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CLOUD ACCOUNTING – A NEW PARADIGM OF ACCOUNTING POLICIES

Literature review

Keywords

Cloud accounting
Virtualization
Business process
Accounting policies

JEL Classification

M40

Abstract

In the current economic background companies invest in finding complete solutions for the integration of all business functions (sales, logistics, accounting aso.), control, centralized coordination and harmonization of systems and financial management operations, data storage and resilience of services as well as cost savings. Technological trend of recent years brings forward the concept of cloud computing, an innovative model of processing and storage of data that allows companies to run business processes on IT infrastructures in conditions of economical optimization.

Cloud computing allows companies to effectively and economically use IT applications and infrastructures through the model "use as you need and pay as you go". However, before deploying the data and applications in the virtual environment, organizations must take into account the implications of such a decision on the financial reporting process. In this respect, the paper aims to analyze the impact of cloud computing technology on the main operational modules used for obtaining accounting data for financial reporting.

INTRODUCTION

In nowadays society, the Internet represents the most common tool for real-time sharing of knowledge and information, found in all areas, economic or social, which in recent years has led to the emergence of digital economy.

In the paper "The influence of the information society and knowledge society on socio-economic development in XXI century", Valeriu Capcelea, PhD in philosophy, states that various experts in the field affirm that the development of information technology and the automation that makes it possible will follow the tradition of previous innovations, creating new products, new industries, new markets and thus causing economic growth. One of the most innovative models based on the Internet is cloud computing that refers to a set of distributed computing services, applications, access to information and data storage without the need for the user to know the physical location and configuration of systems that provide these services (wikipedia.org).

Organizations are increasingly aware of the benefits of data virtualization, perhaps the most important being the enablement of a competitive advantage by providing business mobility.

RESEARCH METHODOLOGY

The study is based on a review of current literature regarding the implications of cloud computing on the business process in general and more specific its impact on accounting and financial capabilities by synthesizing the changes brought to the company's operational modules.

The data used in this paper was collected from scientific articles from the past three years, accounting regulatory body issues and regulations, reports and case studies issued by the leading cloud service providers in the current market.

Current trends in the cloud market

The results of an Intel study conducted by GfK (Gesellschaft für Konsumforschung) Romania between 8 and 19 May 2014 on a sample of 100 companies with 50-200 employees nationwide shows that SMEs in Romania trust in cloud and consider it as one of the top trends in IT over the next five years and a key ingredient for business efficiency. Therefore, in what concerns the Romanian SMBs the main advantages of adopting cloud computing services could be synchronization and data access from anywhere on multiple devices (for 75% of companies), fixed costs (36%) and increase in the processing speed and storage capacity (32%) according to the Intel study.

The surveyed companies that have already adopted cloud computing services said that they had made this choice as it helps to reduce IT costs (46%), is easy to use (30%), information is secure, cannot be lost or stolen (30%), and increased employee mobility (23%).

Moreover, the study shows that in the next 12 months, 40% of the participating companies have submitted budgets to invest in cloud computing for obtaining an increase in business efficiency. The allocation will be between 10-70% of the total IT budget.

The study shows that Romania joined this global trend in which cloud computing is presented as a "fifth element" after water, electricity, telephone and gas.

On the global market, new studies of the market research agency IDC, shows that organizations worldwide are increasingly accepting cloud computing solutions. According to a research carried out on samples of directors and managers responsible for staffing, over 600 companies have decided to "move" in the cloud business.

More than 50% of those surveyed said that cloud solutions are at a "high" or "very high" IT priority list of their company.

67% of the respondents intend to use or are already using cloud solutions, which is an important measuring tool of their massive application process.

Accounting regulatory framework for cloud computing

In a study conducted by PwC (2014) it is shown that although the evolution trend of cloud technology in the last decade is significant, the accounting standards have evolved too, but without defining a practical guide for users of cloud applications. In particular, there is not a clear application guidance regarding the agreements concluded with customers that may include a software license, and in this case the question is whether these licenses can be accounted for separately. FASB (The Financial Accounting Standards Board) has recently proposed an accounting guidance that will address this issue when it is completed.

