Applications of Management Information Systems (MIS) in Decision Making in the Private Colleges

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Abstract

Management Information System is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operation in any organization. The rise and fall of an organisation hinges on the real time decision-making ability of top level and middle level managers. To make good decisions, managers must have access to the latest and more accurate data. Management Information Systems are designed to deliver this information to managers in a timely manner. The role of the MIS can be compared to the role of heart in the body. In the light of this background, this study investigated the use of Management Information Systems in decision-making on long term planning, short-term planning and budgeting in private colleges. The study used the descriptive research design of the survey type. Data were collected from a sample of 50 academic staff holding administrative staff positions by using random sampling technique.

Key Words: Information, Decisions, Managers, Long term planning, Short-term planning, Budgeting

Introduction

Management Information System (MIS) is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations. Thus, the success of decision-making, which is the heart of administrative process, is highly dependent partly on available information, and partly on the functions that are

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the components of the process. For example, if managerial objectives are absent or unclear, probably due to inadequate information, there is no basis for a search. Without information obtained through a search, there are no alternatives to compare, and without a comparison of alternatives the choice of a particular course of action is unlikely to yield the desired result.

Main Objective of the study

To analyze the scope MIS in decision making in the private colleges regarding long-term planning, short-term planning and budgeting issues.

The Review of Literature

Ogunsaju (1990) when he pointed out that education decision must be based upon sound and well informed evidence that are highly intelligent, rather than those that are weak and baseless. For effective decisions to evolve in any organization, therefore, receiving information from, and supplying information to, people within the system are a necessity. The information so communicated must be accurate and up-to-date to cope with uncertainty. Uncertainty is the condition in which the manager has little information relevant to a decision and there is no way to predict the outcome of the decision.

Obi (2003) MIS is useful in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also relevant in non programmed decisions as it provides support by supplying information for the search, the analysis, the evaluation and the choice and implementation process of decision making.

Adebayo (2007) stressed the need for MIS in decision making as it provides information that is needed for better decision making on the issues affecting the organization regarding human and material resources.

Research Methodology

Need of the study:

The purpose of this study is to investigate the extent to which MIS is being used to take decisions of long-term planning, short-term planning and budgeting issues in the Private Colleges.

Hypothesis:

H_0: There is significant use of Management Information Systems (MIS) in Decision Making in the Private Colleges.

Scope of the study:

The scope of the study restricted to the academic staff holding administrative positions. For the collection of the primary data the study will be confined to selected colleges of Punjab only.

Research Design:

The study being undertaken is Descriptive in nature. The major purpose of descriptive research is description of the state of affairs as it exists at present, while studying the research problem, scientific method is followed.

Sampling Unit: In this study, the sampling unit was academic staff holding administrative positions.

Sampling Size*: The sample size was so selected that it could be adequate enough to represent the whole population, and also give the true picture. The total sample size was restricted to 50 respondents.

Sampling Design: Keeping in Mind the nature of data required for the study, convenience sampling technique has been used. The respondent for the survey has been selected from the colleges of selected cities of Punjab; like Patiala, Fatehgarh-Sahib, Ludhiana, and Sangrur.

Data Collection:

Questionnaire Method: The primary data was collected by administering structured questionnaire to the academic staff holding administrative positions in Private Colleges.

Nature of the Study:

The "Descriptive Research Study" has been used. The basic aim is to gain familiarity and to achieve new insights along with describing the existing facts.

Statistical Tools and Techniques:

In this study a lot of statistical tool and techniques are used according the requirement of the study, which are explained as following:

Five Point Likert Scale: Strongly Agree to Strongly Disagree

Weighted Average $= \dfrac{x_1w_1 + x_2w_2 + \ldots\ldots\ldots x_nw_n}{w_1 + w_2 + \ldots\ldots w_n}$

Where;   X represents the variable values

W represents the weights attached to variable values.

Chi squared test or χ^2 **test**

$\chi^2 = \sum \dfrac{(O-E)^2}{E}$

Where; O represents the Observed values

E represents the Expected values

Limitations of the study:

1. The present study is based on the data collected from sample selected cities of Punjab only and the result may vary from other regions of India or the national average.

2. Any primary data based study through pre-designed questionnaire suffers from the basic limitations of the possibility of difference between what is recorded and what is truth, no matter how carefully the questionnaire has been designed and field investigation has been done. The same may be deliberately report their true opinion due to some biasness.

3. Since obtaining the opinion of academic staff was the sole objective of study, the sample size was kept limited to 50 respondents.

4. Some Information which might have been useful for the research paper was not disclosed by the selected academic staff due to secrecy and thus, research results are based on available information only.

