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TECHNOLOGY-ORIENTED CUSTOMERS' EXPECTATIONS IN INDIAN HEALTHCARE SERVICES

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Abstract

Customer expectations in healthcare continue to increase and they are to be managed adequately in order to enhance customer satisfaction and acquire efficiency in managing these life-saving services. Understanding customers' expectations would make the healthcare services more customer-oriented and thus enhance customers' satisfaction level. This paper discusses changing customers' expectations in healthcare services, with special reference to healthcare processes and communication, with the advancement of technology in the field of communication. It enables the healthcare service providers to be better customer-centred by managing and adopting rapidly developing communication technology and to provide higher value-based care into our present existing health care system.

Keywords: Healthcare Customers, Communication technology, Technology-oriented Customers Expectations.

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1. Introduction

Healthcare has emerged as one of the largest service sectors in India which is dynamic and is constantly growing in the areas where it is the most competent. Indian Healthcare sector includes government and private sector. But in terms of healthcare service delivery, the private healthcare sector plays a dominant role and is more concerned with the state. In Union territories the responsibility for healthcare services is of the Centre. The Indian healthcare industry is highly scattered and dominated by private players. It has been the centre of several successful entrepreneurial activities over last few decades. In the future, demand of healthcare services in India is expected to grow exponentially to serve the growing old age population, rising lifestyle related diseases, rising income and affordability and increased penetration of health insurance (Dinodia 2012). Besides these, the Indian healthcare service providers are developing various innovative models to improve their performance and profitability by research viz. introducing telemedicine, focusing on speciality centres and day care centres etc.

The hospital segment is outpacing the overall industry growth with 71 percent market share. The size of the private hospital industry in India is estimated to be around US$25billion as per Assocham and growing at a rate of 20 percent as per CAGR. Figure 1 shows share of different segments in Indian healthcare sector.

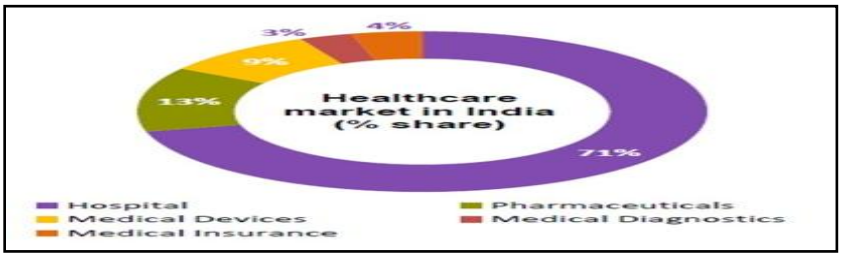

Figure 1- Share of Different Segments in Indian Healthcare Sector

In India Private Healthcare service providers are preferred to the public service providers because of their quality and approachability along with their emphasis on secondary and tertiary care. The private sector today provides nearly 80 percent of out-customer care and about 60 percent of in-customer care. The government-run facilities have inadequate equipment and poor quality and as a result, private players can capitalize on this opportunity. The private sector is expected to contribute 80-85 percent of the 86 billion US$ investments required in healthcare till 2025 (Dinodia 2012).

Though private health care services providers are frequently criticized for over-charging their customers and for the unethical practices followed by the staff, yet, they contribute more than 67 percent of total 30,000 healthcare service providers, 33 percent of 1,000,000 beds and 60 percent of 5 million doctors (Figure-2).

