

# **MISTRUST AND DOUBT IN CLOUD ACCOUNTING**

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**Abstract:** Cloud computing is an innovation that promises flexibility and savings for the company's IT department. On the other hand, its penetration into the accounting industry makes it to be perceived as something that threatens the existence of this occupation. There are also concerns regarding data security and the reliability of this system. Thus, cloud accounting goes beyond its technological merits, affecting the way companies translate their ERP systems into cloud. Research on cloud computing focuses on technical issues and less on behavior and factors that determine adoption, creating a gap between possibilities and action. We will try to highlight the factors that influence the transition to cloud accounting from the human point of view, beyond the theoretical advantages that this system promises

**JEL classification: C61, M15, M41, P41**

**Key words: cloud accounting, concern, obstacles, efficiency**

## **1. INTRODUCTION**

Most authors consider cloud computing and especially cloud accounting as a new technological trend, which brings a series of advantages such as cost reduction and unrestricted access to data. That is why its adoption represents an opportunity for companies, organizations and the market (Weber and Kauffman, 2011). The competitive

pressure will cause more and more companies to switch to the new technology, because the emergence of this paradigm will change the way of doing business (Hoberg et al., 2012).

However, there are not a few who worry about the individual risks that accompany the transition to the cloud. In all the articles dealing with cloud accounting, in addition to the advantages the barriers and limitations of this technology are presented. Most of the concerns raised by working in the cloud are not new, being already known from existing hosts, such as the risk of one tenant attacking another. Concerned about new technology, many potential tenants of cloud hosting providers often demand much greater security measures than when dealing with traditional web hosting providers (Molnar and Schechter, 2010). More than that, David Mitchell Smith shows that the transition to the cloud already shows signs of disillusionment (Smith, D.M., 2011).

In this paper, the authors will try to present the obstacles of a human nature that businesses and organizations face in adopting cloud accounting, conducting a literature review to show how cloud adoption is understood and perceived.

## 2. MISTRUST AND DOUBTS

### Cloud adoption

Despite the fears, cloud computing is thriving by taking the accounting industry by storm. The adoption rate in this industry far exceeds the others, companies like Xero that provide cloud-based accounting services have grown exponentially in popularity since 2010.

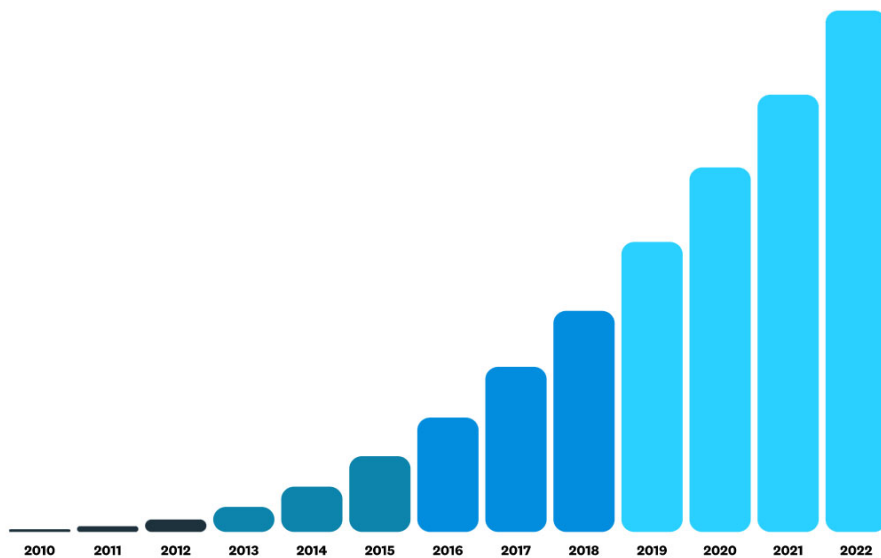


Figure no. 1 – Increasing the number of Xero subscribers to 3 million in 2020. Source: <https://www.xero.com/about/>

Michael Ambrust shows that by connecting a large number of computers via the Internet, the illusion of infinite Cloud Accounting resources is created (Ambrust et al., 2010). In the study done in 2001 by Jenni Mehrrens, it is shown that company owners, generally non-specialists in IT, are the ones who play a significant role in the adoption of new technologies and not IT professionals, who have a minor role. Because of its specificity, employee consent plays an important role in cloud adoption, too. Also, the

influence of cloud system providers can influence the move to the cloud, by establishing collaborative relationships with accountants and offering incentive programs.

Because the resources are pooled to be then provided to any users, inherent uncertainties arise for users. Since data is stored remotely, cloud computing involves giving up physical control over personal data to a third party. This study intends to investigate the aspects of demands and the trust in cloud accounting.

