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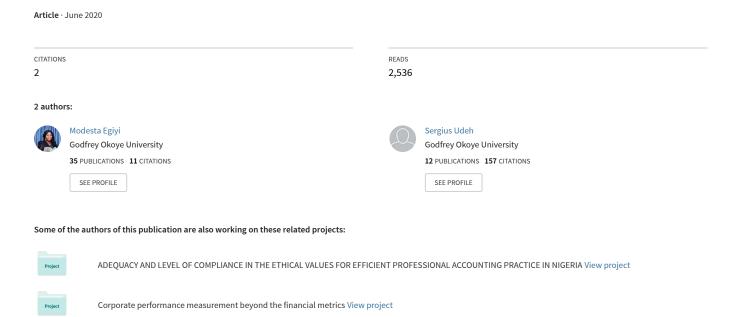
Overview of Cloud Accounting in Nigeria

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Abstract: *Accounting techniques have evolved over the years. The invention of technology and the continuous development behind it has evolved the practice of accounting in today's world. New and smarter ways of accounting practices are discovered, of which one of the most recent discoveries is the cloud accounting. This paper reviews the evolution of cloud accounting in Nigeria; its importance on accounting practices, what makes its superiority over traditional accounting models, the risk involved in adopting cloud accounting and how these risks could be curbed.*

Keywords: Cloud Accounting; Nigeria; Accounting Practices; Accounting Models

Introduction

Cloud accounting pervades all aspects of modern-day accounting and it has been practiced in consonance with the rapidly changing technology. Cloud computing is changing the way industries conduct business and with the rise of online business transactions, accounting cannot be limited to a desktop computer or office server. With the evolution of cloud accounting, almost all data and comprehensive financial transactions can be stored from anywhere. Accounting principles and practices have been advancing rapidly in today's business world and while the rules of the global economy are more or less constant, the advancement in technology, the emergence of cloud accounting, has made the accounting system more potent than it was (Dianasmith, 2017). In view of this, Johnson (2019) advises that cloud accounting software should adapt their typical business faster to keep up with the new anticipation of customers as demand for cloud accounting becomes apparent.

Cloud accounting is usually managed by Cloud service providers (CSPs). Cloud services are accounts stored on a server. Companies can either choose dedicated cloud services or shared cloud services depending on their budgets. Cloud accounting software is generally believed to be faultless since it allows the access of cloud-based software from any device with an internet connection without excluding small business owners. With a software that can fit into a whole ecosystem of adjuncts, cloud accounting appears to be quicker, more consistent, and cost-friendly (Rao, Jyotsna & Sivani, 2017).

The automation of accounting can be traced back to the 1950s (Matei, 2015). The occurrence of cloud accounting has profoundly enhanced the practice of accounting. Although, the use of accounting software has been invoked in the past decades, its potential over the years has been rather progressive leading to more sophistication in the recording, storage and interpretation of accounting data or financial information. The availability of cloud accounting over the network is processed through standard mechanisms that help promote thin or thick client stages such as mobile phones, laptops, and PDAs. The adaptation of the cloud accounting system enables technologies provide the path towards achieving efficient and sustainable online data service to the target market. Gartner reports that researchers in a company selects cloud accounting as the number one tendency that will transform the appearance of the business (Pcurari & Nechita, 2013). A report from IDC (2019) suggests that cloud accounting spending will grow from $229 billion in 2019 to nearly $500 billion in 2023. This projection shows that the adaptability and implementation of cloud services in businesses will increase by over 200 percent in 2023.

Why Cloud Technology?

Generally speaking, cloud accounting is recommended for a lot of reasons. It helps IT managers and data center management teams to have a whole understanding of both their internal systems and servicing IT alongside managed services in the cloud. Many initiatives recognize that cloud accounting software, infrastructure and platform delivered as on-demand services can offer strategic advantages in terms of scalability and cost-effectiveness so that systems can scale energetically to put up points in demand rather than be built for usage set-ups that rarely arise.

Maintaining Focus on the Business: For establishments whose core competency in business is not the ICT, a single application for their entire datacenter is often more cost-effective and more reliable. It also helps them reallocate their limited resources to grow their business.

Business Agility: The advantages of businesses with significant technology investments are evident in the way they respond to the shifts in the market or to competitive pressures. Investing in cloud accounting leaves the company with more capital, people and time making its response to negative shifts and competitive pressures more agile. Cloud accounting allows businesses to adapt to changing technologies without the cost of having an on-site data center.

