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Impact of Management Information System on the Performance of the Organization (Profitability, Innovation, and Growth)

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Abstract
The present study investigates the impact of management information system on the performance of the organization by analyzing 31 different organizations of Pakistan. Primary data was collected by using a sampling technique 200 respondents were selected randomly from these 31 organizations through a structured questionnaire. The response rate is 100%. The objective of this study is to show how management information system gives positive impact on the performance of the organization and how it can increase the profitability, innovation, and growth of the organization. Regression and correlation test is applied to measure relationship between variables. Results show that there is positive relationship between performance of the organization and management information system.
Keywords: MIS, Organization's performance, Profitability, innovation, growth

1. INTRODUCTION

The role of Management information system (MIS) is vital now-a-days in business environment because it has evolved over time to become an integral part of its business operations. The use of management information system has increased for last few years not only by firms, but also by individuals and even governments. Because of the today's global environment where competition is very high, it is the basic requirement of the organization to install management information system to compete the market and to earn more profitability, invest in innovation in their products, and to grow their businesses. All of these factors transformed the information system from data processing systems to decision support systems and became the foundation of the new business environment. In this study we have investigated the impact of management information system on the performance of the organization. We have shown that how management information system can increase profitability, innovation and growth of the organization. This study is depend on managers and owners of selected organization. We have constructed a questionnaire survey and conducted a survey to relate the response of 31 sampling organizations.

1.1 A management information system (MIS)

This system provides information that organizations need to manage themselves efficiently and effectively. Management information systems are typically computer systems used for managing five primary components: hardware, software, data (information for decision making), procedures (design, development and documentation), and people (individuals, groups, or organizations). Management information systems are distinct from other information systems, in that they are used to analyze and facilitate strategic and operational activities. MIS is commonly used to refer to the study of how individuals, groups, and organizations evaluate, design, implement, manage, and utilize systems to generate information to improve efficiency and effectiveness of decision making, including systems termed decision support systems, expert systems, and executive information systems. Organizations view the effective adoption of Management Information System (MIS) as a way to combat competition by improving productivity, profitability, and the level of information which is one common asset shared by all business regardless of their nature because it is a vital part of any business entity irrespective of their forms of ownership as it enables conceptualization and creation of new products and services.

1.2. Information Technology

Most firms nowadays depends upon Information Technology. But personal computers (PCs) themselves will not improve organizational productivity this only comes about if they are used efficiently and effectively. Computer systems can clearly aid organizations in the processing data into accurate, well presented, up-to-date and cost effective information. While the conciseness, relevancy, timeliness and completeness of supplied information will largely on the capabilities of the people involved in its processing and selection of the relevant information for proper decision making for the organization to improve the product to capture the market share. However, most decisions about IT are critically important to the prosperity and survival of a firm. A successful organization must be able to adapt and learn fast as creative activity increase their survival against all odds, especially in rapidly changing environment of the 21st century.

1.3 Main Research Question

Our main research question is "How much impact on the performance of the organization and how it can increase the profitability, innovation and growth of the organization by using Management information system".

1.4 Objective of study

Objective of this study is to show how management information system give positive impact on the performance of the organization and how it can increase the profitability, innovation, and growth of the organization.

