THE USE OF CLOUD COMPUTING IN POST GRADUATE STUDIES -- STUDENT'S REQUIREMENT(A SURVEY DONE FOR TWO TIER CITY -- NAGPUR,MH)

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<u>Abstract</u>: The most innovative tool by Information Technology is Cloud Computing ,as the utilization of this tool in different organization increases the barriers also seen while implementing this tool.Cloud computing is used in three different service models – Infrastructure as a service (IaaS),Platform as a Service(PaaS) and Software as a Service.(SaaS).The ease use of cloud computing specifically the Software as a Service increases due to increased availability of the different mobile devices and easily available mobile internet. Thus, while using innovative teaching methods in post graduate studies the cloud computing and its model becoming the requirement of students.This paper will analyze whether Software as a Service is need of the students or not.For this survey the postgraduate students of two tier city are participated.

Key words: Cloud computing, cloud computing models, E-learning , education.

I. INTRODUCTION

In the advance era of Information and Technology the education sectors has witness drastic change in the use of new tools to change the teaching paradigm. One such terminology Cloud computing is used by almost various sector and one of the sector is education. As our country moves towards digital era the new innovative technology involved in educational system. The use is increased with the increasing use of electronic devices including laptops, smart phones and tablet PCs. The new technical updation is going on in building new model and new platform for end users. Cloud computing is used in learning management system. This technology provides the use of new technology and its use with various applications. The major benefits it provide to the students that they can fast access the course material. It also ensures that study will become more interactive. The cloud is used to store the information so no backup is required to store. In other words we say cloud computing allows for greater flexibility and mobility in the use of resources for teaching and learning, sharing resources.

Education always play an important and considerable role in the development of socities. The new technologies have migrated from traditional form of teaching to the new information and communication technology services to do. It is still a challenge for maximum Universities finding difficulties in providing different IT services.



Cloud based education system

Universities and colleges constantly need to upgrade their hardware and software as a way of attracting students and keeping up with drastically changing environment. Students already used Cloud computing technologies by accessing programs such as Twitter, Facebook, Gmail etc.

II. Literature Review

National Institute of Standards and Technology of U.S. Department of Commerce defines cloud computing as a "model for enabling ubiquitous, convenient, on demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction". Gartner defines cloud computing as a ,style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service using Internet technologies".Microsoft product like live@edu which is browser based and provides student access to email,office package as well as skydrive.Google App Education even used by many developed countries which provides similar benefits as those of Microsoft products .Cloud computing helps the students get to access exams,courses and can relay their assignments for the students ,the two parties teachers and students involved in the process.By using cloud SaaS application both teachers and students can access their respective data on tab or mobile phones .

During the year 2014 -2017 the research in cloud computing has adopted many stepwise practices which was even published in many journals like IEEE Xplore,SpringerLink etc.They tried to cover the gaps in higher education by using cloud computing.According Alharthi 2017 securities are implemented with these legal issues.The result statistically even showed the physical location is also a factors.

Militaru et al. (2016) explored the factors that lead to cloud computing adoption in higher education based on the TAM (Technology Acceptance Model)framework by surveying 96 students at a university in Romania revels with the fact that cloud computing can be adopted by students and institutes.

So far study has been done and published by various university which highlighted that SaaS is compatible with other software .It is comparatively easy to access and reliable.Saas is useful in management field like human resource management, computerized accounting and content management.

III. Benefits of Cloud computing in higher education :

- (i) By using Cloud computing the IT infrastructure will automatically maintained.
- (ii) It allows to use the personal workspace.
- (iii) Backup will not required ..
- (iv) The collaboration with online services ensures capabilities and will secure communication.

(v)It will help to reduce the common problem like insufficient teachers, poor infrastructure, help in creating bridge between t the organization and fresher's candidate.

(vi)Service available all the time to the users.Since it is user friendly and can be manage large data.



IV. Research Methodology

Research has been done with 168 students which was started in the month of September 2017 and lasted until mid November 2017. The students from Master of Computer Management were participated. The questionnaire was created in Google Docs. Firstly, general data i.e. gender, age and year of study is collected .Secondly, the data is collected for the need of cloud services by using different devices. The data were collected about gender, frequency of accessing internet and devices used for accessing internet. For proving the hypothesis we used non-parametric test : Spearman co-relation test.

V. Problem and Hypoth<mark>esis</mark>

As per today's scenario the students are increasingly dependent on internet for their assessment. This implies the students and teachers are actively uses the internet facility and cloud services. Thus the study focuses on software as a service for students.

Hypothesis: There is no positive correlation between number of devices from which students access the Internet and frequency of cloud services use.

Result: Total number of students participated are 168 among which 68% males and 32% females..On the question "Which devices do you use for internet and data?"

The respondents mostly use smartphones (76%), laptop computers (65%), minimum numbers selected desktop computers at home (60%), and faculty members (85%), tablet computers are used by (10%), ultra portables computers used by (2%). The populations were from age group 19-25 years indicated 80% of respondents used online services daily.

Devices	Desktop Comput ers at house hold	Desktop Comput ers by faculty member s	Sma rtph ones	Lapt op comp uters	Tablet compute rs	Ultra porta ble comp uters
Used by Respond ent	60	85	76	65	25	10

Table showing the Cloud services used by respondent



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The Spearman Corelation indicates a relation between variables "Different devices used by the respondent "and "different cloud services used by the respondent". The analysis also shown the weak corelation where as in current scenarion the cloud services were used by the people by with different devices and for the students the smart phones is very ease to used the service.

Re	Respondent uses cloud services						
	Cloud Services	Μ	S D				
1	for synchronization files	2.26	1.01				
2	multimedia sharing	2.89	1.25				
3	Communication software	3.16	0.06				
4	E-Learning	2.5	0.89				

But the statistical analysis with r=0.18 and statiscal significance of p<0.05.

Hence there is a negligible relation between this two is not proved strong enough what as expected.

VI. Conclusions:

With the increasing use of online services with hand on available devices the use of SaaS is highly used by students. It is easy to share the ideas, thoughts and knowledge. Students may create their own environment which help to access many online services. The "not sure" type of answer also showed that students need the cloud services but not ready to use complete 100% of it.

The students gave the average and unsatisfactory answers for using cloud services frequently or need and use of cloud applications/services ,from which we can predict they are not ready for cloud services .It is necessary to make them educate and motivate about cloud services and its advantages in education.It is necessary to spread the aware ness about the benefits of the cloud services.

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