Implications Of Management Information System On Staff Performance: A Study Across B-Schools In Bangalore City

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Abstract:

One conclusive motivation behind this research is to examine the impact of MIS on organizational success at private universities with a business school from the academic viewpoint. The objective population of this sample comprised 140 faculties from Business Schools in Bangalore. As based colleges, a simple sample of (10) colleges is browsed and 140 answers are transmitted (14 surveys per college). Measurable machines are used to evaluate hypotheses, such as ANOVA One way and a study of Multivariate analysis. The main results have shown that the MIS, the performance of its employees, and the job characteristics (Education, Experience, and Designation) of the respondents change the performance of the faculty members relevant to the MIS, indicating that the higher the administrative data structures, the higher the institutional appearance. In addition, the results indicate that the administration data system greatly influenced the execution of B–schools. In the last segment, the researcher gives numerous intriguing ideas for B-schools in Bangalore and their staff.

Keywords: Management Information system, Staff Performance

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1. Introduction

The data frameworks (MIS) sector of the executive has seen a modest advance in its moderately low life expectancy. It started in the late 1950s as the posterity of research practices and sciences of choice. It declared its independence in a few decades and became another field. In its extraordinary growth since the 1970s, it has seen numerous walkers that detach it from structures that somehow or somewhere else thinks, while preserving the concept of frameworks at its heart in different ways **(Rahmatian, 1999)**. Instructive organizations have been slow in upgrading the planning of modernized knowledge **(Bumsted, 1969).** They have possibly struggled to grasp the data structures or possible frameworks structured. All were required to apply the decentralization arrangement to the accumulation and review of knowledge at all stages of preparation at a late stage. Management information systems are used in this procedure to help formulate operating schedules and to establish usage spending plans. By supplying reliable and reliable information, the sending of the Management Information System into instructive administration takes on an essential role in the decentralization procedure by ensuring that teaching is gradually effective and responsive to nearby requirements.

There is a continuous exchange of sensitive data between teachers, pupils, administrative personnel as well as school authorities in an educational institute. This knowledge flow also has a link with the exercise of activities every day as well as with student information covering students' enrollment, course inscriptions, classes, entrance status, test schedules, evaluation results and much more. So a collaboration framework with MIS and a school management programme is essential to handle and envision all the data for any school to be able to work efficiently. Today schools and educational

institutes are continuing from paper papers to communicate this data to computerized MIS environments that improve speed, protection, consistency and data recovery. Multiple software and administrative practices are used by all modern schools to successfully operate universities. The strong deployment of EMIS has recently begun in accordance with the developments in digital change in virtually all other industries over the recent decade. Although B-schools use basic coding resources such as tables, only in the last decade have they begun to introduce the EMIS. Previously, only wealthy B-schools receive inexpensive and realistic software solutions like EMIS or ERS (Enterprise Resource Planning Software). The availability of fast internet and cloud computing services lowered the costs for organizations of these sophisticated software tools and resulted in the large rollout of EMIS and ERPs.

Technology has accompanied online tests and exams in numerous professional institutions. Schools all over the world recognize that children are fundamental steps that must not be limited to the boundaries of conventional, physical education. Teaching and measuring are important. These activities can be carried out at any time – regardless of the role of the instructor and pupil – with the use of smart gadgets, computers and laptops. It is not unexpected, thus, that many education institutes switch from the conventional testing approaches to online appraisal tools, which support not only students and teachers, but are also helpful to institutes. A set or array of components that need to work together against a shared predefined objective is part of the IS" part of the "MIS". In the case of a company, such as the education industry, divisions and/or procedures may be "IS". The "M" component is the thread that ties together the organizations and/or procedures - combining them in order for them to function efficiently and accomplish the goal optimally. MIS could therefore support shared environments in education in different ways e.g. data gathering, administration and sharing; instructional sessions/ lectures/ exams/ presentations rendering.

Data processing systems are unmistakable in that they are used to tear down such data frameworks implemented in the Associations' organizational exercises **(O'Brien, 1999)**. The Information Technology board also promotes improvements that exist in various aspects of the training framework, in particular in non-formal teaching and tertiary education. Non-formal teaching is one of the ways that Jordon will draw on its performance goals. The Education Department has also actively developed mechanisms and strategies to track success against predefined goals and to pay vendors who achieve those objectives. It also collects, analyses, and examines the knowledge from colleges and polytechnics and is all used to measure the funding rate in the region **(UNESCO, 2003)**. This paper is inspired by the breakdown of a kind of role that the management database plays in the Education Board.

