A Study on Customer Perception and Satisfaction towards Cloud Services Provided By Lemurain Softwares

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Article History: Received: 11 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 10 May 2021

ABSTRACT
Cloud computing, likewise on-request registering, is a kind of Internet-based figuring that gives shared handling data and information to PCs and different gadgets on request. It is a model for empowering omnipresent, on-request admittance to a common pool of configurable processing resources. The fundamental target of the examination is analyze the assistance accommodated cloud computing to their customers and for this reason an example 55 will be chosen and percentage analysis, factor analysis and chi-square were utilized as tool to analyze the information and the analysis will be closed dependent on the discoveries.

KEYWORDS: Cloud computing, customer satisfaction, analysis, data.

I. INTRODUCTION

Cloud computing, similarly on-demand enlisting, is such an Internet-based calculating that gives shared taking care of resources and data to PCs and various devices on demand. It is a model for enabling general, on-demand induction to a typical pool of configurable figuring resources. Disseminated registering and limit courses of action give customers and adventures various capacities to store and deal with their data in untouchable worker ranches. It relies upon sharing of data for achieve sanity and economies of scale, similar to a utility (like the force lattice) over an association. At the foundation of disseminated registering is the more broad thought of consolidated system and shared organizations.

Dispersed figuring is a model for engaging all inclusive, invaluable, on-demand network permission to a typical pool of configurable enlisting resourc es (e.g., networks, laborers, storing, applications and organizations) that can be immediately provisioned and conveyed with immaterial organization effort.

A. SIGNIFICANCE OF CLOUD COMPUTING

Cloud computing is the fastest adoption into the mainstream than any other technology in the domain. This adoption has been fueled mainly by the ever-increasing number of smart phones and mobile devices that can access the internet. Cloud computing is not just for organizations and businesses; it's also useful for the average person as well. It enables us to run software programs without installing them on our computers; it enables us to store and access our multimedia content via the internet, it enables us to develop and test programs without necessarily having servers and so on. Cloud computing is a 21st-century marvel that holds its importance in almost every field.

B. CLOUD COMPUTING IS THE FUTURE

Considering the various advantages that cloud computing offers to associations, a reasonable case can be made that cloud computing is progressively turning into the new typical. Cloud computing is assisting the general public to adapt to future issues, for example, overseeing big data, cyber-security. Moreover, arising innovations like Artificial Intelligence, disseminated record innovation, and numerous different capacities are opening up as administrations through distributed computing.

Consequently, these technologies to be versatile to different stages, for example, cell phones consequently expanding their utilization. Advancements dependent on cloud computing, for example, cloud mechanization and the Industry cloud are additionally being created to incorporate cloud computing into more explicit mechanical exercises which will make different tasks considerably more smoothed out. The last decision for distributed computing is that it's a groundbreaking innovation that has helped associations in various purviews to convey their services in a preferred manner over previously.

C. CHALLENGES OF THE STUDY

It is essential, especially for companies attempting to serve highly competitive markets with many cloud service offerings. Every service industry will need to strive even harder to ensure the customer experience with every aspects of contact with the service (through Service quality, hospitality etc) will exceed their expectations. The increased emphasis of service providers brand and the importance of relationship with the service users will further change the way of business. Increase the distribution of service will push up the image of the industry.

The perception of cloud service is effectively done in the minds of people by the observed service quality. The services are activities which are intangibles in nature; therefore standardization is one of the major issues in services. Services are so varied and diverse that needs to classify them to identify selected areas which need to be managed strategically.

Quality is "the totality of features and characteristics of services that bears on its ability to satisfy given needs". Quality in service has two viewpoints: internal and external in the service firm. Internal is all about conformance and compliance to design standards, external quality is about the customer perception, expectation, preference, satisfaction, attitude and delight.

II.SIGNIFICANCE OF CLOUD SERVICE

Today's service industries are facing their toughest competition. Every service provider industry aims to win the customers and outperform the competitors. Service is defined as the activities, benefits or satisfactions which are offered for the sale or are provided in connection with the sale of goods. The characteristics of services that separate them from products are Intangibility, Invariability, Perish ability, and Inseparability.

Customer prefers some product or some service because they determined the object was best aligned with the performance and emotive requirements as judged through the comparative norms. Customer evaluate the performance in light of how well the product, person or service meets their perception and expectations. Companies tend to ask their customers about corporate performance on a predetermined set of behavioural topics which may or may not align to the perception and expectations of those customers.

III. OBJECTIVES OF THE STUDY

Primary objective: To know about the level of satisfaction of customers towards using cloud service in their company.

Secondary objective: To analyze the usage of cloud among customers of the companies and to suggest the company about the perception of clients towards the service provided by the company.