Reduced Capital Expenditures: large capital investments are minimized or entirely eliminated in favor of small monthly payments to protect capital. Protection of capital can be keeping capital and operational expense at a minimum and this protection can be very important to small and medium businesses scale. Demands of cloud services by businesses that have peak periods or varied seasonal staffing allows the businesses to grow capacity temporarily to match their periodic business peaks, without buying the software, or hardware that would go to waste if they are not used when the business is slow.

Access from Anywhere: cloud accounting allows its users to do business from anywhere there is an internet connection. This is one of the benefits of cloud accounting.

Staffing Efficiency: Cloud services help sustain efficiency in staffing by allowing the outsourcing of major technology, and technology staff in order to save the business more cost

Specifically, cloud accounting stands out when compared to traditional accounting in the following ways:

I. The cloud-based system does not require a one-time purchase on a server for a business website, or the purchase of a program. This helps to cancel the costs of installation and the cost of paying IT professionals. As accounting techniques and tax rules change, one would not have to buy and install updates since the yearly or monthly subscription covers the cost of updating.

II. Real-Time Information Updating: One of the common problems with traditional accounting systems is updating accounting information. To effect a change in a figure, it must be manually recorded in each location where the figure had been inserted for instance, in ledgers, forms, and so on. Cloud accounting populates each location when new data is entered and where necessary. Cloud accounting conserves money, time, and energy.

III. Accessibility to All Accounting Information: The limited access to information associated with traditional accounting systems by means of restricting access to only when a professional is available at the office to review the paper-based work or information stored on the desktop has been taken away by the advent of cloud accounting. Accounting records are as close as the mobile device as long as one has internet access. For instance, a business owner who travels very often can keep up with the financial records at any place and time and consequently make the necessary decisions with his mobile device. Giving them a chance to keep up with their roles in the office without necessarily being there.

IV. Security of Financial Information: Cloud accounting is also important because it keeps all financial information secured. Storing information on a desktop is not a good way to store the information because the system might be attacked by a virus leading to loss of all the files stored therein. Furthermore, there is a chance that someone could steal the file from the office/personal system but if all the financial records are stored via the internet, there is no loss even if the desktop and hard drive files have been hit by a virus because it is accessible through the cloud.

V. Team-Wide Availability: Cloud accounting is beneficial to the entire business team because accounting data is available to all authorized users at every moment. It is easily scalable. It is very easy to add new users—just by setting up an authorized profile and password. Collaboration is made better and easier. There is no need to gather in one office and take turns to review important documents. Every authorized user can access accounting data from wherever so long as there is the internet.

VI. Immediate Fixes: In the traditional accounting system, if there were any problems with the program, users were required to wait patiently for the next version for the bugs to be fixed. Among the benefits of cloud accounting, fixing software issues immediately is among the most important.

VII. Automatic Data Back-Up and Restoration: Another area where cloud accounting comes in is automatic data backup and restoration. This helps secure the information in the event of a break-in, fire, or other incidents that could put sensitive and important information at risk.

Constraints to the Adoption of Cloud Technology

There are constraints associated with using cloud accounting. Cloud technology requires a constant internet connection which may not be possible always especially in Nigeria where the internet is yet to get to many areas. Moreover, it does not function well at low-speed. Security is another major concern for using the cloud because some confidential files might go viral as a result of a single mistake or service disruption. As cloud storage becomes more familiar, the data they hold becomes more and more of a target. When someone turns data over to the cloud, it is entrusted to a group of people who will never be met in real life. Some companies usually of large size with lots of sensitive data like banks and healthcare institutions would benefit from keeping their data safe restricted to the office space. Allowing working outside the company might prove risky because an insecure wi-fi collection allows unauthorized people to access the data. Many finance companies who operate an on-premise finance system fear to move to something as unfamiliar as the cloud with concerns bordering timing, software updates, financial data ownership and security, availability, recovery, and cloud ERP so they find it difficult to adapt to new systems.

