

Structure of accounting through cloud computing

[Business](#), [Management](#)



Modern day business environment is in a state of flux and unpredictability rigged with multiple challenges, risk and uncertainty among market participants caused by significant changes such as: globalisation, developments in information and communication technologies (ICTs); growing corporate social responsibility requirements from corporations, marked by increased environmental and social awareness; and, tremendous changes in production technologies. Therefore one key challenge facing management in this modern day business era is determining the strategy to adopt in obtaining the needed information necessary for managing the overall business resources, production cost, quality and time related issues as well as satisfying the needs of their numerous stakeholders in the most effective and efficient manner. This has necessitated that management adjusts their organizations strategy according to the global changes regarding science, technology and business, with impact over the key performance indicators of their businesses.

Forced by the pressure of present day business competition and the actual global economic context, companies are actively involved in finding new efficient means to improve the efficiency and profitability of their business. This has necessitated the need for management to develop and implement systems capable of obtaining market information and providing information to a wide range of individuals representing varying stakeholder groups for improved organizational success and sustained market competitiveness.

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, most of

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the times prove to be poorly supporting the business. The inefficiency of traditional informational technologies is considered as being the main determinant that leads to inadequate appliance of the information systems to modern day business requirements. Furthermore, traditional management accounting systems are inadequate in fulfilling the requirements of the modern day business. They stated that the focus of the system is “ too late, too aggregated and too distorted to be relevant for managers’ planning and control decisions”.

Thus, it is now imperative for management of firms to replace existing accounting information system in line with the demands of the 21st century new informational technologies as for setting the informational system’s centre of gravity to a new paradigm, data processing and storage in the cloud.

The Concept of Cloud Computing and Accounting

Cloud accounting is taking the concept of cloud computing and applying it to an accounting context. The relationship between cloud accounting and cloud computing is that while Cloud computing is the delivery of computing services such as software, information and shared resources via computers and other devices over a network (usually the internet), Cloud accounting involves the access of accounting software and data via the internet. End users access cloud based applications through a web browser or mobile applications while the software and data are stored on remotely located servers, often provided by a third party.

Cloud accounting involves access to accounting software and data through an internet browser. The software is provided on a subscription basis and the data is stored on a remote server. This differs from a traditional accounting system that involves the purchase of software and installation on either a workstation or local server. Access to the cloud accounting applications and data is controlled through user login access, as opposed to the physical location of the data files. This means that data sharing is easier and avoids the requirement to physically move data from one computer site to another.

Cloud computing can be defined as an abstract collection of services, accessible from any location disposing of a mobile device with internet connectivity, provided through a parallel and distributed system of virtualised computers that are interconnected, and can be dynamically supplied and presented as a computing resource, or group of resources unified, as agreed by the service provider and the user. Also, National Institute of Standards and Technology (NIST) defined “ cloud computing as a model that allows permanent, convenient, on-demand access to a joint network based on configurable computing resources, easily available with a minimum management effort or a minimum interaction with the service provider”. Armbrust (2010) believes that cloud computing technology covers informatic applications provided through internet, as well as the hardware and software equipment used in data centres as for supplying these services. Chinyao Low (2011) presents cloud computing starting from the comparison with the e-mail, office software and ERP systems, and adding the ubiquitous resources shared between more users. Cloud computing features

include service selection based on demand, wide access to network, resource coalition, fast flexibility, agility, high scalability, and confidentiality.

Improving Organizational Performance through the adoption of Cloud Computing and Accounting

Timely access to information as well as the effectiveness and the efficiency of an Organization in achieving its objectives are the main determinants of an Organization's performance. Financial information generated by Organizations serves multiple purposes, such as: business valuation, decision making process, financial analysis, planning and controlling. Management information systems are essential in providing financial information. However, the application of the traditional informational technologies has proved to be ineffective and poorly supporting Organizations' business operations as well as the demands of modern business.

