

BIG DATA INFLUENCES ON SERVICE QUALITY IN HEALTH CARE

D.Geethamani

Assistant Professor, Dr. N.G.P. Arts and Science College,

Department of Computer Science.

Dr.R.Rangaraj

Professor & Head, PG & Research Department of Computer Science,

Hindusthan College of Arts and Science

Coimbatore – 641 028.

ABSTRACT

This study analyzes the big data influences on service quality in health care sector. Quality of service in health care to be most significant factor to keep patient safe from many diseases. It also consider on the perception and expectation of service quality obtained by patients. This study finds short falls in the quality of service offering by the hospitals and based on the respects may take necessary steps accordingly. Big data is a huge amount of information that can work well in different areas. Different sectors of private and public hospitals can generate, store and analyze big data with an aim to improve the services they provided. In healthcare sector, various sources include medical records of patients, hospital records, result of medical examinations, and devices that are a part of internet of things.

INTRODUCTION

The health care sector is adopting electronic health oriented records, which will maintain the more data that are available at any point of time. The great progress has made in health care analytics for analyzing more valuable health issues and to get new advancements from this analysis. The study discuss the emerging critical analytical and various types of details required to get new insights. The recent days Big Data analysis which is especially in health care information is towards creating new innovation operation methods and intelligence. The purpose of the research paper is to highlight the high quality of service providing by the hospitals with help of big data analytics. Big data which is collecting the information and it is stored in electronic methods. The data sets include number of days patient admitted in hospitals, patient attention and daily improvement details. This study develops the software who create the organization infrastructure and particular intelligence tools for health care decision making and supplying the quality of data to the hospitals.

The health care service providing primary and secondary care facility and it is a more important area of any health care system. In the modern world, health care is providing different types of treatment to the

patients. The most valuable way of treatment is face to face service. But recent technology, health care sector is supporting service through video conferencing or other networking activities.

The service quality becomes always patient satisfaction and dissatisfaction, which in affect the health care performance. The health care sector is planned to provide maximum level of service quality. But in different environment factors, can affect the quality of service. So, big data will be support to the health care organization for improve the patient satisfaction. Service quality is evaluate, judgment and impress the consumers regarding a service renders. Recent world, big data and service quality closely associated with health care systems. Because big data can be identified the disease very earlier rather than other systems in health care.

Relationship to Service Quality

Health Care Service quality is the perceived satisfaction by patients. In this study, mainly considered for the patient who has admitted in hospital, in which how long he is taking treatment to recover for his health. The hospital management is closely involved patient health issue. Because how they are providing quality of service for their patient.

REVIEW OF LITERATURE

Sodani and Sharma (2014) have analyzed the level of satisfaction in terms of various quality dimensions among the patients in the study hospital. Data were collected from inpatients through structured questionnaire on eight quality dimensions such as general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spend with doctors, accessibility and convenience and hospital services. In total, 100 inpatients were included from three departments with highest patient inflow: medicine, gynecology and surgery.

Sasikala and Tamilchelvi (2014) in their research have made an attempt to identify the service quality of the health care centers perceived by the patients in Coimbatore city. For this, 1012 respondents have been taken for examining the service quality of the health care centers in Coimbatore city by using convenient sampling method. In this research, SERVQUAL model has been used for various dimensions of service quality. The researcher found among the five various dimensions of the service quality, reliability has no gap. The other service dimensions like assurance, tangibility, responsiveness and empathy has more gap. So, the researcher recommended the health care centers should improve the four dimension services, so that the patients satisfaction level improves at the maximum level.

