

A study on Role of Multispecialty Hospitals in Healthcare with Special Reference to METRO Hospital Shimoga

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OPEN ACCESS

Manuscript ID:
COM-2021-09034089

Volume: 9

Issue: 3

Month: July

Year: 2021

E-ISSN: 2582-6190

Received: 04.04.2021

Accepted: 09.05.2021

Published: 01.07.2021

Citation:
Manjula Bai, H. "A Study on Role of Multispecialty Hospitals in Healthcare with Special Reference to METRO Hospital Shimoga." *ComFin Research*, vol. 9, no. 3, 2021, pp. 16-24.

DOI:
<https://doi.org/10.34293/commerce.v9i3.4089>



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Abstract

This paper is designed to study the role of multispecialty hospitals in improving the healthcare system in the economy. The study is based with special reference to METRO Hospital in Shimoga. This study is done to assess the types and components of technology used in the multispecialty hospital which has helped lots of patients in improving their healthcare and saved their lives. The study aims to understand the nature of growth and market structure in the Healthcare Sector, to know the recent trends in the present Hospital scenario, to study the opportunities and challenges in Hospital scenario, to know the marketing and business strategies of the Metro hospital and to know the implementation of technology in Metro. The study focus on the degree of management skills that the hospital utilise in effective use of technology. For the purpose of the study, the researcher has selected 50 respondents who are the patients (Both Inpatients and Outpatients) of the hospital. Descriptive research methodology is used to conduct the study. It includes survey and fact finding enquiries of different kind. It focused on the problems or the benefits availed from the hospital. All patients of various category in the Hospital were surveyed by using questionnaire and the level of satisfaction or dissatisfaction from Hospital was studied. Finally the detailed information about the benefits about the Hospital were considered. Finally, it makes an attempts to offer suggestions to the management of the hospital, regarding how better they can do to improve the management of the Hospital.

Keywords: Multispecialty, Echocardiography, Cardiology. CT Scan, Intensive Care Unit, High Dependency Unit

Introduction

Today, hospitals are where people go for diagnoses of their ills and for care. Physicians, with the aid of pricy machinery and medical techniques, provide consultations for patients. Likewise, people go for surgery and medical interventions such as chemotherapy in much the same manner, for monitoring and care. In the near future, however, advances in artificial intelligence (AI), information technologies, high-speed internet, remote-monitoring technology, and developments in 3D-printing and robotics will change all that. A revolution in diagnosis and care provision will take place. In the coming years, most of these tasks and nearly all monitoring and care could be moved elsewhere. The technological revolution and medical advances made by combining vast amounts of available data, cloud computing services, and machine learning are creating AI-based solutions to provide expert insight and analysis on a mass scale and at a relatively low cost. Major alterations have already been made in the way the healthcare industry works by connected medical devices.

Review of Literature

Sheila D. et al (2000), in their article about “The Impact of Technological Change on Health Care Cost Spending: An Evaluation of the Literature”, stated that The impact of medical technology on growth in health care spending has long been a subject of vital interest, particularly in the context of long-term projections of health spending, which must address the issue of the applicability of historical trends to future periods. The objective of this paper is to estimate an approximate range for the contribution of technological change to growth in health spending based on a review of recent literature, and to evaluate factors which might modify this impact in the future. Based on the studies reviewed, we estimated that approximately half of growth in real per capita health care costs is attributable to the introduction and diffusion of new medical technology for the 1940-90 period, within an estimated probable range of 38 to 62 percent of growth.

LTH Tan and KL Ong (2002), in their article about “The impact of medical technology on healthcare today”, stated that rapidly changing medical technology and availability of high technology diagnostic and therapeutic equipment together with changing practice pattern of doctors has revolutionized the way health care is being delivered today. Without doubt, medical technology is indispensable for people’s health and better quality of life in some areas; and contributes billions of dollars to the economy. Some would go so far to say that the practice of medicine these days is inherently dependent upon health technology. This is probably based on the observations that clinicians use a wide variety of technologies in diagnosing, treating and assessing the care of their patients.

José Figueiredo, et al (2009), in their article about “Analysis of the impact of technological innovation on healthcare services” stated that Technological innovation is generally recognised as an important driver of performance in major service sectors. This article argues that evidence of such a relationship is much more diffuse in healthcare services. Moreover, the concept of technological innovation in healthcare is very broad when new medical equipment, new pharmaceutical products, new forms of contact with patients and new work processes are considered.