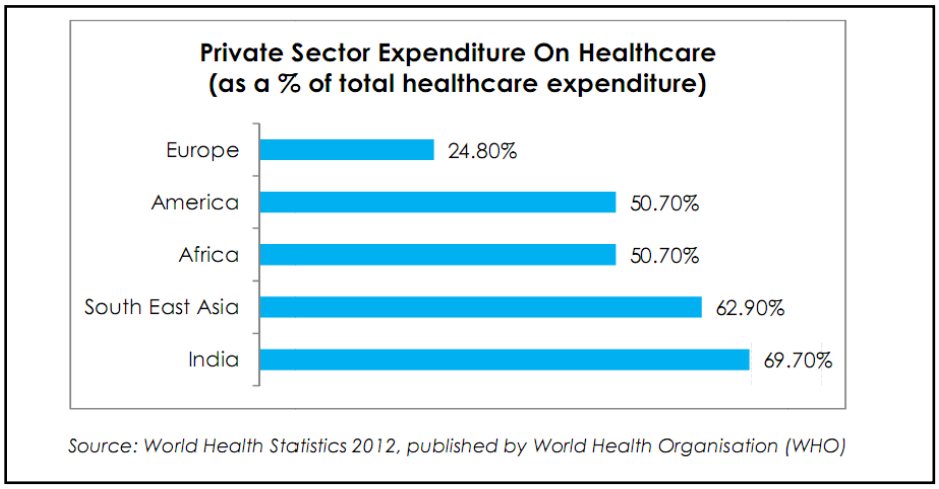

Figure-2: Spending of Private Healthcare Providers, Source:WHO Statistics

By NSSO estimates, as much as 40 percent of the private care is likely to be by informal unqualified providers. 72 percent of all private health care enterprises are own-account-enterprises (OAF's), which are house-hold run businesses providing health services. In terms of comparative efficiency, public sector is value for money as it accounts (based on the NSSO 60th round) for less than 30 percent of total expenditure, but provides for about 20 percent of out-customer care and 40 percent of in-customer care. This same expenditure also pays for 60 percent of end-of-life care (RGI estimates on hospital mortality), and almost 100 percent of preventive and promotive care and a substantial part of medical and nursing education as well (National Health Policy 2015). Major Private healthcare services providers in India include Fortis, Apollo, Wockhardt Hospitals Group, Care Hospitals Group, Kovai Medical Center and Hospital and Narayana groups.

With changing government policy and its thrust on better quality in healthcare, there is increasing awareness among the healthcare service providers to provide quality healthcare. They are striving for the accreditation and for fulfilling other quality measures and waking up to the long due need for better quality in this sector of this country. According to a credit rating agency the demand for healthcare services is going to rise tremendously due to various factors shown in

the Figure 3. The changing scenario will bring new dimensions for the expansion of healthcare services.

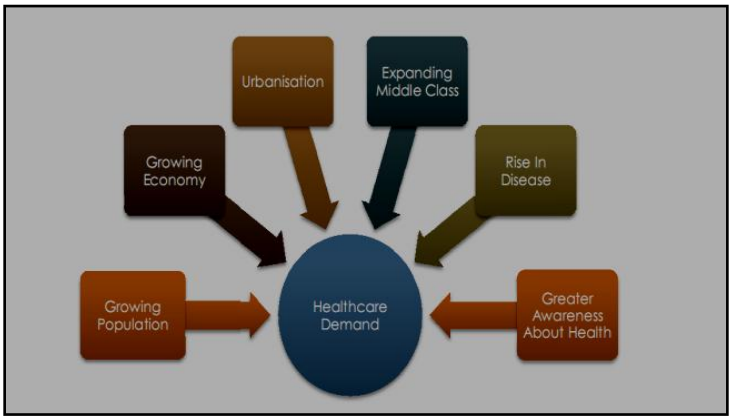

Figure - 3: Factors Affecting Healthcare Demand. Source: ONICRA, December 2013

Traditionally, healthcare systems are viewed as the "iron triangle" of access, quality and cost. No one factor can change without affecting another. Improving access or quality requires increased investment, and lowering costs will either affect quality or access. In India, mHealth is one of the disruptive technologies that can sever the iron triangle by increasing access, improving quality and lowering costs for all of its market segments (Sean Lunde). India is at a moment of great potential, with technology poised to transform the healthcare system. To maximize the positive transformative impact of technology in healthcare, this technology must be carefully and consciously embedded into the design of health systems, with end to end integration. A number of technology applications are possible in areas such as smart diagnostics, multipurpose tele-consultation kiosks, remote patient monitoring, more efficient procurement, payment technology, disease surveillance, technology driven large scale trainings, to name a few. Data is one of the building blocks for improved quality that can provide valuable insights into the health of a system (Techspirit).2

A generalization model on IT-enhanced service quality in hospital has been proposed in the following Figure 1. The conceptual model is partially based on the IT-Enhanced Service Quality in Healthcare (Lee Pui-Mun 2004).

