**UNIT: V**

**CONTEMPORARY MANAGEMENT ISSUES**

**MANAGEMENT INFORMATION SYSTEMS (MIS)**

MIS refers to the process of covering the application ofpeople, technology and procedures to solve business problems. MIS is used to analyze other information systems applied in operational activities in the organization such as Decision Support Systems and Expert System.

**Definition:** MIS can be defined as “Research in the information systems field which examines more than that the technological system, or just the social system, or even both.” It refers broadly to a computer-based system that provides managers with tools for organising, evaluating and effectively running their departments.

It is the responsibility of MIS department to develop and design the reporting formats for various functional departments such as production, finance, marketing, HR etc. MIS provides all the information that is necessary for operational, tactical and strategic decisions by using decision support system, expert systems and artificial intelligence.

**MATERIALS REQUIREMENT PLANNING (MRP):**

MRP is a software base production planning and inventory control system used to manage manufacturing processes.

**Objectives:**

* To ensure the availability of materials and products for production and distribute to the customers.
* To maintain the lowest possible level of inventory
* To plan manufacturing activities, delivery schedules and purchasing activities.

The basic functions of an MRP system include: [inventory control](https://en.wikipedia.org/wiki/Inventory_control), [bill of material](https://en.wikipedia.org/wiki/Bill_of_material) processing, and elementary scheduling. MRP helps organizations to maintain low inventory levels. It is used to plan manufacturing, purchasing and delivering activities.

"Manufacturing organizations, whatever their products, face the same daily practical problem - that customers want products to be available in a shorter time than it takes to make them. This means that some level of planning is required."

Companies need to control the types and quantities of materials they purchase, plan which products are to be produced and in what quantities and ensure that they are able to meet current and future customer demand, all at the lowest possible cost. Making a bad decision in any of these areas will make the company lose money. A few examples are given below:

* If a company purchases insufficient quantities of an item used in manufacturing (or the wrong item) it may be unable to meet contract obligations to supply products on time.
* If a company purchases excessive quantities of an item, money is wasted - the excess quantity ties up cash while it remains as stock that might never be used at all.
* Beginning production of an order at the wrong time can cause customer deadlines to be missed.

MRP is a tool to deal with these problems. It provides answers for several questions:

* What items are required?
* How many are required?
* When are they required?...

MRP can be applied both to items that are purchased from outside suppliers and to sub-assemblies, produced internally, that are components of more complex items.

**JUST - IN -TIME (JIT)**

If the components arrive as and when required, in a manufacturingoperation, it is called just-in-time. JIT originated in Japan. JIT is a new system of production based on the elimination of waste. There are several sources of waste that should be eliminated. These include over production, time spent waiting, transportation, waste associated with defective items. JIT is also called as “Stockless production” or “Lean production”.

JIT is a suitable production system when:

* have steady production of clearly defined standard products
* a reasonable number of units made
* a high value product
* have flexible working practices and a disciplined workforce
* short setup times on machines
* quality can be assured in terms of zero defects.

**Benefits:**

* Better quality products.
* Worker accepting quality as his/her responsibility
* Reduced scrap and rework, reduced cycle times, lower set up times.
* Cost saving, higher productivity.
* Less inventory, reduced space requirements etc.
* Smoother flow of production, reduced space requirements.

**TOTAL MANAGEMENT QUALITY**

TQM is a set of management practises followed organization-wide in order to ensure that the organization continuously meets or exceeds customer requirements. The major focus in TQM is on **continuous improvement**. In a TQM effort, all members of the organisation participate in improving process, services and the culture in which they work.

If the company is committed to provide its customers with products and services that satisfy their needs, its culture, attitude and organisation also should speak so.

Surveys reveal that only 20-36% of companies that have undertaken TQM have achieved significant improvements in quality, productivity, competitiveness.

**Definition:**

ISO defines TQM as a management approach for an organisation, centred on quality, based on the participation of all its members and aiming at long term success through customer satisfaction, and benefits to all members of the organization and to society.

**How products are developed in TQM environment:**

* Product development in a TQM environment is always customer driven and focuses only on quality.
* The focus of top management is on controlling the overall process and rewarding team work, not individual.
* The core concept in implementing TQM is Deming’s 14 points which refers to the set of management practises to help companies to increase their quality and productivity.

**SIX SIGMA**

Six sigma is a set of practices developed by Motorola to systematically improveprocesses by eliminating defects. A defect is defined as non-conformity of a product or service to its specifications.

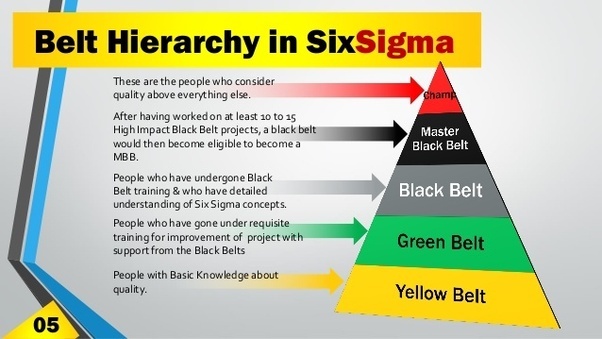
Six Sigma refers to the ability of highly capable processes to produce output within specification. In particular processes that operate with Six Sigma quality produce at defect level below 3.4 defects per million opportunities.

To achieve six sigma, a process must not produce more than 3.4 defects per million opportunities. A six sigma defect is defined as anything outside of customer specification

**Definition:** Six sigma at any organization, simply refers to a measure of quality that strives for near perfection. Six sigma is a disciplined, data-driven approach and methodology for eliminating defects in any process from manufacturing to transactional and from product to service.