2. Literature Review

Studies in field of MIS related to educational institutions are studied extensively to arrive at the research gap and formulate the conceptual framework for this study.

- The use of data technology in instructive management has increased steadily due to its efficiency and sufficiency **(Madihah shah 2019).** In the underlying phases of its development, the fundamental reason and use of the board data structures (MIS) was to improve the productivity of school office exercises. It was used to store the understudy and personnel info. Instead of the flow or analysis of information, the primary issue was the information section and classification. MIS changed the school board in the regions of authority, basic management, remaining mission at hand, human asset employees, relations, obligation, and arrangement. These processes will assist the school director in defining the points of the school, acknowledging noteworthy plans, appropriating money, and evaluating staff implementation as authoritative accomplishments.
- **(Dr. Shehadeh M.A.AL-Gharaibeh, Dr. Nazem M.M. Malkawi 2013)** This study anticipated to distinguish the influence of the MIS on the show of institutional associations, the Jordanian Ministry of Planning, an instance consisting of 77 activity representatives, the investigation revealed: the display of legislative facilities had little effect on equipment and electronic equipment. At the end, observers periodically

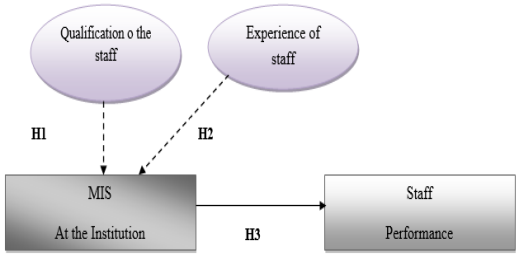
prescribed the service, refreshing MIS, captivating participants in process frameworks, and then educating on the system.

- **(Kasasbeh, 2007)** The study found that No bearing on any degree of competition, resources, technologies and labour in the area of computing innovation, except for the profit-for-expense target, on any conceivable operating execution point.
- In recent years, numerous surveys have been designed to gain knowledge about how effectively schools are enhancing the ability to integrate ICT into studying, education, and organizational processes. The literature has indicated a gradual rise over time in the amount of computers and other facilities, with many institutions fulfilling the computer-to-pupil ratio baseline standards **(Condie et al., 2007).** This effect, to a degree, masks substantial variability in daily accessibility technologies and internet connectivity inside and across education.
- **(Demir, 2006)** polled 98 of the largest elementary schools in Turkey in order to explore their opinions on the MIS and the use of supervision in primary schools. The study found that although primary school schools' technical capabilities were inadequate, MIS made a significant contribution to the administration for children and families. The author indicated that school officials should encourage the use of information technologies and that they should accept that data is an integral decision-making tool and that the MIS encourages the implementation of educational policy.
- **(Zain, Atan, and Idrus, 2004)** examined the effect of ICT on Malaysian smart school management practises. Some significant advances have been seen in their study, including the enrichment of the ICT community in schools, greater record accessibility, more efficient administration, and increased use of school services. The challenges encountered by the participant schools were time restrictions, higher operating expenses, derogatory recognition / motivation of untrained personnel, misuse of ICT services and problems related to the rigid procedural criteria introduced. A major effect of MIS on school management and administration was highlighted as a reduction in workload, a positive impact on time management, and an increase in the accuracy of the study.
- The main purpose of curriculum creation and use during the initial phases was to increase the quality of the operations of the school offices. The use of computers and electronics has primarily been used in educational institutions to store student and personnel data **(Carnoy, 2004).**
- **PricewaterhouseCoopers (PwC, 2004)** analysis of teacher workload verified that for some staff members, particularly those who were satisfied with their use, ICT helped solve job load challenges. The workers received compensation for the supervision, coordination and preservation of records and other tasks such as reporting. However, some staff suggested that some of their administrative activities took longer to complete. Lack of faith or expertise hindered development at the personal level, while the absence of an ICT plan that specifically addressed the workload and inadequate networks was a major negative factor at school level. Strong leadership, adequate preparation, technical support and productive networks have been described as positive factors in solving workload challenges.
- **(Bober, 2001)** notes that the increasing interest in MIS and the move towards strategic long-range MIS implementation preparation stems from the school sector's conviction that these systems allow enhanced site and district regulation, inspire staff at all levels, and enhance a school or district's openness to the community it serves. When MIS receives correct and up-to-date information from school officials, it is easy to make good and swift decisions.
- A number of studies from a variety of countries **(Visscher, Wild, and Fung, 2001)** have assembled a series of studies that have highlighted essential features of computerised information and management systems for schools, their introduction in a variety of classrooms, the effects of this implementation, and potential implications for further study. From the MIS perspective, their studies provide the broadest view of ICT and school administration. Nevertheless, it was clear from their study that data entry and retrieval, rather than data distribution or analysis, was the area of greatest concern.