Moreover, accelerated progression of cloud computing services led to changes in approach regarding the provision of consulting services in general (Patancius, 2014). Cloud computing services imply, on the one hand data storage on virtual servers and on the other hand access to materials protected by copyright laws, to the extent and within the limit in which they are used. Therefore there is a certain reality that the impact of cloud computing on works that are copyrighted, will recoil also on consultancy

services, such as legal advice, tax or accounting services (Patancius, 2014).

In another study undertaken in February 2014 (Graure, *Fiscal risks of cloud computing*) was carried out an analysis of the parameters influencing taxation of cloud services. Given the wide range of services that can be provided in the cloud, cloud service providers might face the situation to incorrectly frame an operation to a particular category because, from case to case, it may be tangible / intangible operations, services, sale of software, granting of rights of use for an application or a mixture thereof, each of the following types being subject to different tax rules that will influence fiscal obligations which are in the responsibility of cloud services providers in terms of taxes: income tax, VAT (Graure, 2014).

Cloud Accounting

In the current economic climate companies are facing the collection and processing of large volumes of financial data that engenders the need of more efficient systems with the capacity to support such activities in order to obtain results in due time. For finding solutions on this matter, companies conduct also analysis regarding the optimization of investments and costs and due to the actual technological trend the cloud computing model is being considered. Accounting firms are turning to cloud in order to change the way in which accounting services are provided to their clients. Therefore the concept of Cloud Accounting emerged (Boomer, 2013). To synthesize, Cloud Accounting means an accounting information system that can be accessed anytime and from anywhere there is an Internet connection without needing a prior installation and management on local servers (Tugui & Gheorghe, 2014).

In a study conducted by CCH Collaborative Solutions and disclosed in April 2013 it is shown the tendency to adopt cloud solutions among professional accountants and shareholders / managers of companies on age ranges as shown in [Figure 1](#).

Any financial analysis of an economic entity is based on information and the way it is conveyed (Vasilescu, 2008). Therefore permanent and immediate access to information may be a measuring factor of the company's competitive advantage.

Several studies and analyzes assert the benefits of cloud computing technology such as cost reduction, focusing on business or service mobility which are also in effect for cloud accounting. In addition, Jim Boomer, Chief Information Officer (CIO) at Boomer Consulting summarizes the characteristics of

cloud accounting in four advantages such as value adding through obtaining high profits, accounting indispensability, ensuring the accuracy and quality of data and reduction of technological difficulties. We could add to these advantages other benefits with a significant impact on a company's performance like reductions in processing time and thus increase of staff profitability or integrating the accounting functions through a centralized system of calculation and analysis.

Impact on accounting policies

Besides the changes implied by cloud accounting at technological level (data virtualization on external servers), budgetary (investments level, costs level) various implications can be observed in what concerns accounting policies and estimates on all architectural structures of the Romanian finance and accounting systems (Vasilescu, 2008):

- general accounting - is the part that presumes the management of inputs (from third parties, stock), outputs (to third parties, stock), receipts and payments, various operations (salaries, monthly/annually closings aso.);

- management accounting - is the part that deals with third parties, inventory management, cash management, stock-counts, budgets aso.;

- financial analysis - analysis based on the statement of financial position.

According to International Accounting Standard number eight, policies (methods) are accounting principles, bases, conventions, rules and practices adopted by an enterprise in preparing and presenting financial statements.

In the study "Changing the Role of accountancy in the context of cloud computing" (Tugui & Gheorghe, 2014) was performed an analysis of the hypothesis that there is an accounting paradigm shift in the new context of digital economy. The study results were obtained through completion of a questionnaire by a total of 124 accounting professionals and revealed that 64% of the respondents totally agree with the redesigning of the accounting information system given the continuous digitization of the accounting flows, with the possibility of automatic data integration from micro-economic level to macro-economic level. Further it was observed that 24% of the respondents disagree with this change / addition of accounting paradigm, while 10% of the respondents gave a neutral response and 2% are in disagreement.

