ISSN: 4388 - 4157
Volume 7, Number 2, 2022
Management, Accounting and Finance Journal

DIGITALIZATION AND THE CHALLENGES FOR ACCOUNTING PROFESSION IN AN EMERGING ECONOMY

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ABSTRACT

Technological evolution is reshaping our entire world of reality. It is a challenging milieu that is compelling all stakeholders in the economic field to be dynamic, competitive and proactive. As such, the traditional analog thinking pattern in the business domain has shifted in favor of digitalization. This paradigm shift has caught lots of attention as a logical phase in the evolution of technology. Digitalization comes with the promise to alter all functional areas of business, including the accounting function. Hence, the accounting industry is faced with the challenge of optimizing its activities through digitalization adaption. By evaluating relevant research and practitioners' reports, this article focuses on the implications of digitalization on the accounting profession, and how the profession can adapt to this disruptive change. We took a business-oriented and service-based approach to this revolutionary issue and proposed a new accounting model that might change the reporting utility.

Key-words: Digitalization, innovation, digital transformation, business models, accounting profession, Paradigm shift.

INTRODUCTION

The digital economy is causing a paradigm shift of business dealings from analog to digitalized system (Rogers, 2003). The justification of the move is based on the rise of organized communities' needs and the changing behavior of customers towards online services over personal services, necessitating several business actors' efforts in meeting those needs (González, 2015). Another rationale for this is on the ground that it reduces cost and time through low workforce, quick service delivery, accuracy and high rate of efficiency (Gustafsson, 2015). Hence, the digital structure has indicated the possibility of channeling physical goods through digital simplified optimal services, streamlining traditional production and facilitating or enabling local services going global. Digitalization has a dynamic value chain that is quite different from the traditional value chains and has the potential to affect the culture of the corporate environment and accounting profession in diverse ways (Bygren, 2016; Gustafsson, 2015; Ovans, 2015; Breman & Felländer, 2014; Teece, 2010).

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The obvious rapid pace of digital evolution is affecting the way accounting services are rendered in contemporary time, not just the approach to modern businesses alone, even the way we live our lives today is being affected. This disruption technically cuts across all spheres or fields of traditional procedures. It is a challenge for accounting professionals especially in developing nations because scholarly works indicate that accounting practitioners who are slow in updating their knowledge, skills and operational systems may likely be left behind or may find themselves swimming in murky waters in the near future (Breman & Felländer, 2014). Hence, the technological advancement has been predicted to affect traditional accounting and auditing jobs by making them obsolete in the future due to the exponential increase in machine learning, tasks automation and artificial intelligence applications. These changes may be severe particularly on accountants who are lagging behind or who cannot integrate their accounting knowledge with information and communications technology (ICT), data analytics, and cybersecurity trend and modernization

(Zhang, Dai & Vasarhelyi, 2018, Bygren, 2016; Pan & Seow, 2016). Therefore, the challenge for the accounting profession to uncover a new role in this innovative wave of automation that is likely to consummate the orthodox and traditional substantive task of accounting in emerging economy is becoming more crucial now than ever.

The accounting palace has been acknowledged as a business domain where digitalization is anticipated to rapidly rise with the prediction that ICT will transform the profession significantly (Bygren, 2016; Burns & Vaivio, 2001). Extant literature indicates that there are scanty academic works in relation to the effect of digitalization on the role of accounting profession. This call for more research, couple with the modernization challenges of the transition from analog business towards digitalized dealings (Bygren, 2016; Southern Cross University, 2016). To buttress this, Frey and Osborne (2013) estimated that accounting business have a 98% chance of getting digitalized viewing from the trend of activities. With this scholarly thoughts and positions, what then will be the future of the accounting profession? What will be the new map and guidelines for the profession? How does the accounting industry meet this changing need and understand the requirement for their business survival? It is against this backdrop that this paper seeks to examine the concept of digitalization and the repositioning role of the accounting profession with the aid of a model to explain the challenges beleaguering knowledge expansion amongst accounting practitioners in an emerging economy.

Concept of Digitalization

Digitization is a groundwork that connects the electronic software and physical world together, with the aim of improving quality of life which enables prompt and efficient service delivery by creating digital representation of physical attributes or objects. Digitalization concept is that aspect that deals with the change analogue knowledge and information to a stored digital form of knowledge and information. It has been evokes and evolving since 1960s. It entails the processes that provide business value due to consumable data needs. Gupta (2020) view **d**igitalization as the enabling or improving processes by leveraging digital technologies and digitized data. Digitalization promotes true and fair view reporting which is one of the most significant communication skills that every accountant should possess. Such accurate and timely provision of information is a proactive step that supports credibility, quality decision making and put an organization ahead of others as well as reduces lagging encumbrances. Hence, it is believed that timely provision of information eliminates wrong perceptions and misunderstandings by users of accounting information (Enyi, 2016).