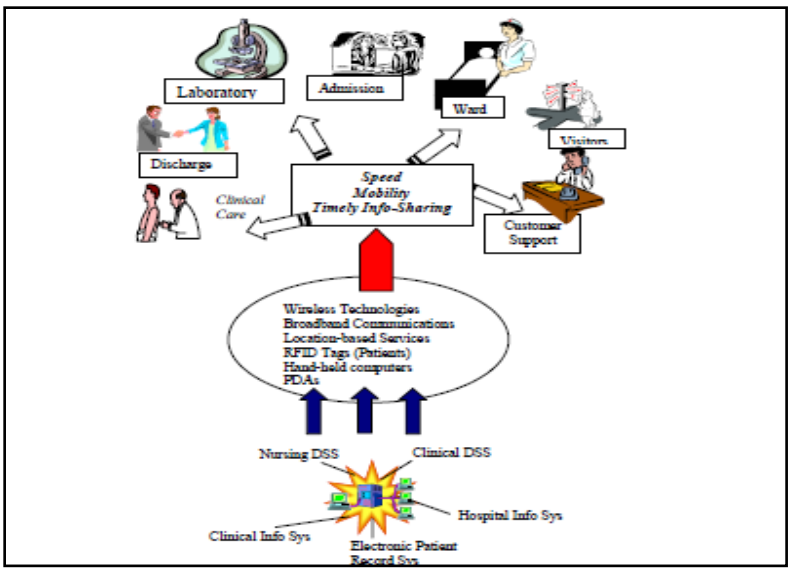

Fig. 4: IT-Enhanced Service Quality in Hospital.

In this model, the proposed approach to apply IT in enhancing service quality in hospital is based on the principles of efficiency and effectiveness. If this principle could be successfully achieved, the level of service quality with regard to Communication, Promptness and Availability would be enhanced in the hospital. The Primary Health Care can be made transparent and easily accessible by the implementation of "Mobile based Primary Health Care Management System"(M V Ramana Murthy, 2008)

In healthcare, the use of information technology has developed considerably all over the world, especially in developed countries. On the other side, developing countries are working on sustainable use of technologies, especially in primary healthcare systems. Nowadays, people at all ages, including children and elders, frequently access information on the Internet. Information technology can play a vital role in mobilizing the hospital to provide better quality services and it will enhance the service quality of a hospital that has dared to think outside of the box (RamaiahItumalla, 2012). In support of health and healthcare services, the use of information and communication technology in such areas as healthcare services, health surveillance, health literature and health education, and knowledge and research (WHO 2005) has the potential to greatly improve health services efficiency, expand or scale up treatment delivery to thousands of patients in developing countries, and improve patient outcomes (Edworthy, S. M.2001). Health information can be maintained manually as is currently done in most of India, or it can be

maintained in a computerized (Krishna A.B. et.al. 2010). A computerized system can help improve health systems and efficiently manage the data collection process, storage, analysis, and sharing of information. It also assists health workers in providing services to the community in a timely manner (Bhati, DivyaKanwar 2015). Computerized health management systems in India can improve the maternal and child healthcare services, especially antenatal care and immunization services (Singh, A. K. et.al.1992).

ICT can be used to provide effective self service and empower customers' care that allows organization to reduce costs by handling an increasing number of customer transactions efficiently. Meeting customers' expectations will pose a significant challenge on how an organization attaches with their customers effectively. Thus, the ICT strategy should be aligned with the business strategy in which customers' satisfaction, in ways that acquire new customer, retain them to use the facilities, and extend them to use the other services, and must be addressed.

2. Research Method

This research paper is based upon primary data using questionnaire, comprising several patients, visitors, doctors and other employees. Comprehensive information is presented which illustrates patient expectations, their major points, and the significance of bridging this gap, to achieve high quality in healthcare services.

Objectives of the Study

The specific objectives of the study are

- To analyze the impact of Communication Technology on healthcare services.
- To identify the most significant areas of healthcare services having an impact of growing Communication Technology.
- To identify major expectations growing with the change of wider use of Communication Technology.

Scope and Contribution

Although many research studies have been undertaken for evaluating the quality of healthcare services in the developed and some developing countries, limited research in this area has been carried out in this country. The exponential growth of information and communications technologies in India, of mobile phones in particular, could have a profound effect on information access and use at the district and subdistrict levels, provided that the applications are designed with the needs and situations of their users in mind (Nandita Kapadia-Kundu et. al.2012)**.** In the state of Rajasthan, no attempt has been made to measure the level of expectation from healthcare services by investigating customers' expectations from health services. This research serves private healthcare service providers a way to upgrade technology-orientation in their units, based on rising customers' technology-oriented expectations.

This paper contributes to the existing literature on healthcare industry by studying the technology-orientated customers' expectations from healthcare service processes and physical environment. The findings of the study are therefore informative for the private health care service providers to implement strategies that effectively deals with problems related to the fulfillment of these expectations. The healthcare service providers should constantly strive to fulfill them to achieve higher level of satisfaction and build better customer relationship which will ultimately lead to delighted consumers. Customers' expectations in health care services are multidimensional involving role, process, outcome, and service quality but this research studies factors related to the service delivery processes and physical environment with special focus on healthcare service encounter. The study provides a useful basis for comprehending varied customer expectations in health care services to improve consumer satisfaction based on designing effective service delivery processes, physical environment and developing integrated service encounters and communications which meet unique customer needs and expectations.