State of Cloud Accounting in Nigeria

Low infrastructure, anxiety over the safety and security of data, and government policies are factors that slow the growth of cloud accounting in Nigeria. Despite the lots of effort, there has been a slowly dwindling reluctance to embrace this new technological trend in most of Nigeria's business circles. Ogunjobi (2015) stated that the resistance stems from their reluctance to allowing a third party to manage their technology assets. Cloud accounting technology provides the best path towards achieving efficient and sustainable online data service to the target market. Due to the cost of maintenance, there is a need to outsource these services so as to reduce capital and operational expenses. Similarly, according to Nnadozie (2013), Nigerian Airspace Management Agency (NAMA) deployed Windows Server 2012 which enables several functions and saves cost. An instance could be the collaboration between CISCO, NetApp, and Microsoft to provide robust cloud services to their users and subscribers. NetApp is used by the Central Bank of Nigeria (C.B.N.) as well as the top eight (8) banks in Nigeria. The introduction of Nigerian Uniform Bank Account Number (NUBAN) is a milestone in the Nigerian banking sector brought about by cloud computing. Iwuchukwu (2017) reported that the cost of infrastructure and software provisions are no longer borne by the individual banks alone, but are shared among banks to reduce the operational costs and thus, boost their profitability. According to Wyse, a cloud provider offers its services to Electronic Test Companies (ETC) in the conduct of examinations in Nigeria. With this development, testing will be fast and reliable; devoid of inherent fraud that characterizes the traditional paper-based examinations (Wyse, 2011). Udofia (2015) stated that another milestone in cloud technology was the MDX partnership. It was a partnership built on Microsoft Azure's enterprise-grade infrastructure which is flexible, mostly available, and fully secures the privacy of the company's accounting environment on a pay-as-you-go agreement. IT organizations and multinational data outfits are currently faced with the problem of dealing with big data concerning how these data can add value to individuals.

Cloud Accounting as a Different Business Model

Traditional accounting software is normally obtained as an invention and connected to the user's computer. Cloud accounting as a different new business model provides services but not as a product. In processing accounting data on the internet, companies acquire the use of accounting software from a particular service provider but not the software itself. Cloud accounting is revolutionizing how accounting applications are utilized and they are transforming the entire business world. According to Clear Books (2014), 'Accountants, like every other person, want to evolve, with online accounting systems, and better connectivity than was available twenty years back'.

Another characteristic that describes cloud accounting as a different business model is the ability to display the current financial state of the business. Relevant and current information is vital for any business decision, particularly, in very challenging and competitive circumstances. Businesses can either advance or vanish speedily depending on their adaptability to existing technological business models. Over time, traditional accounting will no longer be adequate (Păcurari & Nechita, 2013). Cloud accounting experts are of the opinion that those who adopt the innovative vision of new technologies would reap the fruits in the future. The representation of cloud accounting in all business sizes does a lot in avoiding significant expenses and time-consuming operations. Consequently, they concentrate on development, and innovation (Horton, 2000).

Concept of Traditional Accounting Versus Modern Cloud Accounting.

According to Banker & Johnston (2006), the traditional accounting information systems are designed to be capable of obtaining internal and external cost and market information, necessary to support strategic decision making, planning, and control. However, Christauskas & Miseviciene (2002) posit that traditional accounting methods prove to be of little support to businesses considering their inefficiency and inadequacy for modern day accounting requirements. Furthermore, Shah, Malik, & Malik (2011) observes that traditional management accounting to systems is inadequate in fulfilling the requirements of modern-day accounting. In the same manner, they contend that the focus of the system is similarly combined, too one-sided to be relevant for managers who plan, control and make decisions. Thus, it is imperative for managements to replace existing accounting information systems with new technologies in line with new demands so as to effect a paradigm shift in data processing and storage. Access to accounting software and data through an internet browser are involved in cloud accounting. The software is provided on a subscription basis and the data are stored on a remote server. The traditional accounting system includes the installation on either a workstation or local server and the purchase of software thus differs from cloud accounting. The cloud accounting applications and data are controlled through user login access as opposed to the physical location of the data files. In cloud accounting, the sharing of data is easier when compared to the physical movement of data from one computer site to another which happens in traditional accounting.

Cloud accounting was first put forward by Ping & Xuefeng (2011). They define cloud accounting as the utilization of cloud computing on the internet to build a virtual accounting information system. Mathematically, it is stated as cloud computing plus

accounting equals cloud accounting. According to Pyke (2009) and Buyya et al. (2009), cloud accounting can be defined as an intellectual collection of services available from any location using a mobile device with internet connectivity, provided through a similar spread to a system of virtualized computers that are interconnected and can be energetically presented as a computing resource, and supplied to a group of resources unified as agreed by the service provider and the user. The National Institute of Standards and Technology (NIST) also defines cloud accounting as a model that allows permanent, convenient, on-demand access to a joint network based on configurable computing resources which is easily available with a minimum management effort or a minimum interaction with the service provider. Armbrust (2010) beliefs that cloud accounting technology covers informatic applications provided through the internet, as well as the hardware and software equipment used in data centers for supplying these services. Low & Chen (2011) boons cloud accounting starting from the comparison with the e-mail, office software and ERP systems and adding the ubiquitous resources shared between more users. According to (Aggarwal & McCabe, 2013) cloud accounting features include service selection based on demand, wide access to the network, resource coalition, fast flexibility, agility, high scalability, and confidentiality.

