

MIS – A TOOL FOR SMART BUSINESS

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ABSTRACT

Management Information System has been developed a lot for the past 30 years and it has become essential tool for business these days. It is a handy tool with lots of application to management and any business. A smart usage of MIS tool gives a great success and it minimizes the amount of time to be invested and so increases the profit. It gives a decent experience of shopping as a hunt of new world where all your searches ends at one destination. Some of the application of MIS are Pay roll, Personal, Characterization, Design, Document Control, PDM, Place and Route, Simulator, Yield Management, Account, Budget, Product Costing, Project Costing, Purchasing, ATP, Cap/Demand Planning, Inventory, Logistic, MRP, Demand Forecast Order.

General Terms

MIS, Personal Computer, Mainframe Computer, Chi-Square Test

Keywords

Cloud Computing, Alternate Hypothesis, Data Collection, Null Hypothesis, Population Size, Sample Size

1. INTRODUCTION

Early business computers were used for simple operations such as tracking sales or payroll data, with little detail or structure. Over time, these computer applications became more complex, hardware storage capacities grew, and technologies improved for connecting previously isolated applications. As more and more data was stored and linked, managers sought greater detail as well as greater abstraction with the aim of creating entire management reports from the raw, stored data. The term MIS describe such applications providing managers with information about sales, inventories, and other data that would help in managing the enterprise. Today, the term is used broadly in a number of contexts and Includes (but is not limited to): decision support systems, resource and people management applications, enterprise resource planning (ERP), enterprise performance

management (EPM), supply chain management (SCM), customer relationship management (CRM), project management and database retrieval applications. A successful MIS supports a business' long range plans, providing reports based upon performance analysis in areas critical to those plans, with feedback loops that allow for titivation of every aspect of the enterprise, including recruitment and training regimens. MIS not only indicates how things are going, but also why and where performance is failing to meet the plan. These reports include near-real-time performance of cost centers and projects with detail sufficient for individual accountability.

2. DEVELOPMENT

Kenneth and Jane Loudon identify five eras of MIS evolution corresponding to five phases in the development of computing technology:

Main frame and minicomputer computing, personal computers, client/server networks, enterprise computing and cloud computing

1. **The first (mainframe and minicomputer) era** was ruled by IBM and their mainframe computers; these computers would often take up whole rooms and require teams to run them-IBM supplied the hardware and the software.

As technology advanced these computers were able to handle greater capacities and therefore reduce their cost.

Smaller, more affordable minicomputers allowed larger businesses to run their own computing centers in-house.

2. **The second (personal computer) era** began in 1965 as microprocessors started to compete with mainframes and minicomputer and accelerated the process of decentralizing computing power from large data centers to smaller offices.

In the late 1970s minicomputer technology gave way to personal computers and relatively low cost computers were becoming mass

market commodities, allowing businesses to provide their employees access to computing power that ten years before would have cost tens of thousands of dollars.

This proliferation of computers created a ready market for interconnecting networks and the popularization of the Internet.

As the complexity of the technology increased and the costs decreased, the need to share information within an enterprise also grew, giving rise to the

3. **third (client/server) era** in which computers on a common network were able to access shared information on a server.

This allowed for large amounts of data to be accessed by thousands and even millions of people simultaneously.

4. **The fourth (enterprise) era** enabled by high speed networks, tied all aspects of the business enterprise together offering rich information access encompassing the complete management structure.
5. **The fifth and latest (cloud computing) era** of information systems employs networking technology to deliver applications as well as data storage independent of the configuration, location or nature of the hardware.

This, along with high speed Cell phone and Wi-Fi networks, led to new levels of mobility in which managers access the MIS remotely with laptops, tablet PC's, and smartphones.

"The actions that are taken to create an information system that solves an organizational problem are called system development". These include system analysis, system design, programming/implementation, testing, conversion, production and finally maintenance. These actions usually take place in that specified order but some may need to repeat or be accomplished concurrently.

3. CHARACTERISTIC OF MIS

1. Management Information System is popularly known as MIS which provides information to manage the organizations effectually and efficiently. People, Technology and Information/decision making are the three basic resources of MIS system. This system is used to analyze the functional activities which generally other information systems do not provide.
2. MIS is basically a computer based system which assists managers with the devices to organize, evaluate and manage a particular arena efficiently. The MIS system incorporates the software which would aid in data resources, decision support system,

decision making, and project & people management applications. All these benefits develop an idea about the past & current information along with predicting the information.

