

# **Successful Introduction of Cloud Computing into Your Organization: A Six-Step Conceptual Model**

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## **ABSTRACT**

Cloud computing is the fastest area of application within the information systems field. Most computer and networking companies are trying to either enter into this area or increase their existing market share. In 2010 there has been a bidding war by large computer firms in order to buy the smaller cloud related firms and integrate their cloud platforms into their own offerings. The adoption of cloud computing by businesses and academic institutions is on the rise. Cloud computing platforms could reduce cost and increase information systems responsiveness for those companies that are adopting it properly. However many organizations do not follow a systematic approach before adopting this technology and be able to better understand the opportunities and challenges that this fast growing technology offers. This paper presents a six-step conceptual model that if followed should increase the chances of success when introducing cloud computing into your organization.

## **INTRODUCTION AND BACKGROUND**

Cloud computing is the fastest area of application within the information systems field. Most computer and networking companies are trying to either enter into this area or increase their existing market share. In 2010 there has been a bidding war by large computer firms in order to buy the smaller cloud related firms and integrate their cloud platforms into their own offerings. The bidding war between Dell and HP for the takeover of 3Par Inc. is a good example of this phenomenon. HP won the bid by offering more than a 300% premium in order to acquire this company.

Even during the economic down turn, cloud computing related jobs have been in high demand [10]. Some experts believe that cloud computing could save the economy. In a survey conducted by CRN, 68% of the respondents indicated that cloud computing will help their businesses recover from the recession. More than 600 IT and business decision makers in the United States, the United Kingdom, and Singapore participated in the survey [11].

The adoption of cloud computing by businesses and academic institutions is on the rise. Cloud computing platforms could reduce cost and increase the information systems responsiveness for those companies that are properly adopting it. Table 1 summarizes the advantages of cloud computing [5].

Table 1  
Advantages of Cloud Computing

Reduced cost	Cloud computing cost is paid incrementally, saving organizations money. Also because the software development cost is divided among many participants, it is generally cheaper than traditional computing methods.
Increased storage	Organizations can store more data than on private computer systems and storage can grow as the organization grows.
Highly automated	No longer do IT personnel need to worry about keeping software up to date. The “what version of the software do I need” syndrome is eliminated.
Flexibility	Cloud computing offers much more flexibility than traditional computing methods. It can offer vertical as well as horizontal flexibility.
More mobility	Employees can access information wherever they are, rather than having to remain at their desks. It offers a true portability for both data and application.
Allows IT to shift focus	No longer having to worry about constant server updates and other computing issues, the adopting organization will be free to concentrate on innovation and growing the business.

The following two case studies set the stage for our presentation:

**Cloud Computing in Action: Case 1**

Jeff Bezos, the founder of Amazon.com, says, “You don’t generate your own electricity. Why generate your own computing?” [12]. Amazon.com has established a computing platform that companies can use, regardless of their location. This platform provides storage and processing power on demand, and companies pay only for the resources they use. By using this service, companies don’t have to invest in technology that might become obsolete quickly [7]. Google Apps, a cloud platform, introduced in February 2007, is competing with Microsoft’s Office suite, and many companies use it now, including universities such as Arizona State University and Northwestern University [4].

**Cloud Computing in Action: Case 2**

Queensland University of Technology in Australia implemented cloud computing to provide enterprise software to more than 140 universities in the Asia Pacific. According to Glenn Stewart, Professor of Information Systems, a cloud computing platform not only has reduced cost it has also provided greater reliability and scalability. Professor Stewart is in charge of the SAP University Competence Centre (UCC), which provides the SAP suite of business software to over 800 academics and 42,000 students from 140 universities in the Asia Pacific and Japan. If a university chooses to run this suite of software without the help of UCC it has to invest in hardware, software, backup facilities, and so forth. The upfront investment would be over \$300,000, which is a major undertaking for any university. By migrating the services into a private cloud, each university pays \$6,760 for that same package, which is more than a 74% reduction in cost [13].

However, many organizations do not follow a systematic approach before adopting this technology, and to be able to better understand the many opportunities and challenges that this fast growing platform offers. This paper presents a six-step conceptual model that if followed should increase the chances of success when introducing cloud computing into your organization. The proposed model provides managerial literacy as well as checklists that organizations could use before introducing this technology into their organizations. The steps in the model include: (1) understanding grid computing, (2) understanding application service providers, (3) understanding utility (on-demand) computing, (4) understanding the components of a cloud platform, (5) understanding the security issues in cloud computing, and (6) preparing a cloud computing plan for managers.

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