THE EFFECT OF CLOUD-BASED TECHNOLOGY ON ACCOUNTING PRACTICE DURING A PANDEMIC

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Abstract
Advances in technology are bringing new models in organizational management, control and survival strategies. Cloud-based technologies offer accountants and their clients' new opportunities and challenges during the corona virus pandemic and beyond. It is in the light of this that the study carried out an assessment of the effect of this emerging technology on service delivery and productivity of accountants during the COVID-19 pandemic lockdown. Available literature, reports, commentaries, etc. were reviewed to collect data and obtain insights into the subject matter of the study. The study found that in spite of the various challenges militating against the adoption of cloud computing in Nigeria, a good number of significant business entities have adopted cloud computing model in planning, controlling and decision making. During the COVID-19 era, business managers and staff of organizations that have upended operations to the cloud were able to work remotely and gained economic benefits. Accountants in public practice also took advantage of cloud-based technology not only to offer services to their clients remotely but also to dabble into new areas of service delivery that were occasioned by the pandemic. To this end, the study recommends that accountants should invest in additional hardware to improve efficiency and productivity since working remotely may now become the new normal. It is equally recommended that identified challenges facing the adoption and growth of cloud-based technology in Nigeria be addressed by stakeholders concerned without further delay.

Keywords: cloud-based technology, challenges, COVID-19 pandemic, accountants.

Introduction
Information and communication technology has brought unimaginable changes to the business world thereby driving competition and enhancing performance of organizations. Accountancy profession is being vigorously challenged to embrace these technologies or face the consequences of being left behind. A range of new technologies designed to offer consumers broad range of economic benefits have been introduced and they include amongst others Big data, mobile technologies, cloud computing, the internet of things (IoE) and artificial intelligence (AI) (Al Ajlouni, & Al-hakim, 2018). There are debates as to whether these emerging technologies are meant to dislodge the accountant from his traditional roles or transform him to other areas of service delivery.

Accountants that are abreast with technology know that cloud-based office and accounting platform has been in existence for over a decade. The platform offers organizations instant access to data anywhere so long the organization is connected to the internet (Jose, 2015). In a report published by ICAEW (2020), Oliver Deacon was quoted to have said that “for working in the cloud, the three key elements that are needed are people, tools and processes and once an organization has upended to the cloud, its tools and processes can be used anywhere” (ICAEW, 2020). Accountants are encouraged to move their finance processes to the cloud since it provides cut-edge result that is amazingly error-free aside from providing access at remote locations (Delalio, 2020). The COVID-19 pandemic is seen as the big jolt that is needed for business owners and managers to massively move their operations (including accounting operations) to the cloud. Cloud accounting platforms can be enabled through laptops, tablets, ipads and smartphones thereby providing access worldwide once there is internet connectivity. With efficient service delivery and uniformity of access across departments, cloud-based accounting systems eliminate data entry errors and provide stakeholders with high quality information to make economic decisions in a timely manner. It offers among other benefits easy accessibility at any time anywhere in the world, timeliness of information, scalability, affordability and better collaboration among departments (Jose, 2015). Cloud based platforms like Xero, QuickBooks Online, Sage Business Cloud, etc. can be easily integrated with other systems such as payroll, inventory, e-commerce, time-tracking and practice management (ICAEW, 2020). Additionally, cloud-based robotic
process automation interacts quickly with other processes thereby providing the organization processes that are highly automated and standardized with amazing time-delivery. The accounting solutions provide certified professionals with quality data needed for making strategic decisions required for achieving organizational objectives.

**Research Objective**

The objective of the study is to assess the effect cloud-based technology on service delivery and productivity of accountants during the COVID-19 pandemic lockdown.

**Methodology**

To achieve the objective of the study, secondary sources of data were used. They include published archival reports such as journals, newspapers, past research reports, written commentaries, etc. on the subject area. Therefore, the study is exploratory in nature.