IV. REVIEW OF LITERATURE

[1]Manjunatha. K, Shivalingaiah, D (2004) describes about the Service quality assesses performance of products and services from customers' perspective. A library has both tangible products and intangible services. Assessing Service quality as management technique is of recent origin and new to Library and Information Science (LIS) professionals. The web technologies and commercial information service providers have impelled libraries to be customer focused for their survival. Proper understanding of customer's perceptions along service quality dimensions is essential for LIS professionals to recognize the customer expectations. Aligning the products/services to meet customer expectations would result in reduced gaps in perceptions of service quality In this paper, the authors briefly explain the concept of service quality; trace its development and highlight some of the results of an empirical study on service quality in academic libraries is presented

[2]T.Vanniarajan, R.S. Balasenthil (2005) in their study confined its objective to identification of important quality dimension in the market and also identification of important discriminate quality dimension among these four customers segments. The study concludes that the important quality dimensions are service, agents, product and technology quality. There is a significant difference on the importance given on each quality dimension among the four groups of customers. In order to reach out all segments in the life insurance[3]**Atilla Akbaba (2006)** conducted a study to investigate the service quality expectations of business hotels' customers, examine whether the quality dimensions included in the SERVQUAL model apply in an international environment, search for any additional dimensions that should be included in the service quality construct, and measure the level of importance of each specific dimension for the customers of the business hotels. The findings of this study confirmed the five-dimensional structure of SERVQUAL; however, some of the dimensions found and their components were different from SERVQUAL. The five service quality dimensions identified in this study were named as "tangibles", "adequacy in service supply", "understanding and caring", "assurance", and "convenience". The findings showed that business travellers had the highest expectations for the dimension of "convenience" followed by "assurance", "tangibles", adequacy in service supply", and "understanding and caring". The research findings also confirmed that, although the SERVQUAL scale was a very useful tool as a concept, it needed to be adapted for the specific service segments and for the cultural context within which it was used.

[4]**Claudio S. Pinhanez [2011]** This paper examines the need and potential types of human interfaces to Internet administrations, testing the basic thought that Internet administrations are basically PC frameworks represented by machine conventions with little need of worry for human issues. We initially look at the situation where Internet administrations are given to human clients, showing that the client framework connection turns into a commonplace assistance relationship, which can be better perceived in the structure of Service Science. In light of the six essential attributes of administrations we investigate 15 issues which ought to be considered when planning human interfaces for Internet administrations. We additionally leave from customary HCI by contending that the central objective of the human interface of an Internet administration is to make and keep a relationship with the client. We at that point investigate Internet administrations being utilized by PC applications, where we talk about the need of an indirect access human interface for the upkeep and control individuals working in the Internet administration arrangement framework. The two circumstances have been little investigated by the Internet administrations or the HCI fields of research.

[5] **P.G. Ramanujam (2011)** describes about the awareness among consumers about their rights, the patient, as a consumer of health services, expect and demand quality health care. The health care customer is changing qualitatively. The rising literacy rate, higher levels of income and increasing awareness through deeper penetration of the media, has brought the Indian consumer closer to demand quality health care. It is the professional excellence, personal-touch-in-service, humanitarian approach and ethical values of the employees that play a significant role in the satisfaction of patients. The study of service quality perceptions from the patient viewpoint provides a basic feedback to the hospitals in the light of their patient-oriented and patient-centric efforts in attracting and satisfying the patients.

[6]**Ahmed Mihoob, Carlos Molina Jimenez and Santosh Shrivastava [2013]** "Pay just for what you use" guideline supports the charging arrangements of broadly utilized cloud benefits that are on offer. In a perfect world for these administrations, buyers ought to be in a situation to check the charges charged to them. In any case, not at all like customary utility administrations like gas and power, no purchaser trusted metering administrations are accessible for cloud administrations, so buyers must choose the option to depend on the use information made accessible by the suppliers. Considering this, the paper proposes the thought of Consumer–driven Resource Accounting Models for cloud assets. A bookkeeping model is emphatically buyer driven if all the information that the model needs for figuring charging charges can be gathered freely by the customer (or a confided in outsider, TTP); in actuality, this implies that a shopper (or a TTP) ought to be in a situation to run their own estimation administration. In light of this view, the bookkeeping models of some broadly utilized cloud administrations are inspected and potential causes of challenges in information assortment are distinguished, including causes that could prompt disparities between the metering information gathered by the shopper and the supplier. The paper proceeds to recommend how cloud specialist co-ops can improve their bookkeeping models to make them purchaser driven.