Limitations of the Study

Regardless of the contribution to the better understanding of customer's expectations in healthcare services, the present study suffers two points of limitation. First, convenience sampling technique was mainly used to select the study respondents. Such procedure restricts the representation of all patients of health industry in India and thus will affect the generalization of

the study findings. Second, the study identifies the communication technology-oriented expectations in healthcare services, while providers' constraints and customers' attitude related to technology were not considered. To get a complete and comprehensive understanding, further empirical researches are needed to cover both customers and providers.

Sample Selection and Sample Size

The study population consists of the in-patients of private healthcare service providers in Rajasthan. A sample size of 200 was chosen for this study, keeping in mind the average size of samples used by other researchers in similar studies. Convenience sampling technique was employed to select the target sample. Convenience sampling is deemed as appropriate because the purpose of this study is not to provide point and interval estimates of the variables, but to explore the relationships among the variables. The criterion of inclusion in this study is the local in-patients who have utilized the healthcare services at the private healthcare service units within the last twelve months. Data was personally collected during the given period. Verbal consent was obtained from the respondent prior to administration of questionnaire. Before administering the questionnaire the meaning of the scale was explained to them. Questionnaires were distributed to adult patients over the age of 18 years in 2015-16.

Pilot Test

To ensure that the survey questionnaires provide good data and results, the researcher conducted a pilot test in January 2015. It was ensured that the questionnaire was clear, comprehendible and not liable to any misinterpretation by potential respondents. For this study, a sample of 30 respondents was selected from the private hospital in-patients.

Demographic Profile of Respondents

From 200 respondents, 56 percent of the respondents were males and 44 percent were females (Table-1). The largest number of responses came from the 20-30 age group range and the lowest was from the group above 60 years of age (Table -2). This was mainly due to the fact that in visited wards, mostly adults were keen to respond about drawbacks of not adapting technology-orientation in this field.

Table -1: Gender Distribution of the Respondents.

Gender	Number	Percentage
Male	112	56%
Female	88	44%

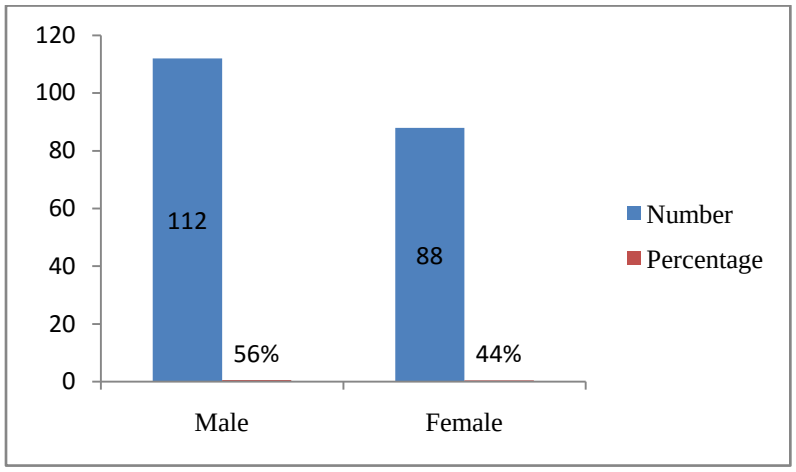

Figure – 4: Gender Distribution of the Respondents.

Table – 2: Age-wise Details of Respondents

Age	Number	Percentage
Up to 20	28	14
20-30	62	31
30-40	42	21
40-50	32	16
50-60	30	15
Above 60	06	03

