Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Issue 4/2019

THE INFLUENCE OF CLOUD TECHNOLOGY IN TRANSFORMING ACCOUNTING PRACTICES

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How to cite: ANDRONIE, M., & IONESCU, L. (2019). "The Influence of Cloud Technology in Transforming Accounting Practices." *Annals of Spiru Haret University. Economic Series, 19*(4), 27-34, doi: https://doi.org/10.26458/1941

Abstract

Cloud has been one of the most important developments in information technology in the past decade, having a significant impact on financial reporting for both businesses and individuals. It is considered to be an indispensable tool for accountants in the near future and will improve the accuracy of financial information and the business strategy.

The most recent developments tend to confirm that cloud computing or cloud technology in accountancy has been transformative as to how accountants work on a daily basis with their clients and how they communicate the fiscal information to the tax authorities.

The aim of this paper is to present some particular aspects of cloud technology in accounting, and to show how cloud accounting platform could provide an accurate and comprehensive dataset in financial reporting.

Keywords: *cloud technology; business automation; smart economy; accounting.*

JEL Classification: D73, H70, H83, M48

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Introduction

This paper covers some particular aspects of cloud technology in accounting, characteristics of cloud computing and specific aspects of cloud provider. Cloud computing is one of the most important technologies transforming accounting, finance and tax, because it can provide extensive flexibility and control over the database with low cost and at high information processing speed. It will be difficult to predict the evolution of accounting in the near future, but cloud computing, artificial intelligence (AI), and blockchain are three frequently discussed technologies that are often predicted to have a great impact.

According to the Future of Jobs Report 2018 from World Economic Forum 2018, four specific technological advances: high-speed mobile internet; artificial intelligence; widespread adoption of big data analytics; and cloud technology – are set to dominate the 2018–2022 period as drivers positively affecting business growth. Of these four elements we believe that cloud technology will have a major influence on the company's management, transforming the accounting practices. Nowadays, many companies are likely or very likely to have expanded their adoption of technologies such as the internet and app- and web-enabled markets, and to make extensive use of cloud computing. At the same time, the power of human-machine collaboration has augmented and virtual reality provides considerable business investment.

Table 1. The Most Important Trends to Influence Businesses Up to 2022

Trends set to positively impact business growth up to 2022
Increasing adoption of new technology
Increasing availability of big data
Advances in mobile internet
Advances in artificial intelligence
Advances in cloud technology
Shifts in national economic growth
Expansion of affluence in developing economies
Expansion of education
Advances in new energy supplies and technologies
Expansion of the middle classes

Source: WEF (2018) The Future of Jobs Report,
www.weforum.org/reports/the-future-of-jobs-report-2018

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We can observe in the table above the trends set to impact business growth positively/negatively up to 2022.

According to World Economic Forum 2018, the advances in cloud technology are one of the most important five factors to influence businesses in the next few years. The European market is open to these new technologies, and advancements in cloud technology are set to drive growth in the Information & Communication Technologies industry, while the availability of big data is expected to have an even broader impact on the Financial Service & Investors and the accounting sector. Financial service industry is particularly interested in adopting cloud technology due to serverless computing and cost efficiency. Cloud computing, artificial intelligence (AI), and robotics are automating complex and repetitive tasks and processes in the accountancy sector, with extreme accuracy. According to researchers at Sage, 58% of accountancy professionals are expecting to automate tasks using AI solutions within the next three years[1].

Cloud Computing Adoption

Cloud computing is a very new technology involving on-demand availability of computer system resources related to data storage and computing power, connected to business automation and artificial intelligence[2]. Cloud providers are available to many users over the Internet and deliver several computing services, such as file and database storage, networking, software, and database analytics, reducing the hardware and software maintenance costs. Thus, digital society experiences innovation and new technologies, including automation and algorithms, create new high-quality jobs and vastly improve the quality and productivity of the existing work of human employees. [Ionescu, & Andronie, 2019]

The evolution of cloud computing has gone through many phases such as networking and utility computing, application service provision (ASP), and Software as a Service (SaaS) [Timmermans *et al.*]. Predominant today in the big companies, cloud computing describes data centres and large clouds distributed over multiple locations from central servers. Recently, the standardization of cloud computing using the conventional standards development organizations has become a necessity.

[1] https://www.accountancyage.com/2019/09/23/how-technology-is-transforming-the-accountancy-sector/

[2] https://en.wikipedia.org/wiki/Cloud_computing

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The standards development process needs to be as agile and align with the maturing cloud service product development life cycle to address unique federal government requirements that support high priority government-wide or federal agency projects [Metheny, 2017].

