

**Computerized Hospital Management Information System-
Public And Private Sector**

Dr. Amandeep Kaur
Assistant Professor, Govt. Bikram College of Commerce, Punjabi University, Patiala, India

ABSTRACT

A computerized Management Information System generally refer as computerized Management Information System defined as a high speed, computer controlled, multistation, authorized access, information flow network for the hospitals. The study of the hospitals carried out by the author finds that the government hospitals have more information problems in comparison with private hospitals. The major reasons identified for the gaps in information flow are: non-availability of prescribed forms, use of adhoc formats, poor recording of data, too many duplications leading to errors, difficult retrieval of data, difficult report generation etc. The study conducted through a structured questionnaire has come out with the finding that the computers can play a significant role in hospitals working. The wise and careful use of computers for the optimum utilization of scarce resources is widely acknowledged by the hospitals. It provides many meaningful and useful observations to reach at the important conclusion. Keeping the objective in view, we present comparative study, which contains the intra-level analysis of evaluation of MIS effectiveness. It deals with the analysis of responses of managers about other related aspects of MIS.

INTRODUCTION

Hospital is a complex organization humming with activities of heterogeneous groups of people such as doctors, nurses, paramedical and administrative staff, all working with a common goal of providing medical care to the patients. The volume of the patients is gradually increasing along with their expectations of quality health care facilities. The cost of medical services is rising with no corresponding increase with a number of challenges. Unfortunately, the public hospitals have lagged far behind their private sector counterparts in meeting these challenges and even the most sophisticated public hospitals is governed by conventional systems and procedures that are out of date. They have made little or no use of scientific techniques in the management of hospitals. Further, hospitals are so overburdened that they are hardly able to perform their preventive,

curative, primitive and rehabilitative functions. Other weaknesses in the present system are: Lack of resources, absence of cost consciousness, lack of proper maintenance for expensive equipments, unsatisfactory system of drugs management and medical supplies, poor management of general services etc.

The primary goal of MIS in hospitals is to elaborate the present system of information management in hospitals, identifying the diverse information requirements and assessing the feasibility of introducing computers in these hospitals. It deals with how the hospitals should implement the computerization plan along with a proposed framework for design and development. It also provides a comparative assessment of various factors affecting the process of computerization in public and private hospitals.

METHODOLOGY

The purpose of questionnaire was to conduct an opinion survey on personnel working in the sample hospitals and their readiness to accept computer as problem-solving tool. A detailed questionnaire is drafted for collecting the required information. Questionnaire is objective oriented and all the questions are based on respective objectives of the study. One of the objectives of the study is “To study the effectiveness of MIS in Public and Private Sector Hospitals”. Respondents of the Public and Private sector hospitals gave their replies on the questions asked to them in relation to this objective of the study and the same are reproduced herein below.

MIS IN PUBLIC AND PRIVATE SECTOR

(a) How MIS is useful in following areas: This question ask about the usefulness of MIS in different areas such as Budgeting, cost analysis, Investment decisions, business expansion etc.

Table 1 Analysis of the MIS Figures Vs Budgeted Figures

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
MIS figures VS Budgeted Figure Analysis	Always	-	-	52	86.6
	Sometimes	40	100	1	1.7
	Seldom	-	-	1	1.7
	No Reply	-	-	6	10

Table 1 shows the respondents' replies for analysis of the MIS figures Vs Budgeted figures by the Public and Private sector hospitals. All the Public sector hospital respondents replied that analysis of the MIS Vs budgeted figures is rarely done by the Public Sector hospitals. Whereas 52 (86.6%) out of 60 Private sector hospital respondents replied that MIS Vs Budgeted figure analysis is always carried out by the Private sector hospitals.

Table 2 Use of MIS for Gross Margin Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Gross Margin Analysis	Always	-	-	39	65
	Sometimes	-	-	21	35
	Never	40	100		

Table 2 shows the respondents' replies for use of MIS for Gross Margin (GM) Analysis by the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for GM analysis by the Public Sector hospitals. Whereas 39 (65%) out of 60 Private sector hospital respondents replied that MIS is always used to calculate GM analysis by the Private sector hospitals.

Table 3 Use of MIS for Cost Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Cost Analysis	Always	-	-	39	65
	Sometimes	40	100	19	31.7
	Seldom	-	-	2	3.3

Table 3 shows the respondents' replies for use of MIS for Cost Analysis by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for cost analysis by the Public Sector hospitals. Whereas 39 (65%) out of 60 Private sector hospital respondents replied that MIS is always used to calculate Cost Analysis by the Private sector hospitals.

Table 4 Use of MIS for Specialty Wise Doctor Wise Cost Revenue Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Specialty wise doctor wise cost revenue analysis	Always	-	-	58	96.7
	Seldom	-	-	2	3.3
	Never	40	100		

Table 4 shows the respondents' replies for use of MIS for Specialty Wise Doctor Wise Cost Revenue Analysis by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for such type of analysis by the Public Sector hospitals. Whereas 58 (96.7%) out of 60 Private sector hospital respondents replied that MIS is always used for Specialty Wise Doctor Wise Cost Revenue Analysis by the Private sector hospitals.

