

# Telecom industry



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## **Management information system**

### **– Introduction**

MIS (Management Information System) is a process which provides the necessary information for managing an organization in an effective manner. The information generated by MIS is considered to be the most important equipment of careful and the decisions made in business. For an organization, MIS must have the guidelines, practices, procedures, standards, and policies. All these have to be followed throughout the development, maintenance, and usage of the institution. Multiple levels by the management are used and viewed by the MIS. Owner is the user of the system who uses the present customer and the constituent requirements and has the enough budgets for funding the new projects. By building the ownership it not only promotes the institutions pride but also helps in ensuring the accountability. Not necessarily the reduction of the expenses is done by MIS. By developing the systems meaningfully, using them properly reduces the possibility of making erroneous decisions due to inaccurately. The resources can be wasted by the decisions made erroneously. This might result adversely on the capital.

### **TELECOM INDUSTRY- A Case Study**

Aircel is a JV of Gogo Communications located in Malaysia and Apollo Hospitals of India. 74% stake belongs to Maxis and the other 26% belongs to Apollo hospitals. Aircel is India's 5th largest provider of GSM mobiles service. Its subscribers too are many they account for about 27.7 million as on the 31st of Oct 2009. By 2010 it is thinking of expanding its services throughout India. It has also sought permission for to provide for Long distance calls for

both national and international users. The telecom dept has granted permission.

ABS – (Aircel business solutions) is a part of Aircel and it is an ISO 9000 certified organisation. Its products include enterprise solutions like Multiprotocol Label Switching Virtual Private Networks (MPLS VPNs), Voice over Internet Protocol (VoIP) and Managed Video Services on wireless platform including WiMAX ([www. aircel. com](http://www.aircel.com))

### **Q1) Provide information across various departments**

#### **Stability in the Payroll and financial departments**

For companies to be successful, it is critical to manage data efficiently.

Data was made available and accesses able to everyone. This included.

- \* Payroll

- \* Financial information

- \* Customer tracking systems.

Implementation of MIS indeed played a very crucial role at Aircel. Absence of proper MIS system would mean lack of proper accessibility of data at the nick time, this further leads to confusion and lack of proper sustenance of available resources.

In order to plan the budgets and operations and for making projections, data has to be retrieved continuously by the managers and the corporate executives. Leaders can accurately make decisions and access large data by storing the data in a single place and manage it. As the managers and the

employees got accustomed to the new learning curve for the first year has to be expected. Training is needed for the executives for reading the results and learning to start with the usage of the resources they had not used in past.

Implementation in the HR function and its overall benefits

Aircel selected SAP ERP which is a Payroll and HR software. It helped Aircel to get rid of unwanted /duplicate information across many locations. Also it saved the HR personnel from making manual entries of data.

**Benefits of MIS in field of HR:**

By Implementing the MIS through SAP ERP, HR functions are 33% quicker than standard approach

Improvement in all field such as 60% of cost reduction in development, 50% cost and time saved for spending in lower project and 70% fewer in post go-live corrections.

Risk Mitigation and resolving issues on time services.

Ongoing support from SAP is fully active for the user to access go-live it.

Reduce Manual work and saves time.

Decreased the Payroll Processing Cycle time from 15 days to 5 days.

Monitoring the payroll and Generating Tax Declaration for employee is easier.

### **8. Simple and Easy way of handling application of employee leaves entitlement.**

Effective implementation of MIS should be done by analysing and considering MIS needs at tactical level and strategic levels. Tactical Level of MIS can be used in processing annual report and annual budget. In this case, the support of long term Strategic level of MIS also required to initiates the business plan. This implies that to get benefit of effective MIS, organization should consider the levels of MIS that are to be used in organization and that should be analyzed before implementing.

Merger and Acquisition of company with other company, Developing Company introducing new products and services are the best common example for developing and implementing MIS.

### **Q2) Facilitate decision making at the three tiers of management**

MIS deals with process of collecting the information, processing, storing the information and transmitting relevant to the support the management operation. This shows the process and success of decision-making. Administrative process of organization highly depends on the decision making. Decision making is done with the available information and functions in the organization. Proper result cannot be found because of lack of information that leads unlikely to yield the optimal or desired result.

### **The back bone for the systems of decision making**

This system is growth along with the development in Management Information System. MIS also supports decision making in both structured problem environment and unstructured problem environment at every strata

of organization. MIS constitutes many things such as people, computers, procedures, databases, interactive query facilities and so on.

### **Methods of Decision Making**

An MIS system must be developed in such a manner that it aids in accomplishing organisational objectives listed here under.

- \* Communication channels and mediums should be more effective amongst employees
- \* Send across critical data more efficiently and effectively
- \* A comprehensive and constructive system should be made available for collecting, analysing and using the data.
- \* A process of digitization has to be implemented which minimise the cost of labour oriented activities
- \* Be able to strategise the organisations decision making process.

There are lot of MIS tools available which includes software, databases, hardware and specially designed support applications.