Digitalization increases productivity and efficiency while reducing costs. Digitalization improves an existing business process or processes but doesn't change or transform them. That is to say, it takes a process from a human-driven event or series of events to software-driven. Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business (Enyi, 2016). The purpose of digitalization is to enable automation, increase data quality, and collect and structure all that data by the application of advanced technology, such as better and smarter software. It allows governments to operate with greater transparency and efficiency. Digital strategy focuses on using technology to improve business performance (Gupta 2020).

The concept of digitalization deals with that aspect of transforming analogue knowledge and information to become a stored digital form of knowledge and information. This provides easier access to knowledge and information in real-time and enables a global exchange between people and plugged in digital appliances. The difference between fully functional digital accounting businesses and non-digital ones is that the digital firms use cloud tools, analytic tools, social tools and mobile devices for their internal and external activities. While the traditional accountants get stuck in finding solutions for diversified and/or complex business challenges with digital tools because they lack the ability to use them and how to navigate between the digital technological

tools. This deficiency makes them to stick to analog and non-integrated systems, which is not a one-stop-shop system of business operations and such can lead to time wastage and make the entire reporting process a less effective one (Hoffman, 2017 Hatherly, 2013; Osintsev, 2013).

Generally, fully digitalized accounting firms are seen to have more effective actions, tools, knowledge sharing and communication than others not fully digitalized firms. To catch these strategic advantages, accountants should have innovation strategies and be able to quickly disrupt the accounting business through digitalization. The key for successful digitalization often relies on supportive frontiers that embrace innovation, digitalization and the involvement of employees. Accounting frontiers need to create and project a clear culture striving for digital transformation and innovation. To buttress this, Kane et al. (2015) accentuated that what actually drives digital domiciliation in firms is the adoption of coherent and clear digital strategies in the system.

When accounting firms develop and adopt end-to-end strategic model in managing their accounting operations, and also allow employers and clients to have access to digital tools, it will lead to data accuracy, time-saving, cost reduction etc. because all the data are likely stored in one place and can be accessed with ease, comparison can be made without any encumbrances, it provides easy visibility, painless tracking/traceability as well as enables tailored customers advising. Other advantages that digitalization brings are that it removes distance communication gap, improves efficiency and allows distant consultation of old and new clients (Kane et al. 2015).

Digital Innovation in Accounting

Digital accounting can provide value to the accounting palace by introducing new strategic methodologies, services, and technology to meet the needs of new customer groups and open up new markets (Southern Cross University, 2016). Innovation may be defined as the process of transforming an idea into a product or service and determining how such created economic value satisfies the needs/demands of customers and businesses. Innovations seek to increase or create new value from resources in all corporate operations (Rogers, 2003). Typically, innovations are either revolutionary or evolutionary. Evolutionary innovations can be thought of as marginal advancements in processes and technology. While a revolutionary invention is disruptive and novel, and it is also known as a disruptive or discontinuous innovation. A revolutionary innovation creates a new market or the necessity to fulfill a previously difficult-to-please client group (Business Dictionary, 2016).

The digitalization of the accounting industry has been perceived to be based on new technologies that generate better and innovative solutions, forcing accounting firms to adapt to the new technology and modify services and goods supplied (Southern Cross University, 2016). Accounting digitization might thus be viewed as a game-changing breakthrough. Disruptive innovations, according to Abernathy and Clark (1984), are goods or services that fulfill new consumer groups or market segments that did not exist previously, and/or are products or services that render old processes and products obsolete (Abernathy and Clark, 1984). Disruptive inventions open up previously untapped areas and provide high-return possibilities by allowing companies to be first to market. Technology transitions are triggered by disruptive developments, which indicate that modern industrial digitalization is a disruptive one (Christensen, 1992). Conservative innovations, also known as incremental innovations, are a succession of tiny enhancements to current goods and product lines. (Christensen, 2016).