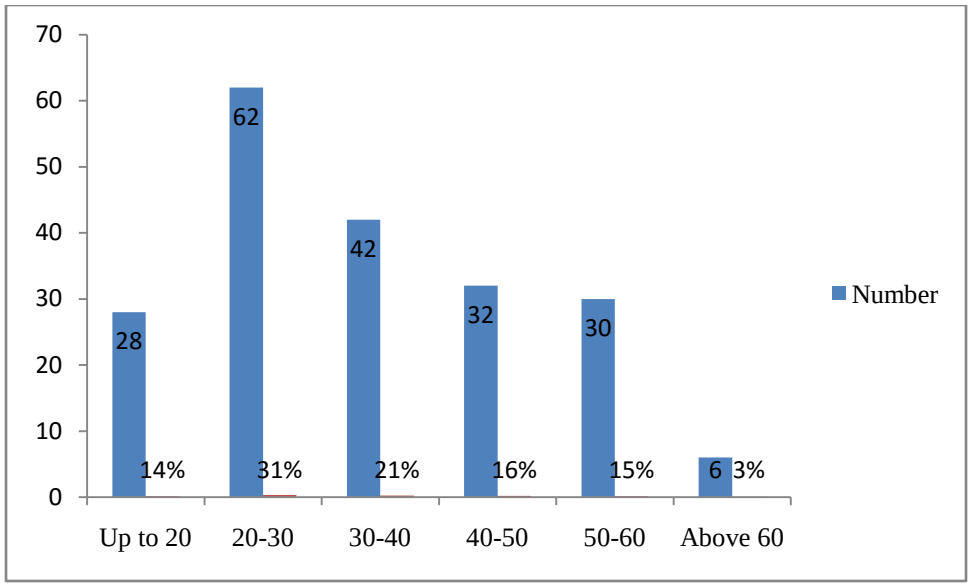

Figure – 5: Age-wise Details of Respondents

Occupation-wise, the majority of the respondents were in private service with a rate of 34 percent (Table -3). This correlates with the fact that the three hospitals were located at the prime areas where population which is working with private sector prevails. The majority of the respondents held either a Bachelor's Degree or Masters which correlates with their occupational status. Most of the respondents commanded a salary of 10000 per month and above.

Table – 3: Occupation-wise Details of Respondents.

Occupation	Number	Percentage
Business	12	6%
Service(Govt.)	12	6%
Service(Private)	68	34%
Self-employed	30	15%
Housewives	40	20%
Unemployed/Students	42	21%

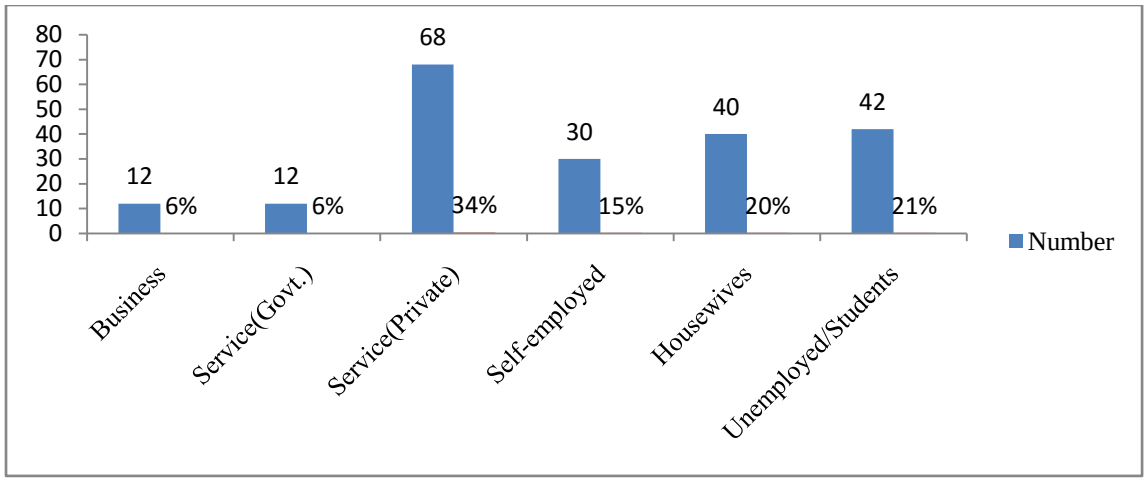

Figure – 6: Occupation-wise Details of Respondents

3. Results and Analysis

In the present study, when the respondents were asked about the use of Mobile and Internet in their day to day activities, majority of them agreed to its direct access. Major technology-oriented expectations in healthcare services, as identified in the present study are as discussed below:

Card Payment Facility

Of the respondents in this research, 98 percent used Cash mode of payment for their medical services, only 2 percent used mediclaim policy and paid by card (Table - 4).

Table – 4: Mode of Payment Used by Respondents.

Method	Number	Percentage
Cash	196	98%
Card	04	02%

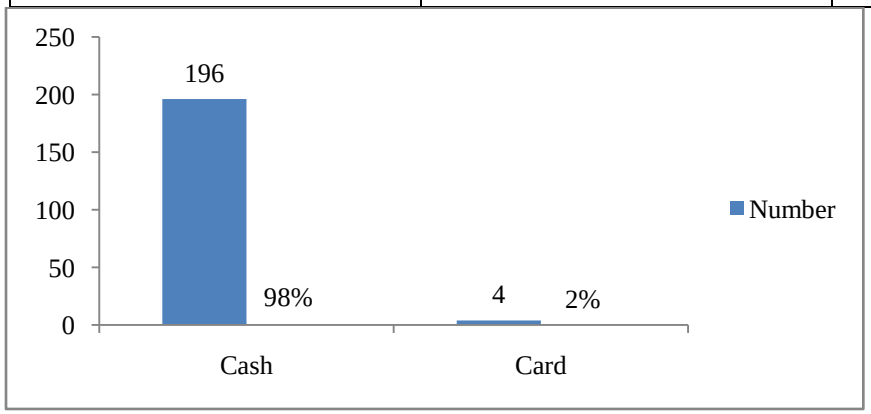

Figure – 7: Mode of Payment Used by Respondents.

