

LOUD COMPUTING IN HIGHER EDUCATION: SATISFACTION LEVEL OF TEACHERS AND STUDENTS

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Abstract

Cloud computing has got a lot of scope in educational institutions, a service model suitable for an educational institution is a key to make cloud computing successful and acceptable in a broader manner by educational establishments. There is certainly a research gap which needs to be filled i.e. a clear understanding of the features of a typical educational establishment (especially a higher education institute, University, or a professional college) and then using this knowledge to device and design a service model that would be more appropriate and beneficial to educational establishments. Cloud implementations have gradually increased in higher education institutions during the past several years where a good number of educational institutions are availing of one or other cloud service. In a few of the higher education institutions, the deployment of private cloud is also seen in the past few years. The cloud implementation however needs to be appropriate concerning the requirements of educational institutions especially in context to the above facts and developments and considering the future requirements of higher education institutions. This research study intends to achieve the satisfaction level of teachers and students of higher education institutes.

Keywords: *Cloud computing, higher education, satisfaction etc.*

1. INTRODUCTION

The term "cloud computing" was developed from the conventional notation for the Internet used in diagrams of computer networks. "The cloud" is a generic term for any distributed computing service that provides its services through the Internet. In terms of computing methodology, it is the responsibility of the computer's users to have all the necessary information and tools at their disposal in order to do any and all computations utilizing the computer's resources and data files. Thus, users of cloud computing require practically no

specialized knowledge or training so long as they have access to a modern web browser and a fast Internet connection.

The primary goal of cloud computing was to provide a scalable means for delivering application services via the internet. Software and data for a wide variety of common office tasks, including word processing, spreadsheets, presentations, and databases, can be "hosted in the cloud" and accessed from any web browser. Cloud computing applications may help schools save money while giving teachers and students access to more resources and a higher quality of life. Since each CSP uses language based on its own product portfolio, there is no intelligible definition or standard for cloud computing that all CSPs agree upon, despite the fact that CC has grown substantially due of its attractive characteristics.

2. CLOUD COMPUTING FOR EDUCATION IN DEVELOPING COUNTRIES

That a nation is considered "developing" is a term without a universally accepted definition. The word is commonly used to describe nations, primarily in Africa and Asia, that are making infant steps toward instituting reforms they admire in more developed, market-based economies and civic societies. The democratic governance and public services of countries classified as developing are generally inadequate, and these nations also tend to have low per capita incomes, a weak economy, and a low percentage of literacy.

Developed economies, economies in transition, and emerging economies are the three broad categories used to categorize nations in the World Economic Situation and Prospects (WESP). Potentially shared characteristics exist between them. WESP categorizes nations based on a variety of factors, such as their net fuel import/export status, GDP per capita, human assets, and economic fragility. Moreover, a country's geographical position is seen as indicative of its importance. Having a low GDP and a low per capita income are two characteristics shared by most developing nations, as is common knowledge.

In India, cloud computing is in its infancy since few people have had direct exposure to the benefits of ICTs. In light of this, the country's government and the foreign and domestic IT markets have invested heavily in spreading awareness about and promoting use of cloud computing in the country. The International Business Machines Corporation (IBM), the world's largest computer manufacturer, has established cloud computing centers in China, India, Vietnam, Brazil, and South Korea. DELL and Microsoft are two more major corporations that are aggressively seeking out and exploiting chances in emerging markets.

Table 1: Top cloud computing export markets (through 2016) (ITA, 2016)

S.No	Name of country
1	Canada
2	Japan
3	United Kingdom
4	Brazil
5	South Korea
6	Germany
7	Switzerland
8	India
9	Mexico
10	Australia
11	China
12	France
13	Netherlands
14	Italy
15	Sweden
16	Singapore
17	Spain
18	South Africa
19	Chile
20	Malaysia

Greater cloud activity in emerging nations is concentrated in the countries with larger economies, such as China, India, South Africa, and Vietnam. Brazil, followed by Mexico and Chile, has Latin America's largest market for computer services. The combination of South Korea's advanced infrastructure and government support has made the country home to one of the world's most secure cloud computing industries. Also, the Indian government places a high priority on expanding public transportation and expanding access to the internet. Technology is being adopted swiftly in China due to the country's developing economy. The worldwide cloud computing market sees China as an attractive market due to the country's experience, resources, and dedication.

3. ADOPTION OF CLOUD COMPUTING IN HIGHER EDUCATION

As a relatively new phenomenon, the impact of public cloud computing on higher education IT departments has not been thoroughly studied. In order to plan for future deployments, it's critical to know how one IT department moved through the adoption process. Public cloud computing will definitely have a long-term impact on traditional higher education IT departments, therefore institutions must think about how they will select, implement, and promote innovation in this area.