2. LITERATURE REVIEW:

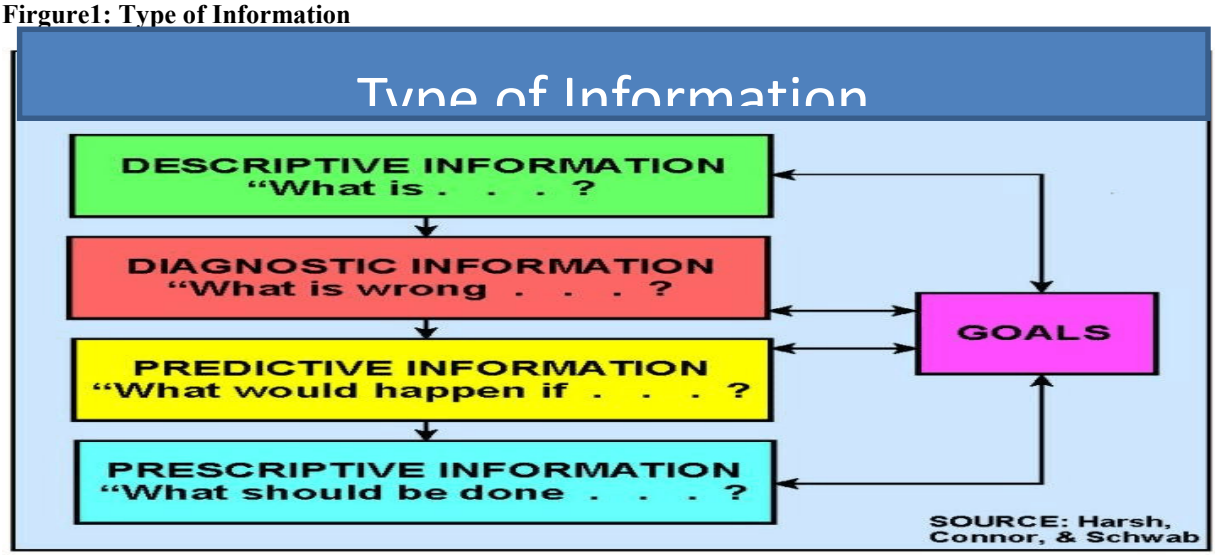
MIS stands for management information system, which we define as the development and use of information system that help businesses achieve their goals and objective. This definition has three key elements: development and use, information system, and business goals and objectives (kroenke, 2011). A system is a group of component that interact to achieve some purpose, an information system (IS) is a group of component that interact to produce information. A model of the components of an information system: computer hardware, software, data, procedures and people (kroenke, 2011). Turban mentions some characteristics of information quality (Turban and Volonino, 2010):

- Accurate: To provide correct and complete data.
- Timely: To produce in time for its intended use with a single click.
- Relevant: To generate both to context and to subject.
- Sufficient: For the purpose for which it is generated.

Worth its cost: an appropriate relationship must exist between the cost of the information and its value. Oladejo (2007) described MIS as a system using formalized procedures based on data from both internal and external sources, to enable decision makers make timely and effective decisions, for planning, directing and carrying out the activities for which they have appointed. This connotes that MIS is a system responsible for the collection, processing and communication of defined data in order to enhance prompt decision making. All this requires a strong understanding of both technology and business practices (McLeod, 1995). Scholars all over the world have resorted to internet as personal library where all necessary information can be obtained and displayed while computers have significantly altered business management (Bee, 1999). Chan et al. (1997), Awan and Majeed (2015) provided empirical support for a positive relationship between business performance and the alignment of business strategy and MIS strategy. The above studies were conducted in the context of large organizations. This study hypothesized a similar relationship between MIS alignment and performance for small firms. Luftman, et al (1993), Awan & Zahra (2014) emphasized that for companies to succeed in an increasingly competitive, information-intense, dynamic environment, then the alignment of business strategy and MIS strategy was a necessity. Management Information System plays an important role in the performance of the organization because it gives an environment where all the jobs to be done according to the plan and reporting is based on one click environment. In order to get maximum productivity from the employees, it is necessary to provide such system/method should be use in the organization that is helpful in generating optimum productivity level from information system. Also in the absence of proper management information system, optimum utilization of resources of the organization would not be made and productivity of the organization cannot be increased. Wan & Asia Khan (2015) mentioned that technological innovations in financial sector has brought a revolution and completely changed financial scenario. Innovative financial products attract customers because they have reduced transaction cost. Similarly, management information system is the vital need to improve productivity (Awan & Khan,2014).

3. Conceptual Framework:

Firgure1: Type of Information



- Reading through data collected from a customer survey with questions in various categories would be time-consuming and not very helpful.
- When manipulated, the surveys may provide useful information.

