

# Cloud: The Global Transformation

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**Abstract**— In the world of today, Information Technology is changing and evolving continuously for driving business and personal needs. With the emerging interest in cloud computing, more and more business or individuals are looking not only migrate them but also to transform services and applications for resource rich competencies; are provided through cloud platforms; develop the new business era that facilitates by cloud transformation. Transformation can be referred to as a phenomenon, a process, a state or a concept. It represents the technological transformation in the dynamic process and the world is changing, adapting to external or internal forces. Organizations have been made investing their capital in developing IT infrastructure; further on maintenance, up-gradations of hardware, software and to improve their services. Cloud based transformation is an approach for creating new service-centric technology, cost-effective, agile and flexible. IT service model by switching from company-owned IT infrastructure and services to pay-per use business model. It leverages the latest trends in cloud computing technology and next generation SaaS, IaaS, PaaS models.

This approach will help to achieve desired business agility and guarantee quality-of-services through emerging Global Cloud Transformation System (GCTS). We will illustrate the cost-benefit analysis of lean IT transformation approach in enterprise collaboration scenario to Cloud Global Transformation (CGT).

**Keywords**— Cloud; Global transformation; Cloud services; Cost benefit analysis; Global cloud transformation system

## I. INTRODUCTION

Globalization refers to the emergence of international network across the globe for business and social systems such as e-commerce, e-governance etc. It is defined by the integration of people, goods, finance, education, knowledge and culture across the planet. Today world becomes highly interconnected and globalized platform. It has a profound effect on the lives and culture of personal and professional in both developed and developing reasons.

Information Technology (IT) is a driving factor in the process of globalization. It drives the innovative use of resources to promote new products and ideas, across nations and cultures, regardless of geographic location. Creating efficient and effective channels to exchange information has the catalyst for global integration [1]. IT revolution is sweeping the globe, today the worldly affairs on fingertips due to the emergence of technologies and their integrations such as computing technologies with ICT; includes network and its applications like Emailing, messaging, video cheating, voice over calling using (VoIP) etc.

The technologies adopt common standards to drive down cost, facilitate development and help Cloud services cater to

governments, industries and enterprises. Although cloud has practically become main stream in the IT world, its promise extends well beyond technological innovation. In fact, cloud has the power to open doors to more efficient, responsive and innovative ways of doing business. Companies worldwide are beginning to recognize cloud's capabilities to generate new business models and promote sustainable competitive advantage [2].

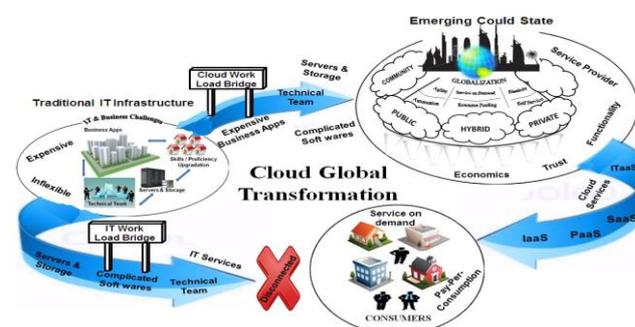


Figure 1. Cloud service transformation

This paper explains global service transformation to the cloud and investigates the cost-benefit analysis offered by the cloud users. We describe the service transformation evolution in computing environment. Section 2, describes the transform of traditional technology; platforms on cloud infrastructure. Impact of cloud transformation, our main focus present in section 3; it further describes the service and cost transformation impact. Section 4 presents benefit of cloud access, services offered by cloud, Cloud Services Vendors in brief through a table too. Service Concerns are in 5 and conclusion in section 6, at the last references in 7.

## II. IT TRANSFORMATION TO CLOUD

In today's globalization world, integration of ICT with Cloud have been evolved and emerged as service-centric technology. To achieve resource pooling, elasticity, minimization of operational cost, outsourcing of critical operations, simplified application deployment, On-demand-Services make computing power universally available. Computing architecture and nature of access changed drastically the format of service-delivery model. Presently Cloud has been implementing for business models and occupied global world. It describes a broad movement toward the access of heterogeneous networks, such as the Internet, Wi-Fi, 2G, and 3G etc. Service providers are expanding their traditional IT stack and provide optimize facility in the context

of cloud traditional computing model has been change from a single-server computing architecture to a distributed, that helps move data and computation to the cloud. It is reshaping the economies and social life of many countries globally at large.