Using virtualization technologies, higher education institutions have been able to successfully adopt private cloud technologies in their data centers. Virtualization allows for efficiencies in cost and performance, and it provides agility and reliability that a physical server lack. Moving to the public cloud provides the opportunity for even greater opportunities, including greater capacity, resilience, and agility. Moving from private cloud computing to public cloud computing takes a concentrated effort and has significant implications for IT staff, involving a shift in mindset and a change from the management of technology to the management of services. The IT staff's perceptions and beliefs are critical to the success of the implementation of public cloud computing technologies.

Technology provides higher education with the ability to support the core mission and goals of the university. Technology is no longer an add-on in higher education, but truly a part of the foundation that keeps the enterprise running. Interruptions in technology can significantly impact the operations of the entire university. Therefore, IT organizations are constantly seeking new ways to ensure that technology is available, reliable, dependable, and secure.

IT departments have shifted their focus from simply maintaining systems to being change agents by helping customers to understand how technology can help them to achieve their goals. IT departments must cultivate support teams that perform with customer service in mind, encompassing both superior communication skills and soft skills. Decisions to adopt cloud solutions are occurring at every level of the university, often without IT organizations' input, resulting in missed opportunities to leverage IT expertise in those decisions. Cultural and social shifts are difficult in any organization, and it is important that IT leaders and staff members make an intentional effort to adapt to the changes public cloud computing technologies are bringing to campus.

Public cloud computing technologies provide constant and rapid change due to the intense competition between vendors and the ease of adoption for customers. Providing support requires a shift in how IT organizations operate, in which a large part is blending institutional knowledge with vendor knowledge to be agile and responsive to rapidly

changing technologies and demands. Therefore, the researcher pursued an understanding of how an IT department at a southeastern university progressed through the adoption of a public cloud computing technology.

4. REVIEW OF LITERATURE

Maria Teresa Baldassarre et al., (2018) How did you answer the six questions posed by the publication's temporal and physical sharing? (CCE), Researchers, stakeholders, topics, areas of interest, types of studies, and solution status are all included. It came to the conclusion that cloud computing must be used to connect research at all educational levels.

HomaHamidi and Saeed Rouhani (2018) The three different benchmark tests that have been implemented look at the first page of Moodle, the login file system, and the academic file's accessibility. The results of comparing the two servers demonstrate that the cloud computing server's QoS indices are superior to the web 2 server's.

Dhaliwal, Amandeep. (2017). Live case studies of educational institutions in India and abroad that are utilizing this technology to address the ever-increasing need to give more for less served as the basis for this paper's analysis. Research on the risks and challenges related with cloud computing is scarce, and much less is known about how educational institutions are using this technology in practice. It is so important to comprehend cloud computing in the context of education from a real-world perspective, which is what this study does. It would give us a better understanding of the ramifications of putting this technology into practice.

Abusfian and Weam (2017) students can access their course materials from any location thanks to cloud computing, according to our review HEIs benefit greatly from CC since it allows them to respond rapidly and cost-effectively to changes in software and hardware requirements. Students' educational rank and effectiveness are boosted as a result of embracing cloud computing in higher education.

Munjaj, Meenaakshi. (2015). In educational institutions where resources are scarce, this is an excellent substitute for computers and other gadgets in order to run an efficient information system. There are significant risks and obstacles involved with cloud computing and related services, though. What cloud computing is and how it might benefit higher education will be discussed in this paper. In this paper, I've also discussed the various issues and hazards that cloud computing presents. Additionally, there are a variety of countermeasures to deal with these threats and difficulties.

5. ANALYSIS AND FINDINGS DISCUSSION

Among the responses to a satisfaction survey posed to students, nearly half (48.61%) expressed dissatisfaction with the quality of services provided by universities and colleges in areas such as communication, responsiveness, speed, ease of use, expertise, task completion, accuracy, timeliness, and the time it takes to access students' data when necessary. According to the results of a satisfaction survey administered to teachers, 32.48 percent of respondents are dissatisfied with the quality of services provided by universities and colleges in the areas of communication, speed of access, ease of use, expertise in completing tasks, accuracy, timeliness, and the time needed to access student data. Teachers' negative views of the system as a whole have an immediate impact on their level of unhappiness with it.