2.1 Research Gap

- ✓ No studies on analyzing the job profile especially the education qualification of the academicians and their MIS related performance
- ✓ No studies carried out across B-schools in Bangalore city, which is one of the largest capitals for Business studies.
- ✓ Few studies on assessing the relationship between MIS factors and organization performance

2.3 Conceptual framework



3. Statement of the problem

In Bangalore, the use of MIS technology in education has been shown over the last 7-10 years. The use of MIS technologies in the education sector provides a perceived benefit, making the performance of academics better for supplying information to students. Several studies were undertaken to find the implications of the installation and usage of MIS technologies in academic fields. The factors impacting the better implementation and usage of this technology should be investigated and their effect on the efficiency of the workers further analysed.

4. Objectives of the study

- To know the history and development of MIS at B-schools
- To analyze the impact of Job profile (qualification, experience and designation) on MIS related performance
- To assess the relationship between MIS technology Factors and Staff performance

5. Research Hypothesis

- ✓ H1: There is significant difference in MIS related performance based on the qualification of the staff
- ✓ H2: There is significant association between MIS technology factors and staff performance

6. Sources of data and tools used for data analysis

6.1 Sample size

A. Population:

B. Determination of sample size: The sample size of the research academics is calculated using Cochran's proposed sample size calculation formula. The sample size is determined by assuming that the finite number of academic workers in B-Schools in Bangalore is 3305 members of the faculty; hence the sample size formula from the finite population is as follows:

$$n = \frac{\frac{z^2 * p(1-p)}{e^2}}{1 + \left(\frac{z^2 * p(1-p)}{e^2 N}\right)}$$

$$= \frac{\frac{1.959964^2 * 0.5(1-0.5)}{0.08^2}}{1 + \left(\frac{1.959964^2 * 0.5(1-0.5)}{0.08^2 * 3305}\right)}$$

= 140 Academic staff (10 colleges*14 Faculty members)

6.2 Data collection tools and techniques

Data was collected by designing a structured questionnaire, the questionnaire was divided into three parts

PART A- Personal and job information – Multiple choice and close ended questions

PART B- Independent variables- Hardware and software facilities, Safety on MIS systems and utility or usability of MIS systems- Likert scale of agreement statements

PART C- Dependent variables- Performance of the staff through self-assessment statements

6.3 Statistical tools for data analysis

The following statistical tests was used

1. Determine the validity and durability – Average Volatility, Hybrid Reliability and Cronbach Alpha Clarification
2. The effect of MIS on the efficiency of employees - SEM

3. Difference Research MIS focused on profiles of work (education, expertise and appointment) – ANOVA

7. Analysis and interpretations

7.1 Reliability analysis: Cronbach's Alpha is checked for their reliability and internal accuracy in data collection tools. The test results are outstanding as they meet the predicted excellence criterion. The alpha of the cronbach is 0.918 which indicates that the survey is accurate and stable.

7.2 Demographic Profile: The respondents' demographic profile shows that 49 male respondents constitute 70%, while the majority of the respondents are females. Age is a significant factor in technology usage in any sector. Most of 72 respondents aged 51 percent belong to the 35-45 age range, 25.7 percent are above the age of 45. The qualification of the respondents is very significant in the academic field. 66 faculty members completed their doctorates, 14 scholars completed their postgraduate studies. Any of the samples are teaching associates. The assistant professors are 37.1% of respondents. A majority of 40% of faculty members have more than 9 years of experience. The biographical features of the respondents will be related to the usage and results of MIS technologies in the other pages.