“In the wake of a global recession, companies are looking for innovative ways to cut costs and differentiate themselves from the competition. However, with the multitude of new technology and service offers on the market, investment decisions are becoming increasingly difficult [3]. “The latest technological shift is toward cloud computing, which offers clients the ability to transform their IT infrastructures, breaking down barriers to innovation” [4]. Cloud transform scenario inherits all the services offered by cloud technology. We present service transformation diagram based on traditional IT infrastructure and emerging Cloud state The service transform describes how the IT has emerge with transform technology and cloud resources can be utilized by the consumers for accessing particular service on demand as pay-per-consumption.

### III. IMPACT OF CLOUD TRANSFORMATION GLOBALLY

According to World Economic Forum surveys’ graph which shows different industries are most likely to be impacted by the Cloud.

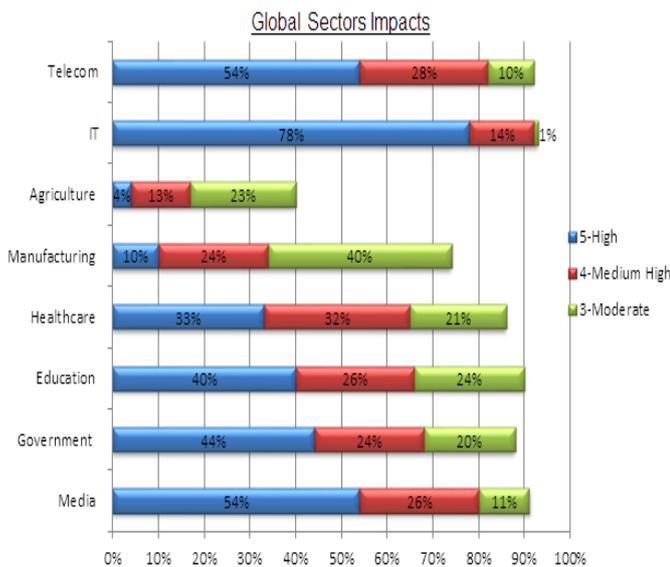


Figure 2. Cloud global impact graph [5].

The concept of Cloud Computing has extended promptly through the ICT industry. The service approaches provide the required computing resources to its subscribed user’s on-demand, elastically, on fiscal basis. It makes computing power universally available and provides flexibility in resource acquisition with reliability and privacy. It allows scalable provision of services and use of resources.

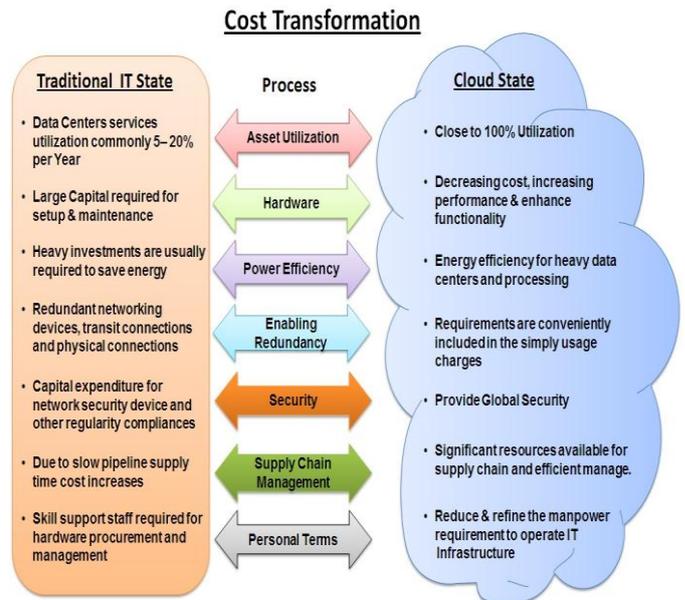


Figure 3. IT cost comparison to Cloud

We found cloud computing has reforms Company’s economic and potential value through transformation:

#### A. Accelerating Business Opportunities

Companies are accelerating the new trends of business to create innovative product development and services around the world. It also enhances computing power, ability of organization, customer satisfactions, and resourceful environment on economical basis through the cloud.