Therefore, this study contributes to the identification of technological innovation in healthcare. It also explores how to evaluate the impact of technological innovation in different sectors of the healthcare industry. The resulting identification of sources of technological innovation and their relationship with different types of healthcare services may lead to a better understanding of the relationship between technological innovation and performance.

Harold Thimble by (2013), in their article about “Technology and the future of healthcare” stated that Healthcare changes dramatically because of technological developments, from anaesthetics and antibiotics to magnetic resonance imaging scanners and radiotherapy. Future technological innovation is going to keep transforming healthcare, yet while technologies (new drugs and treatments, new devices, new social media support for healthcare, etc.) will drive innovation, human factors will remain one of the stable limitations of breakthroughs. No predictions can satisfy everybody; instead, this article explores fragments of the future to see how to think more clearly about how to get where we want to go

Jimmy Lee and Robert J. Town (2013) in their article about “The impact of health information technology on hospital productivity” state that Health information technology (IT) has been championed as a tool that can transform health care delivery. We estimate the parameters of a value-added hospital production function correcting for endogenous input choices to assess the private returns hospitals earn from health IT. Despite high marginal products, the total benefits from expanded IT adoption are modest. Over the span of our data, health IT inputs increased by more than 210% and contributed about 6% to the increase in value-added. Not-for-profits invested more heavily and differently in IT. Finally, we find no compelling evidence of labour complementarities or network externalities from competitors’ IT investment.

Nonika Rajkumari (2014), in his article about “Impact of Technology in Better Dispersal of Health Care Methods and Improving Health Care Systems” stated that Using new information technology (IT) has provided remarkable opportunities to decrease medical errors, support healthcare specialist, increase

the efficiency and even the quality of patient's care and safety. Studies are few which actually deals with the outcomes of the patients and improving the healthcare dispensing by health care workers and hence the study observed that doctor (90%) and nurses (95%) found that CPOE has improved their health care dispensing but it did not affect the outcomes of the patients in the long run. Another important finding in this study was the use of cellular phones which has helped the health care workers (85% doctors and 70% nurses) in better health care especially in following up patients who were unable to attend follow-up. Also, there was work flow improvement by 20-fold reduction in the delay from writing admission orders to the execution of those orders. However, this need large infrastructure to set up and maintain it.

Statement of the Problem

To study the Public perception towards Advanced Technology adopted by Healthcare sector in Shivamogga.

Need for the Study

- It helps to management to improve the services of what customer expects.
- It helps to compete with present competitors.
- It helps to improve the strategy and quality of the present services.
- This study will help us to understand consumer Awareness & Perception and their Needs.
- Helpful for Manager to concentrate on their present and prospective Customers.

Objectives of the Study

- To understand the nature of growth and market structure in the Healthcare Sector.
- To know the recent trends in the present Hospital scenario.
- To study the opportunities and challenges in Hospital scenario.
- To know the marketing and business strategies of the Metro Hospital.
- To know the implementation of technology in Metro Hospital.

Scope of the Study

The scope of the study is restricted to Metro Hospital Shivamogga town only. The study attempts to identify the reach of New Technologies which would help the company in formulating suitable strategies. The study also identifies the attitudes and preference of the Customer. The study also focused on Media through which the product reaches the consumers

Research Methodology

The research work conducted on the basis of descriptive research

Sources of Data Collection

Primary Data: Primary data has been used in the form of Questionnaire & Observation, which are the two basic methods of collecting primary data, which suffices all research objectives.

Secondary Data: Secondary data sources like catalogue of the hospital, journals and articles, various internet sites and Literature Reviews have been used.

Sampling Design

The research is designed to achieve the above mentioned objectives and the following tools were used to collect the required data.

Sampling Method: To carry out this project non probability sampling method is used.

Sampling Technique: To carry out this project Convenience technique has been used.

Sampling Unit: This particular survey was directed only in METRO Hospital.

Sample Size: The sample size is of 50 respondents consisting of patients (Inpatients and Outpatients) in METRO Hospital.

Tools for Data Collection: Structured Questionnaires were the tools for data collection. The Questionnaire was neatly designed and constructed for the purpose in line with the objective of the study.

Hypothesis

- H₀: The role of multispecialty hospitals in improving the healthcare system in the economy

is not very prominent.

