Impacts of Cloud Computing in India on E-Commerce Businesses

Pravin S. Rotkar and Gayatri Butey
Assistant Professor, Department of CMC
Hislop College, Nagpur, Maharashtra

Abstract: *Cloud computing is one of the newest developments in the area of information technology. Cloud computing has developed in recent years from a theoretical term into practical implementations in various industries, such as Healthcare and telecommunications. In order to manage customer data and software, Cloud Computing uses the Internet and remote servers. It offers consumers and companies permission to use software without download to access their personal accounts, data and information with the aid of the internet in every corner of the globe. There are numerous types of software programs operating in cloud computing environments. One of the main cloud computing offerings is e-Commerce. In small and medium-sized businesses, e-commerce needs better facilities to accommodate them. In this study, we examined how cloud computing influences e-commerce businesses. Except that, in the cloud computing era, it studied the driving factors that contributed to improvements in e-commerce. In this article, the cloud computing-based e-commerce application model manages the issue of e-commerce and resource scarcity by developing the cloud computing-based e-commerce application paradigm and how cloud computing affects e-commerce services and applications.*

Keywords: Cloud Computing, E-Commerce, Network Security, Business Models

I. INTRODUCTION

Since 2008, cloud computing has become from a theoretical idea into the important applications in several industries reminiscent of telecommunication and healthcare.[1] Cloud Computing, uses web and remote servers to maintain user's information and applications. Cloud Computing could be a new and rising technology innovation that bring the idea of virtualization of knowledge and knowledge storage in native infrastructure. It provide permission to customers and businesses to use applications while not installation and access their personal files, information and information at any corner of the globe with the assistance of internet. It additionally offer the service of dynamic storage capacity, computing capacity, information and knowledge exchanging capability exploitation networking. The "cloud" is anallegory – it's abstraction concealing the sophisticated infrastructure of the net Technology. it's a affordable usable choice to the top users within which IT-related capabilities are given "pay-as-a-service", permitting users to access web technology, that provide and deliver to the users with data Technology services according to their demands. per the International information Corporation in 2018 survey cloud computing is the best service for those developers or analysis comes and even for E-Commerce enterprises who are seeking quick resolution and services for startup their work. Some consultants evaluated the influence of cloud computing is higher than E-Commerce. E-Commerce is largely commerce and shopping for of products and services over network exploitation web technology. E-Commerce Includes on-line shopping, Tickets Booking, building Booking, Educations etc.. E-commerce providing services are terribly costly. Cloud computing offer feature to E-Commerce enterprises to cut back manpower, money and material price to implement E-Business system and additionally maintenance of back-end services or software. These all task may be maintained by cloud computing service providers. E-Commerce could be a typical trade that is being settled by the options of the cloud computing services. during this paper we tend to discuss the results of cloud computing on E-Commerce business and offers appropriate suggestion on improvement of E-business within the Cloud environment.

II. RELATED CONTENTS REVIEW

The paper focuses on the effect of cloud computing environments on e-commerce, and it is important to develop the key context of cloud computing influences.

The impact of cloud environment has been discussed by different literatures. Firstly, Kasherfi, F., Et al.[2] consider the impacts of cloud environment on the processes and present a replacement method of cloud computing. The paper discuss the positive impacts of cloud environment on e-commerce small and large companies and organizations like yahoo, Google, etc. In this, authors highlight the technical influence of cloud computing rather than its business impacts. Lai, S.[4] examine the influence of cloud computing on traditional software project and figures out the softwares replaced by cloud computing. Mainly, it process the safety strategies, migration and therefore the corresponding tools. Li J. and Liu J.[1] examine that the shortage of teaching resources which are averting the tutorial in rural China. consistent with the authors, cloud computing help to unravel the issues. However, of these possible benefits of cloud computing environment are only discussed. Zhang, H.[12] point out that cloud technology will become the simplest choice of the virtual operation process thanks to its features like security and reliability and cloud computing are often applied in several levels in management process.

