# How Cloud Computing Impacts in Business Sector

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**Abstract-***As we know that the cloud computing is rapidly, trending emerging technology, I have tried to summarize its importance in the today's business world. From IoT to the automation and from normal programming to writing effective business logic and really some complex algorithms, everything can be stored on the cloud. Many businesses now a days using cloud as their allocation of resources as it is one of the easiest ways to provide needed tools and packages in an efficient and reliable way. Cloud technology has effective change both our personal and professional life. Cloud computing is taking the world to another stage. Cloud computing technology offers various tools and resources in order to complete any organizational needs. I have summarized some basic benefits of using cloud, some challenges and how to overcome them.*

## INTRODUCTION

Cloud computing often simply referred to as "the cloud", is the availability of on-demand important and needed resources. In order to achieve new business heights and to grow in market capital, companies try to implement this new trending technology. We can see this new technology as an innovation in a number of ways. Over the last decade, cloud computing has had a truly transformative revolution in the IT industry. Cloud technology has effective change both our personal and professional life. Cloud computing is taking the world to another stage. In fact, by 2021 almost 94% of computer instances and workloads will be processed through cloud data centers. Generally, cloud doesn't own the infrastructure like traditional IT hosting services. The concepts and principles of cloud computing are not new, but due to more and more companies and organizations switching to the cloud services, it is). becoming more and more universally known and popular. There are mainly three types of cloud computing i.e., public, private and hybrid. Each one of these types has their own advantages and disadvantages. A consumer can choose type of cloud based on their available data and needed infrastructure. In public cloud the information that is managed or created infrastructure can be shared publicly. This is where all the information is managed by the consumer for their users. In private cloud an IT service is provided to select the users for the services. In this type the data is protected by the firewall and it has only one tenant. In hybrid environment, it allows for the portability of data and application despite operating independently. Let's understand the cloud service model.

## Cloud Service Models:

Cloud services or cloud solution mainly comes with three different service platforms or models, they are



- ➢ SaaS (Software as a Service)
- ➢ PaaS (Platform as a Service)
- ➢ IaaS (Infrastructure as a Service)

**SaaS:** It is also known as cloud application services. In the cloud market, it only represents the most commonly utilized business options. The SaaS applications or software do not require any installation of software that means they can easily be run on the web browser in user availability. The software can easily be managed from a central location. These applications can easily be hosted on the server. These types of application only require an internet connection. The major advantage of using SaaS is that the user is not responsible for any hardware or software updates.

**PaaS:** This service is also known as cloud platform service. In this service, certain software is provided cloud components for the application. To create a custom application PaaS offers a set of frameworks for the developers. Developer can only manage the application i.e., business logic where all the data is handled by a third-party service provider. It is the most simple and cost-effective service provider in all three providers for free applications. It is also very scalable and highly available. It also needed less amount of coding than normal general application or software

creation. The applications created on PaaS are easily transferable or migrated from system to system or from technology to technology.

**IaaS**: Cloud infrastructure services or IaaS is generally a delivery of services that resembles infrastructure in it. Generally, it provides services like server, operating system, network, storage, etc. through virtualization technique. The consumer has been given a dashboard or an API consisting of the various services by giving complete access through the same. The IaaS is fully equipped and highly scalable computing resources. Any user can purchase resources as needed instead of having to buy physical hardware devices.

**Characteristics of cloud computing in business sector:**

1. **Resource pooling:** It is an IT term used to describe an environmental situation in which cloud service providers provides or serves services to multiple clients. To deliver project and other services at scale pooling resources are one of the most important and attractive factors of element of business sector in cloud computing. The resources should be assigned to multiple consumers based on their requirements, budget, availability and demand. These resources can be memory, processing, network bandwidth, storage, etc. Pooling of resources is grouping resources together for minimizing risk to the users and maximizing advantages of services provided.

2. **On-demand self-service**: Whenever consumers want any resources in term of services, cloud provide them, this is the basic definition of the self-service on-demand. Because of automation the self-service method became possible. It allows user to take all needed actions by themselves in order to get the required services, instead of calling or going through the IT department. To meet agility in evolving needs, a cloud service provide should ensure that the all services should be fully on-demand so that consumer can have control over it.

3. **Measured service:** The measured service in IT is generally a reference to service where provider of cloud services can measure and monitor the main provision of the service or services like overall predictive planning, usage of resources, billing, etc. Just like utility models cloud resource providers also monitors and measures cloud services provided to the consumer. The service provider then can easily track the usage and can gauge or assign cost accordingly to their consumers.

4. **Broad network access:** The main feature of cloud computing is to provide all essential IT services to the consumers wherever and whenever needs. This particular feature makes cloud available preferably everywhere. The services are available 24/7 on the network via user preferable tools like PCs, laptops, mobiles, etc.

5. **Rapid elasticity**: The rapid elasticity simply states that the capabilities and services of the cloud should appear as unlimited to the consumer. These capabilities should also be scaled both internally and externally according to the demands. It is also responsible for allocating resources successfully. The allocated resources should be versatile to the demand and the situation i.e., they should be quick enough to react to significant upward and the downward trend in demand.

