Factors Explaining IS Managers Attitudes toward Cloud Computing Adoption

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ABSTRACT

This research aims to study factors that explain the negative attitude toward cloud computing adoption. More precisely, through a literature review and then a survey study, this research tries to develop and test a research model that present factors which may explain the attitude toward cloud adoption. From these factors, the authors expect to present some ‘best practices’ required in cloud adoption. Indeed, as an emerging technology, cloud computing adoption and deployment need to be studied empirically to provide advises for practitioners. In this paper, the authors use a quantitative approach based on questionnaire addressed to IS Managers in Saudi enterprises that operate in the financial sector. Data collected from 74 firms are used to test the research hypotheses. They are analyzed by Structural Equation Modelling. Among the main results, the authors have found that risks factors are not determinants to study such attitudes. Rather, they found that the “positive” perceptions (perceived benefits, perceived usefulness and perceived ease of use) are the most determinants. Such perceptions are favored when IS managers are frequently exposed to cloud computing related information. In light of these results, the authors proposed some recommendations for decision makers in this area.

KEYWORDS
Adoption, Attitudes, Cloud Computing, IS Managers, Perception, Saudi Context

1. INTRODUCTION

In a fast-moving and volatile market, the ability to harness new technologies and remain competitive is more important than ever. However, in many organizations there is a persistent sense that the Information Technology (IT)/Information Systems (IS) function is focused on technology infrastructure and not on harnessing the information and knowledge that IT investments deliver (Cisco, 2011). Besides, the big financial and technical requirements of IT deployment necessitate much attention to technical aspects of these IT and, anyway, reduce managers’ focus on the business issues (Lillard et al., 2010).

Cloud computing has the potential to improve the value of IT. In fact, by offering computing as a service, there is no need to deploy hardware and software, to spend much money for servers and software, and to have high skilled IT people to install last technologies. Cloud computing can be considered as the most important evolution in the IT world the last years.

However, as a new and specific technology, it is very important to study cloud computing adoption in firms. More specifically, this research aims to study the attitudes toward adoption, as an important step in the decision making process concerning IT implementation. This importance can be noted when we see multiples theories that focused on attitudes as determinant of intention to adopt IT (Technology Acceptance Model, Theory of Planned Behavior, Innovation Diffusion Theory,…).
Also, although many researchers have studied attitudes toward IT adoption, cloud computing adoption needs to be studied differently due to its specificities. As Lillard et al. (2010) said, cloud computing is a true revolution, as significant as PC one. The idea that computing may be rented, and not owned, by accessing to a cloud with a minimum of hardware and software deployment can turn upside down some variables related to attitudes toward IT adoption.

In general, the adoption of new technologies or service solutions is an important issue (Dutot, 2014; Zhou, 2015). Indeed, these solutions are regarded as enablers for improving an organization’s competitiveness. However, few studies have discussed the determinants of cloud adoption for an organization (Wu et al., 2011).

The biggest change with the cloud involves moving the data center offsite to a third party and buying services rather than maintaining on-site applications. At the same time, it means IT specialists no longer manage servers and applications directly (Lillard et al., 2010). This makes some organizations reluctant to introduce cloud computing due mainly to the trust concern (e.g., data security, network security) (Wu et al., 2011).

Thus, some researchers affirm that many IS managers have negative attitudes toward cloud computing and refuse to adopt it.

However, while security concerns are important factors for justifying adopting or not cloud (or other IT), the fact that managers utilize, quite a long time, many applications of cloud (Webmail, Facebook, Smartphone’s applications,...) which can contains several data, shows that this negative attitude toward cloud adoption can’t be explained only by security concerns.

To summarize, the research motivations can be presented as follow:

- The lack of works studying attitudes in the case of cloud adoption. Attitudes are considered as key factors in IT innovation adoption.
- The existing works focus on direct determinants, mainly those linked to TAM. We need to analyze more deeply the attitudes by focusing on more determinants and their antecedents. Indeed, “Some studies focus on the opportunities and risks of adopting cloud computing but without going into details to importance and effectiveness of adoption factors” (Gangwar et al., 2015).
- Few cloud adoption linked studies are conducted in Arab context although this context, mainly of Gulf Cooperation Council countries, is characterized by a rapid development in cloud adoption and use (IISS, 2013; IDC, 2015).

Thereby, this research attempts to study factors that explain the negative attitude toward cloud computing adoption. By following a quantitative approach, the objective of this study is twofold:

- Theoretical objectives: to develop and test a research model presenting factors that explain the attitudes of IS managers toward cloud computing adoption. Because this computing is very specific, factors that influence the attitudes toward its adoption can be different from those presented in previous studies dealing with traditional IT adoption.
- Managerial objectives: to help managers in making objective decisions when focusing on cloud computing adoption by presenting them some “best practices” about this adoption. These “best practices” can also help cloud vendors in reducing negative attitudes of their cloud clients. Indeed, according to Wu et al. (2011), vendors’ marketing efforts may be still insufficient to improve the trust toward cloud computing adoption.
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