

AN ANALYTICAL STUDY OF ROLE PLAYED BY MANAGEMENT INFORMATION SYSTEMS ON ORGANIZATIONAL PERFORMANCE OF PRIVATE HOSPITALS IN AHMEDNAGAR REGION

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ABSTRACT

Healthcare Organization is mainly deal with maintenance or improvement of health via the prevention, diagnosis, and treatment of disease, illness, injury, and other physical and mental impairments in human beings. Healthcare is delivered by health professionals (providers or practitioners) in allied health professions, physician associates, physicians, dentistry, midwifery, nursing, medicine, optometry, audiology, pharmacy, psychology, and other health professions. It includes the work done in providing primary care, secondary care, and tertiary care, as well as in public health. Patient care is critical and crucial element in hospital. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Patient care can be defined as the creation of more value for patients through the removal of all non-value-added steps or actions. The current administrative emphasis on the management of frequently used resources, cost control, the effectiveness of patient care, and improved quality and responsibility, reinforces the importance of optimal patient care. Timely Diagnosis by the doctor and patients care is very important elements in the health care organization.

Keywords: Management Information system, Healthcare, Patient, Organizational Performance, Private Hospitals.

Introduction

In the present study researcher has studied the Hospital Management system in Ahmednagar region. Researcher has explored some challenging and interesting issues that hospitals are facing as they move in the present scenario. Hospitals are facing lot of challenges about Patient database i.e. handling the queries on the existing patients and the patients treated and discharged and queries can also come from the visitor, a doctor or other employees of the hospital. It is directly impact on satisfaction level of patients. Hospitals have very poor Medical server database, Resource planning and control, Medical case history database. It is resulted into hospitals efficiency and effectiveness. Hospitals are not having proper planning related to manpower and personnel planning, payroll and employee related applications, hospital billing and the recovery, an inventory control procurement, the planning and the control, the expiry date management, resource utilization and the analysis, financial accounting, capital budgeting and the expense control, maintenance of the service facilities it is resulted into poor decision making. Hospitals are also facing lot of challenges related to controlling functions like patients waiting time and the service cycle, not using the critical

resources, Stock outs of the critical drugs, Analysis of the delays in terms of the duration and the causes, new trends in the service demands and the service performance in such cases.

Literature Review

Organizations that do not have formal Information sharing practices fails to leverage their managers' intellectual capital for business innovation and growth (O'Neill & Adya, 2007). MIS enables the exchange of experiences, which transfers the required information to the management levels to sustain competitive advantage since it affects the decision making to improve the quality of services provided. Therefore, Barachini et al. (2009) supported that it is imperative that these organizations continuously motivate their employees to share valuable information so that their intellectual capital can be leveraged. Management Information System gives the management field a new dimension in managing its knowledge and help in carrying out and maximizing the management's initiatives in harmonizing the appropriate strategies in the short and long planning (Edmondson, 2002).

The performance as stated by Hunger and Wheelen (2007) is an end result of an activity,

and an organizational performance is accumulated end results of all the organization's work processes and activities. Managers measure and control organization performance because it leads to better assessment for management, to increase the ability to provide customer value, to improve measures of organizational knowledge, and measure of organizational performance do have an impact on an organization's reputation. When the performance of the organization is assessed, the past management decisions that shaped investments, operations and financing are measured to know whether all resources were used effectively, whether the profitability of the business met or even exceeded expectations, and whether financing choice were made prudently (Shaukat et al., 2008) Organizational performance is conducted to support decisions concerning whether program or project should be continued, improved, expanded, or curtailed (Rossi et al., 1999) From the literatures presented, we can easily perceive that the importance of the role of both middle and top management to maintain a consistent approach to develop, use, and evaluate MIS systems within the Organization. MIS is used at various levels by top-management, middle and even by the operational staff as a support for decision making that aims to meet strategic goals and strategic objectives.

Research Methodology

Rationale of the study: Healthcare management system is playing crucial role in providing various health related services to the society. Role of information in effective working of hospital is very much important in the present scenario. Therefore in this study researcher wants to study impact of management information system on organizational performance of private hospitals of Ahmednagar region.

Objectives of the study

1. To study various factors affecting on organizational performance of private hospitals.
2. To study role played by Management Information systems on organizational

performance of private hospitals in Ahmednagar Region.

3. To study challenges and opportunities in implementation of Effective MIS in private hospitals of Ahmednagar Region.

Hypothesis

H₀:Effective Implementation of Management Information systems does not have asignificant impact on the organizational performance.