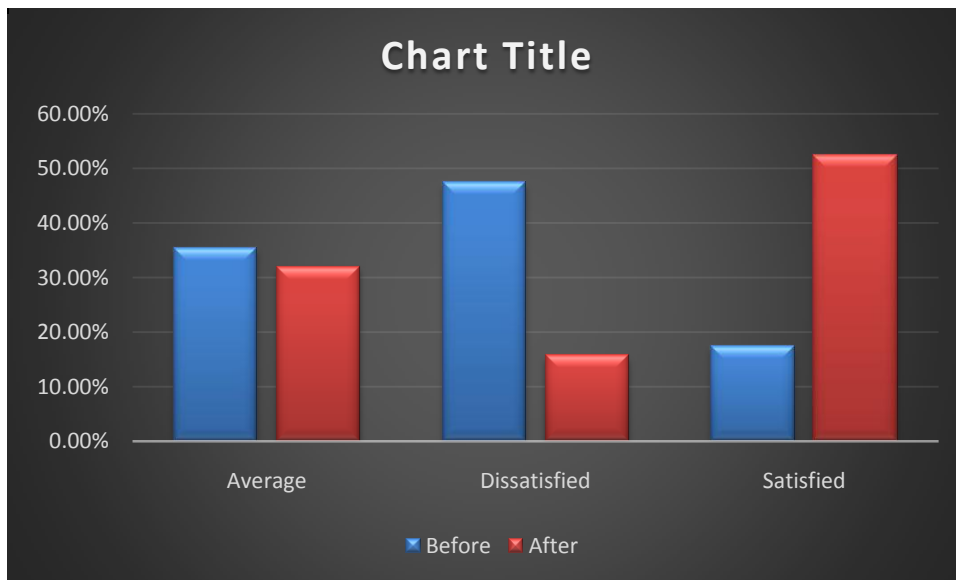


Fig 1: BIS Students satisfaction levels

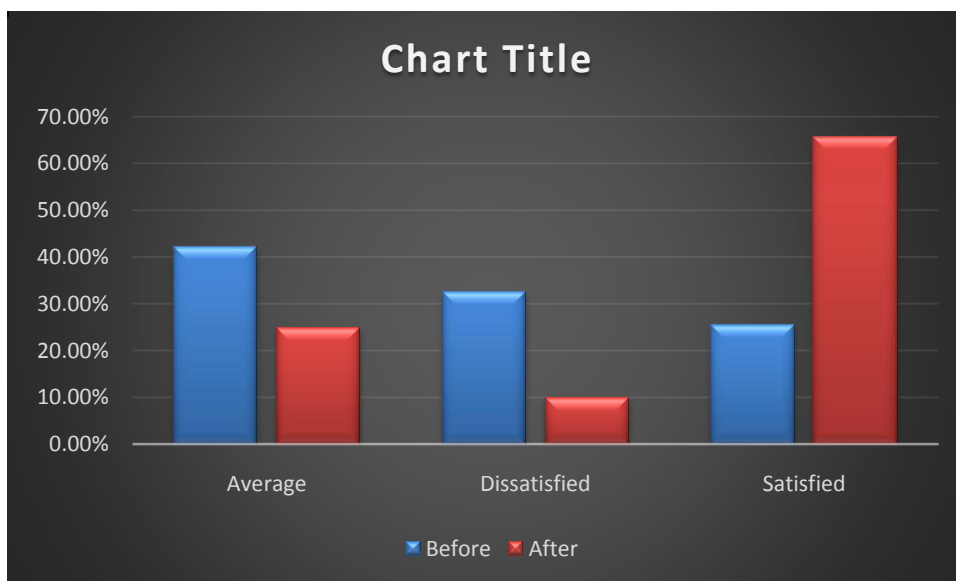


Fig 2: Teachers satisfaction levels

Students and teachers were polled on their level of satisfaction with various aspects of the current system, and the results showed that on the one hand, most students were unhappy with the existing system's services, particularly the progression system, and felt largely ignored.

6. CONCLUSION

If colleges had a deeper familiarity with the most pressing concerns surrounding cloud computing's widespread adoption, they would be better prepared to oversee their own cloud computing operations and maximize the efficiency with which they deployed their existing resources. The benefits of cloud computing are anticipated to materialize in the form of streamlined access to both cutting-edge new technology and tried-and-true standards that are always being refined. The institution gains an edge over other institutions and organizations due to its adoption of cloud computing. In order for colleges to keep up with the rising demand for modern resources, they should consider adopting cloud computing. Plus, by tapping into the cloud's capabilities, even organizations with limited hardware and software resources may deliver top-notch care to their patients. However, the study's findings showed that in order to reap these benefits, the status quo has to be revised to make systems and policies more cloud-friendly. Using the findings of this study, educational institutions can create recommendations for adopting cloud computing that are tailored to their specific needs, infrastructure, and objectives (university work, resources, strategy).

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