Accessing accounts on any device and at every place that has an internet connection using an app or web browser is a cloud accounting system (O'Brien, 2013; Free Agent, 2020). Ace Cloud (2018) in correspondence to the former definition holds that cloud accounting refers to the use of accounting data hosted on a server, and an accounting software that is made available over an internet connection. In our own view, cloud accounting is an integrated, yet portable accounting system which uses accounting data from a server with the aid of a compatible accounting software through an internet facility in an electronic device. This implies that the essentials of cloud accounting include a server with stored accounting data, accounting software and an electronic device with internet facility.

Cloud accounting and traditional accounting software should be considered when planning. A business which uses cloud accounting is likely to reap more rewards. Over time, companies with a small budget would invest in cloud accounting software because it is more cost-effective than traditional accounting software. Also, businesses with employees who work remotely may prefer the convenience and accessibility of a cloud solution. Cloud accounting helps provide small businesses with adequate security that can keep their data safer from security threats, other companies, and to avoid any potential physical disaster in the office that could destroy hard drives, and data such as burglary, flood, fire, etc. Despite the benefits which are in cloud accounting, most companies still choose to operate in traditional accounting software. There are circumstances where traditional software may be beneficial which includes the following: businesses who want tight control over accounting data and do not want it accessed anywhere where usage cannot be directly monitored and there is a secure wireless network; companies that hold very sensitive financial information such as (banks, etc.) want no third parties to access it, and can completely control the level of security by keeping it in-house; Many cloud accounting software programs with uncertain future require a company to sign a usage contract which can be a problem for a company that does not know the existence.

Forms of Cloud Accounting Services

All cloud services are provided as a service and are offered in three forms according to (Khanom, 2017) such as; SaaS, PaaS, and IaaS.

Software as a Service (SaaS). The software distribution model which delivers a special drive software to the consumer to use the provider's applications in a row on a cloud set-up through the internet is referred to as Software-as-a-Service. This is the highest form of service. It is also referred to as on-demand software and is usually valued on a pay-per-use basis. The need to install and run the application on the cloud user's computers is eliminated which simplifies maintenance and support. SaaS provides access to applications using a subscription fee. The main disadvantage of SaaS is that the users' data are stored on the cloud provider's server.

Platform as a service (PaaS): This is also referred to as platforms-as-a-service. It is the software distribution model whereby a computing platform is provided as an on-demand service upon which applications can be established and arranged. It is a combination of software as a service (SaaS) and infrastructure as a service (IaaS) where demand developers can develop and run their software solutions on a cloud platform without the cost and complexity of buying and managing the original hardware and software layers.

Infrastructure as a service (IaaS): The software distribution model where the basic computing structure of server, software, and network gears are provided as on-demand service upon which a platform can be reputable, and completing of applications can be established is known to as Infrastructure-as-a-Service. The aims are to avoid purchasing, housing, and managing the basic hardware and software infrastructure components but instead to obtain those resources as virtualized objects controllable via a service interface.

Other Forms of cloud service include:

Cloud Network as a Service (NaaS): This is a category of cloud service where the capability provided to the cloud service user is to use network or transport connectivity services and inter-cloud network connectivity services (ITU-T, 2012). NaaS involves the optimization of resource allocations by considering network and computing resources as a unified whole (Gabrielsson, 2010).

Traditional Network as a service (NaaS): This is a cloud service which includes flexible and extended Virtual Private Network (VPN), and bandwidth on demand. NaaS is a concept of materialization that includes the provision of virtual network service by the owners of the network infrastructure to a third-party, which is the Virtual Network Provider (VNP) or Virtual Network Operator (VNO) (Carapinha, 2010).

Cloud Communication as a Service (CaaS): This is an outsourced enterprise communications solution that can be leased from a single vendor: such communications can include voice over IP (VoIP or Internet Telephony), Instant Messaging (IM), collaboration and video conference applications using fixed and mobile devices. CaaS has also evolved along the same lines as Software as a Service (SaaS). The CaaS vendor is responsible for all hardware and software management and offers guaranteed Quality of Service (QoS). CaaS allows businesses to selectively deploy communications services and models on a pay-as-you-go/ as-needed basis. An approach to eliminate large capital investments and ongoing overheads for companies whose capacity may often exceed or fall short of current demands. There is no risk of the system becoming obsolete and requiring periodic major upgrades or replacement (Rouse, 2008).

Models of Cloud Technology

According to Khanom (2017), there are four types of dispersed models of cloud technology.