In the Related contents review, there are mainly three problems with the existed researches: firstly, few research mentions the impact of cloud computing environment on E-commerce. Actually, the fastly development of Ecommerce requires the participation of cloud computing environment into its technical framework, business architecture and services. As a result, the event of e-commerce businesses and industry will be significantly impacted. Secondly, the existed research usually focuses on one or two aspects of cloud computing's impacts on a specified field. there's no paper that gives the great analysis of the impact of cloud computing on e-commerce business. Finally, few researches gives the case analysis to form the points more persuasive. By virtue of describing the changes of E-commerce within the cloud era, the paper analyzes the impacts of cloud computing on E-commerce enterprises and industry chain intimately.

III. THE APPROACH OF CLOUD COMPUTING

Today, several cloud computing detonations are taking place. Cloud computing involves the implementation of groups of numerous remote servers and software networks that allow various types of data sources, according to Wikipedia. For the generation of results, which can be submitted for real time analysis without the need to store (processed) data on the cloud. In short, it uses the public to quantify or to exchange knowledge and money in several ways.
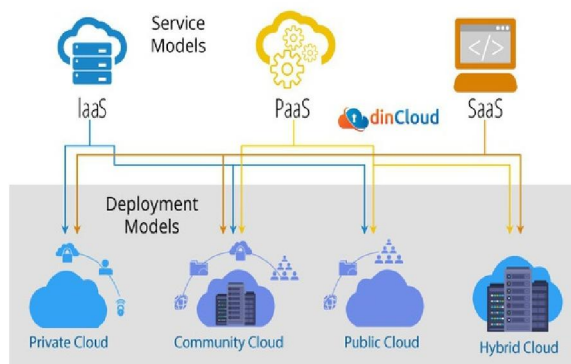
IV. DEPLOYMENT MODEL OF CLOUD COMPUTING

It is most primary to knowing which type of cloud model is selected for secure cloud services. There are basically four types of deployment model in cloud computing.

4.1 Public Cloud

The public cloud, offer applications, storage and other services to the general public by a service provider. This is based on "pay-as-you-go" model. Public clouds are owned, hosted and operated by third-party service providers. All customers share the same infrastructure pool with limited configuration, security protections, and availability variances.

4.2 Private Cloud

A private cloud is a cloud computing platform permits enterprises to implement cloud technologies at their onsite hardware and software. Enterprises are implementing a private cloud within areas of their infrastructure in which a cloud model makes the most importance. A private cloud provides benefits of cloud computing without the loss of control and security risks associated with other cloud infrastructure models.

4.3 Hybrid Cloud

Hybrid cloud computing is a combination of two or more clouds (private, community or public) offering the benefits of multiple cloud deployment models for business organizations perform their critical tasks through private cloud and use public cloud for less secured tasks.

4.4 Community Cloud

In this cloud deployment model the infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It can be managed by the organizations or a third party and may exist on premise or off premise.

V. CLOUD COMPUTING DELIVERY MODEL

After cloud deployment models, there are three types of cloud delivery models. Delivery models are as follows,

5.1 Software as a Service (SaaS)

It is also known as **cloud application services**. Mostly, SaaS applications run directly through the web browser means we do not require to download and install these applications. **Example:** Google Apps, Salesforce Dropbox, Slack, Hubspot, Cisco WebEx.
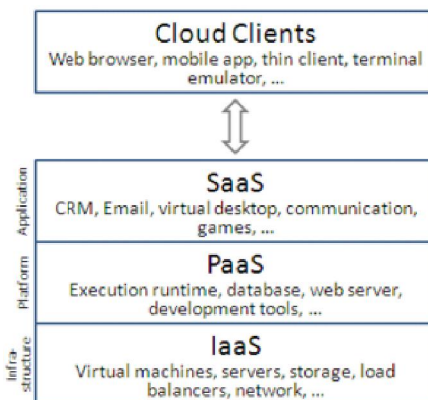
5.2 Platform as a Service (PaaS)

It is also known as **cloud platform services.** It is quite similar to SaaS, but the difference is that PaaS provides a platform for software creation, but using SaaS,we can access software over the internet without the need of any platform.