The input given to any one of the mentioned Management Information System is transformed into useful and related information that help to give results as reports or statements, try to make future predictions based on the derived information. Knowledge Base in the MIS can also be used as answer to queries which helps to take a particular action/decision on “ what if” scenario. Thus information given by Management Information Systems is accurate and unique which helps to give decision making.

The primary aim of MIS is to make sure that information is appropriately channelized to the right people at workplace. That is called as Internal Decision Makers and External Decision Makers. And they are considered as good decision maker for running the organization. And this process is completed on time, reliable with good quality information to the decision makers.

It is essential to understand that managers are answerable for

- \* The outcomes of the actual reports
- \* The effect of the reports that are direct on certain behaviour
- \* Making a team which is long lasting and equally effective which can accomplish targets effectively and on time.
- \* Equipping their respective teams with good managerial and leadership support.

In the conventional management arrangement hierarchy for the flow of information is in the following fashion

### **Top – Middle – lower**

In a digitised environment the scenario is different it aids in effective communication simultaneously across the various levels. Presently managers are use and trust computerised systems.

- \* They are Systems
- \* Which process transactions

- \* Which support the process of decision making
- \* Which aid and store data regarding operations
- \* Expert system

#### **a. Transaction Processing System**

Transaction Processing System is a collection of information, used to process the data at the time of transaction in database system. It is used to monitor the transaction program such as predefined program for the output. For example, Electronic Payment is made to withdraw money from one account and added the same to the other or none at all, likewise transaction made in shopping, car rental, poker, ticket reservation are also the examples of Transaction Processing System. If the transaction is failed or partially completed, it must be rolled back (undo the recent changes) by this Transaction Processing System. Other transaction monitoring functions like deadlock (two or more process competing for each other to release the resources in circular chain).

#### **b. Operation Information System**

Operation Information Systems is a group of system provides significant information for the day-to-day operation in the organization. The advantage of OIS is, it supports the real time delivery of information to the other application such as task allotted, start time and end time, time taken to complete the allotted tasks.

This automated system will enable a manager to make a conclusive estimate on a project given or task handled. He will also be able to monitor an employee's performance. Similarly an employee too will be able to highlight

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his performance at the time of annual appraisal or at the time of interim check.

### **c. Decision Support System**

It is set of manual or computer based tools to support technological and managerial decision-making activities. Decision Support System is interactive software based helpful to make decision by formulate the alternatives, analysis the business models and impact of it, identify and solve the problem by selecting the appropriate option for implementation.

This application aids many functions by collecting information like

#### **Analysis of cash flow**

Forecasting at various levels and other relate information

Information on the performance of a product

Allocation of resources

Sales comparison etc

Aircel has to streamline all its information such as its financial information, data regarding its assets, legacy and other kinds of data. If this is in place, the DSS will be able to assist in a sound decision making process.

### **d. Expert System**

Expert System is Artificial Intelligence (AI) software which uses the knowledge base of human expertise for problem solving. Expert System is based on quality of data and rules obtained and assigned from the human expert.

Most common methods used to simulate the performance of Expert System are:

- \* Creating Knowledge Base – uses information representation to acquire the (Subject Matter Expert) knowledge of the SME
- \* Knowledge Engineering – The information should be gathered via a rigorous questioning process. For Aircel, once everything is in place the Expert system will assist in addressing unresolved issues.

The above mentioned systems are largely used in handling the data in an organization.

MIS can be preserved and further developed either manually or via automated systems or by using both methodologies combination of both.

It also performs other activities such as monitoring the information, distribution the information to the management, employees and customers.

**Effective implementation of MIS results in**  
Meeting the Business Goals and Objectives,

Supports the delivery of the product and services.

Easy to access and use at level of organization.

Significant use of the strategy used for handling risk to assist the management in performing reviews..

### **Q3 Serve as efficient means for managing business process**

#### **Business Process**

A business process or a methodology of business is the gathering concerned, channelized activities to finally contour either a service or a product. Also it can be said as a group of activities clearly spread across time and people with a start and an end. Here the materials to be used and what would be the resultant outputs are clearly defined. The very start of a process of business is usual the wants of customer and it ends at a point of customer satisfaction. In order to complete such a process organisations rely on sources of information which may be external or internal. It may be noted that business processes are created to add value to a customer. The result of an excellent business process is enhanced effectiveness (to the customer and the way of doing business) with a reduction operating costs monitor

Till date the various MIS systems have were not able satisfy the requirements of an individual making decision entirely. These are in terms of

- \* Decision making under stress/pressure

- \* Tracking competition

- \* Taking into consideration organisational information that has a different view point.

“ In order to be able to react quickly to changes that take place on the market, organisations need management information systems that would make it possible to carry out different cause and effect analyses of organisations themselves and their environments” (Power, 2001).

