Cloud computing in the healthcare industry

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Abstract

The introduction of cloud computing has changed operations in many industries. The cloud computing is the technology of keeping data virtual at a remote location. This system has been adopted in several industries. In the healthcare industry, the technology has been used to improve service delivery to customers. The data storage depends on the flow of patients, and this ensures that accessibility of data is improved and the securing data system is enhanced as well. This research is therefore, meant to analyze the benefit of cloud computing in the healcare industry.

**Introduction**

For the last decade, cloud computing has changed the operations in all industries. According to In Chang, In Walters and In Wills (2015), the technology has improved the accessibility of data hence making organisational operations to be very efficient. In the healthcare industry, the storage and processing of patients, staffs and other essential data have been made easy and faster electronically. The cloud computer ensures that the data can be accessed from anywhere as long as the practitioner has permission to access the data. The data is easily accessible and increases the productivity of health practitioners. A study conducted by In Singh, In Sharma, and In Global (2019) concluded that cloud computing gives the health industry, the opportunity to grow because it provides scalability and therefore, hospitals and other healthcare facilities can be able to a large volume of data. The data storage depends on the flow of patients, and this ensures that accessibility of data is improved and the securing data system is enhanced as well. Research has also established that the use of cloud computing in the healthcare industry has helped the industry to address the issue of cost. In Gade and In Reddy ( 2017) pointed out that the cost of maintaining computers and other ICT system is costly and therefore, with cloud computing, the workload of maintenance is reduced. It is because most of the workload related to the operations of the cloud computing system and others are outsourced from a third party company. This research paper aims to address the benefits and gaps available in healthcare industry concerning the use of cloud computing. Therefore we analyse current issues in cloud computing and some of the problems arising for future improvement. The study tends to develop, validate, and improve some of the proposed solutions.

**The objective of the study**

The main objective of the research is to analyse the benefits of cloud computing in the healthcare sector.

1. Study and understand cloud computing framework in healthcare data management.
2. Learn the Benefits of cloud computing in the health sector.
3. Study some of the cloud computing deployment models.
4. Identify some of the gaps in cloud computing based on the Health sector.
5. Learn and understand some of the cloud-based platforms in healthcare.
6. Study some of the security and privacy mechanisms to use in cloud computing in healthcare.
7. Understand some of the challenges of using cloud computing in Healthcare

**Review of literature**

A study by In Bhatt, & In Peddoju (2017) concluded that Cloud computing resources are nowadays being used in the health sector to improve services, research, and medical education. Healthcare institutions in the past were forced to acquire and maintain so many hardware, software, and many IT support staffs. These institutions invested so much in the IT sector to ensure they had a centralised system which could store patients' data and information of the organisation (In Bhatt, & In Peddoju, 2017). Cloud computing provides remote access system which doesn't need such hardware, software, or IT staff to run. The cloud computing has come up with several models which have different restrictions(In Chang, In Walters, & In Wills, 2015).

In Dadhich (20118) in the paper “Making use of cloud computing for healthcare provision: Opportunities and challenges” pointed out that scalability, efficiency and convenience are some of the benefits cloud computing has brought to the healthcare sector. The centralisation of data used by various departments in a healthcare facility has also brought a lot of investment in the healthcare sector. The cloud computing is an innovative solution in healthcare, which provides cost-efficient to patients and other stakeholders and therefore, the technology has changed the operations of healthcare facilities. However, In Dadhich (20118) stated that a major issue in the cloud computing industry is security and natural disaster outrage. It is pointed out that there are major concerns regarding the security and effect of natural disaster to the operations of the cloud computing system. Natural disasters and security can easily paralyse the operations of the cloud computing system, and therefore, this has affected the operations health facilities. These concerns are some of the issues which have scared some stakeholders from fully adopting the cloud computing system in the healthcare sector.

**Research methodology**

This study was conducted using a quantitative research method and descriptive design to determine the benefits of cloud computing to the healthcare industry. In order to conduct the effective and efficient study, an online interview was used to collective views or opinions of various stakeholders in the healthcare industry. The participants were 52 (fifty-two) aged 21 to 55 years old, 45% female and 55% male drew from different departments with the healthcare industry and patients. The participants were drawn from the medical practitioners, patients and administrators of healthcare facilities. The participants were selected randomly selected based on the knowledge of cloud computing, and therefore, the majority of participants understand cloud computing and its usage in the healthcare sector. It is also important to point out that survey forms were used to conduct the study and later analyzed.

**Procedure**

For the efficient study, the participants were emailed survey forms with a request to fill in the form and send it back within 24 hrs. Therefore 68 survey forms were sent out to participants to fill and only 52 forms were sent back from the participants, and therefore, 52 people took part in the study. The filled survey forms were then analysed using excel to determine the effect and benefit of cloud computing in the healthcare sector based on the perception of the stakeholders. The analysis of the data was done based on the objectives of the study to ensure that the result obtains effectively answered the objectives of the study.

**Result of the study**

The finding of the study indicates that 68% of participants believe that cloud computing has changed the operations in the healthcare sector; 30.8 % believe no change has been experienced. In terms of improved healthcare service delivery, 58.7 % of participants agree service delivery has improved while 41% disagree that services have not improved.

**Discussion**

Based on the result of the study, it is evident that cloud computing has changed the way the healthcare industry. The study established that 68% of participants on the study that cloud computing has improved efficiently. This finding agreed with a study conducted by (In Bhatt, & In Peddoju, 2017), the concluded that cloud computing had streamlined the healthcare sector. It is, therefore, evident that the introduction of cloud computing has improved service delivery to customers. A study established that clouding computing system has improved the performance of the healthcare industry. It is also established that tracking of patients and other records have been made faster and therefore, healthcare professionals performance have improved as well resulting to the improved general performance of hospitals, clinics and other healthcare facilities in the country.

**Conclusion**

The current trend in cloud computing has helped in improving, the service delivery and brought efficiency in the healthcare industry. The finding of the study indicates that 45.8% of participants agree that cloud computing has positively impacted the healthcare industry. A study conducted by In Dadhich (20118) also indicates that the standardised cloud computing system will automatically bring advantage to patients, physicians and other healthcare practitioners. The research also found that cloud computing does not only help the healthcare industry in solving several existing problems in the healthcare sector, but it helps the healthcare sector to provide efficient and quality services to the community. The adoption of cloud computing has several challenges which have scared many investors in the industry. The study established that challenges faced in the implementation of cloud computing are related to security, organisational acceptance, an available system developed standard and lack of trust. These challenges have made the adoption of cloud computing in the healthcare sector to take a slow pace, and therefore, the system has not to be adopted in by several healthcare facilities. It is, therefore, the importance for stakeholders to take serious planning, analysis and measures before adopting the technology. The presentation of the use of various cloud technologies will help in addressing some of the key challenges and help in installations of the best cloud computing system.

**References**

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In Bhatt, C. M., & In Peddoju, S. K. (2017). *Cloud computing systems and applications in healthcare*.

In Chang, V., In Walters, R. J., & In Wills, G. (2015). *Delivery and adoption of cloud computing services in contemporary organizations*.

In Moumtzoglou, A., & In Kastania, A. (2014). *Cloud computing applications for quality health care delivery*.

In Singh, S., In Sharma, R., & IGI Global. (2019). *Handbook of research on the IoT, cloud computing, and wireless network optimization*.

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