Disruptive innovations, according to Christensen (1992), are difficult to profit from at first compared to standard technologies, but they are crucial to invest in. Otherwise, more businesses will follow suit and exceed the market in a few years (Christensen, 1992). Disruptive innovation has a positive force that propels the development of new technologies and services. Christensen

(2016) accentuated that a balance between sustainable and disruptive innovations entering the market is critical because they push each other's advances, and develop new technology that is fit for a long-term market existence. As a result, accounting's digitalization is a revolutionary and disruptive breakthrough that must be treated as an industrial technological transition or paradigm shift.

Accounting digitalization evolution

Accounting is said to have originated over 7000 years ago and has since expanded beyond bookkeeping to include a comprehensive idea for expressing financial information about a company (Boundless, 2015). Accounting is today defined by the American Institute of Certified Public Accountants as the art of documenting, categorizing, and summarizing, in a meaningful manner and in terms of money, transactions and occurrences that are, at least in part, financial in nature, and evaluating the outcomes thereof. Accounting may be interpreted as the process of organizing and managing financial data in order to manage a company's internal and external stakeholders (ICAEW, 2018; Boundless, 2015).

Accounting is "the language of business," and it entails both internal and external reporting of financial data. Internal accounting, also known as management accounting, focuses on operational choices and is shared with all internal stakeholders, such as managers and corporate owners (Boundless, 2015). This aspect deals with the provision of budgets, strategic financial decisions reporting and interrogates the firms' financial performance (ICAEW, 2018). External accounting which is financial accounting entails the reporting of financial information to external stakeholders (Boundless, 2015). It is organized in accordance with relevant and applicable statutes, like the Generally Accepted Accounting Principles (GAAP), International Financial Report Standards (IFRS) and Financial Reporting Council (FRC) guidelines for Nigeria accounting (ICAEW, 2018; ICAN, 2015).

Paper based accounting is the pure form of analog accounting and was the first accounting technique used to manage and store data. Analog accounting also incorporates real life customer meetings and traditional hourly billing. Today, when an accounting company is not fully digitalized, they are likely to use offline software that stores data in different offline systems, divided in different software programs as well as analog storage. This makes the processes of collecting, analyzing and storing data more complex, time demanding and demands parallel data storing. There have not been many transformational shifts in the accounting industry, considering the age of the profession. The first large shift was when the computers were invented in the 1980's, until then accounting had been done only analogue. Computers made offline software available and made accounting easier to manage more efficiently. But still today, analog principles and tools are part of many accounting companies' daily work.

The second large technological shift for the accounting industry is the ongoing digitalization. This shift has digital tools like software programs, blockchains, online tools, cloud solutions, webinars, digital storage of data etc. given the accounting industry an opportunity for digitalization. When communicating financial information through the help of digital tools and methods, the processes of accounting can be defined as digitalized and is called digital accounting. For the accounting industry many day-to-day processes have been exchanged with new technology and it is at present digitalized to a high extent internally in many businesses. The digital opportunities are becoming more and more accepted and integrated in the accounting industry but at the same time, the digital technologies keep developing better and provide other solutions. This force accounting companies to take a stand in not only if they should adapt to the new technology but also of how to change their services and products with the digitalization changes in order to maintain competitiveness. The benefits of digitalized accounting are basically divided into three categories:

Streamlining processes; Access and comparison of data can be done faster and give more flexible working procedures (Southern Cross University, 2016, Hatherly, 2013; Osintsev, 2013)
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A trend occurring with digitalization of the accounting industry is leaving the traditional billing system with hourly billing for client communication. Digitalization and the efficiency it has brought the accounting industry through the benefits mentioned above, makes it possible to take fixed fees and package the company services. Digitalized and computerized online accounting tools will make the business more: automated; more accurate in details and numbers; easier access to data; more reliable data due to the automation; more secure storage through cloud storage; more cost and time efficient; easier overlook of the data and the scalability of the company to grow is less complicated when it comes to documentation (Southern Cross University, 2016).

Disruption of the accounting profession

Due to technological advancements, the accounting profession is undergoing change. The world-wide web (WWW), smart sensors, cloud computing, robots, and artificial intelligence are merging to change the way organizations function. ICT is expected to drastically impact the accounting profession during the next decade. Knowledge-based systems and other artificial intelligence applications are the second leading innovators in the industry (Hoffman, 2017). Artificial Intelligence (AI) and robotics are at the forefront of technological change. Robotic process automation (RPA) refers to the automation of structured and rule-based processes. RPA is not clever in the sense that it can't adapt to new situations or make difficult judgments (Zhang, 2018). Accounting businesses and RPA enterprises are working together in the field of RPA.

