International Journal of Engineering Sciences &Research Technology

(A Peer Reviewed Online Journal)
Impact Factor: 5.164

IJESRT

RESEARCHERID
THOMSON REUTERS

[Srinivas, *et al.*, 8(9): September, 2019]
IC™ Value: 3.00

ISSN: 2277-9655
Impact Factor: 5.164
CODEN: IJESS7

IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

CHALLENGES OF SOFTWARE CLOUD COMPUTING AND BENEFITS FROM A BUSINESS PERSPECTIVE

K. Srinivas[*1] & A. Appa Rao[2]

[*1&2]Department of Computer Science, Rayalaseema University, AP, India

DOI: 10.5281/zenodo.3465610

ABSTRACT

Current hype in Information Technology is Cloud Computing. The purpose of this research is to understand the concepts behind cloud computing and provide the approach and list of challenges associated in a business migrating to cloud computing and benefits deriving from a business perspective. Although there are many articles and information on the Internet, there is a lack of studies that help a business understand what is behind cloud computing and is it an approach for every business or only for particular businesses, etc. The significance of this study will help businesses to decide in migration of their presence in the cloud and the pros and cons associated with it.

KEYWORDS: Information Technology, Cloud Computing, Benefits from Business Perspective

1. INTRODUCTION

The expression "cloud" has its origins from the field of telecommunications when suppliers started utilizing virtual private system (VPN) services aimed at data communications (Kaufman, 2009). The term cloud computing has evolved as a buzz word within the distributed computing community. The term Cloud computing implies entrusting of data onto information systems that are overseen by external parties on remote servers “in the cloud” (Ryan, 2011). It is the popular belief of researchers that Cloud has the ability to reshape the IT industry.

Cloud computing speaks to a merging of two noteworthy trends in IT — firstly, IT productivity, whereby the power of modern PCs is used more productively through very scalable hardware and software assets. And secondly, business agility, whereby IT can be utilized as an aggressive apparatus through rapid deployment, parallel batch processing, utilization of business analytics that are compute intensive and portable intelligent applications that react in real time to client requirements (Kim, 2009). The idea of IT efficiency, similarly, embraces the beliefs condensed in green computing, as not only are the computing assets utilized more effectively, but further, the PCs can be physically situated in geological ranges that have access to inexpensive electric power while their computing power can be accessed even from far away, just over the Internet. Nonetheless, as the term business agility suggests, cloud computing is not just about economical computing— it is also about organizations/enterprises/businesses having the capacity to utilize computational tools that can be used and scaled quickly, even as it diminishes the need for enormous forthright investments that are characteristic of enterprise IT setups today (Marston et al., 2011).

There are many definition of cloud computing that exist today and the goal of this study is to provide a comprehensive definition and understand the concept of Cloud computing first and then discuss various advantages as well as disadvantages of this technology. With the help of this in-depth knowledge, this study seeks to design a tool that would enable businesses to identify and explore challenges of cloud computing. As suggested by scholars at UC Berkley, cloud computing refers to both the applications that are supplied as services over the Internet as well as the hardware and systems software in the data centers that provide those services. This study will elaborate on this concept of cloud computing as an application as well as software and hardware system with respect to adoption into businesses.

ISSN: 2277-9655
Impact Factor: 5.164
CODEN: IJESS7

2. BACKGROUND OF THE PROBLEM

Information technology has undergone a rapid growth in terms of processing and storage technologies. This along with other developments have led to the discovery of a computing model called cloud computing (Avram, 2014). The purpose of this paper is to analyze the factors that need to be considered by organizations when they make a choice to adopt cloud computing technology in their businesses. Cloud computing is considered as a model for empowering convenient, on-request network access to a mutual pool of configurable computing assets (e.g., systems, servers etc.) that can be quickly provisioned and discharged with minimal administration exertion or interaction with the service provider (Mell &Grance, 2009). Thus, the aim of this study is develop a tool that would enable businesses to identify and explore various challenges of cloud computing.