Table 5 Use of MIS for Patient Wise Margin Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Patient wise margin analysis	Always	-	-	33	55
	Sometimes	-	-	7	11.7
	Seldom	-	-	15	25
	Never	40	100	5	8.3

Table 5 shows the respondents' replies for use of MIS for Patient Wise Margin Analysis by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for Patient Wise Margin Analysis by the Public Sector hospitals. Whereas 33 (55%) out of 60 Private sector hospital respondents replied that MIS is always used for Patient Wise Margin Analysis by the Private sector hospitals.

Table 6 Use of MIS for Cash from Operations Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Cash from operations analysis	Always	-	-	51	85
	Sometimes	-	-	3	5
	Seldom	-	-	5	8.3
	Never	40	100	1	1.7

Table 6 shows the respondents' replies for use of MIS for Cash From Operations Analysis by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for Cash from Operations Analysis by the Public Sector hospitals. Whereas 51 (85%) out of 60 Private sector hospital respondents replied that MIS is always used for Cash From Operations Analysis by the Private sector hospitals.

Table 7 Use of MIS for Future Investment Decision making

<i>Particular</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Future Investment Decision Making	Always	-	-	36	60
	Sometimes	-	-	19	31.7
	Never	40	100	5	8.3

Table 7 shows the respondents' replies for use of MIS for Future Investment Decision Making by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for Future Investment Decision Making by the Public Sector hospitals. Whereas 36 (60%) out of 60 Private sector hospital respondents replied that MIS is always used for Future Investment Decision Making by the Private sector hospitals.

Table 8 Use of MIS for Market Share Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Market Share analysis	Always	-	-	34	56.7
	Sometimes	-	-	2	3.3
	Seldom	-	-	8	13.3
	Never	40	100	15	25
	Don't Know	-	-	1	1.7

Table 8 shows the respondents' replies for use of MIS for Market Share Analysis by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for Market Share Analysis by the Public Sector hospitals. Whereas 34 (56.7%) out of 60 Private sector hospital respondents replied that MIS is always used for Market Share Analysis by the Private sector hospitals. 15 (25%) out of 60 Private sector hospital respondents replied that MIS is never used for Market Share Analysis by the Private sector hospitals.

Table 9 Use of MIS for Inventory Holding Analysis

<i>Particulars</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Inventory Holding analysis	Always	-	-	36	60
	Sometimes	-	-	2	3.3
	Seldom	-	-	8	13.3
	Never	40	100	11	18.4
	Don't Know	-	-	1	1.7
	Missing System	-	-	2	3.3

Table 9 shows the respondents' replies for use of MIS for Inventory Holding Analysis by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied that MIS is rarely used for Inventory Holding Analysis by the Public Sector hospitals.

Whereas 36 (60%) out of 60 Private sector hospital respondents replied that MIS is always used for Inventory Holding Analysis by the Private sector hospitals.

(b) Management Decisions are based on MIS: This asks the respondents about what type of management decisions are based on MIS reporting. There are various important decisions to be taken by the management of the Public and Private Sector Hospitals. This may include Expansion/Reduction of services and business facilities, recruitment/retranchment of additional staff, increase/decrease in fees, cost cutting and budgeting etc. Which of these decisions are taken by the management on the basis of information gathered from MIS?

Table 10 Use of MIS for Expansion/Reduction of Services

<i>Management Decisions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Expansion/Reduction of services	Always	-	-	3	5
	Sometimes	-	-	47	78.3
	Seldom	-	-	8	13.4
	Don't Know	40	100		
	No Reply	-	-	2	3.3

Table 10 shows the respondents' replies for use of MIS in making decisions by the management of the Public and Private sector hospitals for Expansion/Reductions of Services. All the Public sector hospital respondents replied in ignorance about the subject. Whereas only 3 (5%) out of 60 Private sector hospital respondents replied that MIS is always used for making decisions for Expansion/Reductions of Services. 47 (78.3%) out of 60 Private sector hospital respondents replied that MIS is sometimes used for making Expansion/Reductions decisions by the management of the Private sector hospitals.

Table 11 Use of MIS for Expansion/Reduction of Business Facilities

<i>Management Decisions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Expansion/Reduction of Business facilities	Always	-	-	20	33.3
	Sometimes	-	-	35	58.4
	Seldom	-	-	2	3.3
	Never	40	100	1	1.7
	No Reply	-	-	2	3.3

Table 11 shows the respondents' replies for use of MIS in making decisions by the management of the Public and Private sector hospitals for Expansion/Reductions of Business Facilities. All the Public sector hospital respondents replied that MIS is rarely used for making decisions on the Expansion/Reductions of Business Facilities. Whereas only 20 (33.3%) out of 60 Private sector hospital respondents replied that MIS is always used for making decisions for Expansion/Reductions of Business Facilities. 35 (58.4%) out of 60 Private sector hospital respondents replied that MIS is sometimes used for making decisions on Expansion/Reductions of Business Facilities by the management of the Private sector hospitals.