7.3 MIS dimensions at the organization-Descriptive statistics: the organization's MIS performance depends on the conditions affecting the MIS operating in the organization. The researcher used the statements of the Likert scale in which 1 demonstrated extreme disagreement and 5 suggested strong consensus. The key score reflecting the view of respondents on the aspects of the MIS in their organization is the descriptive statistics.

Table 1: Descriptive statistics of MIS Aspects at B-Schools

Descriptive Statistics					
	N	Min	Max	Mean	Std. Deviation
Hardware and software at the university colleges are up to date	140	1	5	3.10	1.169
Hardware at this university is subject to standard protection by the infrastructure and Information Technology unit.	140	1	5	3.06	1.141
Senior executive at the University follows up on improvement to modernize the hardware utilized	140	1	5	2.93	.953
Personnel of University preserve an ongoing process of modernizing the software utilized	140	1	5	3.17	1.076
Personnel of the university are qualified to use contemporary software in the field of communications.	140	1	5	3.00	1.090
Programs are accessible at the university to assist the development of communication between units	140	1	5	3.00	1.063
Information technology employees at the university offer safety and privacy in dealing with information.	140	1	5	3.01	.955
The information technology unit at the University present a non-access element for programs appropriate only to approved personnel	140	1	5	3.14	1.231
Software used at the university ensure the capability to not influence or pilfer saved data	140	1	5	3.21	1.203
Users can effortlessly be trained to function technical devices utilized in the university to achieve diverse purposes	140	1	5	3.20	1.150
The university personnel can easily use its software	140	1	5	3.04	1.028
Devices available at the Information Technology Unit at the University are simple to apply even for non-professionals	140	1	5	3.87	1.034
Valid N (listwise)	140				

Source: Primary data

The table below indicates that all the values in the mean scores are higher than 3.00 and suggest that faculty members accepted that the university is good at all dimensions for hardware, software, protection and usefulness. Most academicians firmly claimed that devices available at the B-school's Information Technology Unit are easy to apply for even nonprofessionals.

7.4 Hypothesis testing

H1: There is significant difference in MIS related performance based on Job profile

Table 2 : ANOVA Statistics for MIS related performance based on job profiles (education, experience and designation)

ANOVA							
		Qualification		Experience		Designation	
		F	Sig.	F	Sig.	F	Sig.
MIS_DM_1	Between Groups	1.855	0.140	2.612	0.154	2.174	0.094
	Within Groups						
	Total						
MIS_DM_2	Between Groups	4.656	0.004	0.081	0.970	5.738	0.001
	Within Groups						
	Total						
MIS_DM_3	Between Groups	2.504	0.062	3.352	0.121	5.260	0.002
	Within Groups						
	Total						
MIS_DM_4	Between Groups	6.545	0.000	2.046	0.110	2.837	0.040
	Within Groups						
	Total						
MIS_DM_5	Between Groups	0.563	0.640	1.080	0.360	6.442	0.000
	Within Groups						
	Total						
MIS_DM_6	Between Groups	1.030	0.381	1.989	0.119	0.924	0.431
	Within Groups						
	Total						
MIS_DM_7	Between Groups	2.333	0.077	1.873	0.137	3.311	0.022
	Within Groups						
	Total						
MIS_DM_8	Between Groups	3.620	0.015	4.039	0.109	7.233	0.000
	Within Groups						
	Total						
MIS_DM_9	Between Groups	4.064	0.008	0.637	0.592	6.140	0.001
	Within Groups						
	Total						
MIS_DM_10	Between Groups	2.492	0.063	0.965	0.411	5.784	0.001
	Within Groups						
	Total						
MIS_DM_11	Between Groups	2.732	0.066	2.468	0.065	7.072	0.000
	Within Groups						
	Total						
MIS_DM_12	Between Groups	0.406	0.749	0.487	0.692	3.369	0.020
	Within Groups						
	Total						

Source: Primary data

In the case of credentials, the views of scholars vary greatly, depending on their level of experience. The meaning values for most MIS claims are below the meaning p=0.05. Post hoc scheffe thus showed that PhD students had the highest degree of consensus on all MIS-related aspects relative to the other lower qualifications.

