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Cloud Accounting among SMEs in Nigeria; Benefits and Challenges

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ABSTRACT

Cloud storage is one of the innovations of 21st century that promotes privacy, security and easy access to information. Cloud accounting entails the use of accounting system in the internet. Cloud accounting is an important tool of modern-day accounting and it has been practiced in countries more adapted to the rapidly changing technology. Small and Medium Scale Enterprises (SMEs) are a very important entity in any economy; they play a vital role in the development of a country's economy. The benefits of Cloud accounting to SMEs creates opportunity for information access anywhere and anytime as well creates opportunity for them to easily acquire loan and business subsidies for their business.

Keywords: *Cloud accounting; SMEs; Cloud Computing; Nigeria*

Introduction

Data analysis and storage in recent times have taken a step forward from the previous means. One of such is the cloud. The cloud is a remote server for the storage of data. It is closely associated with cloud computing and also a vital part of cloud computing. Cloud computing refers to the delivery of accounting or computing services through the internet. This includes storage, data analysis or accounting. Accounting services accessed through cloud computing is the base rock of cloud accounting.

Cloud accounting can be defined as making use of accounting systems on the internet rather than accounting systems located locally on a particular computer system. They are internet based and can be accessed on the internet via any computer with internet access whereas the traditional accounting system is restricted to a particular computer. This is because the traditional accounting system has desktop-based software, meaning that the software application is installed and carries out its functions from the desktop's hard drive. This arrangement comes with a lot of drawbacks. Data access is limited, the application software would need constant updating and there is a cost for saving and backing up the information.

Cloud accounting also referred to as online accounting performs the same functions as the traditional accounting. Making use of this method of accounting eliminates the need to employ an accountant. Most of the services rendered by traditional accountants are made available on the cloud accounting server for far cheaper rates. Along with this, it supports multiple users who can access this data simultaneously. Besides the remote access to information, it provides data backup and recovery in case of data loss.

Cloud accounting is an important tool of modern-day accounting and it has been practiced in countries more adapted to the rapidly changing technology. Cloud computing is altering the way industries conduct business and with the exponential increase of online business dealings, accounting cannot be limited to a desktop computer. With the innovation of cloud accounting, almost all data and details of financial transactions can be stored and accessed from anywhere. Accounting principles and practices have been progressing at a very fast pace in the present business world and while the rules of the global economy are constant, the advancement in technology, the materialization of cloud accounting, has made the accounting system more potent than it was (Dimitriu and Matei 2015). This paper aims to bring to light this method of accounting, its effects on the accounts of a business enterprise and encourage small and medium scale businesses to adopt the cloud accounting system.

Small and Medium Scale Enterprises in Nigeria

Small and Medium Scale Enterprises (SMEs) are a very important entity in any economy; they play a vital role in the development of a country's economy. However, the definition is not static and is perceived based on a countries development level as there is no universally accepted definition for it (Aruwa & Gugong, 2007) Even Researchers views SMEs in several ways. According to Jutla, Bodorik, & Dhaliwal, (2002), though SMEs vary from country to country, they are defined based on certain standards which are value of assets, use of energy and employment. The opinion of Rahman (2001) agrees with that of (Jutla, Bodorik, & Dhaliwal, 2002) but Rahman (2001) further expatiates on the criteria and included other factors like location, age, size, structure, sales volume, number of employees, worth of assets, ownership, innovation and technology. In contrast, Aruwa & Gugong (2007) attribute SMEs to be based on the role they are expected to play in an economy. Viewed from a worldwide perspective, Bolton committee in 1971 pronounced SMEs as small firms and then define a small firm as an autonomous business, managed by its proprietor or part-proprietor and having a small market share. Size was recognized as a very important factor to the sector by noting that a given firm maybe small in size whereas the market is large and there are many competitors. However, a firm of similar size may be considered as large in another sector with fewer players or smaller firms within that sector. It further attributes the number of employees as an alternative measure of size as well as use of turnover in others. When looking at SMEs from government perspective, there is a need to view SMEs according to the number of full-time employees or its equivalent (Lukacas, 2005).

SMIEIS (2006) asserted that SMEs in Nigeria are those enterprises or firms that has an overall capital investment within One Million Five Hundred Thousand Naira to Two Hundred Million together with working capital but not including cost of land, while it has an employee strength of Ten to Three Hundred persons. From the Nigeria government perspective, SMEs in Nigeria is based on the following criteria; small scale enterprises are businesses with Ten to Forty-Nine people with an annual turnover of Five to Forty-Nine Million Naira while a medium scale enterprise that have Fifty to One Hundred and Ninety-Nine employees with a year turnover of Fifty to Four Hundred and Ninety-Nine Million Naira. In Nigeria, SMEs cover economic activities within all sectors. It is observable from the

various definitions, showing that there is no single notion that conceptualize SMEs; the definitions vary across industries and the globe. SMEs are heterogeneous group, and SMEs owners may or may not be poor. Some are dynamic, growth-oriented, and innovative while others are not; there preferred to remain small and also to continue as usual.