Majority of customers in selected private healthcare units expected from these healthcare units that they should provide card payment facility (Table - 5). But none of these hospitals had this facility. The customers face lot of difficulties in depositing cash, as electronic cash has become a commonality. It is also a trouble because in the hour of emergency i.e. when someone is in need of healthcare services, it needs extra time and effort to run around and get money.

Table – 5: Expecting Card Payment Facility.

Card Payment Facility	Number	Percentage
Yes	152	76%
No	32	16%
Not Sure	16	08%

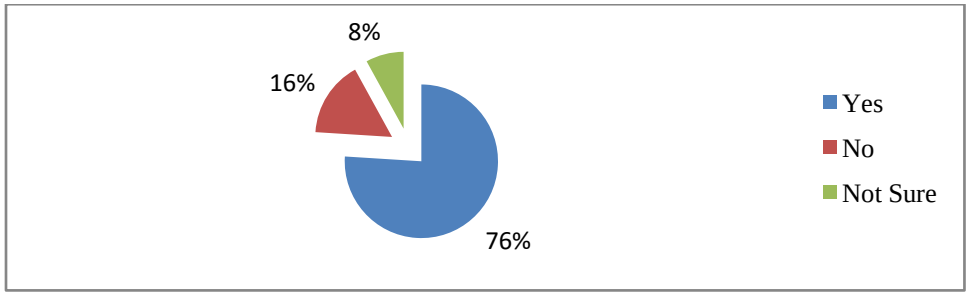

Figure – 8: Expecting Card Payment Facility.

Thus Indian healthcare customers' expectations, to get card payment facility, are higher from the private healthcare service providers, possibly due to the increasing dependency on electronic cash. So there is a greater need of providing the required facility and to acquire better technology orientation in providing healthcare services.

Online Information Sharing and Updated Websites

Information needs are dynamic and encompass programmatic and service delivery information. Providing actionable information across all levels of the health system is the key to strengthening the health system and improving the quality of services (Nandita Kapadia-Kundu et. al.2012). In the healthcare servicesector very few super speciality and multi-speciality service providers are

making online information available. If they are providing any information on-line it is just basic information about their address, contact numbers, total capacity, facilities and medical services available and list of founders etc.Besides that most of the sites are providing information that hasn't been updated since long.

When inquired about the visit of site before coming to the selected healthcare units, 53 percent of the respondents denied any such effort (Table - 6). They revealed several reasons for not doing so. Major reasons were lack of official websites, lack of updated information on the sites, emergency of the situation as well as lack of required information etc.

Table – 6: Respondents Visited Web Sites of the Service Provider.

Respondent Visited Web Site	Number	Percentage
Yes	94	47%
No	106	53%

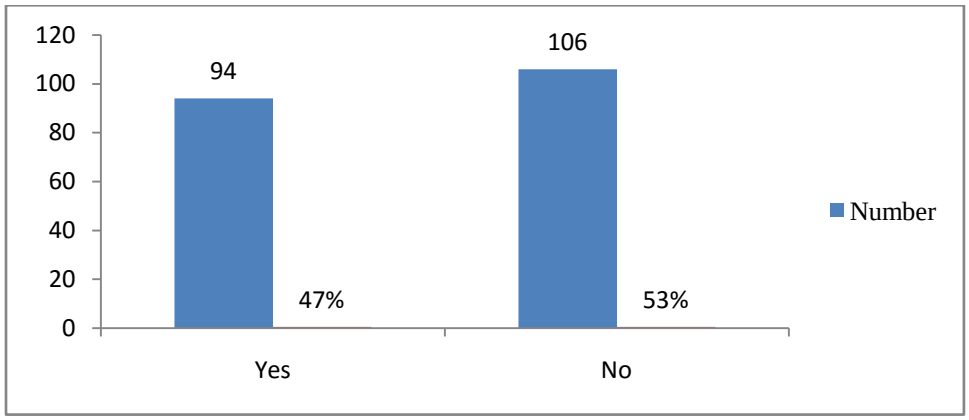

Figure – 9: Respondents Visited Web Sites of the Service Provider.

