigeria, a structured questionnaire was therefore employed to elicit relevant information from the respondents in order to satisfactorily capture the objectives of the study. More importantly, it would not have been possible to obtain information on the extent of engagement in online transaction, individual ownership and organizational ownership of Bitcoin without obtaining first-hand information from the sampled respondents because, definite information about Bitcoin account ownership by specific individuals, group of professionals or organisations is not readily available in the public domain.

Specific questions were put forth to the respondents on their engagement with online transactions; their awareness of cryptocurrency; and ownership of Bitcoin by individual professionals on one hand, and their organisations on the other hand. The essence of examining the level of awareness among the professional accountants was to probe how conscious and responsive they were towards new development around technology which could impact their profession and to establish their level of alertness if the government decide to adopt cryptocurrency.

The research instrument had been earlier pilot-tested at a forum of the executive members of ICAN earlier in the year with no major changes made to the instrument. The questions were categories into two bases of the uniqueness of their measuring scale.

Reliability test was carried out on the questions on engagement with online transactions, awareness of virtual currency and ownership of Bitcoin accounts taken together, the Cronbach's alpha statistics was 0.676 which was within the acceptable range.

Thirty-five (35) copies, that is, about 14% of the questionnaire were not properly completed by the respondents, leaving 215 copies (86%) as the useful copies. Data were analysed using descriptive statistics and correlation analysis

### **4. Results and Discussion of Findings**

This section discussed the findings on the extent of engagement with online transactions by finance professionals in Nigeria analysis of individual and organisational ownership of cryptocurrency accounts.



#### 4.1. Demographic Characteristics of the Respondents

The respondents possessed relevant academic qualifications commensurate to their job as shown in table 1. About 83% of the professionals were University Graduates out of which about 47% and 3% hold Master Degree and Doctoral Degree certificates respectively. The analysis of the group further revealed a rich and diverse work experience with which they have contributed to the advancement of the profession as analysed in table 1. Only about 23% of the professionals had less than 10 years of work experience. About 53% of them have between 10-20 years' work experience while about 24% others had 21-40 years' work experience.

**Table 1. Characteristics of the Respondents**

Characteristics		Frequency	Percent	Valid %
Gender	Female	58	27.0	32.4
	Male	121	56.3	67.6
	Total	179	83.3	100.0
Missing	System	36	16.7	
Total		215	100.0	
Relevant Qualifications	HND	36	16.7	17.1
	B.Sc/BA	69	32.1	32.9
	PGD	6	2.8	2.9
	MBA/MSc/MA/M.Phil	93	43.3	44.3
	Ph.D	6	2.8	2.9
	Total	210	97.7	100.0
Missing	System	5	2.3	
Total		215	100.0	

Description of gender, qualification and work experience of finance professional in Nigeria

Source: Field Survey

#### 4.2. Extent of Engagement with Online Transactions by Finance Professional in Nigeria

The extent of engagement of the finance professionals with online transactions is analyzed here. This served to assess how conversant the respondents were with e-transactions considering the trend in the growth of various digital currency and the move towards a cashless economy in many countries of the world. It also served to assess how effectively the professional accountants could adapt to rendering online services to their various clients in the event the country adapts to digital currency. The result in table 2 revealed that about 76% of the professional accountants could transact business online.

**Table 2. Extent of Engagement with Online Transactions**

Online Transactions		Frequency	Percent	Valid Percent
Valid	No	51	23.7	24.2
	Yes	160	74.4	75.8
	Total	211	98.1	100.0
Missing	System	4	1.9	
Total		215	100.0	

Finance Professional engagement with online transactions

Source: Field Survey

Despite the fact that the country is largely cash-based economy and plagued with multiple challenges with online transactions (Osazevhabru & Yomere, 2015; Olusoji et al., 2015; Ayegba et al., 2017; Agbi & Yusuf, 2018), the rate of engagement with online transactions (76%) by the professional was

high. This confirms that the country could survive and transact business effectively with the rest of the world in the event of implementing cashless policy (Mieseigha & Ogbodo, 2013; Ejoh & Okpa, 2014). It also revealed that the finance professionals in Nigerian place high premium on the benefits that online transaction could offer. In a similar study by Tsanidis *et al.* (2015), about 58% of their online survey respondents used the internet for shopping.

It is noteworthy that there was consistency between the number of the finance professionals who became aware of virtual currency and the percentage of those that engaged in online transaction which was equivalent of 76% of the study sample. This was further established by the correlation result of the two variables as presented in table 3. The result showed a positive statistically significant relationship (0.01 level 2-tailed) between the level of awareness of Bitcoin and engagement with online transaction.

**Table 3. Awareness of Virtual Currency and Online Transaction**

<b>Correlations: Awareness of Virtual Currency and Online Transaction</b>			
		Online Transactions	Virtual Currency Awareness
Online Transactions	Pearson Correlation	1	.266**
	Sig. (2-tailed)		.000
	N	211	209
Virtual Currency Awareness	Pearson Correlation	.266**	1
	Sig. (2-tailed)	.000	
	N	209	211

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Field Survey

#### 4.3. Extent of Individual Ownership of Bitcoin and other Cryptocurrency

In spite of the high level of awareness recorded, Table 4 showed that only very few (>5%) of the professionals owned cryptocurrency (Bitcoin) account, while more than 95% of them do not. This findings indicates a low level of familiarity and practical engagement with the use of bitcoin as a form of digital currency in Nigeria. A study by Kondor *et al.* (2014) showed that a large number of users owned Bitcoin account but only very few had a substantial amount in it. Schuh and Shy (2016) documented a very low investment among the consumers in the US in 2014/2015. Also, Tsanidis *et al.* (2015) found less than 10% of the internet users surveyed had a preference for the use of Bitcoin as a payment option. Prior covid-19, it was evident that Nigerian professional in the finance industry recorded insignificant interest for the use of cryptocurrency.