Information Technology is anticipated to improve financial reporting credibility, accuracy, and communication, as well as providing chances for accountants to add value, do more in-depth analyses, and provide timely financial advice. Not only will IT-enabled accounting transformations automate simple bookkeeping chores, but also complicated, multifarious procedures such as financial closure processes, fraud detection and forensic investigation.

The profession anticipates that the adoption of digitalization (artificial intelligence or smart software) in accounting will enable improved and near real-time provision of accounting information, allowing accounting practice to migrate from hindsight analysis to predictive evaluation, where robust emphasis can be placed on the overall connectivity amongst the financial, operational and market performance of the organization. This indicates that the accounting practitioners and academics have the responsibility to align, reassess and proffer adaptive solution for the profession's future with proactive steps on how to embrace digital innovation (World Quality Report 2015; United Nations, 2005; Zimmermann, 2000).

The Roles and Challenges for Accounting Practitioners

Despite the fact that technology advancements are expected to alter the accounting profession in the next years, there is, currently, a serious lack of accounting professionals with the necessary abilities to take advantage of these advancements. Accountants will need to learn new mindsets and abilities in order to properly exploit technology. In this regard, academics or training programmes capable of equipping accounting frontiers with technology abilities that they may bring to the future workplace is being advocated and canvassed. To effectively leverage modern technology, accountants will need to develop new paradigms and skills in order to take advantage of digitalization. In this regard, academics or training programs capable of equipping accounting frontiers with the relevant technological skills that they may bring to the future workplace has become paramount as the day goes by.

Many business employers have expressed their view that, in order to better prepare accountants for the opportunities and challenges ahead, existing curricula should incorporate analytical exercises to prepare/help accounting practitioners develop proficiency in data creation and analysis, in addition to core accounting knowledge. At present, firms are frequently required to

form two different groups, one with accounting competence and the other with technical experience, to collaborate on complicated challenges needing both groups' skills. Such challenges can be rectified and become advantageous for the accountant if he possesses both skills. Within and between businesses, these experiences include the development of skills and knowledge related to data generation, data sharing, data analytics, data mining, data reporting, and data storage (Zimmermann, 2000).

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The 2021 conferences of the Institute of Chartered Accountants (ICAN) and the Association of National Accountants of Nigeria (ANAN) in Nigeria emphasize the importance and use of information technology in accounting. They view it as a key re-engineering function and strategic aspect that has the potential to reshape or reposition the country's economic future and development. As the accounting industry evolves, essential skills such as digitalization and data analytics will become more in demand.

It is worth noting that, disruptive technologies such as artificial intelligence (AI), robotic process automation (RPA), block chain, advanced analytics and smart contracts have recently reshaped existing business models and facilitated the emergence needs of new ones in which repetitive and routine tasks have become less significant, leading to the increase in demand for high-level skills (Enyi, 2016).

Though, it may take some time before these technologies have a significant impact on the workplace in Nigeria. However, the present "entry-level" employment that need little or low-level cognitive abilities may become obsolete. According to the work of James Manyika et al., titled "Jobs Lost, Jobs Gained: What the Future of Work Will Mean for Jobs, Skills, and Wages," and McKinsey Global Institute, (2017), revealed that minimum of 50percent of the work that accountants and other professionals are paid for can be automated using currently available technologies, with another 15percent automatable using forthcoming technologies. In most developing nations, curriculum and educational techniques have remained largely unchanged, but with the mounting pressures of digitalization efforts and creative attempt in higher place of learning, the void may be filled substantially.

How Should the Profession Adapt?

The automation of repetitive operations will result in a significant reduction in the workforce required for conventional assurance work, but it will also increase the demand for personnel with IT and data analytic capabilities. As a result, disruptive technologies are driving accountants to develop new skills, particularly in the areas of information technology, statistics, and modeling. To meet the ever-changing demands of the workplace, the education model must likewise be current. The ICAN, ANAN and Nigeria Universities, which create the uniform certified exam and accounting education, should place a greater emphasis on higher-level abilities, such as analytical, critical, and creative thinking, and less on memorizing and mechanical rule application. The certification bodies should also think about expanding the IT, cybersecurity, and data analytics exams subject. To broaden the course pool, business school accounting programs are urged to launch additional courses linked to IT and data analytics. Accounting professors may find it beneficial to include big data analytics and IT into current traditional accounting courses including financial accounting, auditing, taxation and management accounting. This will broaden and challenge the mindsets of accounting instructors.