Most of the customers expect that they should get updated information related to the timings of the consulting doctors, list of available doctors, number of beds available in different categories and types with their current status, tariff of different types of rooms and ICU beds etc. Out of the five studied healthcare units only two have their official websites, remaining made information available on hospitalkhoj.com and such other sites. Available information was very basic as Contact No., Address, Email-ID and Rating or Ranking. When the respondents were asked about

their expectation related to online availability of the information, it was found that nearly 95 percent respondents expected to get contact numbers and address online (Table - 7). A good number of Internet users are now looking forward to get details related to number of beds, services offered by the healthcare units, their panel of doctors and their availability. 49 percent respondents searched websites to find feedback or experiences of other customers about the selected healthcare units.

Table – 7: Details of Expected Information on Web sites.

Information Details	Highly Expected	Expected	Not Sure	Less Expected	Not Expected
Contact Number	190	-	-	-	10
Address	190	-	-	-	10
Services Offered	-	180	10	-	10
Panel of Doctors	122	32	12	-	34
Timings of the Doctors	-	44	10	21	125
Number of Beds	102	62	14	-	22
Charges of Different Facilities	112	22	08	-	58
Feedback or Experiences of the Customers	52	46	-	24	88

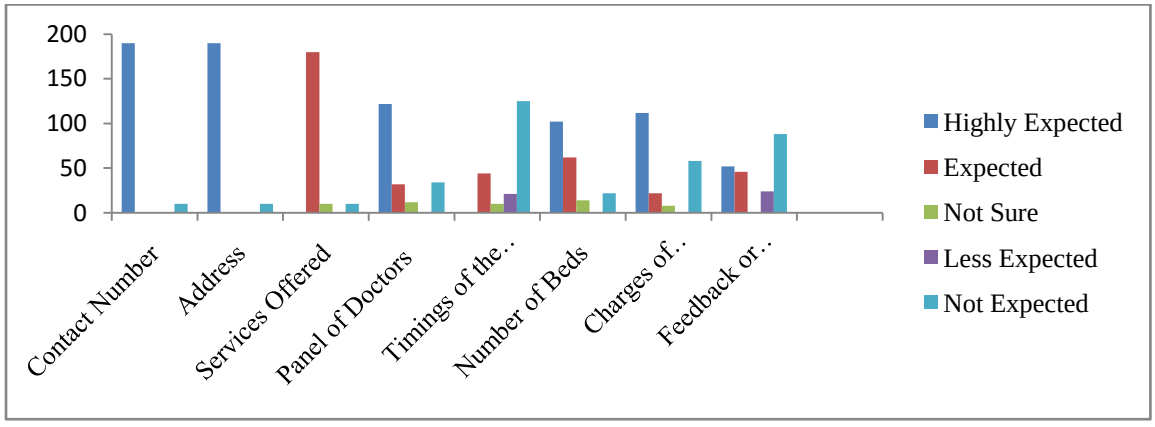

Figure – 10: Details of Expected Information on Web sites.

E-mail Reports

Email has become a major part of the daily life of urban population. It has reached to various parts of this developing country India. India's rural population has lack of availability of efficient healthcare service providers and they rush to urban areas to avail better healthcare services. In the healthcare units 23 percent of the customers were from nearby villages and these customers could be benefitted by effective use of advancing technology. They spent long time to wait for reports and consultation, which could be easily curbed and at times avoided as well. Even the urban population visiting these healthcare providers could save a lot of time if these service providers had adopted advance communication technology for providing their services like using Internet to mail reports, details related to consultation timing, availability of doctors etc.

When the respondents were asked about getting their reports on mail, 56 percent respondents were in favour and 33 percent felt that was not required. While 48 percent were worried about the secrecy and misuse of information (Table - 8).

Table – 8: Responses about Report E-mailing.

	E-mail Reports	Doubts about Securing Data On-line
Yes	112	98
No	66	88
Not Sure	22	24

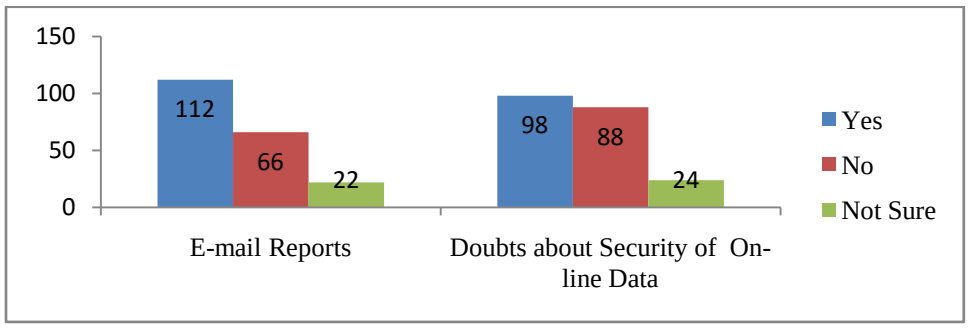

Figure – 11: Responses about Report E-mailing.