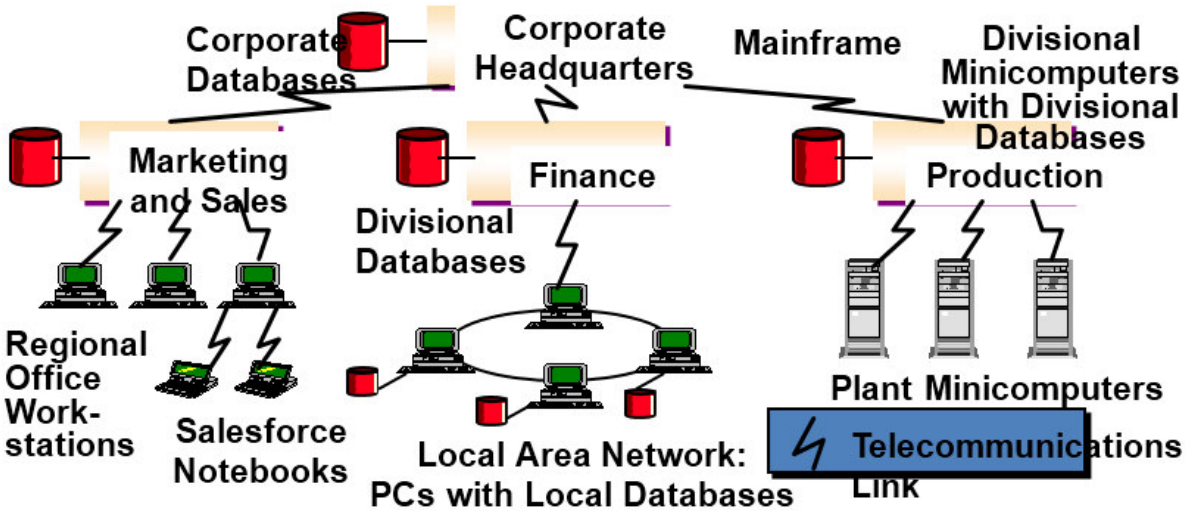
3.1 Information classification

- Action v/s no-action
- Recurring v/s non recurring
- Internal v/s external
- Planning Information: standards, norms, specifications
- Control information – reporting the status of an activity thru feedback mechanism
- Knowledge information – library reports, research studies

3.2 Characteristics of Useful Information:

1. Relevant
2. Complete
3. Accurate
4. Current
5. Right Time at Right Place
6. Economical

Figure 2 Three Tier Architecture Model



4. RESEARCH METHODOLOGY:

The research methodology is used to test the hypothesis, theories or concepts. In this study primary technique of data is used to collect the required data. Primary data is collected through interviews of target group, based on structured questionnaire. The empirical data is used to measure the objectives for finding and analyzing the proper results.

4.1 Data Types

Basically two types of data are used in research. One is primary data and second is secondary data. Here our concern is with primary data. So we use only primary data for this research. Primary data was collected through a survey research questionnaire. The questionnaire was carefully constructed and properly setup. The questionnaire was based on five point Likert scale with responses included as, strongly agree, agree, neutral, disagree and strongly disagree. Descriptive statistics was used to analyze the data.

4.2 Sample

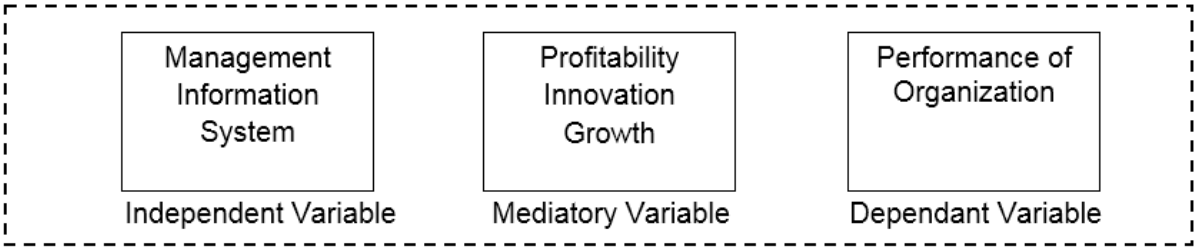
Data was collected from small and medium enterprises (SMEs) working in South Punjab through special designed questionnaire which will contain multi choice, also open ended question which will ask verbally to get concept insight and answer's depth. Respondents will be SME's workers, their production managers and owners. Target audience includes almost 200 respondents. The sample SME industries which we will choose are related to Different Sectors of the Business.

4.3 Selected Variables

Dependent Variable: Performance of the Organization (Profitability, Innovation, Growth)
Independent Variable: Implementation of MIS

4.4 Hypothesis

- Ho: MIS have no impact on the performance of the organization
- H1: MIS have strong positive impact of the performance of the organization



5. DATA ANALYSIS:

All the description about the responses from the respondents as their gender, education, age, and experience is described in the Tables given below:-

Table 1: Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	19	9.7	9.7	9.7
Male	181	90.3	90.3	100.0
Total	200	100.0	100.0	

In Table 1, Results show that the out of 200 respondents 181 were males and 19 were females.

Table 2: Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Intermediate	26	12.9	12.9	12.9
Bachelors	90	45.2	45.2	58.1
Masters	77	38.7	38.7	96.8
M.Phill	7	3.2	3.2	100.0
Total	200	100.0	100.0	

In table 2, Results show that the out of 200 respondents 26 were intermediate, 90 were holding bachelors degree, 77 were having Master degree, and 7 were M.Phil.