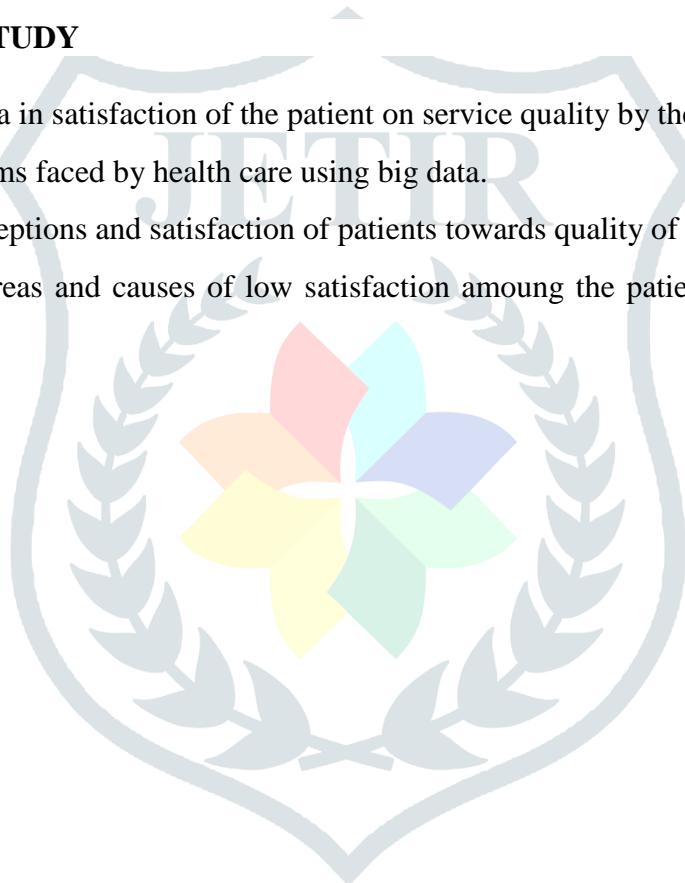
Ranjeeta Kumari et al., discussed that the outcome of any disease is influenced by the decisions to seek care, timely arrival at appropriate diagnostic and treatment services and the receipt of adequate care from service providers. Satisfaction in service provision is increasingly being used as a measure of health system performance.

Rama Krishna Naik et al., purpose to investigate and test a six-factor model that explains considerable variation in patient satisfaction with tertiary care hospitals in India. Design/methodology/approach – The data of this study were collected through a systematic randomly distributed questionnaire. A pre-tested and contextually prepared structured questionnaire was used to gather 436 responses from selected tertiary care hospitals located in Hyderabad.

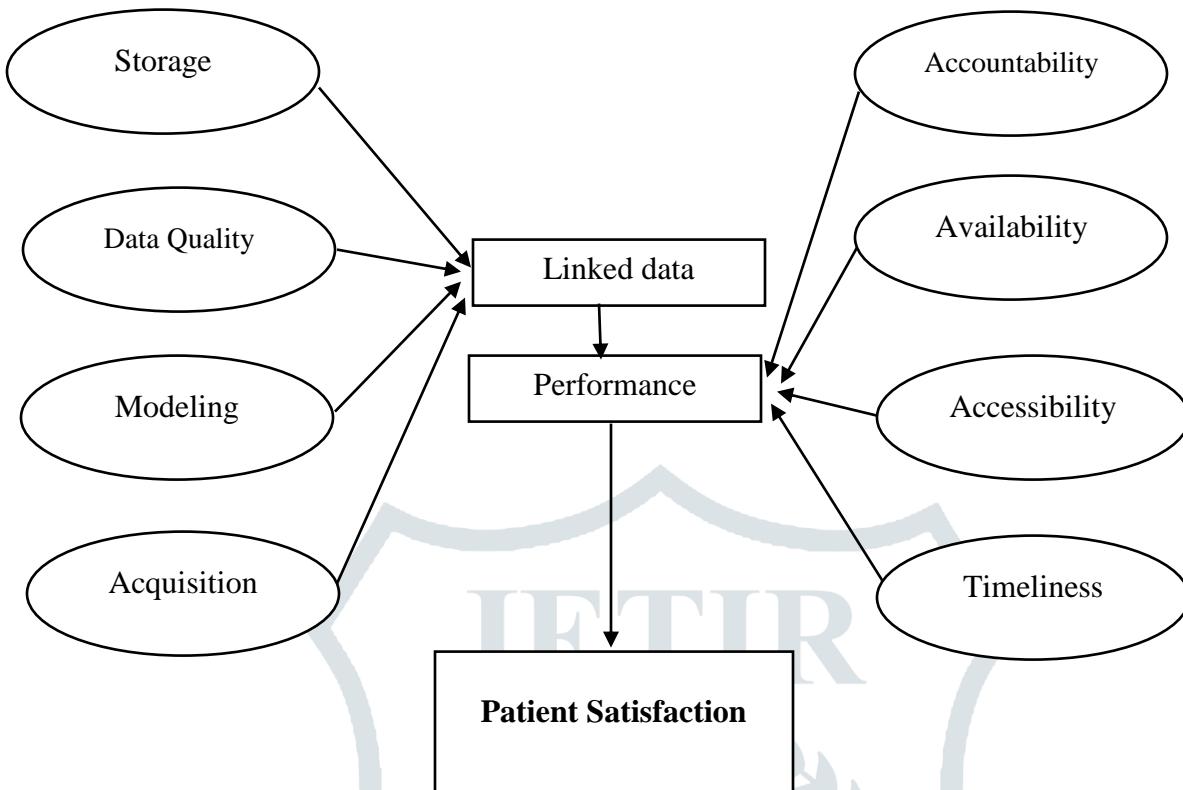
Sathish et al., discussed that India's health care service industry has turned out to be a major driver for economic growth. The multi-national healthcare segments are investing their funds on Indian soil. In India, terms such as health tourism, healthcare outsourcing and medical back office support are suddenly gaining impetus.