Further in the study we have conducted an overview of the current solutions on the cloud market in 2015 such as FishBowl Manufacturing Software developed by FishBowl Company, Plex Manufacturing Cloud

Software, BNA Fixed Assets Software developed by Bloomberg BNA Company, NolaPro Cloud Accounting developed by NolaPro Company, ExpertAccountsSoftware developed by SagaContabilitate, Accounting Expert Office, B-LogicSoftware developed by Business Logic Software Company (case study: B-Logic ERP at Profinex and Grange EE) and we have developed a study regarding the changes that the cloud platform could bring to the specific accounting modules. We have chosen for research the most complex operational processes within a company such as inventory control and fixed assets management. The undertaken research and results obtained are based on a synthesis of the current literature, articles and case studies regarding the implementation of cloud services within the financial department and studies undertaken by cloud service providers.

Inventory accounting module

1. Utilization of cloud technology

Through the analysis undertaken we consider that cloud could eliminate the independent operation of the supply processes, production, inventory management and accounting records. A case study undertaken by Syscom (USA) Inc. regarding the migration and consolidation of inventory management system used in many factories manufacturing spare parts for cars shows that the use of cloud servers eliminates the need of implementing individual systems in each location (factory). As shown in Figure 2 below each factory can automatically send stock data to a central data station. Also, through a VPN connection is ensured the access to information from the headquarters to the inventory management system at the consolidated server as it can be seen in Figure 2.

2. Implications of cloud in accounting of stocks

According to the analysis undertaken we can enunciate the following benefits of using cloud in inventory management as they are listed in Table 1.

3. Result

The generalized study results of the current cloud market shows that use of data virtualization solutions provides customers with real-time and permanent control of stocks through integration of operational and accounting functions. Moreover, as shown in the study conducted by Syscom (USA) Inc. there is an increase in work efficiency by creating a system in which scanned documents can be sent automatically to an inventory integrated management system. Through the remote access the administrator of a company's

headquarters can analyse accounting data from all plants and locations of the company eliminating the need of local servers or back-up operations for local data, which is further transposed in cost reduction. The actual leader on the global market of cloud services, NetSuite summarizes the benefits of an inventory management in the cloud through three characteristics as it is shown in Figure 3.

Fixed assets accounting module

1. Utilization of cloud technology

A case study undertaken by Sinclair Broadcast Group company, one of the largest television broadcasting company in the United States in terms of fixed assets management in cloud showed that the workload from the company's premises decreased by 75%. The company manages more than 69,000 fixed assets and provides services to 74 television stations and shows in the study that a consolidated reporting of fixed assets used for calculating income tax implied a workload of two employees for a period of three months. Through data migration in the cloud the period for obtaining the results was reduced to a couple of weeks.

2. Implications of cloud in accounting of stocks

Following the analysis of cloud accounting solutions for fixed assets available for users we have identified the implications on management and accounting process of a company's fixed assets as they are listed in Table 2.

3. Result

Through the conducted analysis in what concerns the fixed asset solutions in the cloud available on the current market we can state that through the virtualization of the fixed assets module it is ensured a time saving by streamlining data collection. Therefore for a company that operates in more than one working point it is eliminated the need to send individual records of fixed assets in order to centralize data but the system is integrated and operated under the same accounting rules and under the same life cycle policy life. Establishing and implementing of policies becomes an automatic process for each introduction of a new fixed asset into the system and moreover potential errors in assets classification of assets or life cycle allocation are eliminated. The time required for entering data for a new asset is significantly reduced through virtualization. Moreover it is ensured the permanent technical support and updates of the systems in order to align the company to the current accounting and tax treatments. We have presented the above mentioned in Figure 4.

CONCLUSIONS

Cloud computing provides users with dynamically allocated resources without requiring a physical configuration of the systems in order to access data, applications and computer programs. By conducting this study we aimed to bring attention to the changes implied by the virtualization of certain operations on financial-accounting process and on the organization as a whole. A certain advantage of data migration into the cloud is the centralization of data and information through integration of organizational processes such as inventory management, fixed assets, payroll etc. which engenders a reduction of workload and time allocated for obtaining results. Another significant impact can be seen at budget and costs level through substantial saving due to the fact that it is eliminated the need to install IT equipment locally but in return the technical function is outsourced. Moreover cloud services require a monthly cost to the service provider without being necessary additional costs with depreciation, maintenance or updating of systems and equipments. Nowadays the advantages of cloud solutions are becoming more and more visible among companies in terms of technologies that can be used in the business environment.