Cloud Accounting in Nigeria

Cloud accounting is referred to as a model by National Institute of Standards and Technology (NIST) designed to create a suitable, ease access to computing resources such as networks, storage, servers, applications, and services and requires little effort for management. Cloud accounting refer to a model of computing network with running applications that are connected server(s) rather than a device. This requires delivery of computer hardware and software through devices such as PC, Smartphones or tablets using the internet (Obodoeze & Okoye, 2014). Cloud accounting provides online services using data, computations and software of a user, thus enabling access to user's information from anyplace with internet connection. Cloud accounting is a 21st century innovation that facilitates efficient use of ICT. Cloud accounting is characterized as an on-demand service based on the internet for sharing user's resources. Cloud accounting in Nigeria is reluctant owing to certain challenges relating to technological incorporation and effective usage. The benefit of cloud accounting enables provision of efficient and sustainable online data services (Iwuchukwu, Atimati, & Ndukwe, 2017). In Nigeria, the major providers of cloud accounting services like IBM, Google, Microsoft and Cisco provides most of the model for computing networks used by organizations or local IT firms. The services currently used in Nigeria by organizations and their providers include;

Table 1. Cloud Services Providers and their End Users in Nigeria

SERVICE PROVIDER	SEVERS	PARTNERS	SERVICES PROVIDED	ORGANIZATION OR INDIVIDUAL USERS
Microsoft	Microsoft Azure, Microsoft Bing, and windows Live	Wema Bank Nigeria Plc	MS Exchange 2010, MS Share point Server 2010, MS Lync Server 2010	Wema Bank Nigeria Plc
			Windows Server 2012	Nigerian Airforce Management Agency (NAMA)
Cisco, NetApp and Microsoft			Robust cloud services to users and subscribers	Central Bank of Nigeria
IBM		Airtel Nigeria	Data Centre Infrastructure	
IBM		Sunnet Technology solution Provider	Offered organizations a dynamic infrastructure and cloud computing solutions at reduced cost and risk	
Google		Descasio Ltd		Coscharis Group, Transcorp, AMCOM
Wyse Technology			offers its services to Electronic Test Company (ETC) in the conduct of examinations in Nigeria	Electronic Test Company (ETC)
MainOne Technologies	Microsoft Azure	MDX-i	grade infrastructure which provides flexible, highly available and fully secure private computing environments on a Pay-as-you-Go basis	Companies
RIV Cloud		MTN, GLOBACOM	provides storage and application hosting to both public and private sectors, and will migrate tax filings online	Rivers state government

NNPC private cloud	Microsoft, Intranet		Data center infrastructure	Nigerian National Petroleum Corporation (NNPC)

Forms of Cloud Accounting

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

Software as a Service (SaaS): This software distribution model delivers a special drive software to the consumer and 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 shortcoming 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): This software distribution model has its basic computing structure of software, server, and network gears provided as on-demand service, on which a platform is sound, and completing of applications can be established is known to as Infrastructure-as-a-Service. The objective of Iaas is to avoid acquiring, housing, and managing the basic software and hardware infrastructure components but rather obtain those resources as virtualized objects managed via a service interface.

Cloud Network as a Service (NaaS): This is a class of cloud service where the competence provided to the cloud service user is to use network or carriage connectivity services and inter-cloud network connectivity services (ITU-T, 2012). NaaS allows the optimization of resource allocations by considering network and computing resources as a combined whole (Gabrielsson, Hubertsson, Mas, & Skog, 2010)

Traditional Network as a service (NaaS): This cloud service incorporates flexible and extended Virtual Private Network (VPN), and bandwidth on demand. NaaS is a concept of materialization that embraces 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): An outsourced enterprise communications solution which is 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. Cloud Communication as a Service has also evolved along the same lines as Software as a Service. The CaaS vendor is accountable 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).

The Benefits of Cloud Accounting for Small and Medium Scale Businesses in Nigeria

Remote Access to Finances Irrespective of Time and Location: With cloud accounting, businesses can have access to financial data anytime from any location. It eliminates the need for periodical software update which tends to consume time and data. This is because the cloud is hosted remotely and updates itself unlike the regular software. Data and records are encrypted for security and stored on the cloud server and not a local drive as in the regular accounting. Most cloud accounting software has provision for a mobile accounting application that makes it easier to access from various devices. This also makes access to data and your records easier and non-restrictive.