**Literature Review**

The IT industry is constantly evolving based on increased customer demands. This has lead IT experts to introduce what is referred to as service-oriented architecture wherein IT resources are provided to customers ‘as-a-service’. Cloud computing is a product of the need to provide IT resources to consumers as a service (Iwuchukwu, Atimati, Ndukwe & Iwuamadi, 2017). This service is characterized by paying for IT resources that are shared over a networked infrastructure in a scalable and elastic format. This service is provided to consumers through a web browser or internet and are in various models which include software (software-as-service); hardware (infrastructure-as-service) or technology tools (platform –as-service) ((Mell & Grance, 2011). The model commonly used by accountants is software-as-a service (SaaS). With cloud computing, computer software and hardware architecture are offered in the cloud through the internet or a virtual private network.

Various definitions have been put forward for cloud computing. According to Mell (2009) the American National Institute of Standards and Technology defines cloud computing as a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Priya (2011) sees cloud computing as a technology which provides an organization or business with a service through which the organization makes use of the computer hardware and software provided notwithstanding that these were not actually installed on the organization’s computer system; the fact being that it is provided for the organization as a service by another organization and accessed over the internet.

Youseff et al (2008) see cloud computing as a new computing paradigm that allows users to temporary utilize computing infrastructure over the network, supplied as a service by the cloud-provider at possibly one or more levels of abstraction. It can be inferred from these definitions that cloud computing is an emerging technology that allows organizations or businesses the use of computer resources (hardware and software) provided by another organization over the internet. Implicitly, the user organization actually outsourced its IT and computing requirements thereby avoiding the investment needed for the acquisition of these resources.

Cloud computing is a shared service architecture that supports business processes for efficiency and profitability with a significant effect on the organization’s financial and accounting processes (Brandas, Megan & Didraga, 2013); a scalable and elastic computer service that provides shared pool of configurable IT resources (such as processing, network, software, information and storage) through a networked infrastructure based on customer demand (Carroll, van der Merwe, and Kotzé, 2011). The service is provided on a pay-as you use or subscription basis with little or no management effort and based on service level agreements between the service provider and consumers through the utilization of virtualization resources (Carroll, van der Merwe & Kotzé, 2011).

Services offered by cloud computing include software, information technology platforms, storage and/or other infrastructure in the cloud through the internet or web-based tool while its layer are hardware (physical parts, i.e. servers and the network components), software (i.e. operating systems), virtualization resources (enabling pooling and sharing of computing resources) and applications (Carroll, van der Merwe & Kotzé, 2011). According to the
US National Institute of Standards and Technology, the essential characteristics of cloud computing include on-demand service, broad network access, resource pooling, rapid elasticity and measured service and it can be deployed as a private cloud, community cloud, public cloud or a combination of all these (Mell & Grance 2011). The major attractions of cloud computing that make managers adopt it in business processes include ease of use, cost reduction, reliability, scalability, flexibility, agility, information sharing and collaboration (Gupta, Seetharaman & Raj, 2013; Carroll, van der Merwe & Kotzé, 2011). However, researchers generally agree that the major impediment to cloud accounting is the absence of proper security over financial data in the cloud (Tahmina, 2017; Gupta & Guar, 2018; Rao, Jyotsna & Sivani, 2018) since professional hackers can conveniently break into the system and corrupt, steal or manipulate organization’s valuable financial data stored therein.

Cloud Accounting Model Application in Nigeria

Cloud computing can be applied in the accounting context and when this is done we have what is called cloud accounting which literally refers to the access of accounting software and data through the internet (Onyali, Okafor & Egolum, 2016). Egiyi and Udeh, (2020) noted that Ping and Xuefeng originated cloud accounting in the year 2011 and described it as “the utilization of cloud computing on the internet to build a virtual accounting information system”. It is a new accounting model designed to support business operations by providing real-time accounting information needed by managers to fulfill their traditional role of planning, controlling and decision making. It presents a paradigm shift in the way businesses process and store data (Shah, Malik & Malik, 2011).