ACKNOWLEDGMENT

This paper was co-financed from the European Social Fund, through the Sectorial Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/138907 "Excellence in scientific interdisciplinary research, doctoral and postdoctoral, in the economic, social and medical fields -EXCELSIS", coordinator The Bucharest University of Economic Studies.

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Appendix 1

Fig 1. Uptake of cloud-based software by owners/managers and accountants (source: CCH Collaborative Solutions Report, 2013) (back to text)

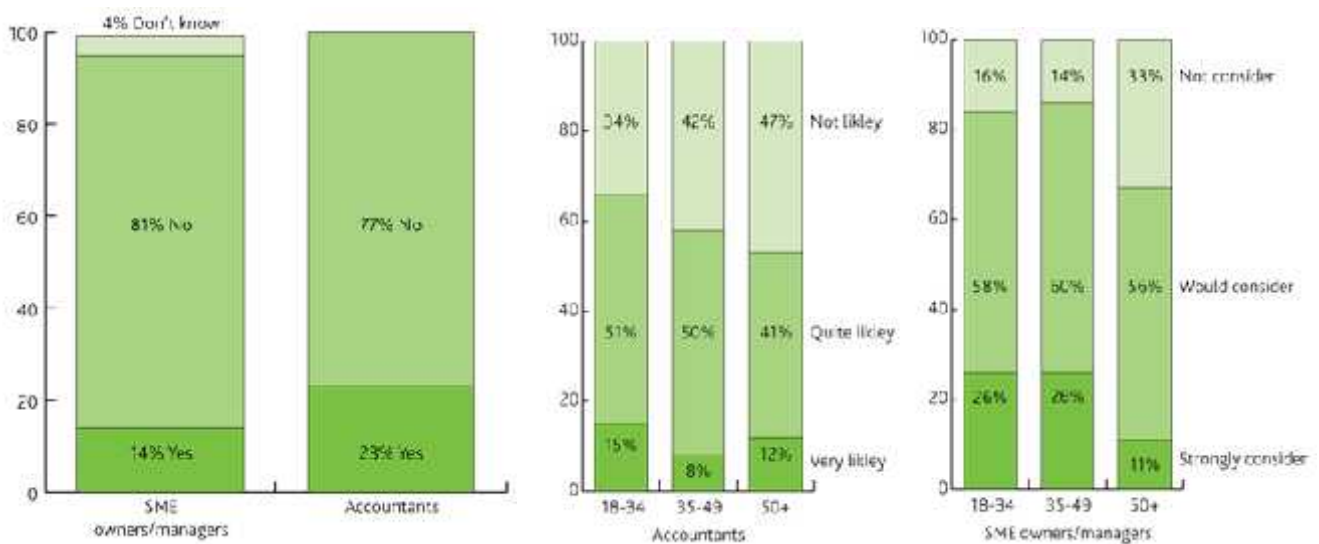


Fig 2. Migration of the inventory management system into the cloud (source: Syscom (SUA) Inc.) (back to text)

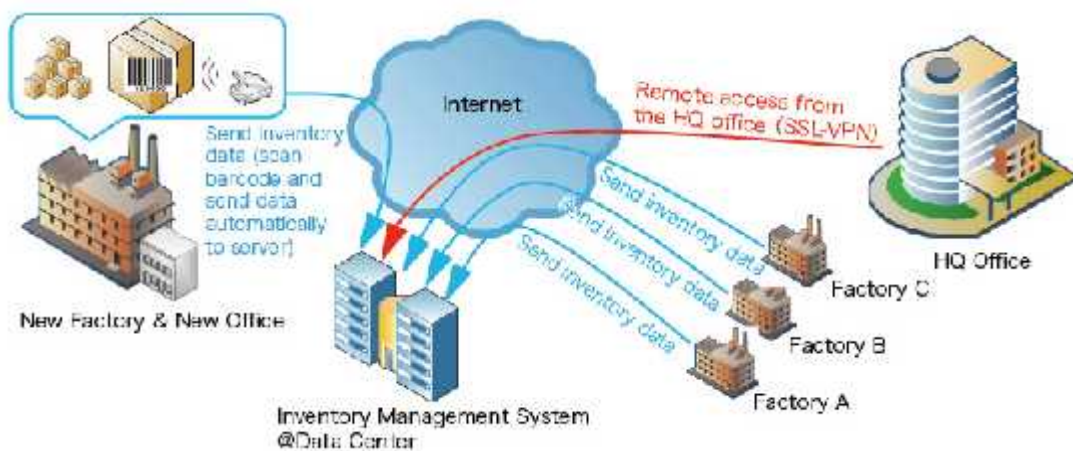


Fig 3. Benefits of an inventory management in the cloud as stated by the leader on the cloud services market,