- H1: The role of multispecialty hospitals in improving the healthcare system in the economy is very prominent.

Limitations of the Study

- The time period for carrying out the research is short as a result of which many facts have been left unexplored.
- Lack of time and other resources as it was not possible to conduct survey at large level.
- Only 50 respondents will be chosen which is a small number, to represent whole of the population.

Introduction to Indian Health Care Industry

Indian health care industry growth story is moving ahead neck to neck with the pharmaceutical industry & the software industry of the nation. There has been much done in the health care sector for bringing the improvement like till date, approximately 12% of the scope offered by the industry has been tapped. In the years to come the health care industry in India is reckoned to be the engine of the Indian economy. Today the Health care industry in India is worth \$17 billion and there are anticipation & expectation of it to grow by 13% every year. The health care sector consists of health care instruments, health care in the retail market, hospitals enrolled to the hospital networks. etc.

Indian healthcare Industries include systems like Ayurveda and homeopathy which are increasingly gaining prominence overseas. Another major area for investment in India is the research industry of the Health Care. In India there is tremendous prospects with a huge talent pool and the rise of biotechnology and bioinformatics. India is a rising and expanding destination for medical tourism. With affordable medical expenses and a sound technology in place goes good with the growing sector which would be bode well for the healthcare industry in India.

Healthcare has become one of India's largest sectors - both in terms of revenue and employment. The industry comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare industry is growing at a

tremendous pace due to its strengthening coverage, services and increasing expenditure by public as well private players.

The Indian healthcare delivery system is categorised into two major components - public and private. The Government, i.e. public healthcare system comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of primary healthcare centres (PHCs) in rural areas. The private sector provides majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier I and tier II cities.

India's primary competitive advantage lies in its large pool of well-trained medical professionals. Also, India's cost advantage compared to peers in Asia and Western countries is significant - cost of surgery in India is one-tenth of that in the US or Western Europe.

Rise of Disease

Another factor driving the growth of India's healthcare sector is a rise in both infectious and chronic degenerative diseases. While ailments such as poliomyelitis, leprosy, and neonatal tetanus will soon be eliminated, some communicable diseases once thought to be under control, such as dengue fever, viral hepatitis, tuberculosis, malaria, and pneumonia, having returned in force or have developed a stubborn resistance to drugs.

This troubling trend can be attributed in part to substandard housing, inadequate water, sewage and waste management systems, a crumbling public health infrastructure, and increased air travel.

Government Initiatives

Some of the major initiatives taken by the Government of India to promote Indian healthcare industry are as follows:

On September 23, 2018, Government of India launched Pradhan Mantra Jan Arogya Yojana (PMJAY), to provide health insurance worth Rs 500,000 (US\$ 7,124.54) to over 100 million families every year.

In August 2018, the Government of India has approved Ayushman Bharat-National Health Protection Mission as a centrally Sponsored Scheme contributed by both center and state government at

a ratio of 60:40 for all States, 90:10 for hilly North Eastern States and 60:40 for Union Territories with legislature. The center will contribute 100 per cent for Union Territories without legislature.

The Government of India has launched Mission Indradhanush with the aim of improving coverage of immunisation in the country. It aims to achieve at least 90 per cent immunisation coverage by December 2018 which will cover unvaccinated and partially vaccinated children in rural and urban areas of India.

Achievements

Following are the achievements of the government in the year 2017:

In 2017, the Government of India approved National Nutrition Mission (NNM), a joint effort of Ministry of Health and Family Welfare (MoHFW) and the Ministry of Women and Child development (WCD) towards a life cycle approach for interrupting the intergenerational cycle of under nutrition.

As of September 23, 2018, the world's largest government funded healthcare scheme, Ayushman Bharat was launched.

As of November 15, 2017, 4.45 million patients were benefitted from Affordable Medicines and Reasonable Implants for Treatment (AMRIT) Pharmacies.

As of December 15, 2017, the Government of India approved the National Medical Commission Bill 2017, it aims to promote area of medical education reform.

India is a land full of opportunities for players in the medical devices industry. India's healthcare industry is one of the fastest growing sectors and it is expected to reach \$280 billion by 2020. The country has also become one of the leading destinations for high-end diagnostic services with tremendous capital investment for advanced diagnostic facilities, thus catering to a greater proportion of population. Besides, Indian medical service consumers have become more conscious towards their healthcare upkeep.