#### B. Levelling the company size

Cloud provides resource rich environment to the organization of different sizes; due to this facilities companies comes under umbrella platform.

#### C. Supporting for high level technology development

This emerging economics leapfrog providing technological development to the next-generation IT infrastructure, applications, tools and services on demand, scalable, affordable as per requirement basis.

### IV. IMPACT OF CLOUD TRANSFORMATION GLOBALLY

Technology have been influences our both personal and professional life. In traditional computing system, software, applications and data are typically installed and stored in local computing environment; whereas cloud offers as services any time (always-on) in static and dynamic environment, often these services offer on-demand through web browser over the internet. Cloud is helping of different corporates or sectors to enhance services and information in global scale. The integrated service technologies provide following benefits which elaborated in three terms.

### A. Short Term Benefits

Are reduce IT infrastructure cost, improves IT/business process efficiency and flexibility, improving the quality of end user service experience, and etc.

### B. Long Term Benefits

Are enhance collaboration and user experience, facilities business agility, drive productivity gains, improve Gov't effectiveness and contribute to increase GDP growth, lower cost of failure, better services for citizens, acceleration innovation, transform education, research and development, create new jobs/business, empower individuals, improve competitiveness, promote sustainability, level playing field, provide leapfrogging opportunities, and many more.

### C. Current and potential user benefit by using Cloud

In the recent survey of WEF, companies are growing at double-digit rates by using Cloud services. It has been illustrate significant benefits by adopting Global Cloud Transformation Techniques (GCTT). In fact; companies are not focusing only cost reduction as the most important potential benefit, they indeed of accelerating less expensive computer resources over the internet; ensure better support for creating new product and services to the consumers through GCTT. The two bar graphs shown the globally annual job growth rate for the years 2011-2015 in different sectors and the another one express current and potential user benefits by adopting cloud.