Partial or total transfer of accounting processing operations into the cloud is a new solution that can generate cost savings in addition to improving the overall effectiveness and efficiency of Organizations' operation in this modern business time. The six advantages of cloud computing adoption by Organizations are described below:

1. Security - When selecting an important cloud service provider, the security level is rising. Web-based systems present an equal level of security, as well as equally efficient internal controls compared to the traditional software. Traditional accounting applications, companies using them are responsible for user access management as well as for digital and

physical storage of documents. These operations are, usually, time consuming, and cost generating. Opting for a cloud computing accounting solution significantly reduces both costs related to the above mentioned operations and the time assigned for performing the respective operations.

2. Adaptability - Using a new software when using the cloud computing technology is much easier than traditional installation; moreover, update of the software is performed much easily and often by the cloud service providers. Unlike traditional accounting applications, the cloud computing based solutions do not require physical installation on the client's work stations, thus leading to a significant time and cost saving.

3. Eased management - The accounting application can be easily accessed through a browser, with no need of compatibility check to be performed between the computation system used and the accounting software application. Moreover, all users are using the same version of the accounting program, thus eliminating the potential problems caused by different versions incompatibilities.

4. Compliance - Accounting programs run through the cloud are compliant to a variety of requirements, including the accounting and internal control standards.

5. Global access - Personnel, suppliers, and clients can access and update information from any location, with no need to shift to the office. As the accounting applications are included in the " Mobile" generation, access can be performed through any compatible mobile device.

6. Trial period - Because of the numerous applications existing in the cloud, suppliers frequently offer trial periods for some of them. This allows testing of the application, in order to establish the compatibility with a company's needs.

Furthermore the benefits of cloud computing also include:

7. Saving time: Undoubtedly, if accounting affairs are done using online services and cloud computing, sending and receiving e-mails and files will be accelerated.

8. Accessibility: Internet can be accessed everywhere. So, using cloud computing all of your employees are accessible and you can send orders or directories to the shopping agent in another country or request him about prices and machinery's features.

9. Low-cost computers for users: A Powerful and high cost computer is not necessarily needed for executing web-based programs since programs are executed in the cloud.

10. Efficiency improvement: Since applied programs are executed in the cloud, users can see higher efficiency from their computer, reducing bulk programs occupying computer memory.

11. Increased calculation power: When you enter a cloud computing environment, you own the whole power of cloud and are not limited to the simple computer power and get privileged by both computer and server ability.

12. Infinite storage capacity: For cloud computing, you can connect to the cloud on any system and even get documents on a heterogeneous system.

13. Improving adoption between documents' formats: No need to worry about the documents you make on your machine to match with others. All documents are made by a web-based program and are accepted by the same program in another machine.

14. Easier group cooperation: Sharing documents leads to cooperation on documents. Cooperation on a document or project is very important for users. This is possible by cloud computing.

Layers Of Cloud Computing And Comparisons Between The Traditional Accounting Package

Cloud computing can be structured in different layers, considering its different functionalities. The first layer involves the cloud clients that enable the access to the cloud. Examples include some computers, phones and other devices, operating systems and browsers. The next layer is formed by the applications, also known as Software as a Service (SaaS) and delivers software as a service over the Internet. There is no need to install or run the applications in the client equipment, and hence, the support and maintenance is simplified. A layer beyond, we find the platforms or Platform as a Service (PaaS). They provide the possibility to deploy applications without the cost and work that implies managing the required hardware and software. In the upper layer, we find the infrastructure services or Infrastructure as a Service (IaaS). Here, the provider offers outsourcing of servers, software, data-centre space or network equipment via a platform of

environment virtualization. Finally, in the last layer we find servers that are specifically designed for the delivery of cloud services. Each of these layers generates different information that can be considered as usage records. These records can be classified as communication data, computational data or information data. Unfortunately, each layer offers different type of information to the provider augmenting the complexity of the business support systems operations such as accounting. Furthermore, each layer can be implemented using different products and technologies from various providers and manufacturers.

The difference between accounting performed through cloud computing compared to the traditional accounting programs can be seen in the dimension of the supported application. Cloud platforms are able to support multiple users at a large scale, known as " Internet Scale", while traditional platforms are limited to a relatively small number of users, depending on the size of the Organization.

Cloud computing technology is not only capable of absorbing most of the functionalities offered by a management information system, but can also improve and optimize them. This idea is supported by researchers who believe that cloud computing came into existence out of the need to streamline the business processes for Organizations.