Example: Windows Azure, Force.com, Magento Commerce Cloud, OpenShift.

5.3 Infrastructure as a Service (IaaS)

It is also known as **cloud infrastructure services.** It is responsible for managing applications data, middleware, and runtime environments.

Example: Amazon Web Services (AWS) EC2, Google Compute Engine (GCE), Cisco Metapod.

VI. E-COMMERCE AND ITS MODELS

E-commerce is one of the key conditions for the economic transformation of information technology and connectivity. Electronic Trading is the new edge for industry today, relating to electronic activities such as purchasing, selling, flow of knowledge and internet movement of money. E-commerce broadly includes all commercial processes that take place over the Internet. The following templates exist for e-commerce:

- Business-to-Business (B2B): the transaction between business enterprises.
- Consumer-to-Business (C2B): this mean the customers selling products and services to the Business Enterprises.
- Business-to-Consumer (B2C): this means the transaction among Business Enterprises and customers.
- Consumer-to-Consumer (C2C): this mean the business transaction among users or consumers.

VII. CLOUD COMPUTING AND ELECTRONIC COMMERCE (E-COMMERCE)

Cloud Computing and E-commerce are currently 2 necessary half in our daily uses. because of value useful each are famous. Cloud computing service saves enterprise's the price of knowledge Technology infrastructure, on the other hand E-commerce provides traders to try to to business while not rental or shopping for a business entity shop. Cloud gives positive opportunities for e-commerce, however before use it, organization ought to have a trade-off between costs. several man of science illustrate that cloud computing and E-commerce the foremost engaging industries. That has been developed at fastly in recent years, with the Economic, Political, Technological and social science factors have had a positive impact on its development. E-commerce and cloud computing are delineate as follow by several researchers.

- The quick growth of the global economy increase the developing of online web based transactions.
- Online shopping is becoming a new trend as it is more convenient comparing to traditional way of shopping.
- The security of data and information technologies are improved rapidly.
- Because of this, the level of education and IT skills of customers have been improved.
- The developing of telecommunications techniques accelerate the implement of e-commerce Industry across all over the world.
- Cloud Computing give chances for small-scale and middle-scale business companies to move to the Internet technology with less efforts.

VIII. A FRAMEWORK FOR E-COMMERCE BASED ON CLOUD COMPUTING

Cloud computing permits the users to create use of the network resources in efficient and free manner in place of ancient beaux arts model and it additionally helps to urge obviate the impact caused by failure of single computer instrumentation just like the loss of data, unprocurable devices and then on. With the assistance of cloud computing, the large number of users needn't to shop for their own software package and hardware, even need not to hassle that who is providing the service, so you'll be able to specialise in the core services and resources that you simply very needed. If the cloud-based e-commerce service relies on the fundamental form called e-commerce cloud .we will describe the image of infrastructure of the e-commerce cloud, as shown in Figure 2.

8.1 The Base Layer of E-Commerce Cloud

The base layer of the e-commerce cloud integrates IT infrastructure capital and also links the large framework of different service providers and pools them together to deliver services. Cloud computing enables access to In a safe and

flexible manner, the data resource allows the hardware resource to be shared and the hardware layer to operate in the most likely way. To distinguish the physical hardware, a technology called Virtualization is used from the system of operations. And it results in, on the one hand, that it can render computation, split the current server's storage space into smaller sizes, and then reintegrate it, making it easier to use IT resources in an enhanced manner and provide consistency, and on the other hand, it allows large-scale convergence of cloud computing on a shared interface and also allows measurement to be written. The specific hardware tools for the platform layer can be supported by the base layer and can also be used by users, much like ordinary local computers.
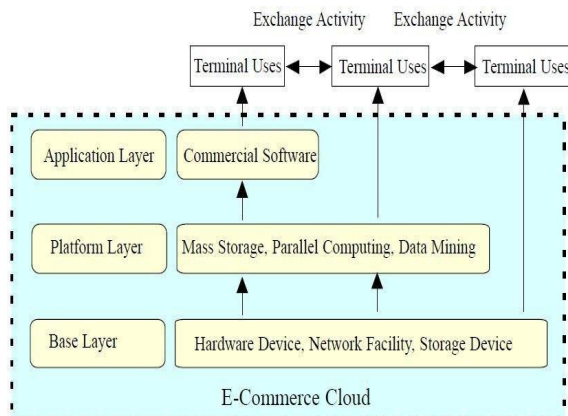