Six sigma can be achieved through two sub-methodologies:

* DMAIC (Define, measure, analyse, improve, control)is an improvement system for existing processes.
* DMADV (Define, measure, analyse, design, verify) used for development of new processes.



**CAPABILITY MATURING MODEL:**

Capability maturity Model (CMM) is a collection of instructions an organization can follow with the purpose to gain better control over its software development process.

The CMM ranks software development organizations in a hierarchy of five levels each with a progressively greater capability of producing quality software. Each level is described as a level of maturity. Those 5 levels are equipped with different number of instruction to follow.

**Level – 1 -** Initial : At maturity level-1 processes are usually ad hoc and the organization usually does not provide a stable environment

**Level – 2 -** Repeatable: At this maturity level-2, software development successes are repeatable. The organization may use some basic project management to track cost and schedule.

**Level – 3 -** Defined: A maturity level-3, processes are well characterized and understood, and are described in standards procedure, tools, and methods.

**Level – 4** - Managed: Using precise measurement, management can effectively control the software development effort. In particular, management can identify ways to adjust and adopt the process to particular projects without measurable losses of quality or deviations from specifications.

**Level – 5 -** Optimizing: This maturity level focuses on continually improving process performance through both incremental and innovative technological improvement.

**SUPPLY CHAIN MANAGEMENT**

Supply chain management is the process of planning, implementing and controlling theoperations of the supply chain as efficiently as possible.

Supply chain execution is managing and co-ordinating the movement of materials, information and funds across the supply chain in a directional flow. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of consumption.

**Objectives:**

* Distribution Network configuration: Number and location of suppliers, production facilities, distribution centres, warehouses and customers.
* Distribution Strategy: Centralised versus decentralised, direct shipment, cross docking, third party logistics.
* Information:Share valuable information including demand signals, forecast inventory etc
* Inventory Management: Quantity and location of inventory including raw materials, work-in-progress and finished goods.
* Cash flow: Arranging the paying terms and methodologies.

**ENTERPRISE RESOURCE PLANNING (ERP)**

Enterprise Resource Planning systems integrate all data and processes of an organizationinto a unified system. A typical ERP system will use multiple components of computer software and hardware to achieve the integration. A key ingredient of most ERP systems is the use of a unified database to store data.

ERP systems cover all basic functions of an organization, regardless of the organizations business, non-profit organization, non-governmental organization or government.

Ideally, ERP delivers a single database that contains all data for the software modules, which include manufacturing

* Supply chain management
* Financials
* projects
* Human resources
* Customer relationship management
* Data warehouse and various self-service interfaces for customers, suppliers and employees.

**PERFORMANCE MANAGEMENT:**

Performance Management is the process of assessing progress toward achieving predetermined goals.

Performance Management is covered with communication. This is done by creating a climate in which a continuing dialogue between managers and the members of their teams takes place to define expectations and share information on the organizations mission, values and objectives. This establishes mutual understanding of what is to be achieved and a framework for managing and developing people to ensure that it will be achieved.

Performance Management is about managing the organization. It is a natural process of management, not a system or technique.

Performance Management can be thought of as actual results vs. desired results. Performance Management and improvement can be thought of as a cycle:

* Performance Planning where goals and objectives are established.
* Performance Coaching where a manager intervenes to give feedback and adjust performance.
* Performance Appraisal where individual Performance is formally documented and feedback delivered.

**BUSINESS PROCESS OUTSOURCING (BPO)**

BPO refers to a decision to sub-contract someor all non-core processes. The main motive for business process outsourcing is allow the company to invest more time, money and human resources into core activities and building strategies, which fuel company growth.

The global market today is highly competitive and ever-changing. A company must focus on improving productivity and yet, cut down costs. There, a lot of tasks that use up precious time, resources and energy, are being outsourced. BPOs or the units to which work is being outsourced, are flexible, quicker, cheaper and very efficient.

BPO is the contracting of specific business task, such as payroll to a third-party service provider.

BPO is often divided into two categories.

1. Back Office Outsourcing: This includes internal business functions such as billing or purchasing.
2. Front Office Outsourcing: This includes customer-related services such as marketing or technical support.

**BUSINESS PROCESS RE-ENGINEERING (BPR):**

Definition: The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality service and speed.

--- By Hammer and Champy

BPR is a management approach aiming at improvements by means of elevating efficiency and effectiveness of the processes that exist within and across organizations. They key to BPR is for organizations to look at their business processes form a “clean slate” perspective and determine how they can best construct these processes to improve how they conduct business.

**BENCH MARKING:**

A process of searching for, identifying, and using ides, techniques and improvement of other companies/situations in its own activities.

**Definition:** A systematic and ongoing process of improving performance by measuring a product, service or process against a partner that has mastered it.

• In short – comparing methods against the best to identify changes.

• A quality management tool that includes a set of practices aimed at improving product and service quality.

Bench marking involves measuring the performance of the organization, team or individuals against the best practice for the industry, function or particular activity.BPR derives its existence from different disciplines and four major areas can be identified as being subjected to change in BPR- organisation, technology, strategy, and people. BPR has shown huge success to several companies such as Proctor and Gamble (P&G) , General Motors etc where it has been well implemented.

**BALANCE SCORECARD:**

It is a management system that enables organizations to clarify their vision and strategy and translate them into action. It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and result. When full deployed, the balance scorecard transforms strategic planning from an academic exercise into the nerve center of an enterprise.

The balance scorecard suggests that we view the organization from four perspectives’ and to develop metrics.

• The learning and growth perspective:

• The business process perspective

• The customer perspective

• The financial perspective.

