

# Impact of Cloud Computing on IT organization structure within a business

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## **Synopsis**

*With its advent, subsequent popularity and adoption, cloud computing has changed the role IT plays in a firm and the way firms should handle it going forward. IT, which in most cases has been a vertical supporting the core business of a company (even in a lot of technology firms), is now triggering changes in the business model of an organization. Cloud computing is helping firms stay cost-effective, efficient and adaptable to changes by re-designing their IT model. In this short paper we would present what changes cloud computing has brought, how it is changing the role of existing Technologist in a firm and what future holds.*

## **1. Introduction**

Ever since its advent, cloud computing has gained rapid popularity and has helped a lot of firms reduce operating costs, enhance profitability, smoothen growth, increase efficiency, and reduce operational and managerial complexity. For existing firms, this requires moving to an adapted business model, in which they can align their business goals with the IT infrastructure from the cloud, resulting in increased efficiency and reduced costs <sup>[1]</sup>. For start-ups, cloud computing has been all the more important. Cloud computing very well handles the high capital investment risk problem which a lot companies face during their inception and initial years. Through its pay as you use model, cloud computing takes care of this uncertainty and helps firms become less risk averse. Moreover, for a start-up it is easier to design its business model which is cloud-ready than for a firm which is already operating at a large scale. This reasoning is also reaffirmed by the fact that a large number of start-ups now prefer to use the cloud as their IT infrastructure system <sup>[2]</sup>.

## **2. Redefining role of IT within a firm**

For long, IT has been a support vertical in a firm. Firms develop their core business model and then use IT as a support shaft for executing their plan. Decisions of what kind of IT infrastructure to use, how to deploy them has been an important decision but primarily with the focus of making sure that the fleet of machines the firm owns don't age out around the same time. Secondly, firms also maintain redundancy in order to ensure high availability and Quality of Service. Ensuring both of these meant higher investment and higher cost of maintenance for the firm. Cloud computing is

primarily targeted towards solving this very problem. Through its adoption, it changes the role of IT in a firm. Once on a cloud, firms can scale up or scale down their IT fleet very quickly and hence become highly adaptable to changes <sup>[3]</sup>.

Many IT organizations are moving their IT infrastructure to a private cloud (closed and shunned from the internet). This has helped them address some of the problems mentioned above. Companies are availing high availability and reliability at a lesser cost by significantly reducing their cost on building IT infrastructure and its subsequent maintenance. Moving their infrastructure to the cloud gives them the advantage to expand or contract their infrastructure on a need basis for eg. - expansion in case of a rapid growth in employee base. It is an absolute must for companies whose IT resources, computing and storage needs are very unpredictable and vary around the year. For organizations with a relatively constant utilization of IT infrastructure, the benefits would be in terms of optimization of its resources. Patni Computer Systems has reduced its capex spending by 30% and lowered its power consumption by 30% <sup>[4]</sup>. Cloud based infrastructure will also help them during mergers and acquisitions to simplify the data aggregation.

Under this changed schema of things the role of a technology officer or a CTO becomes even more crucial. Under the older model, firms used to plan their IT resources for next 6 months or 1 year and usually stacked a significant over capacity of resources. Now the need is to keep constant tab on the scale of business activity and change IT resources together with co-related change in the business. This has considerably reduced the reaction window and also the requirement of technology officer to work more closely with business development leader.

Another argument here can be that now there are lots of cloud brokers <sup>[3]</sup>, which help firms in the migration to cloud from its historical data center based model. This may very well make the role of a technology officer redundant. Though the argument looks strong at the face of it, we still doubt it because not many firms would leave crucial decision of managing their IT fleet and resources on to cloud brokers. They may end-up using cloud brokers together with human management, which still significantly increases the importance of a technology officer in the firm.

### **3. Role of IT vendors in Cloud Computing**

IT solution providers have started offering cloud based infrastructure management services. Most providers offer infrastructure management services for private clouds hosted on client's own infrastructure as well as for private clouds hosted on the service provider's network (referred to as Infrastructure as a Service ).

Big IT Players such as Microsoft, Google and Amazon, that have abundant resources in their network, are offering Platform as a Service and Infrastructure as a Service. These clouds are also referred to as Public Cloud. Some of these services are free and some are based on pay-per-use model.

Outsourcing Solutions based on Cloud have also become very common. Many vendors such as TCS, Wipro, and Patni Computer Systems offer solutions in this space. There are a wide variety of offerings available based on fixed cost, variable cost (pay-per-user, pay on time-basis, pay on bandwidth usage, etc) and a combination of the two. These offerings are mostly in the bracket of Software as a Service. As an example on the revenue potential for IT players in Cloud Computing, TCS has forecasted 10% of its incremental revenue from Cloud solutions in the next year <sup>[5]</sup>. This shows the present revenue and future potential of Cloud Computing for Tata Consultancy Services, a major Indian IT service player.

### **4. References**

[1] Tripathi Uttam Kumar, Daniel Ebner, Stella Gatzu Grivas, Holger Wache, "Enterprise architecture framework for enabling cloud computing", to appear in Cloud2010, Miami Florida, July 2010

[2] Case study on ShareThis: <http://aws.amazon.com/solutions/case-studies/sharethis/> , [http://www.cio.com/article/492919/Why My Company Uses Amazon s EC2 Cloud](http://www.cio.com/article/492919/Why_My_Company_Uses_Amazon_s_EC2_Cloud)

[3] Tripathi Uttam Kumar, Stella Gatzu Grivas, Holger Wache, "Cloud Broker: Brining Intelligence into the cloud an event-base approach", to appear in Cloud2010, Miami Florida, July 2010.

[4]<http://www.business-standard.com/india/news/patni-leverages-cloud-computing-for-self-clients/397470/>

[5]<http://economictimes.indiatimes.com/infotech/ites/Cloud-computing-showers-TCS-with-big-business/articleshow/6030139.cms>