Figure: A Framework for E-commerce Cloud

8.2. The Platform Layer of E-Commerce Cloud

It is easy to do the work that was hard to achieve now with the aid of powerful hardware, such as:- data storage task performed by platform layer, machine and device creation, task of data storage performed by platform layer, Initial mass storage measurement can be done, potential processing of business information and so on. he collection of devices by the consumers and the number of devices on the basis of the complexities of content management , it depends. Virtualization technology makes for a high degree of versatility.

8.3. The Application Layer of E-Commerce Cloud

The professional e-commerce organization offers the application software or services and uses the e-commerce method to pay for reduced cost advantages and reduce duplication to allow more money to be used. That helps to run business operations smoothly. On demand, cost is determined-access access

IX. INFLUENCES ON E-COMMERCE BACKEND SERVICE MODE

Cloud computing offers new mode of services that are totally different from ancient IT services. 1st of all, Ecommerce enterprises service by virtue of the cloud platform offers IT resources like software, hardware, infrastructure and data. Secondly, E-commerce Company is allowed to access the IT resources similar to the utility services on the cloud platform and obtain them for his or her services. Through rental system, no firm has required to incur high expenses on getting of devices, they'll opt for applicable and appropriate devices and pays rent for his or her services. In short, because of the emergence of cloud computing ,the construct of ancient IT licensing mode modified and a replacement philosophy of services is came into existence that provides the good thing about low cost. Cloud computing migrates outsourcing into E-commerce could be a vital contribution as a result of with the help of it standardized and uniform service platform will be established by a business that performs as per customers' demand. A contract based mostly outsourcing is completed during which E-commerce delivers the backend method that it's to be completed. The shut finish services that are modified by the service supplier to conduct native technical support is named outsourcing. Reduction of cost, up potency moreover as service quality and improving the core competencies of

a corporation are the first objectives of outsourcing. Cloud computing enables the E-commerce enterprises to specialise in the core businesses and sets them free from the difficult technical bailiwick planning, planning and maintenance. Typical example of the new outsourcing supported cloud computing is virtual business.

X. INFLUENCES ON E-COMMERCE BUSINESS STRATEGIES

Due to expanding era of business towards cloud computing, long term strategies are made by involving cloud computing by famous e- commerce businesses such as Google, Amazon, Alibaba. Reasons or forces responsible for migration of cloud computing into e-commerce strategies are:-

1. As the improved services are given by ecommerce due to rapid information technology like lower cost benefit, higher efficiency, diversity and more flexibility its demand increases. For instance, online loan services are offered by the Amazon, Flipkart, Shopclus, Alibaba, the biggest B2B ecommerce enterprise by virtue of cloud computing as it helps in credibility evaluation of the customers.
2. As due to emergence of cloud computing in e-commerce enables to store data in small size and then re-integrate that so small and medium scale firms can also afford it.
3. High quality architectural facility and quick access of information lead its demand.

XI CONCLUSION

In this research, we believe that we can create a cloud computing-based e-commerce service model through cloud computing services such as mass data storage, high-speed computing capabilities, as well as its allocation. perfect and resource sharing. New emerging cloud computing technology creates a new ecosystem service that will combine all e-commerce services and facilitate new modes of service.Cloud computing helps businesses use their hardware and software investments in technology more efficiently. information and empowers them to accelerate the acceptance of innovations Cloud computing service has enabled teams and organizations to streamline lengthy acquisition processes Cloud computing is still a whole new technology and we have even more margin to improve cloud computing service.In traditional e-commerce enterprises, an appropriate implementation strategy in cloud computing era is to hug cloud computing rather than avoid It is only when e-commerce includes cloud computing in the business strategy and establishes the core competencies that it can achieve sustainable development.

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