In the event of experience, the experience has little substantial effect on the views of teachers in the organization about MIS. When selected, there is a major variation in the viewpoints of scholars depending on their appointment. For most MIS-related sentences, indicating values are below p=0.05. Therefore, Post-hoc scheffe was discovered that associate professors had the least agreement with the teaching colleagues, assistant professors and teachers in all aspects connected with MIS.

Alternate Hypothesis of **H1:** There is significant difference in MIS related performance based on Job profile s accepted

H2: There is significant association between MIS technology factors and organization performance

Scale reliability and validity

Table 3: Average Variance Explained, Composite Reliability and Cronbach Alpha

Indicator Variables		Latent Variables	No of Indicators	Average Variance Explained	Composite Reliability	Cronbach Alpha
MIS related aspects	<--------	MIS in the Organization	9	0.5411	0.7213	0.7866
Staff erfomance Aspects	<--------	Staff performance	9	0.5287	0.7832	0.6891
AVE > 0.5, CR > 0.7, CA> 0.7, All Criteria Achieved						

This is a measure for checking the stability of the systems or latent variables under inquiry. In this analysis, the construct attempts to calculate the relationship between the MIS aspects and the output of the workers and to assess if the construct tests the correlation between the dependent and the independent variables correctly. The minimal requirements for building validity have been met by all Structures.

Table 4: Results for Model Fit – relationship between MIS related aspects and Staff performance

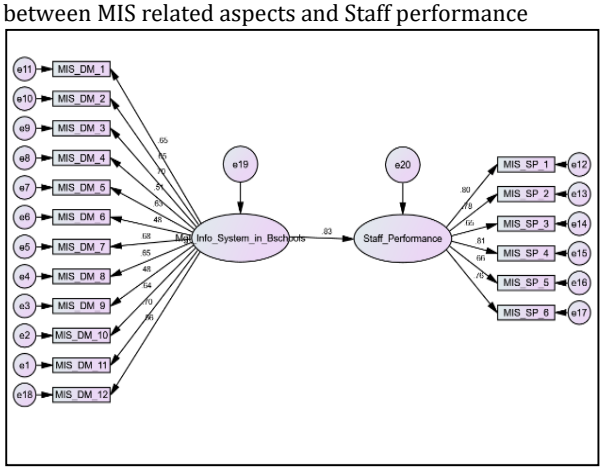
Fit Indices	χ2 (Chi-square)	df (Degrees of Freedom)	Chi-square/df (χ2/df)	GFI (Goodness of Fit Index)	RMSEA (Root Mean Square Error of Approximation)
Actual Model Value	445.187	137	3.2782	0.921	0.0967
Accepted value			< 3	> 0.90	< 0.10

The model suits the results well from the CFA performance since the Chi-Square value of 445.187 is statistically important with 137 degrees of freedom since the p value is 0.00. The Goodness of Fit Index (GFI) = 0.921, which is above the estimated Root Mean Square Error Approximation and Parameters (RMSEA) = 0.0967, which indicates that the model is similar to the good fitness criteria expected. The model below is the pictorial performance of the proof that the model has been running and the structured relationship figures are seen in the model.

Table 5: Structural relationship between MIS related aspects and Staff performance

			Unstandardiesd Estimate	Standardised Estimate	S.E.	C.R.	P
Staff Performance	<---	Management Information systems at B-schools	1.016	0.826	0.135	7.502	***

Figure 1: Pictorial representation of Structural relationship between MIS related aspects and Staff performance



The findings of the CFA illustrate the relationship between aspects relevant to MIS and employee success at select B-schools in Bangalore Area. The first column displays the unstandardized estimates of regression that reflect the disparity in the respondents' mean values. The sum of change in the dependent variable due to the independent variable is reflected. A calculation of the precision of forecasts is the standard error of the forecast. Estimate/ Standard error is the critical ratio and the p column shows the result's importance.

It can be shown that as items linked to MIS boost by 1, the efficiency of workers improves by 0.83.