OBJECTIVES OF THE STUDY

- To study the big data in satisfaction of the patient on service quality by the health care.
- To study the problems faced by health care using big data.
- To find out the perceptions and satisfaction of patients towards quality of services.
- To determine the areas and causes of low satisfaction among the patients and suggest methods for improvement.



MODEL OF BIG DATA AND SERVICE QUALITY



Storage

Hospitals use external hard disks or SSDs to store patient records, electronic medical records (EMR) and their backups, radiological images, insurance claims, office documents.

Data Quality

Data quality refers to the state of qualitative or quantitative places of information. There are many definitions of data quality but data is generally considered high quality if it is “fit for intended uses in operations, decision making and planning”.

Modeling

Data modeling is a complex science that involves organizing corporate data so it fits needs of business processes. It requires the design of logical relationships so the data can interrelate with each other and support the business.

Acquisition

Data acquisition has been understood as the process of gathering, filtering, and cleaning data before the data is put in a data warehouse or any other storage solution. The acquisition of big data is most commonly governed by four of the Vs such as Volume, Velocity, Variety and Value.

Accountability

Accountability for the performance goals not only means that he/she do everything possible to achieve them and that we have internalized and own them. It also means that he/she understand and accept the consequences of not achieving those goals.

Availability

Availability testing is a measure of how often any given software is actually on hand and accessible for use. In other words, it measures the probability that the software will run as required and when required.

Accessibility

Accessibility support can have a negative impact on performance, so it is important to test for regression and to improve performance over time.

Timeliness

Timeliness is a stock analysis rating system that ranks stocks according to their predicted price performance. The Value Line research analysis system is the most popular index, and timeliness is arguably the single most important component of their report.

DISCUSSION & CONCLUSION

This study discussed various cases for service quality to patient, in which health care analytics are more benefited. The study particular focused on patient who is admitted more than one month and the data will be support for analyze the patient recovering stage. And also it is helpful for patient who is readmitted or suffer in adverse. This study found the big data is a most powerful tool for health care systems. The research believes that the electronic information data, the health care organization could provide good quality of service to the patients, the disease also will be easily identified near and feature.

REFERENCES

1. P. R. Sodani & Kalpa Sharma, "A Study on Patient Satisfaction at a Multi Super Specialty Hospital in Delhi, (2014).
2. Ranjeeta Kumari, MZ Idris, Vidya Bhushan, Anish Khanna, Monika Agarwal, and SK Singh, "Study on Patient Satisfaction in the Government Allopathic Health Facilities of Lucknow District, India". Jan 2009.
3. J Rama Krishna Naik , Byram Anand , "An empirical investigation to determine patient satisfaction factors at tertiary care hospitals in India" International Journal of Quality and Service Sciences, 16 March 2015
4. Sasikala V.K. and Tamilchelvi N, "Service Quality Perception of Patients on Health Care Centers in Coimbatore City", Namex International Journal of Management Research, 4(1)64-69.

5. Seetesh Ghose* and S. Vivek Adhish, "Patient Satisfaction with Medical Services: A Hospital-Based Study, Perspectives and Issues 34(4), 232-242, 2011.
6. Panchapakesan Padma, Chandrasekharan Rajendran, Prakash Sai Lokachari, "Service quality and its impact on customer satisfaction in Indian hospitals: Perspectives of patients and their attendants", Benchmarking: An International Journal, 26 October 2010.
7. Sweta D'Cunha¹, Sucharita Suresh, "The Measurement of Service Quality in Healthcare: A Study in a Selected Hospital" International Journal of Health Sciences & Research (www.ijhsr.org) Vol.5; Issue: 7; July 2015
8. A.S. Sathish, R. Indradevi, Sreeram Gangineni, "A Service Quality and its Influence on Customer Satisfaction in a Multi-Speciality Hospital", International Journal of Recent Technology and Engineering (IJRTE), December 2018.