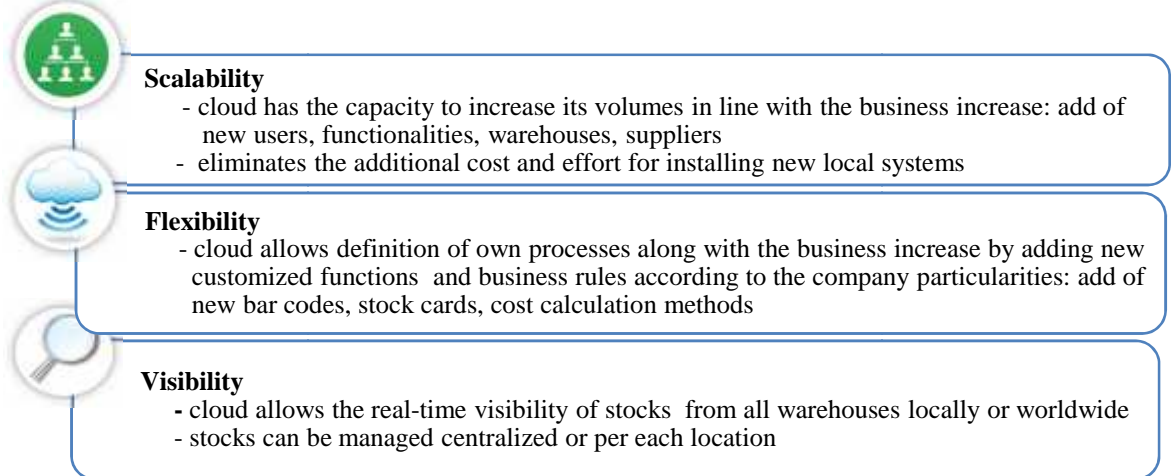


Fig 4. Integration of fixed assets module through cloud computing (own projection) (back to text)



Table 1. Benefits of using cloud in inventory management ([back to text](#))

⇒ Automation of stock management processes: scanning of input/output documents (good receiving note, purchase invoice, consumption note, internal transfers)
⇒ Elimination of manual information processing
⇒ Release of time and human resources, reducing the incidence of human errors and delays
⇒ Integration in real-time of raw material purchases with finished goods sales and costing calculation – sale, cost and profit analysis per product
⇒ Immediate locating of stocks per each warehouse, item categories and code bars and implementation of stock check-in and check-out functions
⇒ Containment of user access on operations, management and cost centers
⇒ Assigning of electronic documents to each transaction – production recipes, stock cards, transfer notes between warehouses aso.
⇒ Efficiency increase in complying with customers orders conducting to an increase in the satisfaction and trustworthy attitude of clients

Table 2. Benefits of using cloud in fixed assets management ([back to text](#))

⇒ Maintaining of a complete list of each fixed asset item and connection of accounting records with the equipments/machines used in the production department
⇒ Centralized control regarding the depreciation policy and issue of different reports regarding the depreciation/amortization of fixed assets based on the accounting/fiscal useful lives
⇒ Automated updates of the software with the latest legislative changes and fiscal treatment of fixed assets
⇒ Allocation to each asset of electronic documents – contracts concluded with equipment suppliers, put in function minutes, invoices, cassation minutes aso.
⇒ Visibility and permanent access to all fixed assets data from all operational divisions of the company
⇒ Integration of fixed assets module to the accounting function through automated transfer of information
⇒ Increase of statement of financial position accuracy and elimination of the further adjustments of data
⇒ Capability for automated change of data with the additions, disposalsm transfers, improvements or reevaluation of fixed assets
⇒ Simplification and dynamic control in case of mergers and acquisitions