**Impacts of using cloud for the business:** -

Deploying business on cloud has many advantages and solutions are easily available is one of the advantages. Creating cloud applications results in following benefits.
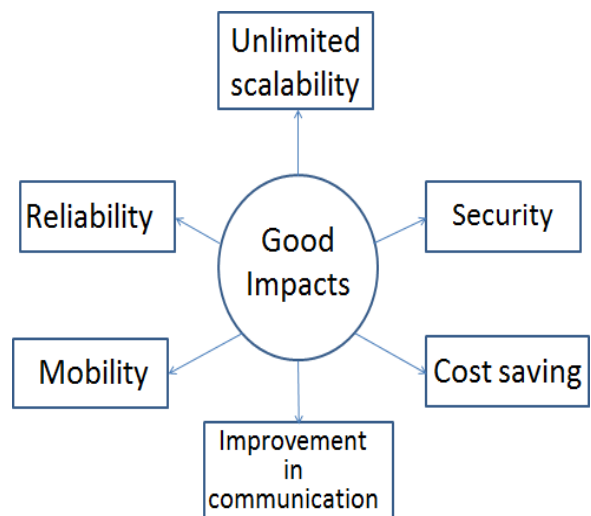


1. **Mobility:** The consumer of the assigned cloud can easily access their data anytime and anywhere through available device which one of the major benefits of using cloud for application development. The cloud services can be easily accessible by just a single login and a good internet connection. The employees of any organization are more flexible to work on cloud as they really don't have to work on physical machines. Everything is already available on cloud and employees can use any services without even installing them. It also brings traditional like IT delivery which shows the ultimate mobility of cloud. Cloud solutions opens up more work from home and higher efficiency in productivity.

2. **Cost saving:** There are really great opportunities for businesses to migrate to the cloud in terms of ROI and cost- saving. Although for some organizations the first initial cost can be shocking once the project or application gets migrated works get started immediately. The cloud is basically a system in which the more you will pay the more resources you will get in terms of application development. It reduces the extra cost to companies as the resources are collected and present online and can be acquired whenever needed. In cloud computing, the resources are available remotely hence organization has no need to pay for total infrastructure. In the cloud computing cloud may not the owner of the given infrastructure but they can use the needed resources wherever and however they want.

3. **Reliability:** The cloud service is online service which is available every time and can be accessed anywhere anytime user wants. In fact, a well-managed and organized cloud organization is better than in-house managed IT infrastructure. The software and applications can be backed up easily as every information is stored virtually in the cloud. Cloud provider also provides three different service platforms which is also shows reliability in implementation.

4. **Unlimited scalability:** This is one of the major advantages of having a project or application on the cloud. The organization can scale up or down as per its need and have total control over resource allocation and management. The organization or user have no worries about updating software and installed packages as every resource is on the cloud and can be updated or changed easily. The required tools can be easily acquired on the machine from anywhere and anytime.

5. **Security:** The privacy and security of data is the most important factor while considering or acquiring any cloud services. There are the most efficient security service providers in cloud businesses that ensure the security and privacy of any user's private data and application. Security is the main reason because of which service providers invest a large number of their financial assets. These service providers are also bound with the government IT acts and laws.

6. **Increased storages:** Some cloud service providers often provide a service in which any user or organization can also store data only. Through this service user can store as much data as they want and that storage is also bigger than traditional local devices.

➢ **Some challenges in migration to cloud:**
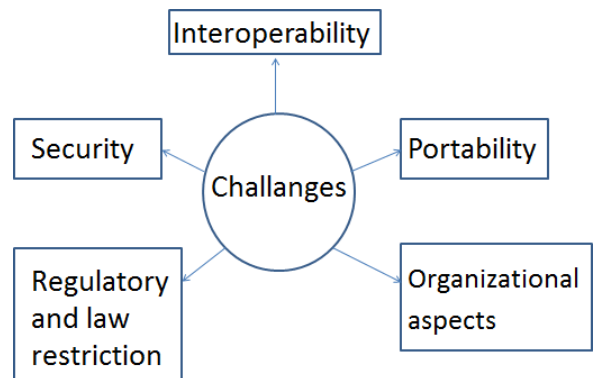


After deciding to migrate to the cloud the whole application with its business logic, sensitive data like username and passwords are also need to be transferred. Some organizations may face the following challenges while migrating project.

1. **Interoperability:** It is simply an ability to develop a code which can work on available cloud network simultaneously irrespective of knowing that particular service provider or irrespective of knowing different service provider.

2. **Cloud security:** Security may not be the biggest concern while adopting cloud technology but it is a concern while storing a sensitive data. There are always risks of hackers breaching and storing a data although service providers provide really best security measures.

3. **Portability:** The all-service providers should be portable with one another. That means the migration should be easy while transferring from one to another.

4. **Organizational aspects:** The organization has to go under changes like staff management, available physical infrastructure management, funding, etc. There will be always new challenges as the cloud computing is new and still an emerging technology. The employees of the organization should be happy and have a little confidence of the cloud technology

5. **Regulatory and laws restriction:** There are different laws and regulation one should keep in mind while using the cloud technology. These different laws can make issues that can harm organization's or service provider's reputation

## Solution to overcome these challenges:

### 1.   Create your own data encryption algorithm:

The one should use the best encryption technology to avoid data spoofing while sharing on the cloud network. The programmers need to use best data structure algorithm in order to store it in the cloud services.

### 2.   Take regular manual backups:

Although cloud applications don't have any need to take regular backups, but in order to keep data safe an individual user can store it manually. It is also known as alternate backup.

### 3.   Hire cloud professionals:

As the projects gets transferred to the cloud an organization need to hire cloud specialists who knows the complete flow of cloud technology.

### 4.   Audit all services:

There should be a separate group or department assigned to check the activity of the cloud. The reports have to be created on seasonal basis i.e. like daily, weekly or monthly basis.

## Conclusion:

Cloud computing is the emerging new technology that allows literally anyone to enter in the IT industry with less budget or assets. To run a business infrastructure, it is most innovative and enhanced technology. The applications like grievance management, inventory management, accounting software can be easily transferred to the cloud technology. Communication which considered as one of the core factors in IT industry is also easy in the cloud computing. The cloud computing service providers provide really well organized and easy to use communication parameters. Finally, I would like to conclude that the cloud computing technology which is still developing and emerging is long term support to the new startup aspirants and entrepreneurs.

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