Using technology would not only save the time and expenses of these customers but also lessen the anxiety which they faced during their long waits. On the other hand it would also make services of these providers prompt and effective. It would reduce hassles caused by unavoidable

throng of customers and their visitors as well as ease the number of service encounters, which lead to more time, manpower and resultant consequences due to failure of any service encounter. Undoubtedly illiteracy would be a hazard but use of advancing technology like email might become a good substitute to build reliability, to abate anxiety and save time.

SMS Services

Sending SMS related to recent reports, probable expenses, availability of doctors and their delayed arrival as well as waiting status could be a very effective development in healthcare service centre. When the respondents were asked about their expectation related to SMS services, it was found that nearly 65.2 percent respondents expected to get information about required medicines for the day to be sent by SMS (Table - 9). A good number of mobile users are now looking forward to get details by SMS related to waiting time, discharge timings, arrival timings of the doctors, availability of doctors on their seats, availability of beds, probable expenses, billing details of the day, pathology reports and required medicines for the patient.

Expectations of the customers are on the rise with the advancement of these services with their wide reach and easy accessibility. Though problems related to implementation and expenses of applying SMS services are not yet analysed and studied yet it could certainly support healthcare service processes, increase efficiency of communication and provide higher level of satisfaction to the customers.

Table – 9: Responses about SMS Services**.**

	Highly Expected	Expected	Not Sure	Less Expected	Not Expected
Waiting Time	124	30	08	-	38
Discharge Timings	106	28	12	-	54
Arrival Timings of the Doctors	83	85	-	-	32
Availability of Doctors on their Seats	110	27	15	-	48
Availability of Beds	18	50	10	-	122
Probable Expenses	63	44	-	73	20
Billing Details of the Day	75	103	-	-	22

Pathology Reports	122	43	-	15	35
Required Medicines for the Day	135	28	10	-	27

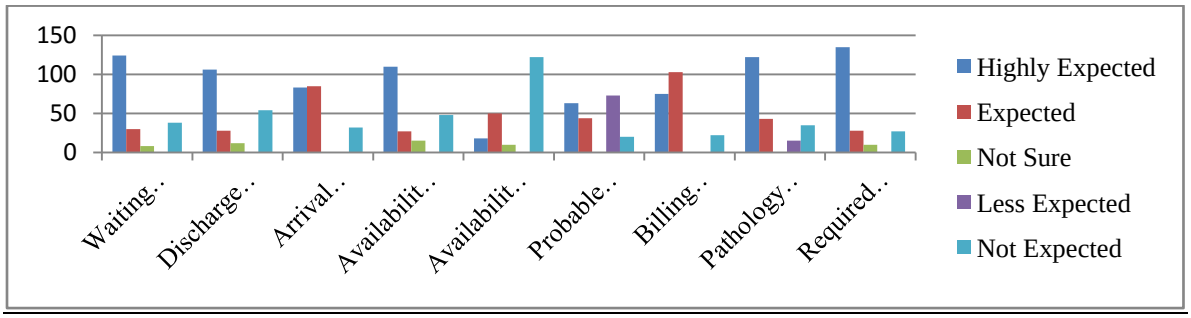

Figure – 12: Responses about Report E-mailing.

4. Conclusion

The present study hasestablished thatcustomers expectations are growing wide and varied withthe advancement of communication technology.For thispurpose, this paper has used an effective tool and surveyed healthcare service customers. It analyses expectations of healthcare customers in getting card payment facility, online information sharing and updated websites, emailing of reports andSMS services from healthcare services providers. The results throw light that communicationusing technology requires an immediate attention from healthcare service providers; it will not only save time of customers but also of service providers.

To conclude, it can be said that the studied private healthcare units are not using rapidly changing communication technology to gain efficiency in communication while interacting with their customers and leaving the users distressed and dissatisfied in availing healthcare services. Overall, the research revealed that nowadays healthcare customers have wide and varied expectations, especially when it comes to use of communication technology in healthcare services. Though they are satisfied with the level of healthcare services rendered by private healthcare units, yet they feel that the effective use of advancing communication technology could curb their anxiety, provide faster responses and better efficiency in the healthcare services.

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