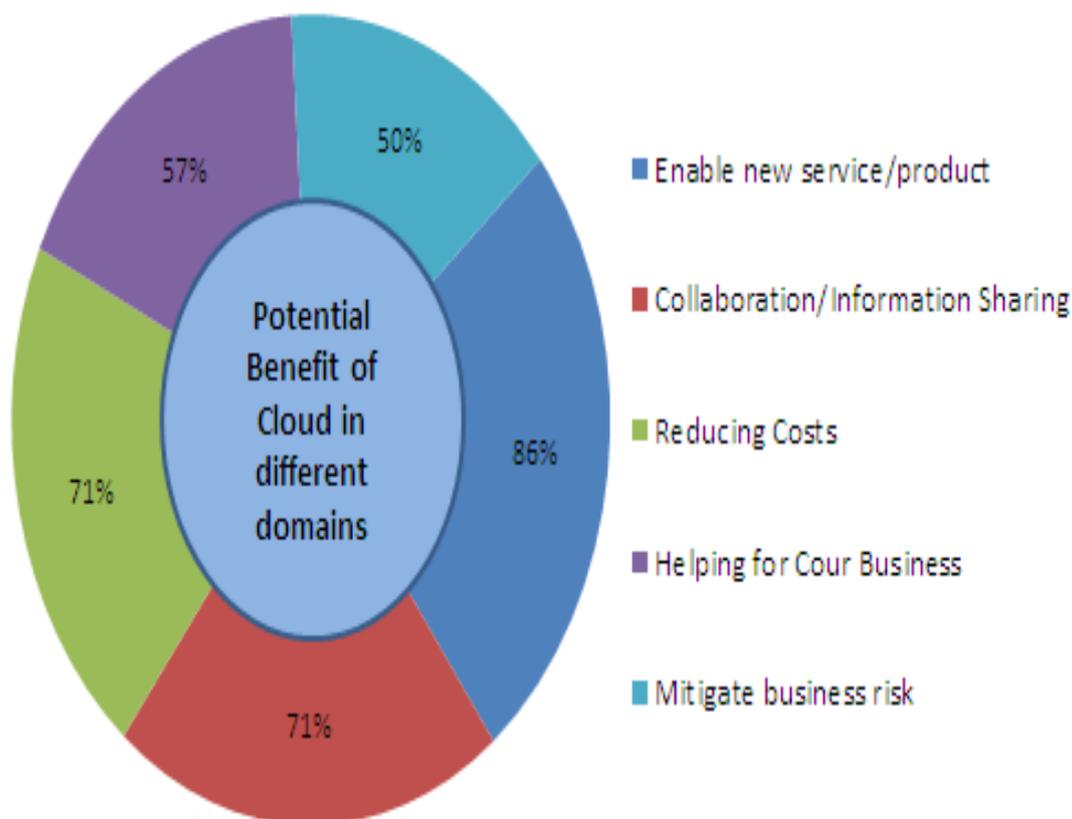


Figure 4. Cloud benefit chart [6]

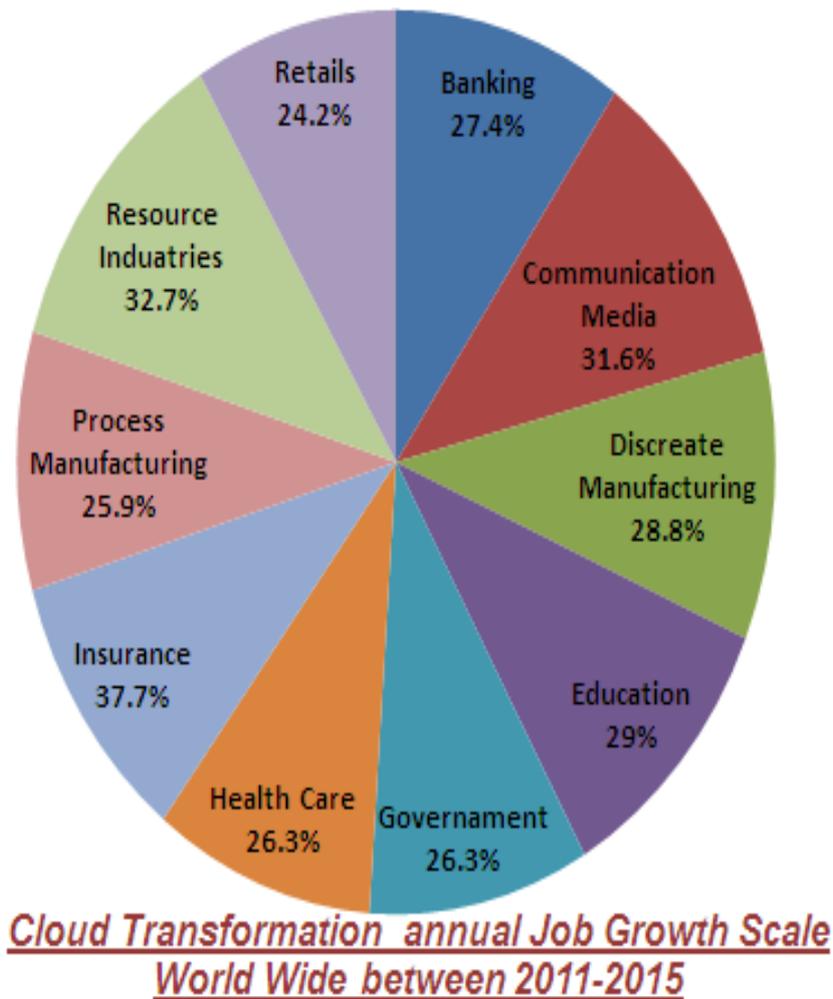


Figure 5. Transformation growth scale chart

According to NIST, cloud model promotes availability and is composed of five essential characteristics; three service models; and four deployment models. Cloud Infrastructure as a Service, Cloud Platform as a Service, and Cloud Software as a Service represent service model, and Private, Community, Public, and Hybrid are described for cloud deployment model [7].

#### 1. Infrastructure as a service (IaaS)

Compute CLOUDs provide access to computational resources, on which the user can principally host any software [8]. Users can scale up and down these computing resources on demand dynamically.