Indian healthcare sector is much diversified and is full of opportunities in every segment which includes providers, payers and medical technology. With the increase in the competition, businesses

are looking to explore for the latest dynamics and trends which will have positive impact on their business. The hospital industry in India is forecasted to increase to Rs 8.6 trillion (US\$ 132.84 billion) by FY22 from Rs 4 trillion (US\$ 61.79 billion) in FY17 at a CAGR of 16-17 percent.

India's competitive advantage also lies in the increased success rate of Indian companies in getting Abbreviated New Drug Application (ANDA) approvals. India also offers vast opportunities in R&D as well as medical tourism. To sum up, there are vast opportunities for investment in healthcare infrastructure in both urban and rural India.

Analysis and Interpretation

Table 1: Social-Economic profile and Opinion of Respondents

	No. of Respondents	%
Gender		
Male	32	64
Female	18	36
Total	50	100
Educational Qualification		
SSLC	11	22
PUC	13	26
Graduate	14	28
Post Graduate	12	24
Total	50	100
Age group		
Below 25	11	22
Between 25-35	4	8
Between 35-50	14	28
Above 50	21	42
Total	50	100
Income		
Less than 20000	9	18
30000-40000	6	12
20000-30000	7	14
Above 40000	28	56
Total	50	100

Frequency of Visit to Metro Hospital		
Once per Month	12	24
2 to 3 times per Year	18	36
Once per Year	16	32
More than once per Year	4	8
Total	50	100
Service offered by Metro Hospital		
Excellent	8	16
Very Good	32	64
Good	5	10
Average	5	10
Poor	0	0
Total	50	100
Rates & charges levied by Metro Hospital for the service		
Very Costly	6	12
Costly	21	42
Affordable	23	46
Cheap	0	0
Total	50	100
Who are getting more benefits		
Regular Patients	30	60
Irregular Patients	10	20
Housing Cooperative Society Members	0	0
Hospital Employees	10	20
Total	50	100
X Ray / Laboratory facilities available in Metro Hospital		
Excellent	5	10
Very Good	25	50
Good	20	40
Average	0	0
Poor	0	0
Total	50	100

Safety and security about Metro hospital in comparing with other Private hospital		
Excellent	8	16
Very Good	22	44
Good	10	20
Average	0	0
Poor	0	0
Total	50	100
Specialist Doctors Service		
Satisfied	39	78
Highly Satisfied	5	10
Moderately Satisfied	4	8
Dissatisfied	2	4
Total	50	100

The above table analysis the Socio Economic profile of the respondents and the information about the opinion about the METRO hospital. Among the 50 respondents, 64% of males and 36% are females. Among them, 28% are graduates, and 28% aged b/w 35-50 and 58% having their monthly income above 40000.p.m. 36% of the respondent's visit the hospital 2 to 3 times in a year.

64% of the respondents opined that Service offered by Metro Hospital are very good. 46% of the respondents opined that Rates and charges levied by Metro Hospital for the service are affordable.

60% of the respondents opined that the regular patients are getting more benefits. 50% of respondents opined that X ray / Laboratory facilities available in Metro Hospital are very good. 44% of respondents opined that Safety & security about Metro hospital in comparing with other Private hospital are very good.

78% of the respondents opined that they are satisfied with the specialist doctor's services in Metro hospital in comparing with other Private hospital.

Overall respondents are satisfied with the management system in the hospital and they suggest much more initiatives for improvement.

Table 2: Respondents' Opined about the Lab Equipment Services (X-ray, Scanning, ECG etc.) provided by the Hospitals

Lab Equipment services	Highly satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied
Availability of latest technology	39	38	23	0	0
Waiting time	0	8	25	37	30
Cost of Services	0	11	39	30	20

Time Consumed for report	0	2	35	43	20
Response by Staff in-charge	0	0	58	20	22
Staff availability	25	8	50	12	5
Any other specify	15	8	77	0	0

Source: Field Survey

The above table states that, 39% respondent's opinion that they are highly satisfied with the availability of latest technology. 37% respondent's opinion that they are dissatisfied with the waiting time in the hospital. 39% respondent's opinion that they are neutral with the cost of service. 43%

respondent's opinion that they are dissatisfied with the time consumed for generation of report. 50% respondent's opinion that they are neutral with the staff availability. Overall the opinion is good about the hospital.