A Cost and Time-Effective Solution: Cloud accounting reduces accounting costs and saves time lost due to constant software update and manual information sourcing that is often the case while using traditional accounting methods. Users are constantly connected to the software and the software is automatically updated and maintained by the service provider. Desktop-based traditional systems often require investment in IT hardware, plus expenditure in maintaining the hardware. In the traditional method of accounting, a server is required to house the application software and the related data. Also, an IT expert is needed and paid to maintain the server and the office network and is often a costly operating cost to the SME. In comparison, online accounting software is run exclusively from the cloud. There is no costly IT infrastructure to maintain, and the software can be accessed from the office, at home, on a vacation or wherever one may be and is not restricted only to the office or the desktop carrying the accounting software as is the case with the traditional method. Small and medium scale business employees can immediately send out invoices, approve customer payments and make other accounting calculations thereby saving time making financial processes easier.

Watertight Security and No Time-Consuming Back-Ups: When SMEs are cloud-based, their accounts and financial records are saved and backed up with military levels of encryption. In desktop accounting, there is the need to back-up a work at the end of each day. Also, there is the need for updates each time the service provider launches a new version of the software.

Using a cloud accounting platform, software updates and project back-ups are not required. Users are always logged in to the most recent version of the software, with all the latest functions, tax rates and necessary returns. Also, work done on the software is saved automatically, saving SMEs time and money on tiresome back-up procedures. The security of the cloud accounting system trumps that of a desktop system. The financial data of SMEs would no longer be mounted on the physical server in the office, or be redundant on the hard drive of the office desktop. All accounting information is encrypted at source and saved to the cloud. The only other people with access to the businesses' confidential information are workers permitted to by the management or the owner the business.

Provides an Up-To-Date Analysis of a Business: SMEs can get an inclusive up-to-date analysis of their current financial condition the company's data is on the cloud. This will help them make informed decisions concerning current state and the financial future of the company. In the case of a traditional method of accounting, reports are usually out of date and the time taken to get to these reports is significantly longer. Small and medium scale businesses can grow faster and meet the demands of customers by accessing real-time financial data anytime it is needed.

Saves Time with Automation: With most cloud accounting software, a business' workflow can be automated to save time. One just needs to enter his/her vendor information, for example, and set up a workflow that pays that consistent monthly vendor automatically on the same due date every month. The sending out of invoices can also be automated and sent to recurring customers.

Make Collaboration Easier: It is easier for a small business to collaborate with its accountant or accounting department. The cloud software makes it easier for a company to generate reports its accountant might need or makes it easier for its accounting department to access those reports. There is also the choice of giving the company accountant access to the software, so they can have access the figures anytime they may need to. With a cloud-based accounting software program, you also have control of the amount of access you can give to an employee. For example, if there is an employee processing the payroll, they can be given access only to payroll if given without being able to access the bank information unless given access or permitted.

Improves Accuracy of Accounting: The cloud-based accounting system contains lesser risks of accounting errors than the traditional desktop-based accounting software because all the important financial information is entered at the same place. If expenses and income are entered on a regular basis and transactions are categorized, SMEs can retrieve accurate reports at any time. Business owners do not need to know special accounting formulas or shortcuts that may be required while using an excel sheet. All that is needed to do to get an accurate report is to ensure that income and expenses are entered into the system on a regular basis.

Does Not Require Installation: Cloud accounting software is hosted online, so SMEs do not need to purchase the software program for installation on a desktop computer. In contrast other software programs that need to be installed with individual licenses on each computer, full access to the cloud accounting software is accessible through an online browser or a mobile app where users can log into the account or their company profile. SMEs will also be able to save money in carrying out tasks like upgrading software or other technical challenges.

Easy Access to Tech Support: A major benefit of using cloud accounting software is the easy access to tech support. SMEs can contact tech support by telephone or chat and get instant access to technological professionals on demand to help with any issue's users might encounter with the cloud-based software. This can save the company time and capital by not having to employ an internal IT agent to solve problems relating to the software.

Paperless and De-clutters Office Space: When handling finances, paperwork can add up and become a challenge. Filing through expenses, receipts and invoices is often tasking. With a cloud accounting software, users can import the data from their paperwork directly into the cloud. Moving this data into the software gives a better real-time view of the business' finances without manually going through papers. This will help to lower the risk of losing important data or making errors and is a more proficient method of managing a company's finances.