“ According to (Kalakota, & Robinson Business Intelligence (BI) systems provide a proposal that faces needs of contemporary organisations. Main tasks that are to be faced by the BI systems include intelligent exploration, integration, aggregation and a multidimensional analysis of data originating from various information resources. Systems of a BI standard combine data from internal information systems of an organisation and they integrate data coming from the particular environment e. g. statistics, financial and investment portals and miscellaneous databases. Such systems are meant to provide adequate and reliable up-to-date information on different aspects of enterprise activities.” (Kalakota, & Robinson, 1999; Liautaud, & Hammond, 2002; Moss, & Alert, 2003)

The primary results of the research say that the BI systems have a major role in showing and infusing both enhancements in production and transparency in cascading knowledge. Also they make sure that business

- \* Monitor the profitability
- \* Scrutinize expenditures
- \* Gauge the environments and atmosphere of corporates
- \* Investigate upon irregularities and instances of fraud.

The upcoming years have had many discussions regarding problems in BI . These include the approaches of OLAP. Though problems are discussed in detail talks regarding the actual proper implementation of BI are yet to materialize. There are no proper guidelines or information regarding proper implementation of BI. Organisations are in the process of finding out efficient

methods of creating and handling BI themselves. All in an environment of rampant change, growth and increase in the competitiveness amongst business. Businesses in general are treading the path of disaggregation.

### **How its implementation is effective**

Implementation of Business Intelligence is effective and it is analyzed from different perspectives. Decision Makers of the organization mainly associate with Business Intelligence for implementing organizational specific methodology and philosophy. Here, BI systems are thought to be the solution, essential for recording information into data by analyzing including reporting with the consolidated data. Information is transferred into knowledge by Data Drilling and finally knowledge transferred to Decision to improve competitiveness. (Refer Fig. 2)

‘ It is said that the Value of BI for business is predominantly expressed in the fact that such systems cast some light on information that may serve as the basis for carrying out fundamental changes in a particular enterprise, i. e. establishing new cooperation, acquiring new customers, creating new markets, offering products to customers’ (Chaudhary, 2004; Olszak, & Ziembra, 2004; Reinschmidt, & Francoise, 2002).

### **Source:**

own elaboration.

### **The four critical facets of Risk management are:**

1. Operational procedures
2. Management and Employees

### 3. Practices or strategies

### 4. Feedback mechanisms and devices

Using Management Information System, information management are available for both planning and decision making with respect to the technology.

Technology also enhances the scope for incorrect and inaccurate information being reported out which as a result cause wrong decision making due to lack to data, unclear/missing data.

Since data is extracted from many financial system and transaction system, there should be apt control processes or functions have to be setup to make sure the data is accurate and appropriate. Control must ensure that systems on small computer like microcomputers which have well defined processing controls are as good as traditionally larger mainframe computers.

It has become mandatory to set up an individual framework with effective fundamental principles like identifying risk, establishing controls and providing a review of MIS that is good and mentoring systems across the organization. OCC gives full support to putting these concepts from penning them to enhancing the usefulness communication throughout the organization. OCC recommended the organization to follow the fundamental principles such as appropriate Internal Controls, Operating Procedures and Safeguards and Audit Coverage.

Aircel has chosen an MIS system that will provide the best results for its organisation. While conferring upon an MIS Aircel has done a cost analysis.

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According to it an MIS should bring a good return on the investment made and additional costs should not be incurred for implementation of such a system. For the success of an MIS there should be

- \* Deft planning
- \* Good forecasting
- \* Timely reporting and evaluation.

If the entire above are adhered to then an organisation will be able to make proper decisions. If information is stacked appropriately then the flow of information will be easier and efficient which will enable an organisation to make effective value add decisions.

### **Over all benefits of MIS implementation at Aircel**

According to Gary ' BI differs from MIS (i. e. DSS, EIS, and ES) in first of all, their wider thematic range, multivariate Analysis, semi-structured data originating from different sources and multidimensional data Presentation' (Gray, 2003).

Olszak and Ziemba say that ' BI may support decision make on all levels of management regardless of the level of their structuralisation' (Olszak, & Ziemba, 2003).

On the Strategic Level, Setting the Objectives precisely and following the established objectives is easy in BI. Using BI, it is easy to perform different comparative reports such as Comprehensive results, the viability of certain offers, successfulness of the various distribution startegis and channels

alongside implementation of and predicting the results for the future based on assumptions made.

### **Conclusion**

Implementation MIS in organization is very essential. This can be found by the following benefits.

To improve the quality of an administrative process in an organization can be identified by their proven practices.

MIS is User-friendly window based system performing Time management, Resource Management by generating tickler/alert, online appointment Scheduling, Clear, better and faster record access which includes real time updation.

MIS is easy to access through internet and Availability and reliability of Access and Crisis line information to service provider.

Information analysis, Data Gathering, Report and Performance Monitoring.

Usage of MIS application results in greater accountability such as improve the measurement at Client, program and system levels.

MIS have built-in quality and compliance controls to give quality.

MIS can able to replace multiple applications such as old software, billing system, having inefficient client data and software which are considers as very old, non-user friendly, inapt to the organization. Handling single application is easier than maintaining much old application.



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