Table 3: Respondents' Opined about the Emergency Services Provided by the Metro Hospitals

Emergency services	Highly satisfied	Satisfied	Neutral	Dissatisfied	Highly dissatisfied
Response of the doctor at emergency	5	20	50	15	10
Explanation about Patients	0	8	17	50	25
Speed of Work	25	42	25	10	0
Formalities for Registration	2	62	25	11	0
Space availability for intensive care	2	37	35	27	0
Availability of specialist	10	30	42	10	8
Any other specify	0	2	55	18	27

Source: Field Survey

The table states that, 50% respondent's opinion that they are neutral with the response of the doctor at emergency. 42% respondent's opinion that they are satisfied with the speed of work during emergency. 62% respondent's opinion that they are satisfied with the formalities for Registration. 37% respondent's opinion that they are satisfied with the space availability for intensive care. 42% respondent's opinion that they are neutral with the availability of specialist during emergency. Overall the opinion is

good about the emergency services in the hospital.

Test Application

Chi square Test

- H0: The role of multispecialty hospitals in improving the healthcare system in the economy is not very prominent.
- H1: The role of multispecialty hospitals in improving the healthcare system in the economy is very prominent.

Responses	Observed	Expected	(O-E)	(O-E) ²	(O-E) ² /E	Values
Agree	15	10	5	25	25/10	2.5
Disagree	20	30	-10	100	100/30	3.33
Disagree	20	30	-10	100	100/30	3.33

Calculated Value = 8.33; Degree of freedom (n-1) i.e. 3-1 = 2

Table value of chi square for 2 degree of freedom @ 5% level of significance is 5.99

Since the calculated value is more than the table value, Null hypothesis is rejected. Hence alternative hypothesis is accepted. Hence proved that the role of multispecialty hospitals in improving the healthcare system in the economy is very prominent.

Findings

- Among the 50 respondents, 64% of males and 36% are females
- Among them, 28% are graduates, and 28% aged b/w 35-50 and 58% having their monthly income above 40000.p.m.
- 36% of the respondent's visit the hospital 2 to 3

times in a year.

- 64% of the respondents opined that Service offered by Metro Hospital are very good.
- 46% of the respondents opined that Rates and charges levied by Metro Hospital for the service are affordable.
- 60% of the respondents opined that the regular patients are getting more benefits.
- 50% of the respondents opined that X ray / Laboratory facilities available in Metro Hospital are very good.
- 44% of the respondents opined that Safety and security about Metro hospital in comparing with other Private hospital are very good.
- 78% of the respondents opined that they are satisfied with the specialist doctor's services in Metro hospital in comparing with other Private hospital.

Overall respondents are satisfied with the management system in the hospital and they suggest much more initiatives for improvement.

Suggestions

- The hospital should take steps for reducing the waiting of the patients. Even if it is not possible because of the huge crowd, it should take try to reduce the medium of waiting.
- The hospital management should develop some means of voluntary communication between the hospital staff and the patients. They should develop a helping attitude towards the patients the existence of a helping attitude of the staff towards the patients
- The hospital should have something like the suggestion box or some other for monitoring system where patients would be able to make complaints or give suggestions.
- It is an essential function in every hospital regardless of its size, sophistication and means of transportation. But most of the sample township hospitals do not have ambulance facility. To provide maximum satisfaction and for better relationship with the patients they have to make an arrangement for this.
- Most of the city based hospitals are situated in the heart of the city with limited space. To make the patients convenient, hospital should make

a management with the owners of vacant land nearby for parking the vehicles.

- The hospital should take every effort to keep the surroundings clean. Proper systems for disposal of waste should be evolved.
- The patients felt that the cost charged for the items sold in the canteen and pharmacies are very high. It has also been found that consultation fees and total hospital charges are also very high. Hospital managements should consider reasonable rates because now-a-days even below middle income group prefer private hospitals for treatment than Government hospitals.
- The patients and employees must be encouraged by healthcare providers to make complaints when they face any problems in the hospital campus. For that, complaints or suggestions box must be provided and action must be taken by the hospital authorities against such complaints to improve the service.
- To measure the patient satisfaction, routine (Standard) feedback forms must be used by the hospitals.

Conclusion

The most crucial healing element is not medicine or surgery, but a patient-doctor relationship, which provides hope, confidence and a healthy environment. Effective communication between the doctor and the patient, is central Clinical function. The relationship between the patient and the doctor should be based primarily on faith, confidence and holistic approach

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