New teaching approaches, such as online teaching, course modularization, or a combination of online and physical teaching, should be explored by traditional business schools. Special certificates for new course modules, such as cybersecurity and audit data analytics, might be offered by business schools. Classes can be recorded and saved on the internet for later study and reuse. Educators should also promote a lifetime learning mentality and educate students on how to learn new things and adapt to changing environments, producing future-ready accountants.

METHODOLOGY

The objective of this study is to create awareness of how digitalization is disrupting accounting services in Nigeria and the need for accountants to take proactive steps in meeting this modern reality challenges using ICT. Secondly, the study gives impetus on how the academic domain could shift and expand the accounting knowledge in providing the necessary skills for the future economy. To achieve this, the study makes reference to collections of thought on the global clarion call for digitalization that is causing a paradigm shift in the world of accounting services which has formed the key basis of our discussion. The study used explorative and qualitative research method to build the argued positions. This method is usually adopted in construction studies of this nature and it is considered suitable for realization of this study's objectives.

The way forward

Accounting digitization may result in a significant movement toward the notion of triple entry accounting—a system in which all accounting entries involving outside parties are cryptographically protected by a third entry. It is accomplished through the use of Block chain technology, which allows all entries to be present in a public ledger, fostering trust and transparency. Accounting digitization may raise the relevance of Key metrics in company. Accountants will need to find a means to stay up with changing company demands, as well as be willing to creatively adapt approaches and understand how to harness the metrics influencing their organization. This is viewed as a must for future business in order to give meaningful value and remain competitive. With the advancement of digital accounting technology, an increasing number of businesses are incorporating the Virtual Workforce model (Cloud) into their operations. The cloud digitalization enables accounting information users to interact easily and stay connected, while business owners profit from its productive opportunities. Accounting professionals who embrace this change will flourish, while those who do not will encounter hiring and job retention challenging issues.

However, there is still much more teaching to be done, and many firms are still in the early stages of adopting full-fledged digitization in developing nations, more especially the small and medium scale enterprises (SME). The most significant perceived impediment to widespread adoption of digitalization is the expense. More especially, inadequate infrastructure/technocrats, as well as poor data quality, have been cited as major concerns. Again, there is still much more education to be undertaken and the journey to full-fledged digitalization adoption is still in its infancy stage for many organizations in Nigeria. The largest perceived barrier to wider adoption of digitalization is cost.

Digitalization adoption has both short and long run benefits, because it relieves the workload by allowing the accomplishment of task within the short space of time. Therefore, to transform the organizations as well as guarantee ethical adoption of digitalization, a well-thought-out transformation program must be supported and pushed from the top. That is, the accounting professional bodies and academics in Nigeria should incorporate ICT, cyber-security, block chain and data analytics subject into the accounting curriculum and encourage present practitioners to undergo retraining in ICT.

CONTRIBUTION AND CONCLUSION

As ICT tools and devices permeate practically every part of our lives, the divide between technology and society is blurring. Companies are pondering new ways of doing business in such a dynamic and difficult setting as the economic sector. The notion of digital technology is becoming more popular as time passes, and an increasing number of businesses are becoming digital in order to increase their productivity and reap a variety of other benefits. The digital accounting paradigm enables all company stakeholders, including business owners, accountants, auditors, and clients, to interact closely by accessing up-to-date financial data at the same time.

Finance and accounting professionals have a rare chance to "step up" and be at the forefront of many organizations' reform efforts. Hence, digitalization of the accounting function has potential to sustain the profession, if adaptive approach is applied. Such ICT acclimatization and usage will lead to quality service delivery, financial openness, credibility reporting, cost reduction as well as enable accountants to meet up with modern digital innovation tools and strategies, which indicate a good way of sustaining the survival of business.

Digitalization of the accounting business has caused a significant change on the accountants' role, due to automation of many routine task and assignments. This will put pressure on society to change accounting education to meet future demands for accountants' services. Accounting firms should aim to play a more active role in leading modifications to meet anticipated future needs.

This article focuses on digitization and the responsibilities of the accounting profession in adjusting to and overcoming the shift's challenges. Therefore, we examined the perspectives of the business and the accountant on these technologies. We outlined many benefits provided by digitization and explored the most significant concerns raised by both business owners and accountants.

The scope of the paper is narrow, but it addresses digitization and the accounting paradigm from a service-oriented perspective. Additional study might be conducted to look at the economic repercussions and effects of this shift. Digitalization has the potential to fundamentally alter our world and redefine globalization as we know it. If accountants give technology a chance to prove itself, the accounting profession could eventually become a globally standardized entity, propelling and allowing businesses to reach new heights of efficiency.

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