3. The reports form an elemental component of any firm which guides to anticipate the yield of an employee and of the business in the long run. It aids to make decisions but if the reports are in chaotic order & unavailable when required than the affairs can be a mess.
4. With the assistance of the MIS, one can manage the reports with an ease and avail it whenever required. The reports are maintained and created as per the requirement of an organization. Maintained reports, encompasses all the details and bits & pieces of information required by a firm. The format of the MIS reports is maintained in such a way that, even a layman would be able to edit and access it.
5. MIS Reporting finds its way in various aspects. At present, almost all the companies aim to provide 24x7 services to its customers. These reports also help to inculcate among the employees who work in different shifts. It makes easier for them to understand the work flow and the essentials of the job completed by other employees.
6. A well-managed report gives clarity in decision making and uplifts the business. MIS reports assist to concentrate the reporting system, which would give clarity in the organization. These reporting system aids to process the business in an efficient and competent manner. It saves the files and folders to be managed properly and prevents the undesirable complications in the work flow.
7. MIS or Management Information System is a computer based system used by most organizations worldwide for transforming data into useful information for better decision making. It helps management make better plans and carefully organize business operations.

4. CATEGORIES OF MIS APPLICATION

1. Admin
Pay roll, Personal
2. Engineering
Characterization, Design, Document Control, PDM, Place and Route, Simulator, Yield Management,
3. Finance
Account, Budget, Product Costing, Project Costing, Purchasing
4. Operation
ATP, Cap/Demand Planning, Inventory, Logistic, MRP, Demand Forecast Order,

5. DATA ANALYSIS AND INTERPRETATION

MANUFACTURING

1. Are you satisfied with the Information, which you have, to undertake your Manufacturing Process?

Table 1:

RESPONSE	FREQUENCY
HIGHLY SATISFIED	5
SATISFIED	40
NOT CLEAR	2
DISSATISFIED	3
HIGHLY DISSATISFIED	-

Interpretation:

The above question indicates that 10% of clients are highly satisfied 80% of clients are satisfied, 4% of clients are not sure, 6% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

2. After receiving order from your customer, are you satisfied with the Information that you have in order to track your Work - In-Progress?

Table: 2

RESPONSE	FREQUENCY
HIGHLY SATISFIED	5
SATISFIED	28
NOT CLEAR	14
DISSATISFIED	2
HIGHLY DISSATISFIED	1

Interpretation:

The above question indicates that, 10% of clients are highly satisfied, 56% of clients are satisfied, 28% of clients are not sure, 4% of clients are dissatisfied, and 2% of clients are highly dissatisfied.

3. Are you satisfied with the Information regarding, how many customer Inquiries, are placed against Customer Order?

Table: 3

RESPONSE	FREQUENCY
HIGHLY SATISFIED	6

SATISFIED	14
NOT CLEAR	21
DISSATISFIED	9
HIGHLY DISSATISFIED	0

Interpretation:

The above question indicates that, 12% of clients are highly satisfied, 28% of clients are satisfied, 42% of clients are not sure, 18% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

PURCHASE

4. Are you satisfied with the Information regarding, your purchase against the production planning?

Table: 4

RESPONSE	FREQUENCY
HIGHLY SATISFIED	5
SATISFIED	25
NOT CLEAR	16
DISSATISFIED	4
HIGHLY DISSATISFIED	0

Interpretation:

The above question indicates that, 10% of clients are highly satisfied, 50% of clients are satisfied, 32% of clients are not sure, 8% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

5. Are you satisfied with the Information Are you satisfied with the Information that you have in order to compare quotation of different distributors?

Table: 5

RESPONSE	FREQUENCY
HIGHLY SATISFIED	4
SATISFIED	22
NOT CLEAR	15
DISSATISFIED	8
HIGHLY DISSATISFIED	1

Interpretation:

The above question indicates that, 8% of clients are highly satisfied, 44% of clients are satisfied, 30% of

clients are not sure, 16% of clients are dissatisfied, and 2% of clients are highly dissatisfied.

SALES

6. Are you satisfied with the Information, that you have in order to know which item/ product contributes more to Sa les?

Table: 6

RESPONSE	FREQUENCY
HIGHLY SATISFIED	5
SATISFIED	34
NOT CLEAR	9
DISSATISFIED	1
HIGHLY DISSATISFIED	0

Interpretation:

The above question indicates that, 10% of clients are highly satisfied, 69% of clients are satisfied, 18% of clients are not sure, 2% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

7. Are you satisfied with the information that helps you to increase your Sales?

Table: 7

RESPONSE	FREQUENCY
HIGHLY SATISFIED	10
SATISFIED	14
NOT CLEAR	18
DISSATISFIED	8
HIGHLY DISSATISFIED	0

Interpretation:

The above question indicates that, 20% of clients are highly satisfied, 28% of clients are satisfied, 36% of clients are not sure, 16% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

