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Cloud Computing In E-commerce - Survey

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ABSTRACT

During the COVID-19 crisis, cloud computing makes it easier to collaborate, communicate, and access crucial web services. People are currently performing from home because to the COVID-19 pandemic, but they have to communicate and collaborate online. Thus, we see that cloud computing is crucial to tackling the problem of performing from home effectively. Using recent articles, a fast examination of cloud computing services in relevancy the COVID-19 pandemic is conducted by looking for terms like "cloud computing" and "COVID-19" within the SCOPUS and Google Scholar databases of PubMed.

Cloud computing technology aids within the delivery of fantastic healthcare during a lockdown situation. It offers a reducing infrastructure that supports digital transformation. The importance of cloud computing components for resolving this issue has been briefly discussed. This text also examines how cloud computing operates remotely for the COVID-19 pandemic and, in the end, identifies key cloud computing applications for the pandemic. Because the transmission of this virus may be a concern for all nations, this technology aids by offering online services.

It offers a cutting-edge setting that reinforces healthcare personnel' efficiency and creativity. This technology is effective find, following, and keeping a watch on folks that have just become infected. Several lives are saved worldwide because of this technology's knowledge and control over this infection within the future. This technology is extremely beneficial also.

Keywords

Index Terms— Cloud computing, e-commerce, SaaS, IaaS, PaaS.

1. INTRODUCTION

There is little question that we reside in an exceeding generation where things have gotten old while they're still within the top of their modernity, the pace of technological development is speeding up, and few day goes by without a witness appeared on the essential changes all told sectors, including the business [1]. Cloud computing has evolved through variety of phases that include grid and utility computing, application service provision and software as a service (SaaS), but the overarching concept of delivering computing resources through a world network is rooted within the 1960s. Since the 1960s, cloud computing has developed along variety of lines, with Web 2.0 being the foremost recent evolution. However, since the web only began to offer significant bandwidth within the 1990s, cloud computing for the masses has been something of a late developer.[2]

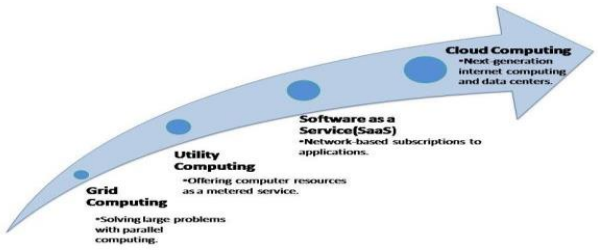


Figure 1: Growth of Cloud Computing [1]

Cloud computing is making it possible for the e-commerce industries to supply a customized experience for the shoppers. This technology is changing the aspect of the business and therefore the market.

2. LITERATURE REVIEW

2.1 Cloud Computing

Cloud computing is a widely known term now. The term, cloud computing does not have a unique definition. Each researcher or scientist has their own definition. Cloud computing is a widely known term now. The term, cloud computing does not have a unique definition. Each researcher or scientist has their own definition. A popular and global research firm, Gartner Group defined cloud computing as 'A forecaster of Information technology' defines cloud computing as a style of computing in which scalable and elastic and IT-enabled capabilities are delivered as a service using Internet technologies.

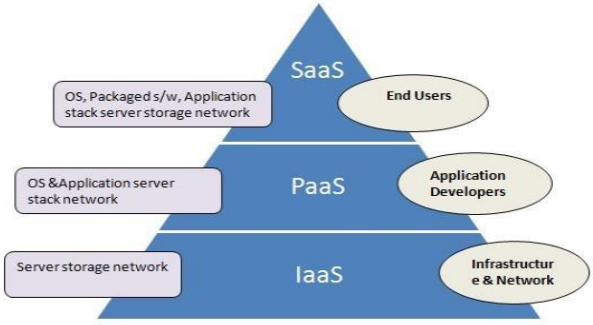


Figure 2 : Service models in cloud computing.