Software-As-A-Service Delivery Model Ensures Seamless Transition: While SMBs are not managing internal accounting systems on the same level with large organizations, many of them have well-established systems in place. The financial and information technology decision makers of these businesses may presume that migrating to the cloud accounting system will be time consuming, expensive, and unsettling to the existing system users. However, in reality, adopting cloud accounting services does not necessarily mean the elimination of the old system. The two systems can coexist and run in parallel. The 'Software-as-a-Service' (SaaS) delivery model allows accounting services to be incorporated seamlessly into a business and ensures the smooth transition to the Cloud base resulting in accelerated deployment. For SMBs, this means the ability to transfer to a pre-built, pre-configured system that is functional immediately instead of waiting a long length of time for an internal system to be built, or configured/re-configured from scratch.

Provides Access to Real-Time Data Analytics: The scalability, capacity, and speed of cloud computing provides software solutions that can deliver state-of-the-art data analytics. Effective budgeting and forecasting require that financial decision makers look forward and backwards in order to solve financial challenges there is a need to access data, analyze it, and then act. Ideally, improvements in analytical capabilities free financial managers from transaction processing to focus more fully on data analysis. Data analytics tools embedded in some cloud accounting services provide greater range and depth of reporting, connecting financial data to HR, CRM, overseas operations, etc., while real-time reporting obtains the most recent, up-to-the-minute Business Intelligence (BI) which is confidently acted on.

Delivers Enhanced Controls and Security: Security is always top priority for the Cloud, but service providers have addressed the issue by ensuring a secure environment for customers that can provide a distinct competitive advantage. For example, users of cloud accounting services like 'Software-as-a-Service' have access to quicker deployment of patches and upgraded security, and also enjoy a reduced need to store data on their own site, which minimizes previous storage costs. Finally, these updates keep in line with evolving financial and regulatory requirements.

Provides Increased Scalability and Flexibility, While Reducing Costs: Robust, end-to-end systems deliver the productivity, and analytical and core accounting tools that meet the needs of users – from decision makers focused on financial analytics to transactional users using the system on a day-to-day basis. Cloud services also scale to meet current and future requirements, with a framework to meet future demands for transaction volume and additional functionality. SMBs also possess the flexibility to benefit both from continuous financial management and the ability to utilize any back-office tool "as-a-Service," including accounting, labor management, customer service and even human resources. While cloud-based, SaaS solutions offer SMEs the opportunity to lower operating costs upfront by removing the requirement for initial storage, hardware, and software investments, the real prospect of the Cloud comes from the longer-term savings associated with achieving significant economies of scale and lower per-user costs. Disaster recovery and security can be provided at a significantly lower cost per user as a result of multiple customers using the same infrastructure and shared services.

Automates and speeds business processes: Automation of routine, yet time-intensive, manual business processes eliminate decision-making bottlenecks and lengthy approval times. Furthermore, automation of important and frequently used processes prevents duplicate entries and other errors, thereby promoting accuracy and productivity by cutting back time and labor for both regular and difficult tasks.

As is the case with any technology implementation, experiencing the full benefits requires a strategic approach and a commitment to identifying the right cloud-based financial accounting service. The effort is worth the reward for SMBs who can benefit greatly from the enhanced capabilities and savings that SaaS can deliver.

Constraints to the Use of Cloud Accounting in Nigeria

Nigeria companies and companies operating in Nigeria are increasingly becoming aware of the business value that cloud computing brings and are taking steps towards transition to the cloud. A smooth transition entails a thorough understanding of the benefits as well as challenges involved. Like any new technology, the adoption of cloud computing is not free from issues. These issues are putting fear in some of the companies to fully adopt and implement cloud computing. We have identified the most important challenges affecting the full implementation of cloud computing in Nigeria and security/privacy issues is the most daunting of all the identified challenges. These challenges are summarized as follow:

1. Security and privacy issues,
2. Lack of broadband internet connectivity,
3. High cost of broadband internet,
4. High Bandwidth costs,
5. Lack of high-quality data centers,
6. Frequent power outages,
7. High cost of IT services,
8. Interoperability and compatibility challenges,
9. Standardization challenges, and
10. Lack of enabling law or bill to protect cloud data where it is domiciled and a host of other challenges.

Conclusion and Recommendation

Incorporating cloud accounting in small and medium scale business in Nigeria is not challenge free. These challenges are inciting fear in some of the enterprise to fully adopt and implement cloud accounting due to the high cost of data and lack of infrastructure. In regard to this, the government is encouraged to:

1. Reduce the cost of data and accessories (examples mobile phones, laptops). If cost of procurement of data and accessories is reduced, it will act as spur for many organizations to key into the cloud.
2. The government should provide high-quality data centers to encourage 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 them.
3. Additionally, stable internet connectivity and power supply are important for the optimal use of cloud services and that, the government should try to make them available. Without regular power supply and internet connectivity, most companies will foot-drag in embracing cloud technology.
4. Lastly, there is a compelling need for the government to scale up law that protect cloud data and ensure their seamless utilization in the country.

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