Private Cloud: The cloud structure that is managed and operated for one organization only so that a steady level of control over security, privacy, and governance can be kept is known to be a private cloud. It can also be referred to as the internal cloud or on-premises cloud. It may be achieved by the group or a third party and may exist on evidence or off-premise.

Public Cloud: The cloud structure that is made obtainable to the public or a large industry group and is kept by an organization selling cloud services is called a public cloud. It can also be referred to as an external cloud or multitenant cloud. The cloud may be public or private – hosted for one company's use, often behind the company's firewall, if not on the organization's premises. 37% of IT strategists are either not sure or do not understand the difference between the public and private cloud while sixty-three percent of IT strategists say they understand the difference. Just 11% say they are set on using public cloud infrastructure and services built for usage scenarios that rarely arise. (SSL Consulting, 2019).

Community Cloud: This also known as special purpose cloud, which is a cloud structure managed by several related organizations participating in a common domain or vertical market is referred to as community cloud. It may be managed by the organizations or a third party and may exist on-premise or off-premise.

Hybrid Cloud: The cloud infrastructures with a composition of two or more distinct cloud infrastructures for instance; private, community or public, but are bound together by standardized technology that enables data and application portability is known as a hybrid cloud. It provides the benefits of multiple deployments.

The Consequence of Cloud Accounting

Cloud accounting gives the accountant instant and mobile access to clients' financial information. Although it is completely changing the way accountants work, the accounting profession is being polarized in respect of cloud technology and this categorizes the accountants broadly into one of the following three categories:

Category 1: Some accountants are terrified by the cloud and security concerns and are doing everything to avoid it. This category therefore, apply the 'Ostrich strategy' of burying their head in the sand, which is not wise.

Category 2: These accountants accept that cloud technology is here but are very concerned about its impact on profitability. The accountants see accounts as a commodity and if cloud accounting makes it easier to do the bookkeeping and produce accountants, then some clients will start to do the work themselves and others will expect lower prices resulting in less work and lower profits.

Category 3: The third group is excited about cloud accounting and the opportunities it presents to accountants. They think that cloud accounting can dramatically improve their efficiency and/or profitability. Therefore, they have found a way to adapt to the change and are reaping rewards through greater efficiency and profitability.

Conclusion

Cloud Accounting is adopted as a result of the inefficiency of traditional accounting practices. In line with the demands of the 21st century, it is imperative for the management of firms to replace existing accounting information system with the newest ones. The new system focuses on a new model data processing and storage in the cloud. Cloud accounting thus involves access to accounting software and data through an internet browser. The software is provided on a subscription basis and the data are stored on a remote server. The model usage is based entirely on what users want to achieve rather than any particular software, hardware or network infrastructure. Therefore, it is said that cloud accounting is task-centric. Despite the benefits in the adoption and implementation of cloud accounting, there still exists some challenges. Cloud security challenges in 2020 according to Chaudhary (2020), the cloud security challenges have stalled the adoption of the cloud technology. 73% of companies rank security as a major concern over the adoption of cloud services while 38% worry about regulatory compliance and loss control. A large number of business managers lack the needed IT skills. As businesses address their compliance and security problems, they come to appreciate the benefits of cloud computing thereby increasing company policies to store data in the cloud and also invest in closing the cloud skills' gap.

Recommendations

Just like any new technology, the adoption of cloud accounting is not free from issues. These issues are putting fear in some of the companies to fully adopt and implement cloud accounting due to the high cost of data. In view of this, the government should:

1. Reduce the cost of data and accessories (examples mobile phones, laptops, and PDAs). If cost of procurement of data and accessories is reduced, it will act as incentive to many organizations to key into the new technology.
2. The government should provide high-quality data centers to motivate companies to invest in cloud accounting. Some companies are scared of patronizing low-quality data centers for obvious reasons. Companies in this category will certainly be rest assured if government invests in this direction.
3. Again, the government should tackle security and privacy problems in cloud accounting in Nigeria because many companies operating in Nigeria are increasingly becoming aware of the benefits and value that cloud accounting offers, and are taking steps towards a transition to the cloud technology. Government action in this direction will further stimulate such companies' interest.
4. Furthermore, stable internet connectivity and power supply are sine qua non for the optimal use of cloud services and as such, the government should endeavor to make them available. There is no gainsaying that without regular power supply and internet connectivity, most companies will foot-drag in embracing cloud technology.
5. Finally, there is a compelling need for the government to enact a law to protect cloud data and ensure their seamless utilization in the country. Such enactment will act as a morale booster for investors in cloud technology.

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