IMPACT OF CLOUD COMPUTING IN THE SMALL SCALE ENTERPRISES

Abinash Ravi

Student Number:5229473

Abstract— Cloud computing is an excellent and rapidly increasing technology. Cloud computing disturbed the computer society to the maximum extent In the whole world. The main focus of cloud computing is to make memory management more effective and easily accessible around the world. Cloud technology is impressed with most of the big scale Enterprises. [10] Cloud computing technology reduces the processing burden for the users and makes the processing very fast and effective. In the modern world, users use a large number of devices like pcs, laptops, smartphones, and also tablets to access various kinds of utility programs, memory storage, and application development platform over the internet. Cloud computing aims to provide sophisticated environment services with effective computing capabilities, it also provides virtualized computing, networking resources, and storage over the internet[4]. This research aims to investigate the impact of cloud computing on small scale Enterprises. A review of the literature revealed that although cloud computing is founded in the early 1990's it faced significant growth in the last decade. findings also showed that more small-scale Enterprises have switched to cloud computing technology in the last decade. Therefore, [13]the United Kingdom economy is grown further as a result of success in more small-scale Enterprises. This paper mainly focuses on how the cloud computing can impact the small-scale industries in the greater extent and the challenges that the small scale industries may overcome while moving to the cloud computing technology and also this paper give the clear structure with statistics about the advantage and disadvantage on moving to the cloud computing technology and the challenges faced by the industries in all aspects including financially and economically.

I. INTRODUCTION

Background of study

Evolvement of business technologies and development of technological sectors lead the competition very high among the business sector, the main reason for small scale industries to not being competitive because of the lack of access to modern technology to perform information technology operations. Small scale industries play a major role in country's economy as it increases the employment rate and minimize the need for imported product[2]. They have an ability to produce large amount of product on lower cost and

also they can employ large amount of local people. There are lot of barriers for small scale industries which can be removed with an advanced and effective IT infrastructure. It also provides flexibility to small scale enterprises and enhance them to become efficient and competitive,

However, they can produce quality and efficient output with the help of new strategy [9]. The new strategy should aim the new technology which make them competitive in the international market. Cloud computing is the exact way in order to address every inefficiency by making contribution in the small scale industry.in IT services cloud computing technology is a paradigm shift which provide agility, flexibility and efficiency to meet unusual growing demand. In a last decade the development in cloud computing is noticed everywhere in the world and organizations provided different facilities, they are complete availability, auto scalability, resource sharing and storing information are its major service.

II. JUSTIFICATION OF THE RESEARCH AREA

As the usage of electronic devices among people is increased, a positive impact has been created in the widespread adaption of cloud computing [7]. The researcher reports that in the united-kingdom many small-scale Enterprises are switched to virtual computing i.e cloud computing in the last decade which also increased the country's economy. A similar trend was observed all over the world and the huge increase in the number of users in cloud computing.

The research aims to examine the impact of cloud computing on small scale enterprises. While revealed that there is a positive impact on the development of the small-scale Enterprises to compete with the big scale industries and economy of the country is well. While Researcher [13] has noticed that there was a positive impact on cloud computing on the small-scale Enterprises, There is still a lack of research in the particular area, thus justifying the research and importance in the need to further examine the topic of impact of cloud computing the small scale Enterprises. A second research justification is that research generates important solutions that contribute to the theory on the impact of cloud computing on small-scale Enterprises and thirdly the study will outline an important solution to overcome those insights in cloud computing in small-scale Enterprises.

Research questions

1. WHAT IMPACT HAS CLOUD COMPUTING IS CREATED IN THE SMALL SCALE INDUSTRY ?

Existent issue in research area

One of the main negative issue in the research is the lack of empirical studies that have been done, The researcher says that over the last decade many companies started their own data centres to store the customer information over the network and there is no clear proof that customer information is safe, however, on the other side, many industries generated the report that outlines the impact of cloud computing in the small scale Enterprises.