H₁:Effective Implementation of Management Information systems have asignificant Impacton the organizational performance.

Research design: In the present study researcher has collected data by usingexploratory study research design and descriptive research design.

Primary Data

The researcher has collected primary data through structure questionnaires, interviews and field visits. In order to get first hand and authentic data the researcher has used the following method.

Research Technique : Survey Method Survey tools

Survey tools : Questionnaire methods

Questionnaire Method: The researcher has systematically framed the questionnaire to collect the data. Primary data has been collected by using two different structured questionnaires.

Researcher has used first questionnaire for the collection of data from Top Management Representatives, Administrative Officers and System Administrators.

Secondary Data

The secondary data has collected from: Publications of the Government Reports. Periodicals, publications of World health organization. Report Published by Zila Arthik Samalochan, Reports of various committees, District Statistical Reports, District Social & Economic Review Reports, Websites of selected sample size. Researcher also reviewed various books, journals, magazine and newspapers.

Sample Design

*Population/Universe of the study:*Universe of Hospital includes all those hospitals which are

registered with competent government authorities such as District Medical Officer and those which have capability to admit patients for medical treatment are included in the universe.

Sample Area: Ahmednagar District.

Sample Technique: Quota sampling

Sample size: 60 respondents (20 CEO's & 40 Admin Officers)

Statistical Tools Used

- a. For representation of data researcher has used table, pie-chart, histogram & percentage analysis.
- b. for testing of hypothesis researcher has used Anova test.

Data Analysis & Interpretation

Table No.1. Total Number of Respondents

Sr.No	Designation	Frequency	Percentage
1	C.E.O	20	33%
2	Admin Officer	40	67%
	Total	11	100.00

{Source-Primary Data}

Interpretation: The above table and chart shows type of the respondents visited by the researcher. The key personnel in the implantation and controlling of MIS are CEO and Admin officer. Hence researcher has visited 33% CEO and 67% of Admin officers.

Table No.2. Type of MIS used by Private Hospitals in Ahmednagar region

Sr.No	MIS (Status of MIS)	Frequency
1	Automated MIS	24
2	Manual MIS	24
3	Partial Automated Partial Manual	12
	Total	60

{Source-Primary Data}

Interpretation: The above table and chart shows various types of MIS implemented by private hospitals in Ahmednagar region. 40% respondents are using automated MIS, 40% using manual MIS and 20% of them are using partial automated and partial manual MIS. It is evident from the study that most of the respondents are using Automated as well as

manual MIS in private hospitals of Ahmednagar region.

Table No.3. MIS is playing an important role in the Effective Functioning of Organizational Performance.

Sr.No	Performance	Frequency
1	Strongly Agree	12
2	Agree	30
3	Neutral	6
4	Disagree	18
5	Totally Disagree	00
	Total	60

{Source-Primary Data}

Interpretation: The above table and chart shows performance various types of MIS implemented by private hospitals in Ahmednagar region. 18% Respondents are strongly agree, 46% are Agree, 9% are neutral and 27% are disagree. From the above analysis it is clear that most of the respondents are agree with MIS is playing an important role in effective functioning of private hospitals in Ahmednagar region.

Table No.4. Challenges for implementing MIS in Hospitals (Multiple Response Question)

Sr. No	Challenges for implementing MIS in Hospitals	Frequency
1	Lack of Top Management Support	6
2	Poor Skills sets among users	66
3	Resistance to change	50
4	Insufficient Software Evaluation	25
5	Poor Communication	20
6	Benefit Realization	15

{Source-Primary Data}

Interpretation: The above table and chart shows challenges of MIS implemented by private hospitals in Ahmednagar region. From the study it is observed that most of the respondents said that poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.

Table No 5. Impact of MIS on organizational performance of Private hospitals

Sr.No	Impact of MIS on Hospital Functioning	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1	Better accessibility to information in the Hospital	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
2	More efficient administration of Hospital	9	8	2	15	26	60
	Percentage	15	13.3333	3.33333	25	43.3333	100
3	Higher utilization of Hospital resources	12	7	4	14	23	60
	Percentage	20	11.6667	6.66667	23.3333	38.3333	100
4	Reduction in workload	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100
5	Better time management	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
6	Improvement in the quality of reports	8	11	1	12	28	60
	Percentage	13.3333	18.3333	1.66667	20	46.6667	100
7	MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
8	MIS have changed Hospital management in the areas of leadership, etc.	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
9	MIS can assist the Hospital Top Management, Administrators in determining the aims of the hospital etc.	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100

{Source-Primary Data}

Interpretation: From the above table it is clear that in the percentile analysis most of the members are agree with the role of management information system is playing an important role in the efficient functioning of organizational activities.