In the increasingly globalized techno-savvy economies, it is driving businesses and enterprises to adopt and include new technologies into their day-to-day business activities. The introduction of cloud computing speaks to a key change in the way information technology (IT) services are designed, created, conveyed, scaled, updated, maintained and paid for. Computing as a technology mirrors a conundrum — on one hand, computer systems keep on becoming exponentially more effective (Lasivca, 2009) and the per-unit cost of computing keeps on falling quickly, to such an extent that processing power essentially is currently thought to be a commodity (Hackett, 2008). However, on the other hand, as computing turns out to be more prevalent within an establishment, the rising complication of dealing with the entire infrastructure of distinct information architecture and circulated data and software has led to computing to become an expensive affair than ever before for an organization (Roehrig, 2008).

3. BUSINESS BENEFITS

This study intends to explore challenges of cloud computing from a business perspective. It is hoped that by understanding the challenges will enables companies and businesses to be cognizant of the importance of comprehensive knowledge of a technology before adoption into the day-to-day functioning of a business. It will enable them to align their approach to new technology, with reference to cloud computing, in such a way that individuals involved in the business are well aware of its shortcomings and possible repercussions. This study seeks to provide insight on issues that impact businesses and adoption of a new technology like cloud computing.

This study draws from previous research on cloud computing that have discussed the technology in details focusing on the advantages as well as disadvantages. Although a lot of research exists on the topic of cloud computing, there exists a gap in research in terms of understanding the challenges posed by this from a business perspective. This study will provide insight and expand the body of knowledge in the areas of cloud computing, its adoption the use of technology in businesses.

Previous studies by Avram (2014) suggests that just like with any new technology, cloud computing has many advantages (like reduced cost) and disadvantages (like in terms of security and privacy). Therefore an enterprise must first assess their processes and then evaluate risks and advantages and only then consider adopting it into their business. Similarly, Khajeh-Hosseini et al. (2010) conclude that although there are significant advantages of Cloud computing, it is still a disruptive technology with certain socio-technical drawbacks that must be considered before shifting IT systems to the cloud. However, most of the study in the recent past has been with regard to the technology itself, there is a rising need to address the problem relating to business application of Cloud Computing and understanding it from the view point of a business. This study will contribute to the body of knowledge on Cloud Computing and its application in businesses.

The results of this study will contribute knowledge to academic community and practioners. The significance of this study will help businesses to decide in migration of their presence in the cloud and the pros and cons associated with it. This study will also be beneficial to future research on cloud computing, advantages, uses and shortcomings of this technology and on the topic of business and technology. Businessmen will benefit from the knowledge of business application of cloud, as it is an area of concern that needs further study and discussion among scholars and professionals (Hofmann, 2010). The lack of knowledge in the literature may signify the importance of this study to the profession of IT, technology application in workplace and business administration.

ISSN: 2277-9655
Impact Factor: 5.164
CODEN: IJESS7

4. SUMMARY

The significance of this study will help businesses to decide in migration of their presence in the cloud and the pros and cons associated with it.

REFERENCES

[1] Avram, M. G. (2014). Advantages and challenges of adopting cloud computing from an enterprise perspective. Procedia Technology, 12, 529-534.
[2] Hackett, S. (2008). Managed Services: An Industry Built on Trust. IDC, IDC.
[3] Kaufman, L. M. (2009). Data security in the world of cloud computing. IEEE Security & Privacy, 7(4).
[4] Kim W. (2009). Cloud computing: Today and Tomorrow, Journal of Object Technology 8 (1) (2009) 65-72
[5] Marston, S., Li, Z., Bandyopadhyay, S., Zhang, J., &Ghalsasi, A. (2011). Cloud computing—The business perspective. Decision support systems, 51(1), 176-189.
[6] Mell, P., &Grance, T. (2009). The NIST definition of cloud computing. National Institute of Standards and Technology, 53(6), 50.
[7] Ryan,M.D. (2011). Cloud computing privacy concerns on our doorstep. Communications of the ACM, 54(1), 36-38.
[8] Roehrig, P. (2008). New market pressures will drive next-generation IT services outsourcing. Global Services, 3(35), 22-23.
[9] Khajeh-Hosseini, A., Sommerville, I., & Sriram, I. (2010). Research challenges for enterprise cloud computing. arXiv preprint arXiv:1001.3257.