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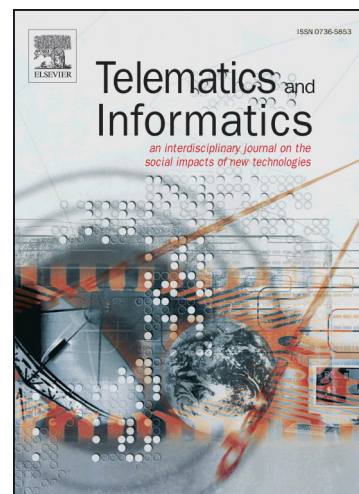
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An empirical study of factors influencing cloud adoption among private sector organisations

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Abstract

In many developing countries such as Saudi Arabia the adoption of cloud computing is still at an early stage. This research aims to investigate the influencing factors in the decision to adopt cloud computing in the private sector. An integrated model is proposed incorporating critical factors derived from a literature review, along with other factors (such as physical location) that have not been examined in previous studies as main factors in the organisation's decision to adopt cloud services. Data were collected from 300 IT staff in different organisations in the private sector in Saudi Arabia, in order to test the cloud adoption model and explore factors that were positively or negatively associated with cloud adoption. The most influential determinants of cloud adoption were found to be quality of service and trust. However, security and privacy concerns still prevent cloud adoption in this country. This study also showed that the effect of these variables differed according to organisation size and in adopter and non-adopter companies. Overall, these research findings provide valuable guidelines to cloud providers, managers, and government policy makers on ways of encouraging the spread of cloud computing in Middle Eastern countries and increasing its implementation, particularly in Saudi Arabia.

Keywords: Cloud computing; Adoption; Technological; Organisational; Environmental; Social.

1. Introduction

At the organisational level, Information and Communication Technology (ICT) has played an important role in transforming most operational practices and organisational tasks, as well as enabling electronic services to be provided in both private and public sectors (Beynon-Davies, 2005). Moreover, ICT now plays an essential role in the economies of many countries and its use is increasing rapidly worldwide (Ndou, 2004). Saudi Arabia is the largest market for ICT in the Middle East and more than half of large Saudi organisations plan to increase their budgets for ICT (CITC, 2015). However, cloud computing is the emerging technology for offering IT services as utility services over the network. The term "cloud computing" first became widely known in 2007. Cloud technology can bring a variety of advantages for organisations. By utilising cloud services rather than developing their in-house IT infrastructure, organisations can reduce capital expenditure costs; this also enables them to focus more closely on their core business (Armbrust et al., 2010). The cloud can increase flexibility in enterprises by offering access to cloud services at any time and from anywhere as well as according to their needs (Buyya et al., 2009).

Although the Saudi government supports the development of ICT across the country and has set a plan for the next twenty years, ICT in Saudi Arabia is still at the

developmental stage. According to Alghamdi et al. (2014), the implementation of e-government in Saudi is impeded by the weakness of ICT infrastructure. In addition, every country has a different environment and conditions. Therefore, for each country different aspects should be taken into consideration when deciding to adopt new technology. This is particularly the case for cloud computing in developing countries like Saudi Arabia, where this technology has not been as widely adopted as in developed countries. A variety of factors can influence an organisation's decision to move from an existing system to the cloud. Thus, this research aims to investigate in depth the influence of different factors on the intention of private sector organisations in Saudi Arabia to adopt cloud technology, and to understand why some enterprises are more prepared than others to move to the cloud. To the best of the author's knowledge, this is the first study to examine the impact of technological, organisational, environmental and social factors on the adoption rate in the private sector in Saudi Arabia.

The rest of the paper is structured as follows. Section 2 presents the research model and proposed hypotheses. The research methods used to evaluate are explained in Section 3. Section 4 presents the results and Section 5 provides an in-depth discussion of the findings of this study. The implications and future directions are presented in Section 6. Finally, Section 7 summarises the conclusions drawn from the research.

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