We present in the figure below the conceptual reference model of cloud carrier in the digital era:

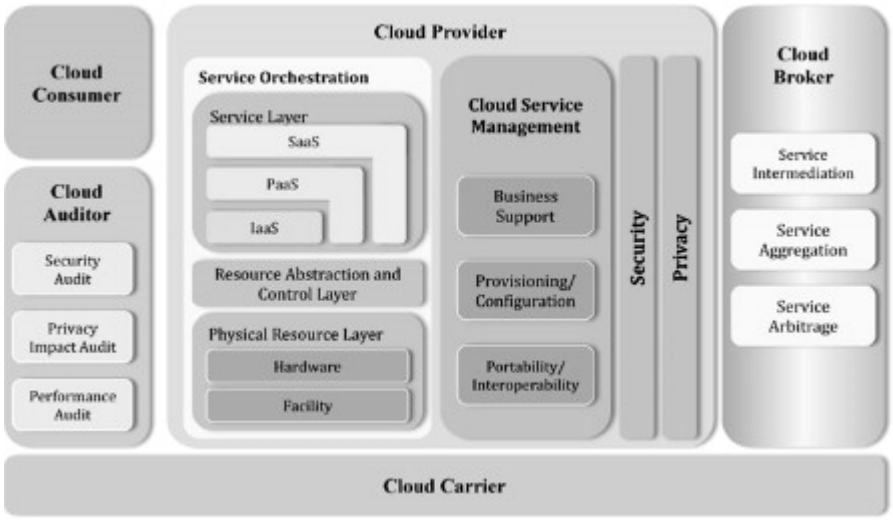

Fig. 1. The Conceptual Model of the Cloud Carrier
Source: Metheny, M., Federal Cloud Computing, 2017
www.sciencedirect.com/topics/computer-science/cloud-computing-standard

Cloud Provider (CP) has implemented standards that meet the necessary interoperability, portability, and security requirements to maximize the benefits offered by cloud computing. Furthermore, cloud providers enable administrators to manage which applications can be accessed by their users and how employees can use each service; also, cloud providers allow administrators to build custom functionality and integrate their applications with other technologies [Apostu *et al.,* 2013].

Analyzing the indicators in Table 1, we observe that cloud computing, mobile internet, artificial intelligence and automation record a high score as problematic

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factors influencing businesses all over the world. The evolution of cloud computing adoption is presented in the figure below:

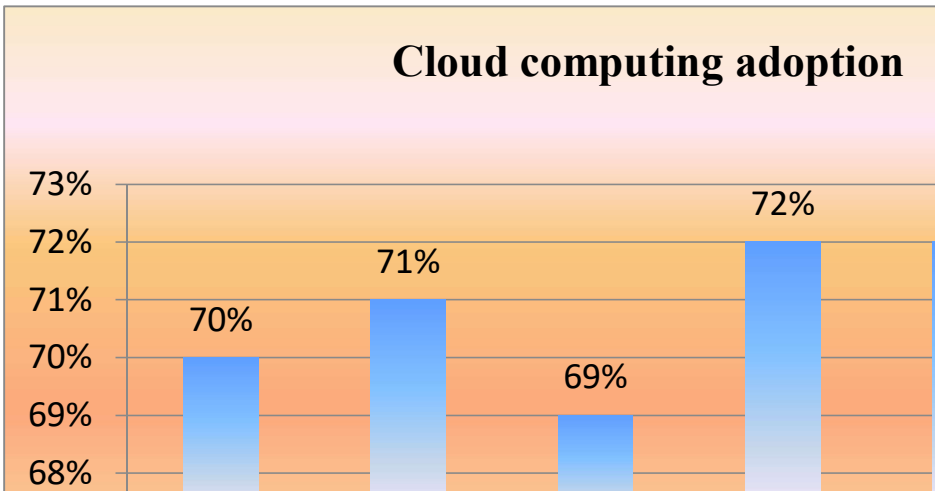

Fig. 2. Technology Adoption – Cloud Computing
Source: www.weforum.org/reports/the-future-of-jobs-report-2018

We observe in the figure above that many countries are investing in cloud technology which has recently become a priority for big companies due to the most important benefits it offers such as: data confidentiality, privacy, integrity. Cloud computing and user and entity big data analytics will be key factors for financial sector and accounting in the near future.

Cloud Computing in Accounting

Cloud computing in accounting is starting to be a priority for the main professional organizations and big companies due to flexibility in automatic software integration. In the cloud, software integration is usually something that occurs automatically; this means that cloud users don't need to take additional efforts to customize and integrate their applications as per own preferences [Apostu *et al.,* 2013]. Adoption of cloud computing in accounting provides easy access to financial information and fast database update. Once the users sign in to the cloud, they can

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access the information from anywhere, any place with Internet access, irrespective of time zone and geographic location [Apostu *et al.*, 2013]. It is common knowledge that Gmail, Google Documents, Twitter, Facebook are all cloud applications used in accounting system and preferred by accountants in their daily activity. In this way, artificial intelligence (AI), cloud accounting and data science are dramatically reshaping the accountancy industry, having a huge impact on costs, operational efficiencies and customer experience.