Testing of Hypothesis

H₀:Effective Implementation of Management Information systems does not have a significant impact on the organizational performance.

H₁:Effective Implementation of Management Information systems have asignificant impact on the organizational performance.

Table 6: Testing of hypothesis

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	746.9778	8	93.37222222	7.636	1.14E-05	2.244396
Columns	1804.356	4	451.0888889	36.894	1.46E-11	2.668437
Error	391.2444	32	12.22638889			
Total	2942.578	44				

Interpretation: In the above table researcher has tested hypothesis by using Annova-test. It is observed that F-Table value (7.63) > F-Critical Value (2.24). Therefore it is cleared that calculated value is greater than critical value. Hence one should reject null hypothesis and accept alternative hypothesis i.e. Effective Implementation of Management Information systems have a significant impact on the organizational performance.

Findings, Conclusion and Suggestions of the study

Findings of the study

In this research paper researcher has derived his findings on the basis of primary and secondary data. Following are the major findings of the study:

1. Researcher has derived his findings on the basis of responses of two major stakeholder i.e. Chief executive officer and Admin officer of the private hospitals.
2. Private hospitals are using both systems for MIS i.e. Automated as well as manual system.
3. The study revealed that existing MIS system of private system is functioning satisfactorily in the Ahmednagar region.
4. From the study it is found that there are various challenges for implementation of MIS such as poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.
5. There are various impacts observed due to MIS implantation in the private hospitals such as Better accessibility to information in the Hospital, More efficient administration of Hospital, Higher utilization of Hospital resources, Reduction in workload, Better time

management, Improvement in the quality of reports, MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation, MIS have changed Hospital management in the areas of leadership, decision making, workload, human resource management, communication, responsibility, and planning.

Conclusion of the study

Understanding of the IT technology, knowledge and skills in operating the hardware and software is a prime requirement for implementation of the MIS. The skills related to software development, computer programming, system management, database management are essential. Inadequate or limited knowledge or skills is major hurdle in the efficient performance of MIS. The study shows that MIS is playing important role in effective functioning of Organizational activities. It is concluded that effective Implementation of Management Information systems have a significant impact on the organizational performance. Patient is end beneficiary of healthcare organization. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Timely Diagnosis by the doctor and patients care is very important element in the health care organization. The interpretation of the diagnosis is related with the quality of information received and processed by the medical staff. The generation of data and converting that data into information is a significant process which is carried out through hospital management information system. Management Information System implementation seems essential to meet increasing healthcare demands and the associated diagnostic, treatment and administrative system burdens; to support

better patient care planning, and clinical or administrative decision making. The level of Management Information System implementation varies from hospital to hospital. The degree of implementation of Management Information System in health care industry makes an impact on decision making of which the information is key resource.

Suggestions of the study

1. It is observed that only four Hospitals have automated Management Information System in the Ahmednagar District. This is suggested that remaining hospitals should adopt the fully automated Management Information System in the hospitals. It is observed that presently hospitals only have two automated functions i.e. case papers and billing part. It is suggested that hospital should atomize remaining process i.e. Patients Admission to Patients discharge.
2. Role of Top Management is very important for implementation of Management Information System and execution of Management Information System in the hospitals. Top management should provide the required support and technical, financial and infrastructure resources for the implementation of Management Information System.

3. Improving Operational Efficiency- Investments in information systems technology can help in making a hospital's operations significantly more efficient, which could allow the hospital to dramatically cut costs and improve the quality and delivery of its services. For example the distribution of information can be improved by proper communication system, telephone, Computer network etc. Operational efficiency allows a hospital to adopt a low cost leadership strategy. By making investment in information technology systems, technology that increases its operational efficiency, a hospital could also erect entry barriers. These could be made possible by increasing the amount of investment or the complexity of the technology required to compete in the same line of service (business) and deter external organizations from entering the service (business).

4. Patient/ Employee Focused Culture Hospitals should develop the employee and patient's centric culture which will help to increase the efficiency and effectiveness of staff and which will lead to organizational performance.

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