INVENTORY

8. Are you satisfied with the information that helps you to know the level of Inventory, against work Order?

Table: 8

RESPONSE	FREQUENCY
HIGHLY SATISFIED	10
SATISFIED	26
NOT CLEAR	10
DISSATISFIED	4
HIGHLY DISSATISFIED	0

Interpretation:

The above question indicates that, 20% of clients are highly satisfied, 52% of clients are satisfied, 20% of clients are not sure, 8% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

9. Are you satisfied with the Information that helps you to know, consumption level of Raw Materials?

Table: 9

RESPONSE	FREQUENCY
HIGHLY SATISFIED	11
SATISFIED	30
NOT CLEAR	5
DISSATISFIED	4
HIGHLY DISSATISFIED	0

Interpretation:

The above question indicates that , 22% of clients are highly satisfied, 60% of clients are satisfied, 10% of clients are not sure, 8% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

ACCOUNTS

10. Are you satisfied, with the information that helps you, to monitor the recovery of your Investment?

Table:10

RESPONSE	FREQUENCY
HIGHLYSATISFIED	3
SATISFIED	37

NOTCLEAR	6
DISSATISFIED	4
HIGHLYDISSATISFIED	0

Interpretation:

The above question indicates that , 12% of clients are highly satisfied, 54% of clients are satisfied, 24% of clients are not sure, 10% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

Interpretation:

The above question indicates that , 6% of clients are highly satisfied, 74% of clients are satisfied, 12% of clients are not sure, 8% of clients are dissatisfied, and 0% of clients are highly dissatisfied.

11. Are you satisfied with the information that helps you to know your Profit-Variance ratio?

Table:11

RESPONSE	FREQUENCY
HIGHLYSATISFIED	6
SATISFIED	27
NOTCLEAR	12
DISSATISFIED	5
HIGHLYDISSATISFIED	0

12. Are you satisfied with the information that helps you to manage your funds, from your Financial Budget?

Table:12

RESPONSE	FEQUENCY
HIGHLYSATISFIED	17
SATISFIED	31
NOTCLEAR	0
DISSATISFIED	1
HIGHLYDISSATISFIED	1

Interpretation:

The above question indicates that , 34% of clients are highly satisfied, 62% of clients are satisfied, 0% of clients are not sure, 2% of clients are dissatisfied, and 2% of clients are highly dissatisfied.

6. STATISTICAL ANALYSIS / HYPOTHESIS TESTING

Table:13a

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
HIGHLY SATISFIED	5	5	6	5	4	5	10	10	11	3	6	17
SATISFIED	40	28	14	25	22	34	14	26	30	37	27	31
NOTSURE	2	14	21	16	15	9	18	10	5	6	12	0
DISSATISFIED	3	2	9	4	8	1	8	4	4	4	5	1
HIGHLY DISSATISFIED	0	1	0	0	1	0	0	0	0	0	0	1

Table:13b

	0-	10-	20-	30-	40-
HIGHLY SATISFIED	8	4	0	0	0
SATISFIED	0	1	6	4	1
NOTSURE	4	6	1	0	0
DISSATISFIED	12	0	0	0	0
HIGHLY DISSATISFIED	3	0	0	0	0

For testing the Hypotheses, Chi-Square (χ^2) was chosen.

H₀: Management can take effective and accurate decisions, with the help of MIS reports.

H_a: Management can take effective and accurate decisions without the help of MIS reports

7. REFERENCES

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Table:14

O _i	E _i	(O _i -E _i)	(O _i -E _i) ²	(O _i -E _i) ² /E _i
8	7.14	.86	.7396	.1036
5	7.14	-2.14	4.5796	.6414
6	7.14	-1.14	1.2996	.1820
5	7.14	-2.14	4.5796	.6414
10	7.14	2.86	8.1796	1.1456
13	7.14	5.86	34.3396	4.8095
3	7.14	-4.14	17.1396	2.4005
TOTAL				9.9240

Hence, $\chi^2_c = \sum (O_i - E_i)^2 / E_i = 9.9240$ where, $l = 1, 2, 3 \dots n$

$\chi^2_t = [\{ (r-1)(c-1) - 1 \}, 5\% \text{L.O.S.}]$ (Loss of 1 degree of freedom to pulling technique)

$= [\{ (5-1)(5-1) - 1 \}, 5\% \text{L.O.S.}]$

$= [15, 5\% \text{L.O.S.}]$

$= 24.9958$

Here, $\chi^2_c < \chi^2_t$

Therefore, null hypothesis i.e. H₀ is accepted.

Conclusion-

Management can take effective and accurate decisions, with the help of MIS reports

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