Cloud Computing Adoption by SMEs in Australia

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Introduction

Cloud Computing is an increasingly important area in the development of business services. Gartner Consulting defines Cloud Computing as "a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service using Internet technologies" (Plummer et al., 2009). Cloud Computing provides different types of services delivered under different deployment models on demand, and uses a pay-as-you-go method. Many developed countries are moving quickly to ensure the rapid adoption of Cloud Computing (Mudge, 2010).

SMEs play a critical role in any nation's economy as it is the fastest growing sector of most economies around the world and represents a high portion of all businesses and GDP (Paik, 2011). Similarly, SMEs in Australia account for 95 percent of all businesses (MacGregor & Kartiwi, 2010). Cloud Computing is commercially viable for many SMEs due to its flexibility and pay-as-you-go cost structure (Sultan, 2011), however, within the SME sector and despite potential benefits, the adoption rate of Cloud Computing is still relatively low in Australia compared to other countries in the Asian region (ACCA, 2012).

Research Problem

Cloud Computing adoption has to be considered as a combination of Technology Adoption and Service Adoption by giving higher weight to the service adoption from the business perspective. But most past research merely considered it as a technology adoption issue. The Victorian Privacy Commissioner showed that Australian organisations (in particular Victorian organisations) have a high level of interest and concerns in Cloud Computing (Anthony, 2012) but, according to the Asia Cloud Computing Association's Cloud Computing Readiness Index 2012, Australia is seventh in the adoption rates of Cloud Computing (ACCA, 2012). Hence, there is a need to expand the adoption of Cloud Computing by SMEs in Australia as it would be very beneficial for the Australian business market.

Objectives of the Study

The issues of Cloud Computing adoption are explored within the paper with the aim of identifying likely key factors that motivate or inhibit its use by SMEs. A further overarching research objective is to design and propose a model suitable for the adoption of Cloud Computing by SMEs in Australia by looking at the motivators and inhibitors of Cloud Computing adoption. Based on this notion, the overarching research question is:

What factors are key to the adoption of Cloud Computing by SMEs in Australia?

The following subsidiary research questions are considered in order to answer this research question.

- What organisational factors influence adoption of Cloud Computing by SMEs in Australia?
- What technological factors influence adoption of Cloud Computing by SMEs in Australia?
- What quality of service factors influence adoption of Cloud Computing by SMEs in Australia?

Theorectical Considerations and Emperial Evidence

Cloud Computing provides different services which are delivered under various deployment models on demand, and uses a pay-as-you-go method. In the design of a Cloud Computing adoption model, it is necessary to understand the differences between technology adoption and Cloud Computing adoption. Rather than directly applying the Technological, Organisation and Environment (TOE) framework in Cloud Computing adoption, Cloud Computing provides a complete service-based environment for SMEs. Various researchers indicate that adopting Cloud Computing includes expectations of the quality of service provided by Cloud service providers, such as availability, reliability and ongoing updating services (ITIIC, 2011). Therefore, the process is more important for SMEs than just the environmental factors considered in most of the technology/Cloud adoption models under the TOE framework. The Technological, Organisation and

Process multiple-perspectives approach can be used to best describe the factors influencing Cloud Computing adoption.

Methodology

A survey method was the best method for this investigation and data was collected from IT managers or decision-makers in the IT sections of selected SMEs. With a high level of Internet usage by SMEs in Australia, an online survey tool was used as the best choice to collect data (Evans and Mathur, 2005). The conceptual model in this study was validated through focus group discussions before finalising the questionnaire for data collection. The questionnaire was pilot-tested with a small test sample group, before administering the final survey, thus, assisting in the validation of the questionnaire design.

Conclusions

In reviewing the literature it can be identified that the main inhibiting factor for Cloud Computing adoption is the fear of dispatching organisational data to a third party. It was also shown that Public Cloud Computing is more economical when compared to private Cloud Computing, and that all business models can be used in Public Clouds. In general, therefore, it is more beneficial for SMEs than larger organisations to adopt a Public Cloud Computing model as it can provide them with more economical solutions. Cloud Computing includes a number of important changes such as cross-border data transfer, keeping data with a third party, remotely accessing resources and applications through the Internet and so on. The research targeted a specific Cloud Computing deployment method known as Public Cloud Computing. The propose model is useful in a variety of countries exhibiting a range of economic settings as this is intended to be a generic Cloud adoption model for SMEs.

Keywords: Australia; Cloud Computing; Small and Medium-Sized Enterprises

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