With the Head in the Cloud

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INTRODUCTION

Having one's head in the clouds used to be a bad thing, especially when thinking about its meaning of not being connected to reality. Considering the current advancements of technology, we can say that in the era of the Internet, having one's head in the cloud actually means being very connected to reality and to the modern technology. Cloud computing is a new IT paradigm of the business world, with a significant number of companies offering software and storage in the cloud, including top players such as Google or Amazon. At the same time, numerous companies are using the cloud for its storage capabilities and software services that offer the advantages of mobility and flexibility.

Expectations regarding this new technology are high and growth projections are incredible. For example, analysts estimate that most software resources will move in the cloud and that cloud computing services market will grow from $25.5 billion in 2011 to $159.3 billion by 2020 (Boillat & Legner, 2013). However, are all of its opportunities taken into consideration by different industries, including e-commerce? Can consumers benefit from a more pleasant shopping experience because of it? These are issues that e-commerce businesses need to consider when improving their IT capabilities and performance.

As an externalized form of IT, cloud computing assumes using software and hardware virtual resources in a network, easily accessible worldwide through Internet. The service provider supplies the network access, security, application software, processing capability, and data storage from an external data center to multiple external customers (Katzan, 2010; Petrescu, 2012). This type of computing shifts the location of the infrastructure to the network, to large data centers, contributing to the reduction of the costs associated with the management of hardware and software resources, providing greater flexibility and access (Dikaiakos et al., 2009; Figer, 2009; Vaquero et al., 2009; Vouk, 2008).

The objective of this paper is to perform an overview of the key benefits and risks of cloud computing for the business world in general, and then focus on the effects that it can have on the activity and the performance of companies involved in electronic commerce. The paper focuses on the potential benefits for e-commerce businesses in their relation with customers and business partners, and provides recommendations regarding the use of cloud computing to improve operations and relationships with stakeholders.

CLOUD COMPUTING IN THE BUSINESS WORLD

There are many definitions in the literature regarding cloud computing, focusing on this new technology from the point of view of different disciplines, including information systems, business and engineering and considering both the software and the hardware aspects of the technology. While there are numerous definitions regarding cloud computing, most of them include key characteristics: provision of online resources on demand, rapid elasticity, resource pooling, self-service and management free (Petrescu, 2012; Stieninger & Nedbal, 2014; Truong, 2010). There are three main types of services that are deliv-

ered through the cloud: infrastructure as a service – IaaS (computers, servers and storage), platform as a service – PaaS (operating systems) and software as a service – SaaS (applications delivered online) (Petrescu, 2012; Sultan, 2010; Truong, 2010; Weinhardt et al., 2009).

Through cloud computing, all the software and hardware needs of a consumer - individual or business - are supplied by an external service provider, accessible online through a highly compatible online interface. Overall, cloud computing offers on-demand network access through the Internet to a shared pool of configurable computing resources, including hardware, software and services, that can be rapidly accessed and redimensioned with minimal management effort or service provider interaction (Boillat & Legner, 2013). Especially for small and medium sized companies, the cloud computing model is extremely beneficial, because it allows them to transfer the demands of managing hardware and software to third party companies, allowing them to free financial and human resources for other aspects of their activity (Oredo & Njihia, 2014).

Cloud computing is a new technological shift that allows users to access computing resources as pay-per-use services, when needed and at the capacity needed. From case studies and research focusing on traditional and pure cloud providers, researchers found that moving from internal software to cloud services affects all business model components, including the customer value proposition, resource base, value configuration, and financial flows (Boillat & Legner, 2013; Oredo & Njihia, 2014).

However, despite the potential benefits and the hype created around cloud computing, the migration of enterprise software in the cloud is still rather limited, partly due to the complex information technology needs that businesses have, and partly due to security, performance and switching costs issues. At the same time, researchers have found that the slow migration towards cloud enterprise software may also be due to the fact that vendors are reluctant to introduce cloud offerings (Boillat & Legner, 2013).

While cloud computing has brought numerous benefits to the business world, there are also risks associated with these, and the combination of the two, coupled with not enough knowledge about the technology, still maintain cloud computing at a level not as developed as its true potential permits (Stieninger & Nedbal, 2014). From this point of view, businesses need to be aware of its strengths and weaknesses, and these are the aspects that will be discussed in the following.

Benefits

The clouds are huge data centres that host software and hardware accessible online, collections of easily usable and accessible virtualized resources and software services that are compatible and easily accessed through an Internet browser. One of its advantages is the fact that these resources are elastic and pooled, so they can be easily reconfigured as a function of consumers' needs (Gatewood, 2009; Ma et al., 2014). From this point of view, a spike in activity for a website or for a company's internal software or data storage needs can be handled by the cloud without any major efforts from the part of the company.

Other benefits of cloud computing include the flexibility for businesses to use as much cloud space as they need, when they need it, accessible all over the world, through a standardized interface, usually a common web browser (Marston et al., 2010; Petrescu 2012). From this point of view, businesses have readily access to technology when needed, with the frequency and intensity needed, without wasting resources. It also benefits the needs of many organizations and consumers to benefits from mobile resources, easy to access and to use (Gupta et al., 2013; Oredo & Njihia, 2015).

At the same time, companies do not have to pay for software and hardware storage, floor space and maintenance, or for extra resources when they do not use them. Not only the company saves money by

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