The two variables MIS-DM-3 (senior executive at the University followed up on upgrade to modernise the hardware used and MIS-DM-11 (university employees can access their applications easily lead to a 70 percent improvement in staff efficiency in the case of management information system.

Alternate Hypothesis of H2: There is significant association between MIS technology factors and organization performance

8. Findings, suggestions and conclusion

Outcome to the discoveries, this investigation prescribes the accompanying:

- In Bangalore, B-Schools are strongly urged to create an unmistakable approach for the MIS data structures in order to optimize its presentation and to benefit further from its open capability.
- Top management of the B-Schools in Bangalore is welcome to adopt a participatory way of thinking of exchanging learning through trading all the relevant data and experiences that can lead to a profound change in implementation, this should be possible by developing a traditional structure with each other.
- B-Schools in Bangalore are enormously urged to deliver further grants or, if nothing else to provide individuals (scholastic as well as non-scholarly representatives) who have the capacity to pursue their higher education with a gradually adaptable work schedule, which would prompt better execution.
- The B-Schools Board in Bangalore should create an inward database to ensure that authentic, reliable, trustworthy, relevant, and culmination data are transmitted among members, which can prompt more adequacy and effectiveness of execution.
- The current examination investigated the interpretation of scholastic individuals. In addition, the appraisal of the non-scholastic is critical in explaining the role of the MIS data structures in the execution of the institution; therefore, future analysis needs to evaluate their feelings by performing a study or top-to-bottom meetings with key Business School employees.

9. References

Bober, M. (2001). School information systems and their effect on school operations and culture. Journal of Research on Technology in Education, 33 (5), 1–11.

Bumsted, Aee r.(1969) "The Concept of Systems Management in Educational Data Processing"

Carnoy, M. (2004). ICT in education: Possibilities and challenges. Inaugural lecture of the Universitat Oberta de Catalunya (UOC) 2004–2005 Academic Year, Barcelona.

Condie, R., Munro, B., Seagraves, L., & Kenesson, S. (2007). The impact of ICT in schools – a landscape review. Coventry: Becta. Available at: http://webarchive.nationalarchives.gov.uk/20101102103654/publications.becta.org.uk/download.cfm?resID=28221

Demir, K. (2006). School management information systems in primary schools. The Turkish Online Journal of Educational Technology, 5 (2), 32–45.

Dr. Shehadeh M.A.AL-Gharaibeh, Dr. Nazem M.M. Malkawi, The Impact of Management Information Systems on the Performance of Governmental Organizations- Study at Jordanian Ministry of Planning International Journal of Business and Social Science Vol. 4 No. 17 [Special Issue – December 2013]

Gurr, D. (2000). How information and communication technology is changing the work of principals. Paper presented at the International Congress of School Effectiveness and Improvement, Hong Kong, January 4-8. Available at: http://www.ied.edu.hk/cric/ic2000/s9list.htm

Kasasbeh, Abdel Karim (2007), the role of information technology in improving corporate performance, A Case

Madihah shah 2019 Impact of Management Information Systems (MIS) on School Administration: What the Literature Says, Procedia - Social and Behavioral Sciences, Volume 116, 2019,Pages 2799-2804, ISSN 1877-0428,

North, R. F. J, Serain, D. M., & Abbott, L. (2000) Training Teachers in Computer-based Management Information Systems. Journal of Computer Assisted Learning, 16 (1), 27–40.

O'Brien, J (1999). Management Information Systems – Managing Information Technology in the Internetworked Enterprise. Boston: Irwin McGraw-Hill. ISBN 0071123733.

PricewaterhouseCoopers (2004). Final C2K Evaluation Report. UK: PricewaterhouseCoopers. Available at http://www.c2kni.org.uk/news/publications.htm

SasanRahmatian, "Management Information Systems Education from A Systemic Viewpoint", Systemic Practice and Action Research, Vol. 12, No. 4, pp. 399-408, 1999.

Visscher, A. J., & Wild, P. (1997). The potential of information technology in support of teachers and educational managers managing their work environment. Education and Information Technologies, 2 (4), 263–274

Zain, M. Z., Atan, H., & Idrus, R. M. (2004). The impact of information and communication technology (ICT) on the management practices of Malaysian Smart Schools. International Journal of Educational Development, 24 (2), 201–211.