In this accounting model, an organization obtains the use of accounting software from the service provider and not the software itself (Egiyi & Udeh, 2020). A service provider hosts the accounting software on a remote server while the organization using the service stores and accesses data through an internet browser. Cloud accounting involves an organization having access to its accounts on any device through the use of an app or web browser from any location where there is internet connectivity. Owolabi and Izang (2020) see cloud accounting as a valuable tool for micro, small and medium scale enterprises in Nigeria. Amongst the benefits that are likely to accrue to an organization deploying cloud accounting model in their businesses are affordability, security and accessibility to accounting information and company data at remote locations. In spite of these benefits, however, most companies still choose to operate traditional accounting software (Egiyi & Udeh, 2020).

There is quiet optimism and anxiety in the cloud computing and accounting market in Nigeria. Data security and safety, government policies, unstable and low-speed internet connectivity and the poor state of infrastructural development in the country are some of the reasons been adduced for the slow growth of this technology in the country (Egiyi & Udeh, 2020; Iwuchukwu, 2017). Many organizations that would have moved their accounting services to the cloud fear for the security of their data which might be the target of hackers or competitors to whom valuable business secrets might be exposed.

The poor state of infrastructure in Nigeria (especially power) is another major concern which restricts internet access to only major cities in the country to the exclusion of rural communities. Government agencies and private IT sponsors have made tremendous efforts at making businesses (big and small) adopt cloud accounting technology in Nigeria. However, adoption has been slow because of the fear of the unknown notwithstanding the innumerable benefits of cloud computing. Muhammed, Zaharahdeen, Ruman and Turaki (2015) succinctly put the challenges facing the full application of cloud computing in Nigeria to include: poor quality of internet services; unavailability of internet services in some areas; fear of hackers; absence of privacy; lack of technical skill on the part of service providers; inflexible legal framework or absence of it; lack of information or awareness on the benefits of cloud computing technology; unavailability of needed infrastructure to establish cloud computing across Nigeria and above all insecurity of lives and property that hinder cloud technology providers from investing in Nigeria. Muhammed, et al (2015) report that a survey conducted by Cisco and World Wide Worx in 2013 on the adoption of cloud services by businesses (small, medium and large) puts South Africa, and Kenya ahead of Nigeria. A survey conducted by the Cloud Accounting Institute (2013) found that 74% of managers prefer to adopt cloud solutions in the area of accounting and financial management.

In spite of all these, however, cloud computing has been adopted by some significant business entities in the country which has also brought about innovations in the way businesses are conducted. For instance, Egiyi & Udeh (2020) report that the collaboration between some IT services providers made the Central Bank of Nigeria and some Money
Deposit Banks adopt cloud computing which also informed the introduction of the Uniform Bank Account Number (NUBAN).

Also, electronic testing and grading system (i.e. computer-based tests) is made popular in the country due to the offer of cloud computing services by an IT services provider to Electronic Test Companies for the conduct of tests and examinations in Nigeria and this has facilitated the conduct of efficient computer-based tests and examinations devoid of fraud and manipulations that usually characterize paper-based examinations in the past (Nnadozie, 2016). Google reportedly partners Descasio Ltd to provide cloud services to organizations such as Coscharis Group, Transcorp Corporation and many others (Nnadozie, 2016). The public sector is not left behind as NNPC was reported to have built a private cloud in 2012 while the Rivers State government in partnership with MTN and GLOBACOM has upended some of its operations to the cloud (Nnadozie, 2016; Udofia, 2015).

Cloud Computing and COVID-19 Pandemic

The COVID-19 pandemic had brought about tremendous changes on the ways businesses are conducted. Businesses conduct operations remotely during the pandemic and are still doing so. Thanks to technology solutions which were deployed by organizations across the globe and which made it possible for business executives and their staffers to work from home. Many are using cloud and mobile apps to expand their business horizons and collaborate with clients and/or customers. Working remotely has forced people to upscale their IT skills so as to make full use of the organization’s remote-access workflow and file-sharing solutions during the pandemic (McKeon, 2020).