#### **Security - the number one concern**

Those who have adopted the cloud have overcome their lack of confidence regarding security issues by believing that cloud providers, as IT specialists, can develop security and encryption measures superior to those offered by their own servers. In terms of confidentiality, the tenants are convinced that the need to maintain a good reputation means that cloud providers do not allow any kind of information leakage. As a security measure against spying or the sale of customer data by cloud providers, encryption at the customer level can be used, which theoretically eliminates the possibility to view clients' data. This additional security measure shows that the lack of trust continues to persist among customers.

The anxiety over security is more present the more the company handles confidential and sensitive data. Users, by losing the enterprise's ownership of its data, depend on service providers to implement appropriate security controls and measures. Because the company's trust in the cloud provider is essential for reducing security concerns, this can be strengthened through contractual conditions that stipulate the place where the servers and data will be physically stored (Sobragi et al., 2014).

Alexander Benlian and Thomas Hess in the study „Drivers of SaaS-Adoption – An Empirical Study of Different Application Types” (2011) done on several hundred companies in Germany, shows that the biggest risk belief is security risks, while Prashant Gupta in the study „The usage and adoption of cloud computing by small and medium businesses” (2013) conducted on 211 companies in the Asia Pacific area shows that they consider the security and confidentiality of the cloud to be acceptable. Although this concern is considered unjustified by David Molnar (2011), who shows that data is more secure in the cloud since cloud providers can implement a higher level of security measure, there is a weak adherence to cloud computing by large companies. However, in the case of small companies, convenience prevailed over security, they are being more willing to adopt the cloud from this point of view. (Oliveira et al. 2014). Smaller firms have a simpler decision-making process, so that the management style has a much greater influence on the company's decisions. Owner-managers more passionate about IT technology are more likely to embrace the cloud for their businesses (Mehrtens et al., 2001). In any case, it must be considered if the security compromise is useful.

Cloud users face, in addition to external threats, like all large data centers, also internal threats: it is necessary for the users to be protected from the attack of the other users of the platform, user-level encryption being necessary.

Malicious tenants can compromise the integrity or confidentiality of the data and codes of other tenants or can block their communication. The attack can also be done through secondary channels, for example examining cache behavior to access the private data of other tenants (Eran Tromer, 2009).

#### **Privacy concern**

Another major concerns of companies that use cloud computing is privacy. Handing over the users' data to cloud providers involves the risk that the latter will abuse

their access to this data to create an economic advantage or a commercial benefit without the user's knowledge or consent (Gupta et al., 2013). This is one of the main obstacles for small businesses in the way of transferring ERP systems to the cloud. The difference between security and confidentiality is well highlighted by Michael Armbrust, security relating to technical measures, and confidentiality to contractual clauses and their implementation. Employees of the cloud provider who administer the infrastructure may have access to the resources of the tenants, compromising their security. There is also the risk that in the event of the bankruptcy of the cloud provider, the infrastructure in which the tenants' data is stored will become the property of the creditors. Also, there are a multitude of problems related to criminal investigation: the cloud provider can easily give in to the pressures of the authorities to provide secret data than the tenant would. Also, a cloud provider search warrant allows authorities to search tenant files without them being notified that the search has taken place. Like banking, where banks must comply with government requirements in the country in which they operate, a cloud provider that has a significant investment in a particular country may succumb to pressure to spy on a particular tenant, even if the tenant's data is not in the jurisdiction of the government in question.

#### **Reliability concern**

To these two fears is added reliability, represented by access to business data. Although most of the authors dealing with the problem of cloud accounting consider that the ability of companies to avoid data loss is inferior to that of cloud-based service providers, here remains the problem of ending or suspending the activity of these providers and the difficulty or impossibility of transferring the company's data to another provider. A cloud provider may experience both technical availability issues and interruptions for non-technical reasons, including the effects of regulatory actions. The lack of interoperability between platforms makes it difficult to run on a certain site data and programs extracted from another. According to DataCenter Knowledge website, (Miller, 2008) „cloud storage service The Linkup shut down Aug. 8 (2008) after losing as much as 45 percent of all data the service stored”. It was based on the Nirvanix storage service, this was based on storage service Nirvanix, which said the data was not transferred by Linkup and as a result was never in their custody. As a result, 20,000 users had to migrate from The Linkup to other storage sites, most of them with massive losses of personal data. Michael Armbrust shows that in March 2009 the FBI, investigating a company for possible criminal activity, raided a data center in Dallas blocking all files, which led to the disruption of the activity of several companies unrelated to the investigation and even at the bankruptcy of others. And last but not least, a malicious tenant a tenant can attack other tenants by over-consuming resources to compromise availability.