As shown within the figure above, cloud computing has 3 basic service models -

2.1.1 Software as a Service(SaaS)

It means the top users are given the applications or software by the cloud provider. Dropbox, Salesforce and Google apps are a number of the samples of SaaS.

2.1.2 Platform as a Service(PaaS)

This service is principally for the developers, to develop and deploy their applications into the cloud server. One in all the popular samples of PaaS is Windows Azure.

2.1.3 Infrastructure as a Service(Iaas)

during this model, the providers give access to the computing resources like servers, storage, etc. to the top users.
Amazon Web Services(AWS) and Google Cloud Platform(GCP) are samples of IaaS. As yet, SaaS may be a more presiding model within the e-commerce industry.

3.E-COMMERCE

In the late 1970s, the term e-commerce denoted the tactic of execution of business transactions electronically which gave a chance for users to exchange business information and do electronic transactions. E-commerce actually became possible in 1991 when the online was opened for commercial use [3].
Louis Raymond (2001) defined E-commerce as: The functions of knowledge exchange and commercial transaction support that operate on telecommunications networks linking business partners (typically customers and suppliers) [4].
A more proper and complete definition of e-commerce is: E-commerce is that the employment of electronic communications as well as digital science technology in business transactions to form, transform, or redefine relationships for value creation between or among organizations, or between organizations and individuals [5].
Turban defined it as "An emerging concept that describes the tactic of buying, selling, or exchanging services and data via computer networks" [6].

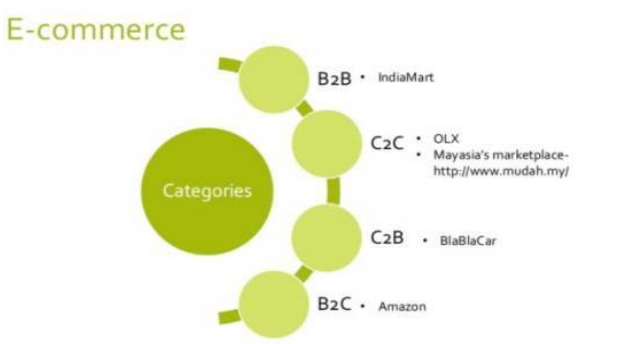


Figure 3 : Types of e-commerce models [6]

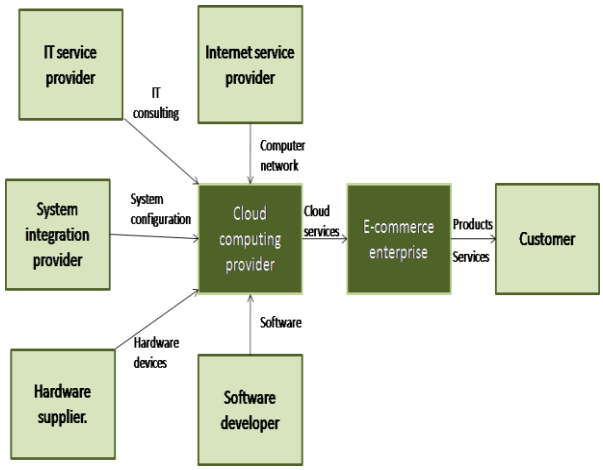
The essential varieties of e-commerce models are :

Business to business e-commerce(B2B) : The transaction or sale of services and products between businesses or companies

And **Consumer to consumer e-commerce(C2C):** The transaction or sale of services and products between consumers

And **Consumer to Business e-commerce(C2B):** The transaction or sale of services and products from consumers to businesses

And **Business to consumer e-commerce(B2C):** The transaction or sale of services and products from businesses to consumers.



4. HOW DOES CLOUD COMPUTING WORK IN E- COMMERCE ?

Cloud computing influences the normal e-commerce industry chain and changes the standard e-commerce industry chain. Commonly, the E-commerce industry chain is created of the hardware supplier, software developer, Internet service provider, system integrating provider, and repair supplier as shown in Figure 4[11]. Each member of the industry chain does its own tasks. They exist as back end of the e-commerce enterprise and offer their support separately.