Data analysis and Interpretation

Table: MIS and decision-making on long-term planning, short-term planning and budgeting

Mean Scores of Statements		
Sr. No.	**Statements**	**Weighted Average Mean Score**
1.	Construction of building in the College	3.73
2.	Student enrolment projection	4.32
3.	Manpower (staff) projection	3.97
4.	Staff recruitment exercise	4.44
5.	Establishing new faculties/ department	4.10
6.	Deciding university academic programme	4.33
7.	Stocking library with books and journal	2.63
8.	Promotion of staff	4.0
9.	Staff training and development	4.35
10.	Appointment of Deans/HODs/ Director	4.20
11.	Appointment of committee member	4.10
12.	Allocation of offices to staff	4.23
13.	Allocation of residential quarter	4.35
14.	Allocation of lecture rooms/ theatre	4.21
15.	Full-time equivalent i.e. teacher/ students ratio	4.25
16.	Maximum teaching load	3.88
17.	Expenditure estimate of the College	4.09
18.	Revenue estimate of the College	4.41
19.	Cost of each programme in the College	4.16
20.	Unit cost per graduating student	3.95
21.	Allocation of funds to university's sub-system	4.17
22.	Expenditure on some specific activities like advertisements	4.39

Testing of Hypothesis (H$_0$)

H$_0$: There is significant use of Management Information Systems (MIS) in Decision Making in the Private Colleges.

The Chi-square test is used for testing this H$_0$ hypothesis. The Chi-square test is defined by the following formula:

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Sr. No. of Statement	O	E	$(O-E)^2$	$(O-E)^2/E$
1.	3.73	4.08	0.1225	0.03
2.	4.32	4.08	0.0576	0.014
3.	3.97	4.08	0.0121	0.0029
4.	4.44	4.08	0.1296	0.0317
5.	4.10	4.08	0.004	0.000098
6.	4.33	4.08	0.0625	0.0153
7.	2.63	4.08	2.1025	0.515
8.	4.0	4.08	0.0064	0.00156
9.	4.35	4.08	0.0729	0.0178
10.	4.20	4.08	0.0144	0.0035
11.	4.10	4.08	0.0004	0.000098
12.	4.23	4.08	0.0225	0.0055
13.	4.35	4.08	0.0729	0.0178
14.	4.21	4.08	0.0169	0.00414
15.	4.25	4.08	0.0289	0.00708
16.	3.88	4.08	0.04	0.0098
17.	4.09	4.08	0.0001	0.000024509
18.	4.41	4.08	0.1089	0.0266
19.	4.16	4.08	0.0064	0.00156
20.	3.95	4.08	0.0169	0.00414
21.	4.17	4.08	0.0081	0.00198
22.	4.39	4.08	0.0961	0.0235
				$(O-E)^2/E = 0.94558$

$$\chi^2 = [\sum (O-E)^2/E] = 0.94558$$

$$v = n-1 = 22-1 = 21$$

$$v = 21 \quad \chi^2 0.05 = 32.7$$

The calculated value of χ^2 is less that the table value χ^2. So the Ho is accepted, that means there is significant use of Management Information Systems (MIS) in Decision Making in the Private Colleges.

Findings

Use of MIS in Long-Term Planning:

The study revealed that MIS was not adequately used to make decisions on long-term planning in the Private Colleges. Less than 40% of the respondents indicated that MIS was always used in making decisions on building construction, manpower projection, staff recruitment exercises, establishment of new faculties, designing academic programme and stocking library with books and journals. This shows that the level of utilization of MIS for decision making on long-term planning falls below expectation in Private Colleges. It must be emphasized that inadequate use of MIS in making decisions on long term planning could slow down the pace of growth and development of the Private Colleges. The inadequate use of MIS in making decisions in these areas could be as a result of inadequate MIS facilities, computer illiteracy among staff and other logistics.

Use of MIS in Short-Term Planning:

It was also found out that information from MIS was not adequately used for administrative decisions on short term planning. On the average, only 36% of the respondents indicated that MIS was always used in making decisions on short term planning. The inadequate use of MIS in decision making on short term planning may not facilitate accurate and up-to-date data and information required for efficient and effective planning in the Private Colleges. Adequate use of MIS will enhance accurate and timely information which are needed for effective decisions on issues related to staff promotion, staff training and development, appointment of staff to duty posts, allocation of resources among others.

Use of MIS in budgeting:

The study also revealed that decisions on budgeting were to a little extent based on MIS. Though, it is fairly better than other decision areas examined in this study. It must be emphasized

that care is usually taken by the Private Colleges to base their budgeting on appropriate information. Budget preparation requires the use of accurate and timely information which MIS can readily provide.

Conclusion

MIS was not adequately used for decision making on long-term planning, short-term planning and budgeting in the private colleges. Moreover, while ownership did not make a difference in the use of MIS for decision making process on long-term and short-term planning, it made a difference in decision making process on budgeting. It is therefore recommended that the MIS units should be adequately financed and maintained to ensure free flow of information and adequate use of MIS in decision making on long-term and short-term planning as well as budgeting. Proper orientation should be given to managers at all levels as well as in-service training for secretaries to ensure proper and adequate use of MIS facilities in generating and disseminating information for better decisions in the universities.

References

Adebayo FA (2007). Management Information System for Managers. Ado-Ekiti: Green Line
Publishers.

Obi, Emenike (2003). Educational Management: Theory and Practice. Enugu: JAMOE Nigeria
Enterprises.

Ogunsaju S (1990). A Guide to School Effectiveness in Nigeria. Ibadan: Laville.