2. WHAT IMPACT HAS CLOUD COMPUTING IS CREATED IN THE BUSINESS PERSPECTIVE OF SMALL SCALE INDUSTRIES?

Existent issue in the research

One of the major problems for the small-scale Enterprises is the lagging behind in the technology resources on comparing to the big scale industries, as many resources have generated that small scale Enterprises are the heart of the nation but still, government support for these small-scale Enterprises is very less in various part of the world.

3. CAN EMPLOYEES IN THE SMALL SCALE INDUSTRIES WILL BE ADAPTED TO THE CLOUD COMPUTING TECHNOLOGY ?

Existent issue in the research

The main issue in this is there are several limitations with cloud computing. The major issue is the security and reliability of the data and the accessibility on a 24/7 hour basis. mainly when the cloud service provider has an outsource. Many companies will have a lack of control over their ICT systems and also the impact of CSP on these systems[14]. This research provides some of the ideas in the literature review to overcome these issues

III. LITERATURE REVIEW

A. Use of cloud computing in small scale industries

The Cloud computing market has been increasing significantly in the last few years. A study predicts that from the year 2013 to 2016 over 677\$ billion [11] was spent on cloud computing services worldwide (Gartner 2013). The performance of CC mainly depends on the networking, therefore, any failure in the infrastructure of networking especially inside any data center domain can break the support of high-performance cloud application or the data-intensive.

SOME OF THE FACTORS THAT INFLUENCE SMALL SCALE ENTERPRISES TO MIGRATE TO CLOUD COMPUTING ENVIRONMENT ARE LISTED BELOW

Lack of knowledge of the cost, infrastructure, and appropriateness to the need of different companies from different business environments and the [1] ICT skill level of managers, entrepreneurs, and users, and the readiness of small scale industries to adopt cloud computing from a business perspective and the less time.

All the above issues can be addressed by [6] training employees in cloud computing and business based ICT skills in small scale enterprises. This will allow managers, and the users to make an informed decision about the appropriateness of cloud computing to their business strategy and also whatever the aspects that benefit them the most.

Technical aspects of cloud computing

[13] In essence, cloud computing describes the virtualized storage over the network. IT service providers in cloud computing offer their service grouped into three different categories are as follows

- 1.Saas
- 2.Iaas
- 3.Paas

Saas stands for software as a service which offers a consumer multiple varieties of applications in the infrastructure of the cloud, The main advantage of Software as a service is easily accessible with a simple interface through any web browser[13].

Iaas stands for Infrastructure as a service is a service that allows user to deploy hardware computing resource it is the platform for the customers to produce hardware resources such as storage system, servers, switches, routers, etc [15] completely like fully outsourced services, physical resources can expand or reduced to a large extent by this model in a very short period.

The web 2.0 and generalization of the internet provoke the difference in the structure of small-medium enterprises

Paas stands for a platform as a service that provides a user the set of functionality, through which users can create a computer application. The special type of functionality is called an API application programming interface that gives a user a development environment through the network”

B. BUSINESSPERSPECTIVES OF CLOUD COMPUTING IN SMALL SCALE INDUSTRIES.

The emergence of cloud computing made a lot of difference in the way IT services are generated. Deployed, developed, compensated, and maintained in this type of technology users can access every information in the internet cloud without having any knowledge of the resources of management that they have used. [8] Some of the examples of the companies that they have cloud computing are google apps, amazon EC2, Microsoft Azure and eyeOS are not-worthy on providing the most common online application based on the business which is easily accessible from the web browser by storing the data on the server.

[14] More than 200 million users are registered for the EU social network, these registered users can improve competitiveness among web industries in Europe by collaborating with establishes EU IST academia and industries. according to ENSIA (European network and information security) which is a European Union agency, it is identified that 68 % of small-scale industries responses it received specified that escaping capital expenditure in software, hardware, information security, and IT support is behind their possible engagement in cloud computing and also almost 64% responses from small scale industries indicated that scalability and flexibility of the IT source was the reason.

