# Cloud computing in business scenario

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## Introduction

Cloud Computing has been recognized as a promising model to exploit the power of computer network and communications into business in cost effective way. It provides elastic capacity to all the sectors such as businesses, government and education with flexible price. Present multifarious business environment require organizations to respond quickly to the changes of the market to take advantage of opportunities. It can be achieved through contemporary information and communication technologies. Nowadays cloud computing considered as a resource that is readily available to organizations to attain their business goals promptly.

Cloud computing offers a platform to use the collective computing resources. It assembles large number of computing servers and other resources and provides their combined capacity on an on- demand, pay per cycle basis. As per the definition of National Institute of Standards and Technology (NIST) Cloud Computing refers to "pay-per-use" model which enable convenient, on demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction (Mell and Grance, 2009). This definition divulge that in cloud the end users can access the service anytime from anywhere, share data and pool resources more easily, and keep their data safely in the infrastructure. This model promotes accessibility and consists of five key characteristics: they are on-demand self-service, broad network access, resource pooling, rapid elasticity and measured service (David S. Linthicum, 2010).

In cloud, organizations do not need to invest a huge amount on hardware and software even though the organizations may have geographically separated location. Organization can select the cloud depend on their budget and needs. If the organization prefer public cloud, can get the resources from the cloud service providers such as Amazon, Google, IBM, Yahoo, eBay, Microsoft, etc. or they may have their own cloud. Cloud would be most advantageous not only to the business but also in management of government, health care and education sectors.

## Business Implications of Cloud Computing

One of the most obvious business implication of cloud computing is saves money. Adoption of cloud within the business eco system has the ability to decrease costs in several ways as hardware, software, maintenance, space, equipment, and energy needed to run the business. Hence the cloud enables businesses, the ability to provide regular product or services with lower cost.

Cloud in business environment not only reduce the capital investment but also reduce the investment in human resource. Organizations can easily share data across their divisions with the cloud computing technology in the fastest and easiest way which helps the businesses especially in saves the time of the information acquisition.

Another implication of cloud is that the organizations do not need to be in one specific location. The organization can be anywhere in the world and they can access the service whenever they need. Even the employees of the organization also do not need to be in their office all the time to complete their work assignment, they can complete the task in efficient manner at any time.

## Challenges of Cloud

However the cloud helps to increase profit, and business value within short time frame while red uce cost, it still in its infancy. It associated with numerous challenges. Based on a survey conducted by IDC in 2008/09, the major challenges that associated with adoption of cloud computing within organizations are recognized as shown in Figure 1.

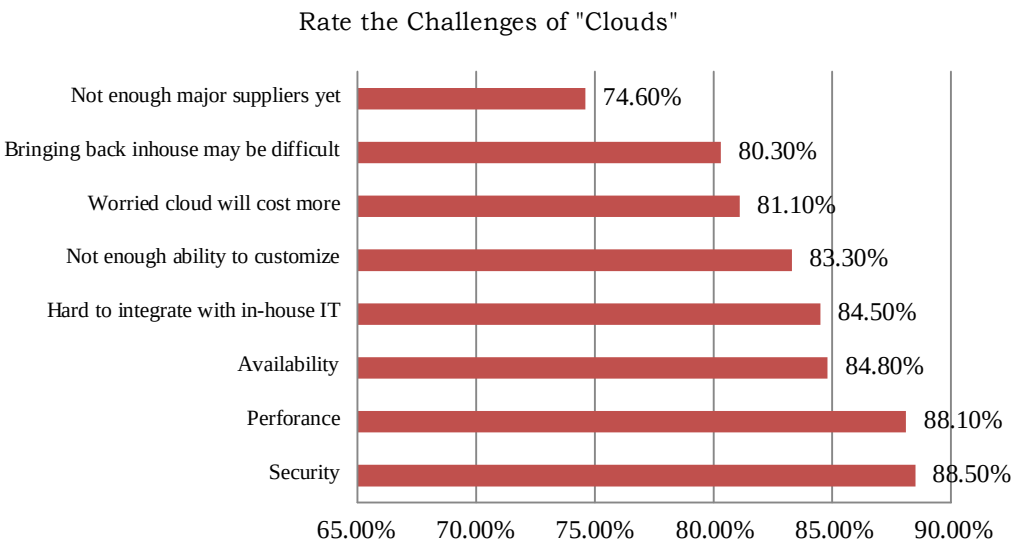


Figure 01: Challenges in Cloud (Source: IDC Enterprisse Panel Survey)

Security is the most serious issue in adoption of cloud computing, because in cloud computing the data center holds information, rather than the organization. Enterprises do not have power over of their data in cloud, they must trust the provider. This atmosphere increases the fear concerning user security and privacy of the data. Especially, business fear to store high-value customer data, trade secrets, classified information, or proprietary information data because the same underlying hardware may be used by other companies (Chen. Y et al, 2010).

Another limitation in using the cloud is performance instability and availability. Researchers revealed that Amazon, Google, and Microsoft undergo on issues related to performance and availability due to loads. Specifically, the researchers measured how the cloud providers scaled up and responded to the sudden demand of 2,000 concurrent users. In some cases, response times at different points of the day varied by a factor of 20 (Marios D. Dikaiakos et al, 2009). Another challenge associates with cloud is interoperability. Cloud interoperability refers to customers' abil ity to use the same artifacts, such as management tools, virtual server images, and so on, with a variety of cloud computing providers and platforms (Marios D. Dikaiakos et al, 2009). This rigorously impedes the development of cloud ecosystems by forcing vendor lock-in to specific providers, which hinders the ability of users to choose from alternative vendors simultaneously in order to optimize resources at different levels within an organization.

## Conclusion

Cloud computing is an emerging paradigm for the business leaders. Companies worldwide are beginning to recognize cloud's capabilities to generate new business models and promote sustainable competitive advantage. To promote the cloud in business environment, these issues could be overcome and internet access providers have to provide the high band-width internet access facility with reasonable price to metro, urban, and rural areas.

Hybrid cloud approaches could be implemented to increase the security thread–Cryptographic approaches can consider in managing security and privacy issues. In the cryptographic approach the data will be encrypted and stored in the cloud. If someone wants to access data, the system should check its policy rules then decrypt it only if the policies are satisfied.

Make use of standard applications in cloud–To enable interoperability organizations have to build new standards and interfaces with a unique language that will enable enhanced portability and flexibility of virtualized applications. Security Assertion Markup Language (SAML), Extensible Access Control Markup Language (XACML), and Web services standards are viable solutions toward this. This unique language development will enable organizations to work with a variety of cloud computing providers and platforms to satisfy their need.

Making use of cloud computing correctly and efficiently in a business not only increase profits for the company but also the productivity and business value of a company.

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