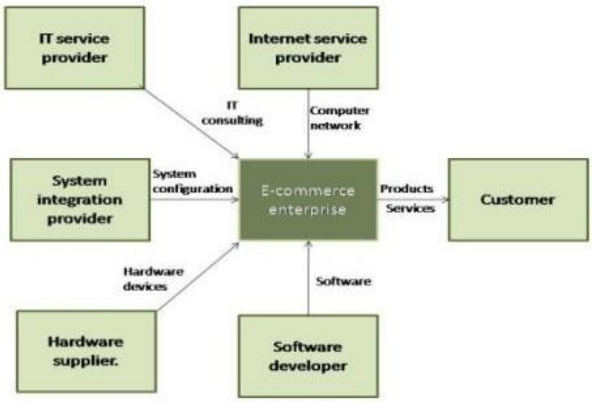


Figure 4 : Traditional E-commerce industry chain.

While when the cloud computing is migrated into E-commerce, the structure of E-commerce industry chain is modified as shown in Figure 5 [11]. The cloud computing service provider provides all the mandatory functionalities and services to the e-commerce enterprise. Also, the enterprise doesn't have to buy the IT resources. It just has to rent the services needed. Thus, profiting the enterprise in an exceedingly large way.

Figure 5 : E-commerce industry chain based on cloud computing.

5. Result Why Does Cloud Computing need e - commerce ?

Cloud computing services are making it possible for the e-commerce industries in achieving their objectives and providing personalized experience to the purchasers. Cloud even reduces the firm's cost of IT framework and also allows dealers to try and do business without actually renting or buying a store to sell their products. The countries which adopted cloud computing in e-commerce in its business showed the transformation of traditional economy into digital economy which cause the national economic process. No one can refuse the very fact that cloud computing has given positive opportunities and benefits for the e-commerce enterprises. Cloud computing even allows the organization to businesses without the requirement to develop and retain the IT resources. Many of the e-commerce industries are obtaining the benefits of cloud computing shown within the table below.

Advantages	Description
Cost saving	Reducing IT resources, installation, and implementation.
Scalability	The business requirements are changing constantly. Cloud computing enable rapid changes.
Efficiency	IT organizations can focus on its businesses and acquire benefits through development and innovative research
Availability and Mobility	Through smartphones, customers can access services and products anytime and anywhere.
Easy management	Maintenance of hardware, software, and even infrastructure is simplified.

Table 1: Advantages of cloud in e-commerce[1] [10]

Every technology has its challenges. So does cloud computing. Business owners should ensure whether the cloud may be a better option for his or her business or not. The table below shows the challenges faced in applying cloud computing in e-commerce.

Challenge	Description
Security	It is the most challenge, where data will be accessed, modified, or perhaps destroyed during processing or transmission. Until now, it's hard to shield programs and data and there aren't any effective solutions.
Data Privacy	It is a crucial challenge, hitherto no technical solutions to guard the clients' information.
Data Storage	The clients of cloud services worry regarding their inability to regulate the stored data place.
Trust	As a definition trust is "the degree by which a target object like software, a device, a server, or any data they deliver is taken into account secure." as yet, it's difficult for consumers to differentiate between good and bad E-commerce sites. This example doesn't encourage enterprises and clients to maneuver to the cloud.
Connectivity	In the cloud, to access shared information or resources the user must be connected to the web.
Service standards issues	No available information for enterprises regarding mode of operations, technology used, and staff situation which let the clients are worrying to use cloud computing without knowing these details.

Table 2: Main challenges in applying cloud computing in e-commerce [1] [10]

6. CONCLUSION

The cloud computing is expanding and spreading as a business solution since it's shown effective and positive results which put it within the highest of data and communication technologies i.e. Flexibility within the space and huge support for infrastructure and software. This innovation has many potentials that increase revenue, expand business and build new jobs that stretch to large sectors not only within the world. It plays a big role within the smart economy. No doubt it'll be the fifth utility after water, gas, electricity, and mobile phones which are always-on and paid by usage of consumer.

7. REFERENCES

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