Table 12 Use of MIS for Recruitment/Retrenchment Additional Staff

<i>Management Decisions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Recruitment/Retrenchment of additional staff	Always	-	-	18	30
	Sometimes	40	100	5	8.4
	Seldom	-	-	32	53.3
	Never	-	-	2	3.3
	No Reply	-	-	3	5

Table 12 shows the respondents' replies for use of MIS in making decisions by the management of the Public and Private sector hospitals for Recruitment /Retrenchment of Additional Staff. All the Public sector hospital respondents replied that MIS is sometimes used for making decisions

on the Recruitment /Retrenchment of Additional Staff. Whereas only 18 (33.3%) out of 60 Private sector hospital respondents replied that MIS is always used for making decisions for Recruitment /Retrenchment of Additional Staff. 5 (8.4%) out of 60 Private sector hospital respondents replied that MIS is sometimes used for making decisions on Recruitment /Retrenchment of Additional Staff by the management of the Private sector hospitals.

Table 13 Use of MIS for Expansion/Reduction of Business Facilities

<i>Management Decisions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Increase/Decrease in fees	Always	-	-	24	40
	Sometimes	-	-	30	50
	Seldom	-	-	4	6.7
	Never	40	100	-	-
	No Reply	-	-	2	3.3

Table 13 shows the respondents' replies for use of MIS in making decisions by the management of the Public and Private sector hospitals for Increase/Decrease in Fees. All the Public sector hospital respondents replied that MIS is never used for making decisions on the Increase/Decrease in Fees. Whereas 24 (40%) out of 60 Private sector hospital respondents replied that MIS is always used for making decisions by the management for Increase/Decrease in Fees. 30 (50%) out of 60 Private sector hospital respondents replied that MIS is sometimes used for making decisions on Increase/Decrease in Fees by the management of the Private sector hospitals.

Table 14 Use of MIS for Cost Cutting in Making Decision

<i>Management Decisions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Cost Cutting	Always	-	-	55	91.7
	Sometimes	1	2.5	2	3.3
	Never	39	97.5		
	No Reply	-	-	3	5

Table 14 shows the respondents' replies for use of MIS in making decisions by the management of the Public and Private sector hospitals for Cost Cutting. 39 (97.5%) out of 40 Public sector hospital respondents replied that MIS is never used for making decisions on the Cost Cutting. Whereas 55 (91.7%) out of 60 Private sector hospital respondents replied that MIS is always used for making decisions by the management for Cost Cutting.

Table 15 Use of MIS for Budgeting

<i>Management Decisions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Budgeting	Always	-	-	57	95
	Never	40	100	-	-
	No Reply	-	-	3	5

Table 15 shows the respondents' replies for use of MIS in making decisions by the management of the Public and Private sector hospitals for Budgeting. All the Public sector hospital respondents replied that MIS is never used for making decisions on the Budgeting. Whereas 57 (95%) out of 60 Private sector hospital respondents replied that MIS is always used for making decisions by the management for Budgeting.

(c) Type of actions is taken based on MIS reporting: Various type of actions may be taken by the management based on MIS reporting and these may include Responsibility fixation and Revision of Budgets. MIS brings out lots of information which helps in taking such type of actions.

Table 16 Use of MIS for Responsibility Fixation

<i>Actions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Fre.	%	Fre.	%
Responsibility Fixation	Always	-	-	56	93.3
	Seldom	-	-	2	3.3
	Don't Know	40	100	-	-
	No Reply	-	-	2	3.3

Table 16 shows the respondents' replies for use of MIS in fixing responsibility of the employees by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied in ignorance about the subject. Whereas 56 (93.3%) out of 60 Private sector hospital respondents replied that MIS is always used for fixing responsibility of employees by the management.

Table 17 Use of MIS for Revision of Standard/Budget

<i>Actions</i>	<i>Factors</i>	<i>Public</i>		<i>Private</i>	
		Frequency	%	Frequency	%
Revision of standards/Budget	Always	-	-	37	61.7
	Sometimes	-	-	17	28.3
	Seldom	-	-	4	6.7
	Don't Know	40	100	-	-
	No Reply	-	-	2	3.3

Table 17 shows the respondents' replies for use of MIS in revision of budgets by the management of the Public and Private sector hospitals. All the Public sector hospital respondents replied in ignorance about the subject. Whereas 37 (61.7%) out of 60 Private sector hospital respondents replied that MIS is always used for revision of budgets by the management. Whereas 17 (28.3%) out of 60 Private sector hospital respondents replied that MIS is sometimes used for revision of budgets by the management.

CONCLUSION

Although MIS makes a positive contribution towards the overall performance of the select hospitals, combining the complementary investments in work practices with MIS investments is essential to stabilize and support the positive contribution in future. After detailed analysis, a significant difference between the perceived and the actual impact on various performance factors has been seen. According to respondents of the respective hospitals under study, there has

been an improvement with the use of Management Information Systems. In fact the improvement in case of the private sector hospitals has been more than expected.

The empirical evidence also supports the impact of organizational factors, which acts as antecedent factors in influencing Information System success.

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