Strategic Importance of Cloud Computing in Business Organizations

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**Abstract**— By running the business in the traditional way then people should automate the business and the application software should store in the organization server. This application will be accessed throughout the organization with the intranet. When the organization is having multiple branches and if the management want to access the data of the organization from the other place then it is not possible with such type of system. To overcome all such type of disadvantages organizations should use the latest technology known as cloud computing. Cloud computing is a kind of technology where any type of organizations like small, medium and big organizations can use this technology. These organizations can install their application on the centralized cloud server and can use the configured resources in a pay for use basis. This technology makes the organization to work from any place and they can run multiple branches from different locations with the same type of application. This is very useful for the organizations which are unable to invest more in their business for automating their activities.

**Keywords**— Cloud, IaaS, PaaS, SaaS, cloud components.

I. INTRODUCTION

In the current generation most of the organizations want to automate their business, so that they can grow their business. But it is quite difficult for small and medium sized organization to establish the infrastructure that is needed for automating the business. For example to automate any business the minimum requirements are server with good configuration, network, number of nodes depends on the requirements of the organization. For small organizations, investing this much of amount is not possible and still using this technology is having disadvantages. Organizations will not have the facility to view the data and the operations from other places which makes inconvenient to the managements. Such kind of systems may also affect the growth of the organizations.(Rastogi, G., 2015). Small and medium sized organizations are in search of new technology which suits to their needs and thus then can have the growth in their business. If we talk about pre-cloud environments, organizations are wasting the huge money for providing the infrastructure. Maintenance of the servers and updating the server capacities were a bit difficult and no organization will utilize the server capacity to the maximum extent. By this we can understand that many resources are getting wasted when the organizations will have their own infrastructure. When we implement our own system then it is our responsibility to provide the security to the data and the operations which are done on the data. Another main issue that should be concentrated by the traditional system is that to implement the backup and recovery plans. It is very tedious task and time consuming as well as all these things are costly.

II. IMPORTANCE OF CLOUD COMPUTING

Many of the organizations will not be in a position to have the capital investments for the infrastructure and even after doing so, still it is not meeting the current requirements of the organizations. If any of the organization tried to invest for making automation of the business, then also there will be some drawbacks with the traditional client server mechanism which is shown in Figure 1. These drawbacks are listed one after the other. Initial investment will be very much high for the organizations, maintaining the infrastructure is a difficult thing for the organizations, providing security for data and infrastructure, but this is limited to one organization only. If the same organization is having multiple branches and if the organization want to run from the centralized server, then they need different infrastructure and a continuous network should be had. Maintaining a dedicated server is costly approach for the small and medium sized organizations. Keeping in mind all these drawbacks, researchers are invented a new technology which is known as cloud computing. This technology is very flexible, scalable and maintains all the operations at once with minimal cost. (Khalid, A., 2010)

![Figure 1: Traditional client-server Architecture](http://www.ijfrcsce.org)
To establish the client server technology in the organization we require a dedicated server and the continuous un-interrupted network so that all clients can able to connect to the network to complete the operations required by the organization. But this approach is very costly and it is not secured. Any employ or the other person who enters into the network can steal the data. Establishing the security to the network is also a costly procedure. To implement all these things by a small organization it is not possible. Because of all these reasons all small and medium sized organizations are looking for a new technology which is feasible, scalable and easy to use. After knowing about the cloud computing all these organizations has been satisfied with the operations or features offered by the cloud computing technology. As an example we can take the health care industry where many of the organizations are implementing the cloud computing technology and achieving the benefits of implementing this technology.(Vujin, 2012).

This technology offers the services through the internet like storage, servers, analytics, prediction, software, networking and many more. These services are offered by the third party providers which are known as cloud providers. Any organization can consult the third party providers and tell them their business needs. Based on the needs of the organization these service providers will analyze the requirements of the organization and tell them the available services or needed services for their organizations. By listening to all the details by the organization, organization can decide to take which type of operations they need for running their business. As per the selection of the services the cost will be incurred. Another advantage of using cloud services is no need to pay the price if we don’t have any transactions for that day. This is just simply pay for the usage. If we don’t have any operations or any business transactions in a month or in a day then there won’t be any charges for that day or month. This will added benefit for the cloud users. These cloud providers are totally responsible for the client data and they provide the protection and security to the users data. They can have the backup facility and the client will not have any trouble in storing and retrieval of data.