#### 2. Platform as a service (PaaS)

Cloud provides computational resources through platform as a service. It offers an advanced integrated development environment with a set of services for building, testing, and deploying custom applications. PaaS typically makes use of dedicated APIs to control the behaviour of a server hosting

engine which executes and replicates the execution according to user requests (e.g. access rate) [9].

#### 3. Platform as a service (PaaS)

The emerging technology offers requested software to the end users as a service on demand as needed. It also provides service benefits to the user for the troubles of software deployment and maintenance. The software is often shared by multiple tenants, automatically updated from the clouds, and no additional license needs to be purchased.

### V. THE CONCERNS

In the quit known fact, privacy and security applicable in terms of data is more secure in the static environment rather than mobility. By the world economic forum survey highlights those issues of adopting this transformation technology by consumers and cloud service providers.

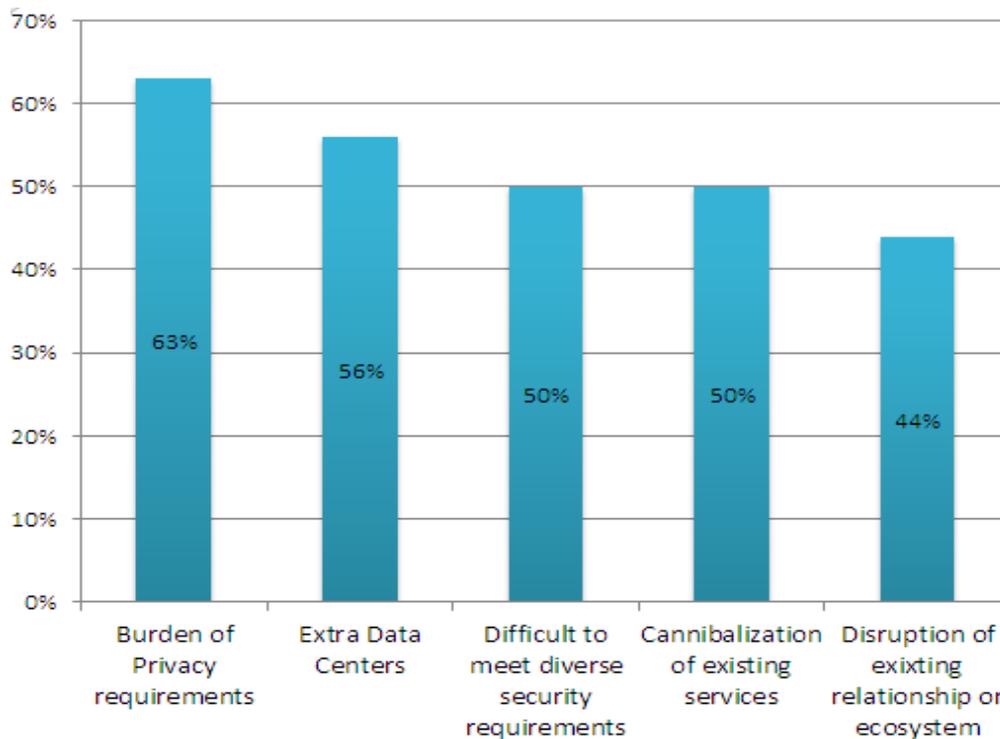


Figure 6. Service provider consequences graph [10].

## VI. CONCLUSION

The objective of this research emphasizes the technology transformation from traditional IT to cloud as a whole computing resources, implies a profound major change. Without doubt, IT is an agent that can bring this level of change. Most business is seriously affected by limited resources, lack of infrastructure, high operational cost etc. However, through GCTS the computing power becomes the basis for radical business innovation and business models for significant improvements in the effectiveness for the user. This can also provide new solutions for change the business landscape. Cloud transformation provides a tremendous resourceful environment to the user but substantial issues stand in the way. Our comprehensive study has taken the first step: Defining Traditional technology transformation, secondly Impact of Cloud transformation then current and potential user benefits for industry, governments to consider accelerating Cloud adoption, generating a new era for all stakeholders, individuals, businesses, society as an entire economies.

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