#### **Concern about technical obstacles**

Technical obstacles are added to these human nature obstacles. Once the move to the cloud is decided, the issue of compatibility of the company's existing database management system with the provider's cloud-based architecture arises. Paul Cragg and Malcolm King consider frequent contact with IT experts beneficial to encourage the adoption of cloud systems and Alshamaila Yarn gives an important role to cloud providers in promoting their products. At least for the moment, trading applications cannot be put in the cloud, since the latency on the net is variable and unpredictable, and transactions need a latency close to zero. Another major problem is interruptions when the system is no longer available for use. This can affect both revenues and the reputation of the company.

An impediment to the adoption of a cloud-based system is the existence of an informational system that works within the company. Starting from the principle „if it ain't broke, don't fix it” and adding the difficulty of moving an existing application from the enterprise application architecture to a cloud platform will lead to the abandonment of the transfer. In principle, due to the high conversion costs, these applications will continue to be run on the company's servers, with only the new applications reaching the cloud. But the greatest impediment signaled by accountants is the impossibility of making extensive changes by users to make it suitable for more specialized purposes. Cloud platforms simply lack the features, sophistication, or customization that accountants need.

#### **Concern about efficiency**

It should be noted that the adoption of cloud accounting did not bring major benefits to companies. Cloud accounting is a resource available to everyone, any company having access to it with low initial investments and without the staff having specialized knowledge. According to Jay Barney from Texas University, if a resource, such as the cloud accounting system, is available to all companies equally, no advantage will be obtained over competitors through adaptation. The accounting software does not bring any competitive advantage, since the preparation of accounting reports can be done by any school or university graduate with an economic profile (Krell, 2011). Cloud-based software does nothing but automate a process that is already well structured, not too difficult to achieve and with limited strategic value. Only once the critical mass of cloud accounting adoption by companies is reached can institutional pressures appear for the company in question to comply as well. (Loh, L). Then, large companies have more resources, and the adoption of cloud accounting does not bring them real benefits. In addition, these companies also have at their disposal the traditional outsourcing option, very similar, the difference being in technical details: the data is no longer stored in the cloud formed by servers from all over the world, but in their own servers. That's why cloud service providers direct their attention especially to small companies and offer services specially adapted to them.

Also, the efficiency of the transition to the cloud can be diminished by the costs for staff retraining and by possible hidden costs (Lin and Chen, 2012). An important threat is cost overruns. In addition to the fact that the cloud provider can increase the cost of hosting, it can bill for more resources than were consumed, or it can make the platform work less efficiently so that the consumption of billable resources increases. Also, high switching costs lead to tenant captivity. The opinions of specialists, generally formed following empirical observations, regarding which of the companies are more tempted to adopt the new technology, are divided. James Thong, Bert Sadowski, Chinyao Low or Tiago Oliveira considers that large companies can more easily switch to Cloud technology because they are better equipped and have specialists in the IT department who can remove technical barriers. On the other hand, Alshamaila Yazn and Bert Sadowski believe that small businesses are favored as their organizational structures are more flexible which makes cloud adoption easier.

### **3. CONCLUSIONS**

Because of these shortcomings, cloud computing would not have known such a development without cloud accounting. The accounting industry has always been a big demander for IT systems. Many accounting firms have switched to cloud-based accounting solutions, this transition not significantly affecting the accounting industry. Steff Green, in

the „From Accountant to Business Advisor - How to Market your Firm in the World of Cloud Accounting” article expresses his opinion that cloud accounting will reshape the accountants’ job by moving from the repetitive tasks of collecting, recording, and processing data to that of business advisors. Thus, the extent to which cloud adoption is desired is also influenced by the own interests of those who practice the accounting profession. The lack of IT experts in the company means that cloud adoption is primarily supported by owners, who most of the time are not experts in technology. This is where the most questions and suspicions arise regarding the adoption of cloud computing. Alshamaila Yazn shows that top management becomes crucial to adoption success. The empirical studies of various researchers regarding the adoption of cloud accounting by companies use a multitude of theories and as a result lead to various conclusions whose validity can be questioned. Although there has been a substantial penetration of cloud computing in the accounting industry, the factors and reasons that led to this growth are not well known. It can be observed that the main beneficiaries of cloud accounting are small and medium-sized companies (SMEs), which, according to Article 2 of the annex to Recommendation 2003/361/EC, "employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million". They face a different context and challenges than large companies and benefit from a centralized decision-making system and a more flexible management (according to Bert Sadowski). At the same time, the competition at this level is tough, as the companies have limited human and financial resources. Large companies are slow to move to cloud due to employees' reluctance to change, concerns about data security and confidentiality and the existence of an unamortized IT infrastructure.

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