II. ARCHITECTURE OF THE CLOUD COMPUTING:

The following figure 2 represents the cloud computing architecture. This architecture shows the front end and back end of the new system. At the back end all the information is hidden to the user. User won’t know about the information where it is stored and how it is processing. He is not bothered about what all the software or applications that are required to run the business. All such kind of things will be taken care by the cloud providers. Cloud providers will offer different kinds of services like virtual desktop, software, application, storage services, security, Data analytics etc. To have all these services in their organization, organizations have to invest a lot. But the amount of business that they are going to do with this investment must be higher, then only they can survive or else all this investment will go waste. With this new technology, no organization will pay huge amount for the cloud providers, they will be paying for the services which they have been used. With such kind of pay for usage mechanism people and the organizations will not feel any burden for the used services.

With the implementation of cloud computing technology by the small and medium sized or any sized organization will be achieving different benefits. The main aim of this research papers is to find the need of the implementation of the cloud computing technology by the organizations and also should focus on the benefits that will be achieved by the organizations by implementing the cloud computing technology.

To implement the cloud computing technology, organizations has to shift their focus from owning the assets to providing the services to the customers, to satisfying the needs of the customers, implementing the new innovative culture in the organization, to utilize the available resources in the effective way etc. Apart from these changes organizations need not to be concentrate on the security implementations. All these will be taken care by the cloud service providers.

Figure 2: Cloud computing Architecture

Implementation of cloud computing technology in the organization is based on the different layers and components which are associated with the cloud computing technology.

IV. COMPONENTS OF CLOUD COMPUTING

The three main components of cloud computing technology are

a. IaaS. (Infrastructure as a Service): With the help of this service most of the organization can hire the services on rent like the infrastructure which includes servers, storage servers, processing servers, networks, operating systems, virtual machines etc. All these things are available by the cloud service providers and the clients can take these on rent and they can pay the rent for the usage of these resources.

b. PaaS.(Platform as a Service): Another service is platform as a service which provides services on demand to the client for developing any application, testing, delivering etc. With this type of service, developers will not have any difficulty in making the environment for developing the applications. All
such environment is available on demand to the developers, testers etc. (Voice & data, 2012).

C. **SaaS**: (Software as a Service): Providing the software services on demand to the clients with the help of internet. That means clients need not bother about the development of the application. All this will be taken care by the cloud providers. With this component, hosting of the application and the maintenance of it will be achieved.

With the help of above 3 components, this technology enables the organizations to implement the new business strategies for the organizational growth. (Milian, E., 2015).

With this technology a small or medium sized organization can think about the changes in their business. With the implementation of cloud computing technology there will be so many benefits like cost of the implementation of this technology will be less when compared to the implementation of client-server technology, speed which will be achieved by this technology will be more because of implementation of high end servers by the technology providers. We can access all the applications from any place and at any time i.e., globally we can access the services of the organizations, we can have round the clock services with this there will be increase of the productivity, services which are offered by the cloud computing technology are reliable and enough security is provided to them. (PR Newswire, 2016).

All the above 3 components are present in the cloud computing technology. It can be viewed as the group of services provided by the technology. Depends on the usage and the needs of the organizations, organization may select any one, two or all the components of the cloud computing. All these three are represented in the figure 3.

![Layer of Cloud Computing](image)

**Figure 3: Layers of Cloud Computing**

**V. CONCLUSIONS**

In the current generation there is a huge competition in between the organizations and the cost incurred in implementing automation activities by the organization is also high. Still after investing so much cost, organizations are unable to run their business globally because of the technical difficulties. To have the global business and to reduce the cost of running the business, cloud computing technology found as an alternative for many small and medium sized organizations. With this implementation organizations are not looking for owning the assets and instead they are looking for providing the services to clients round the clock and throughout the globe. With this implementation organizations are achieving the secured, quality of services with minimal investments and that to be pay for the usage of services.

**REFERENCES**