By adoption of cloud computing in accounting, financial data, especially personal data, stored in the cloud should be managed properly. Accountability provides a promising approach to empower users to ensure this is being done [Timmermans *et al.*].

Using the cloud for their computer services needs allows accounting, finance and tax professionals to redirect their attention and efforts from their being concerned about the hardware and data storage for their customers.

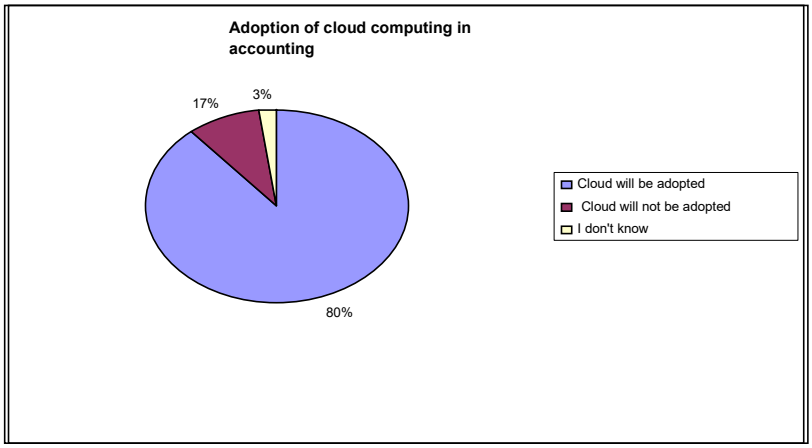

Fig. 3. Adoption of Cloud Computing in Accounting
Source: Authors' own work

We developed our research based on a survey in which over 100 accountants, expert accountants and managers from public and private companies from Bucharest and other small cities have participated in. The questions were referring to the

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existence of cloud computing in accounting and to the ethics of cloud computing. About 25% of the participants were expert accountants and 75% were managers, all of them being university/college degree holders. Thus, firstly, we asked the respondents if, in their opinion, cloud computing could be a new technology in the financial services. Here are the results: 80% of the respondents said YES (cloud computing will be implemented in the financial and accounting services), 17% of the respondents said NO (cloud computing will not be adopted soon), while the remaining said they did not know. The results were presented in the figure above.

Then, secondly, the respondents were asked whether they believed in the ethics of cloud computing as it is one of the fastest growing segments in the computing industry. Therefore, 75% of the respondents said YES, they believe in data security and the ethics of cloud computing, while 15% of the respondents said NO, and 10% said that cloud computing must be improved. The results are presented in the figure below:

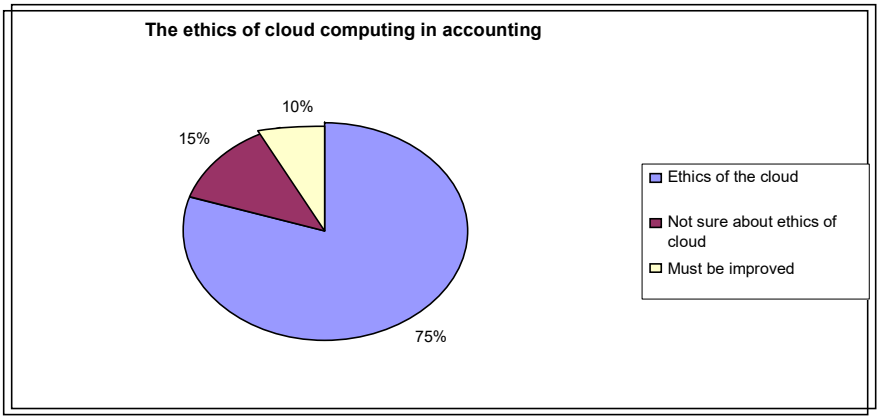

Fig. 4. The Ethics of Cloud Computing in Accounting
Source: Authors' own work

In this research we identified many managers and specialists interested in cloud computing in accounting and their intention to adopt cloud technology in financial services. It is generally accepted that cloud technology could provide unlimited

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resource and storage virtualization, simultaneously with efficiency of resource sharing.

Conclusion

The development of financial and accounting sector is based on the adoption of new technologies, such as artificial intelligence (AI), cloud technology, blockchain, robotization, etc. These new technologies will have a high impact on the power of human-machine collaboration, business automation and development of the smart economy.

In our opinion, the adoption of cloud technology in accounting system will increase the quality of financial reporting with high cost efficiency and other scalable options available, as user demand. Cloud computing in accounting could ensure unlimited storage of information, data backup and database restore, also creating new applications that allow users online access for better analysis of transactions, business and financial reporting.

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