**Table 4. Ownership of Personal Bitcoin Account**

Ownership	Frequency	Percent	Valid Percent
Valid	No	193	89.8
	Yes	10	4.7
	Total	203	94.4
Missing	System	12	5.6
Total		215	100.0

Source: Field Survey



**Table 5. Ownership of Personal Bitcoin Account**

Ownership of Personal Bitcoin Account * Career Cross tabulation								
Ownership of Personal Bitcoin Account	Specialisation within the Accounting Profession							Total
	Tax Practitioners	Financial Analysts	Statutory Auditors	Bankers	Accountants	Lecturers	Others	
No	13	10	18	16	106	8	1	172
Yes	0	0	3	0	7	0	0	10
Total	13	10	21	16	113	8	1	182

Source: Field Survey

Aside the auditors (< 2%) and practicing accountants (<4%), no other category of finance experts owned cryptocurrency in Nigeria during the periods under study as shown in table 5. One of the important factors that could induce a low level of ownership of cryptocurrency in Nigeria was the attitude of the government which was demonstrated in public warnings by means of official release through the Central Bank (CBN, 2018; Nnabuife & Jarrar, 2018; Salawu & Moloi, 2018; Nnabuife & Jarrar, 2018). About 95% of the Nigerian finance professionals seemed to be adherent to rules and regulations and were conservative in their response to investing in cryptocurrency. This result was a contrast to the findings of Bohr and Bashir (2014) where the respondents were libertarians, anarchists, centrists, progressives, socialists, green, with only 5% of conservatives.

Demotivating factors for low acceptance could be associated with insecurity and criminality (Moore, 2013; Ly, 2014; Bryan, 2014; Blanke, 2018); Price instability (Kristoufek, 2015; Kim et al., 2017) and absence of legal support (Griffiths, 2015; Salawu and Moloi, 2018). Other remote factors could include the interest of Central banks across the world to issue state-owned cryptocurrency in the near future (Beck & Garratt, 2017; Krivoruchko et al., 2018; Armelius et al., 2018) and; skepticism of government about the reliability of such transactions (Olusoji et al., 2015).

#### 4.4. Organisational Ownership of Bitcoin Account

**Table 6. Organisation Ownership of Bitcoin**

Ownership		Frequency	Percent	Valid Percent
Valid	Yes	00	00.0	00.0
	No	160	74.8	81.2
	Not sure	37	17.3	18.8
	Total	197	92.1	100.0
Missing	System	17	7.9	
Total		214	100.0	

Source: Field Survey

Eighty-three percent (83%) of the finance experts provided information about ownership of cryptocurrency account by the organisations they work for. The result of organisational ownership of digital currency in Nigeria was therefore 0% as revealed in the analysis on table 6. Connolly and Kick (2015) contended that consumers would not be willing to embrace cryptocurrency if organisations refuse to accept it. Much had been said by researchers about the uncertainty regarding the adoption without legal backing (Griffiths, 2015; Cvetkova, 2018; Salawu & Moloi, 2018; Gikay 2018). The national implication of the result is that organisations in Nigeria are risk-sensitive and even if cryptocurrencies were legalized, it would take many years before companies would consider trading

with it. At the global level, apart from the technology-related multinational companies and a few others that invested in cryptocurrencies, in the absence of legislation, the majority of public companies would not invest in it. This finding is consistent with the theory of innovation diffusion which was employed in the study. However, the experience during Covid-19 is indicative of the need for professionals to be familiar with the operation of all forms of digital currencies to enable effective management of private and public wealth during possible future emergencies.

## 5. Conclusion and Recommendations

The rate of acceptance of Bitcoin among accounting practitioners in Nigeria was very low though the rate of awareness was high. It was clear from the study that the nation had a good platform for promoting a cashless economy as evidenced in the high percentage of the accounting experts transacting business online. The study concluded that finance professionals would be able to salvage the wealth of the nation better by being more open to innovation around their industry. Availability of relevant guidelines for handling and keeping abreast of technological innovations and disruptions in the finance industry would empower the finance experts in their engagements. Further implication of the study is that Tax Practitioners, Financial Analysts and University Lecturers with specialization in accounting and finance had not responded to the use of cryptocurrency despite the relevance of its underlined technology to their field. The study recommended that the Federal Government of Nigeria should consider adapting the Bitcoin technology for own-made virtual currency as the nation progresses towards a cashless economy. This would guarantee financial security for all users and at the same time, direct control by the government. Future studies could examine the amount of investment in cryptocurrency by Nigerian financial experts after Covid-19 pandemic to establish the responsiveness of the professionals in the industry to the reality of the relevant technologies which could impact on their practice in the era of the fourth industrial revolution.

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