Table 3: Age

	Frequency	Percent	Valid Percent	Cumulative Percent
20 to 30	39	19.4	19.4	19.4
31 to 40	71	35.5	35.5	54.8
41 to 50	65	32.3	32.3	87.1
51 to 55	19	9.7	9.7	96.8
55+	6	3.2	3.2	100.0
Total	200	100.0	100.0	

Table 4: Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
2 to 5 Years	84	41.9	41.9	41.9
6 to 10 Years	65	32.3	32.3	74.2
11 to 15 Years	45	22.6	22.6	96.8
16 and above Years	6	3.2	3.2	100.0
Total	200	100.0	100.0	

S.No.	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Do you have Management Information System or wants to install MIS in your organization?	200	0	0	0	0
2	Does Management Information System speedup the internal communication?	52	71	19	39	19
3	Does the Performance of the staff become improved after using Management Information System?	77	77	26	6	13
4	Is Management Information System is helpful for the scope and adequacy of audit activities?	39	77	19	32	32
5	Does the Management Information System remained helpful in the increase the turnover as compared to previous years?	65	58	19	32	26
6	Does the Management Information System reduce the cost of Human Resources?	52	65	19	39	26
7	Does the Management Information System helpful in the increase of Production of products?	65	52	19	39	26
8	Does the Management Information System reduce the Operational cost of the organization?	32	58	39	52	19
9	Does the Management Information System helpful in Making Decision Timely & Efficiently to get the project done?	65	103	6	26	0
10	Does the Management Information System Helpful in control of wastage & stolen of items?	71	77	26	6	19
11	Is there any direct relationship between Management Information System with Profitability of the Organization?	65	71	19	19	26
12	Does your Management Information System is suitable enough to keep pace with dynamic business environment?	71	52	32	32	13
13	Is the product quality being improved by using Management Information System?	65	90	6	26	13
14	Management Information System helps to become an innovator?	32	71	52	26	19
15	Does Management Information System helps to make Decision Timely to become Market Leader?	77	71	32	19	0
16	Does Management Information System helps to get rid of mistakes or erroneous problems?	71	52	6	26	45
17	Has the control system been more effective than before using Information System?	32	45	13	32	77
18	Whether the staff members have improved their analytical skills after the usage of Management Information System?	65	90	6	32	6
19	Is there any direct relationship between Management Information System with innovation?	77	84	19	19	0
20	Does Management Information System helps to make continuous growth of organization?	71	58	19	19	32
21	Is it true that after arrival of Information System it provides easy access to information for the customers?	58	84	13	13	32
22	Organization ensures that there is quick information flow across all departments through MIS?	65	65	19	32	19
23	Does good management information system helps in playing role to achieve competitive environment?	26	32	58	32	52
24	Does Management Information System is helpful for opening of new branches and connecting to existing information system?	65	84	6	26	19
25	Employees after using of MIS have become skilled at collaborating with each other to diagnose and solve problems?	52	77	19	13	39
26	Is there any direct relationship between Management Information System with growth of the Organization?	71	71	6	19	32

6. Regression Analysis

The results of regression analysis are given in Table 5

Table 5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.549[a]	.301	.193	.731