Cloud computing technology can provide several advantages to the small-scale Enterprises.

Some of the main advantages are listed below

1. Strategic advantage
2. Technical advantage
3. Economical advantage

Strategic advantages include improvement of productivity, production improvement requires an increase in teamwork, any virtualized network must be accessible anytime from anywhere around the world [8] with any device with an efficient prize. In brief, this is what all the users expect from the internet, but it requires several demands, these demands must relate to service provided and various aspects of physical infrastructure, this service should be flexible and available for any device from everywhere this result in an increase in quality of the company and also the productivity of the employees [2]. Another strategic advantage is outsourcing IT service. The main motive behind outsourcing IT service is to achieve economic benefits such as cost savings with the flexibility of costs such as increasing flexibility of the business or increasing service quality. one of the main strategic advantages is the introduction and development of new and quality business ideas. Small scale industries can introduce new and quality ideas to their business which is impossible before because the cost and time associated with hardware and software equipment were too high. The barrier to entry for a market segment for a startup or any particular market has been reduced dramatically and

cloud computing balances the strategic advantage away from the large corporation company towards startup or much smaller company. Small scale industries have another strategic advantage such as business investment opportunities. Cost-saving which is achieved by the use of cloud computing in their business can be used to invest in their business idea or innovation.

Technical advantages include flexibility, small-scale industries do not have to be concerned about infrastructure and waste a lot of time in the implementations. Most of the IT service providers store the information in a duplicate system which reduces the risk of losing the information or loss of service in the event of any disaster. On preparing well for the failure In hardware or disaster recovery it can manage to reduce downside risk at a very low cost.

Some of the economic [5] advantages of cloud computing technology are cost reduction in buying a new computer system, labor cost, and maintenance. To design proper cloud application requires high-level software development skills their support and maintenance is vastly simplified in the cloud network environment. cloud computing providers manage all support and maintenance issues for both software platform and hardware at a cost that are bundled into usage fee per period or available in various options such as premium services, which allow small scale industry to save cost by reducing staff-overheads. On the other hand, one of the significant economical advantages is energy saving. Small scale industries can lower or ignore local servers, cloud computing gives environmental benefits as well as indirect utility cost-saving[12].

Some of the other issues that the small scale industries should take care of our privacy and security control and also these small scale industries should be conscious in the data backup process to handle the data loss and rising the questions and like what happens there is no internet to make the quality output.

Economic impacts of cloud computing in small scale enterprises.

EU Commission [3] has started many initiatives which support the investment in [2] Entrepreneurship boosting information and communication technology (ICT), More accurately in 2012 September undertaken a strategy for European cloud partnership providing an option to change cloud computing into an effective engine for reliable economic growth, innovation and also cost-efficient public and private services.

IV. DISCUSSION

The objective of this research was to investigate the impact of cloud computing on small scale industries. To address the question, the researcher implemented a comparative analysis of the cloud computing business in both small scale industries and the big scale industries and listed all the aspects that can affect the small scale industry on the introduction of cloud

computing, it can be argued that small scale industries are not competitive as much as the big scale industries, but with the help of the cloud computing at least 40% of inefficiency in the small scale industries due to lack of the advanced technology is reduced and this assertion is supported by the various findings.

V. CONCLUSION

To achieve business globalization, connections should be made between each other from every possible place in the world. Cloud computing is the key-element to lower the barriers to market entry, some of the reasons for this are the following 1. cost reduction which Brings the implementation of new business which is not possible with the traditional system because the investment would be huge and unreachable 2. Flexibility, flexibility allows small scale industry to adapt to environmental change. Presently, these are the basic aspects of the survival of small-scale industries, due to the present financial crisis 3. Scalability, which allows the small-scale Enterprises to adapt to the reduction or growth of IT resources to demand need without losing any quality in the service. Taking all the point that has been presented in this research into consideration, this research says that cloud computing promotes economic growth and generated employment and facilitate innovation as well.

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