[7]**Rashed Al Karim [2013]** This research tries to comprehend consumer loyalty in internet shopping while at the same time researching the significant reasons that spurred clients' dynamic cycles just as restraints of online shopping. The Kotler and Killers (2009) Five Stage Buying Process Model was picked as the premise of structure of this investigation to clarify consumer loyalty through their inspirations to purchase items on the web. The current literature was audited to find reasons that would impact clients emphatically or adversely towards shopping on the web. Studies were led by conveying surveys in the Wrexham territory (North Wales) to accumulate information for this research. SPSS programming bundle was utilized to introduce research information graphically and to test research theory. From the discoveries, it was found that respondents use web to buy items through online on the grounds that they trust it is comfort to them and the term advantageous incorporates components, for example, efficient, data accessibility, opening time, usability, and sites route, less shopping pressure, more affordable and shopping fun. Interestingly, alongside respondents' outlooks, online instalment security, individual protection and trust, indistinct guarantees and returns approaches and absence of individual client assistance are the preeminent boundaries of web based shopping. Besides, the after-effect of speculations set up that despite the fact that internet shopping is advantageous to all purchasers, online instalment framework and protection or security nerves altogether affect web based shopping. At long last, a few proposals have been offered for online retailers to take activities for making web based shopping more respected and dependable.

[8]**Danilo Ardagna1, Giuliano Casale, Michele Ciavotta1, Juan F Pérez and Weikun Wang [2014]**Late years have seen the gigantic movement of big business applications to the cloud. One of the difficulties presented by cloud applications is Quality-of-Service (QoS) the executives, which is the issue of distributing assets to the application to ensure an assistance level along measurements like execution, accessibility and dependability. This paper targets supporting exploration here by giving a study of the cutting edge of QoS demonstrating approaches appropriate for cloud frameworks. We likewise audit and arrange their initial application to some dynamic issues emerging in cloud QoS the board.

[9]**Tor Guimaraes (2014)** tested if what experts are recommending to improve user satisfaction with SaaS applications, and test if user satisfaction translates into customer loyalty. Data from a total of 1257 customers using the order entry systems of 176 client organizations available through four SaaS providers were analyzed. Results confirm the importance of the proposed success factors and the relationship between SaaS user satisfaction and customer loyalty. The results enabled the formulation of recommendations for managers responsible for Customer Relations in e-commerce environments.

V. RESEARCH METHODOLOGY

The research method is simple random sampling method, is a sampling technique where every item in the population has an even chance and probability of being selected in the sample. The research respondents were the clients of lemurain softwares. The researcher has collected 50 data through survey method with the help of questionnaire. The collected data has been analyzed and findings are interpreted.

VI. ANALYSIS AND INTERPRETATION

6.1 RUSKALL WALLIS TEST

6.1.1 COMPARISON BETWEEN GENDER AND SATISFACTION OF RESPONDENTS TOWARDS VARIOUS FACTORS

Ho1: There is no relationship between gender and satisfaction of respondents towards various factors

	Gender	N	Mean Rank	Chi-square	Sig
Pricing	Male	39	25.99	.225	.635
	Female	11	23.77		
	Total	50			
Performance	Male	39	24.94	.287	.592

	Female	11	27.50		
	Total	50			
Quality of service	Male	39	27.38		
	Female	11	18.82		
	Total	50			

Table 2 Comparison between gender and satisfaction of respondents towards various factors

INTERPRETATION

The above table shows there is no relationship between gender and satisfaction of respondents towards pricing (0.635) and performance (0.592). There is a relationship between gender and Quality of service provided by the company (.008). It depicts that the respondents who are male have higher level of satisfaction towards various factors.

6.2 CHI-SQUARED TEST

6.2.1 COMPARISON BETWEEN ORGANIZATION SIZE AND EXPECT SAVINGS REDUCED HARDWARE AND INFRASTRUCTURE COSTS

Ho1: There is no relationship between organization size and expect savings reduced hardware and infrastructure costs

Chi-Squared Tests			
	Value	f	Asymptotic Significance (2-sided)
Pearson Chi-Square	.573[a]		.476
Likelihood Ratio	0.433		.236
Linear-by-Linear Association	312		.577

Table 3, Comparison between organization size and expect savings reduced hardware and infrastructure costs

INTERPRETATION

The above table shows that there is no relationship between organization size and expect savings reduced hardware and infrastructure costs as the level of significance is at 0.476 which is greater than 0.05

6.2.2 COMPARISON BETWEEN ORGANIZATION SIZE AND PERCENTAGE OF ACCESSING CLOUD

Ho2: There is no relationship between organization size and percentage of accessing cloud

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.637[a]	8	.470
Likelihood Ratio	8.685	8	.370
Linear-by-Linear Association	.421	1	.516
N of Valid Cases	50		

Table 4, comparison between organization size and percentage of accessing cloud

INTERPRETATION

The above table shows that there is no relationship between organization size and percentage of accessing cloud as the level of significance is at 0.470 which is greater than 0.05.