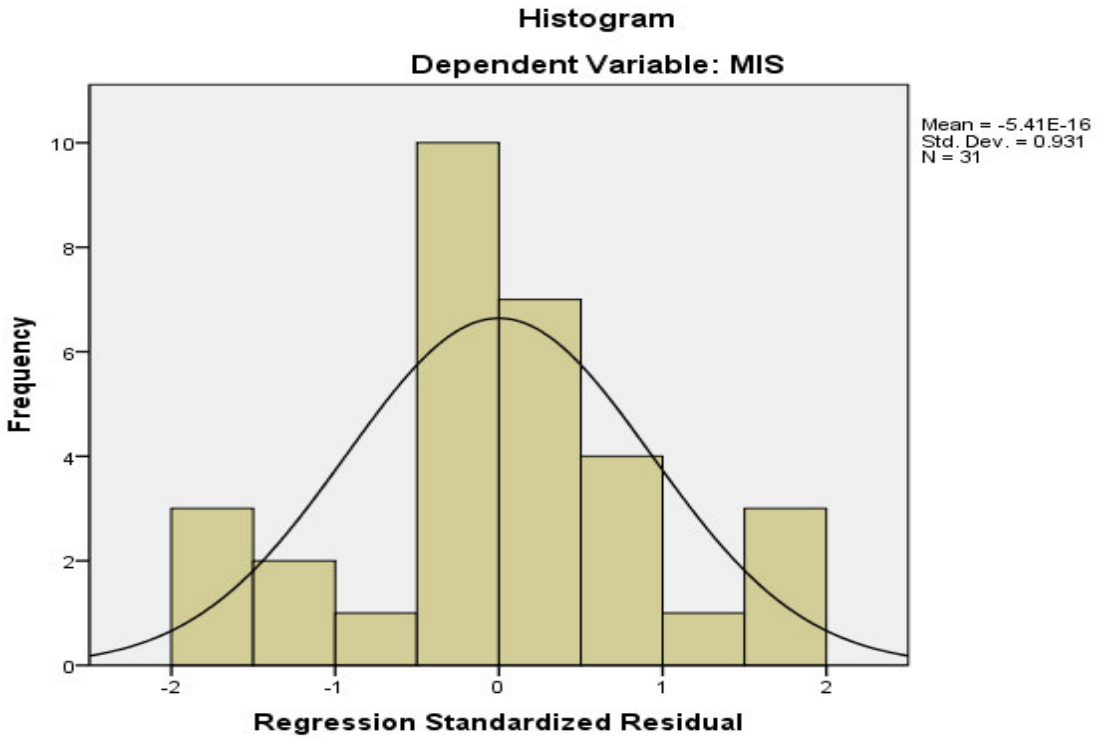


Table 6 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.009	.224		.042	.040
	Growth	-.013	.111	-.025	-.117	.038
	Innovation	.221	.116	.411	1.916	.047
	Profitability	.316	.117	.613	2.699	.012

Table 7 Correlations

		MIS	Profitability	Innovation	Growth	Performance
MIS	Pearson Correlation	1	.232	.174	-.271	-.031
	Sig. (2-tailed)		.210	.350	.141	.870
	N	200	200	200	200	200
Profitability	Pearson Correlation	.232	1	.540**	.495**	-.212
	Sig. (2-tailed)	.210		.002	.005	.251
	N	200	200	200	200	200
Innovation	Pearson Correlation	.174	.540**	1	.469**	-.225
	Sig. (2-tailed)	.350	.002		.008	.223
	N	200	200	200	200	200
Growth	Pearson Correlation	-.271	.495**	.469**	1	.052
	Sig. (2-tailed)	.141	.005	.008		.780
	N	200	200	200	200	200
performance	Pearson Correlation	-.031	-.212	-.225	.052	1
	Sig. (2-tailed)	.870	.251	.223	.780	
	N	200	200	200	200	200

7. FINDINGS AND RESULTS:

All the 200 respondents show their response to answer the required questions from all the organizations. The Analysis shows that independent variable as Management information system and performance as dependant variable shows positive results. When an organization is creating enough profit then it tries to make its product more useful and powerful as compared to market availabilities. Then it decide to by innovative to become market leader of that specified product. They invest more in the research & development to make it more powerful and useful. When a company uses research & development process then it is able to become an innovator. When an organization is become the innovator then its growth process starts from there. As and when the growth process starts it gives its customers value added services like online information system web based and customers feedback is more important to the organization and its tries its level best to satisfy its customers with the services like after sales services and makes improvement in the product based on customer feedback.

8. CONCLUSIONS

From the analysis we have reached the conclusion that management information system is very helpful to enhance performance of the organization in the sense of profitability, innovation, and growth. The MIS satisfies the diverse needs through variety of systems such as query system, analysis system, modeling system and decision support system. The MIS helps in strategic planning, management control, operational control and transaction processing. The MIS helps in the clerical personal in the transaction processing and answers the queries on the data pertaining to the transaction, the status of a particular record and reference on a variety of documents. The MIS helps the top level management in goal setting, strategic planning and evolving the business plans and their implementation. The MIS plays the role of information generation, communication, problem identification and helps in the process of decision-making.

8. Recommendations

On the basis of above discussion, we make the following recommendations:-

1. Organizations must implement management information system to compete today's dynamic and competitive environment.
2. Organizations must implement management information system to each and every department of the organization on automation because anyone in the organization could use information to make timely decision based on that information at different levels
3. Organization must use MIS to eliminate the communication gap between top level management, middle level management and lower level management.
4. MIS defines clear policies and procedures of the organization so there is no communication gap

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