Just like COVID-19 had its disruptive tendencies on business operations, cloud and mobile computing has upended global business; thanks to the pandemic. Today’s technological advances in the areas of cloud computing, remote access systems, mobile technology and video conferencing capabilities made it possible for business executives and their staff to work remotely from home without which company’s operations would have grounded to a halt. Organizations that do not have the option of working remotely or whose business model could not support off-site operations are bearing the brunt of the lockdown both financially and otherwise. Thus, cloud-based technology remains one of the powerful tools that organizations used to remain afloat during the pandemic (Arrowsmith, 2020).

SmartVault, in its state of accountants survey 2020 (a survey that gauged the impact of COVID-19 on the accounting profession) found that majority of accounting practice firms who were able to successfully negotiate the COVID-19 era were using cloud based technology; those that were less successful in responding to the pandemic devoted their resources to deploring new technology in order to enable them communicate with colleagues and clients while firms that have already deplored cloud system before the pandemic fared far better than firms that did not deplored any (Arrowsmith, 2020). The survey showed the critical need for technology by accountants in public practice in navigating the COVID-19 journey.

COVID-19 Pandemic and Accountancy Practice

Accountants have no choice but to design strategies that will allow them cope with the changing times. Public practice firms and their employees have to work remotely to service clients during the pandemic. A lot of innovative resources and services such as webinars, videoconferencing and the likes were put up to inform, interact and educate themselves and clients on way forward. Technology (such as cloud computing) has greatly assisted practice firms to continue rendering their traditional services to clients remotely, a survival strategy for the accountancy firms and their clients. Wilson, (2020) posits that in order to be able to use technology to work remotely, accountants have to sharpen their technological skills through online crash programmes or simply doing it at home. The COVID-19 pandemic afforded a lot of people (especially accountants) opportunity to widen their technological horizon so as to remain relevant and service their clients better. The pandemic also afforded firms to dabble into other areas of service delivery like provision of advisory services. These include helping clients with forecasting cash flow requirements, raising funds and assisting clients acquire technological skills to be able to work remotely (Wilson, 2020).

The corona virus pandemic provided one of the biggest challenges to the auditing profession. In line with present day reality, the professionals had to contend with whether it is ethical or not to perform audit work outside their clients’ offices. Dohrer (2020) observed that the auditing standards have not addressed the issue of how to obtain audit evidence needed to support auditor’s opinion on the financial statements in the atmosphere of remote working.

The profession, (AICPA) however, came to the rescue by offering advice, through its free in-depth resource page on how auditors can handle the challenge of auditing outside the client’s premises; how to handle going concern issues occasioned by COVID-19 pandemic; forms of audit report in the present day situation and limitations in the scope of the audit. Other elements of the audit that needs attention are subsequent events as well as risks and uncertainties (Dohrer, 2020).

Conclusion and Recommendations

There is no doubting the fact that technology has impacted on the way businesses are being conducted and this impact came as a blessing during the COVID-19 pandemic. The COVID-19 pandemic has brought to light a lot of technology issues for accountants and auditors just as it did for other professionals. For sure, it may not be too much to expect that working remotely may now become the new normal in accounting practice. As a result, accountancy firms are advised to invest in additional hardware so as to ensure that staff becomes more efficient and productive. Staff members of professional practice firms and its clients are advised to sharpen their skills in the area of new technology so as to take advantage of new opportunities created. Also, there is need to consider improving connectivity at remote locations since working remotely may be more commonplace after the pandemic. There is additional need to prepare for new security breaches occasioned by changes in network and broadband to which the system is hooked since new cloud security threats may appear because of the new horizon.

References