6.3 CORRELATION

6.3.1 COMPARISON BETWEEN AGE AND PERCEPTION OF RESPONDENTS TOWARDS REDUCED HARDWARE AND INFRASTRUCTURE COSTS

Ho1, there is no relationship between age and perception of respondents towards reduced hardware and infrastructure costs, Ho rejected

Correlations

		Age	Expect savings[a) Reduced hardware and infrastructure costs]	Expect savings [b) Reduced software costs]
Age	Pearson Correlation		-.033	-.067
	Sig. (2-tailed)		.818	.645
	N	5	50	50
expect savings[a) Reduced hardware and infrastructure costs]	Pearson Correlation	-.033	1	.520**
	Sig. (2-tailed)	.818		.000
	N	50	50	50
expect savings [b) Reduced software costs]	Pearson Correlation	-.067	.520**	1
	Sig. (2-tailed)	.645	.000	
	N	50	50	50

Table 5 Comparison between organization size and percentage of accessing cloud

INTERPRETATION

Table shows No relation exists between age and Reduced hardware and infrastructure costs (- 0.033) and Reduced software costs (-.067) as the correlation value is negative.

6.3.2 COMPARISON BETWEEN AGE AND OVERALL SATISFACTION

Ho1, There is no relationship between age and overall satisfaction of the employees, Ho rejected

Correlations			
		Age	Overall satisfaction
Age	Pearson Correlation		-.374**
	Sig. (2-tailed)		.007
	N	50	50
Overall satisfaction	Pearson Correlation	-.374**	1
	Sig. (2-tailed)	.007	
	N	50	50

Table 6 comparison between age and overall satisfaction

INTERPRETATION

There is no relationship between age and overall satisfaction of the employees (-.374) as the correlation value is negative.

6.4 INDEPENDENT SAMPLE T TEST

6.4.1 COMPARISON BETWEEN ORGANIZATION SIZE AND PERCENTAGE OF ACCESSING THE CLOUD

Ho1, There is no significance relationship between compared variables of organization size and percentage of accessing the cloud.

		T	Df	Sig.(2-tailed)
Percentage of accessing cloud	Equal variance assumed	-4.290	48	.000
	Equal variance not assumed	-4.131	36.808	.000

Table 7 comparison between organization size and percentage of accessing the cloud

INTERPRETATION

From above the table which represents difference percentage of accessing the cloud more than expected from that significant value 0.000 so the null hypothesis is rejected, There is no significance relationship between compared variables of organization size and percentage of accessing the cloud.

6.4.2 COMPARISON BETWEEN ORGANIZATION SIZE AND COST EFFECTIVENESS

- There is no significance relationship between compared variables of organization size and cost

effectiveness (Reduced hardware and infrastructure costs). Null hypothesis H0 is rejected.

- There is no significance relationship between compared variables of organization size and cost effectiveness (Reduced software cost). Null hypothesis H0 is rejected.
- There is no significance relationship between compared variables of organization size and cost effectiveness (Reduced staff cost). Null hypothesis H0 is rejected.

		T	Df	Sig. (2-tailed)
A. Reduced hardware and infrastructure costs	Equal variance assumed	-2.368	48	.022
	Equal variance not assumed	2.114	25.364	0.44
B. Reduced software cost	Equal variance assumed	-.452	48	.653
	Equal variance not assumed	-.409	27.068	.685
C. Reduced staff cost	Equal variance assumed	.357	48	.723
	Equal variance not assumed	.348	39.050	.730

INTERPRETATION

From above the table which represents difference cost effectiveness more than expected from that significant value is more than 0.05 so the null hypothesis is rejected. There is no significance relationship between compared variables of organization size and cost effectiveness

VII. SUGGESTIONS

- The upfront investment can be increased in future for the development of business which leads to increase in satisfaction of customers.
- More data space can be given to customers for limited cost and the security firewall can be made strict for data theft in future period of time.
- Ability to rapidly launch new products and services by having new research departments in the company.
- The factors level of importance towards new products and services, level of importance towards operational cost savings, level of importance towards software cost savings and level of importance towards hardware utilization are taken for decision making process of the study.

VIII. CONCLUSION

Cloud computing, also on-demand computing, is a kind of Internet-based computing that provides shared processing resources and data to computers and other devices on demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources.

The main objective of the study is analyze the service provided for cloud computing to their clients and for this purpose a sample 50 was selected and descriptive statistics, Kruskall Wallis test and one way ANOVA, chi-squared test, independent sample T test were used as tool to analyze the data and the conclusion is that more data space can be given to customers for limited cost and the security firewall can be made strict for data theft in future period of time to increase the level of satisfaction of customers.

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