

NPTEL ONLINE CERTIFICATION COURSES

Management Information Systems

Prof. Kunal Kanti Ghosh
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Week 5: Module 1

Information Systems for Manufacturing Management



CONCEPTS COVERED

- **Information Systems for Manufacturing Management**
- **Associated Business Processes and Subsystems for Manufacturing Management**

Information Systems for Manufacturing Management

- ❖ The manufacturing/production function is responsible for actually producing the firm's goods and services.
- ❖ Manufacturing activities deal with:
 - planning, development, and maintenance of production facilities,
 - establishment of production goals,
 - acquisition and storage of production materials, and
 - scheduling of equipment, facilities, material and labour required to furnish finished products

Information Systems for Manufacturing Management

❑ Overview of a simplified manufacturing process:

❖ The manufacturing process mainly follows two different strategies:

➤ Make-to-stock and

➤ Make-to-order

✓ Make-to-stock occurs when the company produces goods to create or increase an inventory, that is finished goods that are stored in the warehouse and are available for sales (push process)

✓ Make-to-order occurs when production is generated by a specific customer order (pull process)

Information Systems for Manufacturing Management

❑ Overview of a simplified production process:

❖ Manufacturing companies that produce their own goods manage their interdepartmental production process across the Production and Warehouse departments.

Information Systems for Manufacturing Management

❑ Overview of a simplified production process:

❖ The production process involves the following steps:

➤ The Warehouse department issues a planned order when the company needs to produce a finished product, either because the warehouse has insufficient inventory or because the customer placed a specific order for goods that are not currently in stock.

Information Systems for Manufacturing Management

❖ Overview of a simplified production process:

- Once the planned order reaches Production, the production controller authorizes the order and issues a production order, which is a written authorization to start the production of a certain amount of specific product.

Information Systems for Manufacturing Management

❖ Overview of a simplified production process:

- To assemble a finished product, Production department requires a number of materials (or parts)
- To acquire these materials, Production department generates a material withdrawal slip, which lists all of the needed parts, and forwards it to the Warehouse

Information Systems for Manufacturing Management

❖ Overview of a simplified production process:

- If the parts are available in the Warehouse, then the Warehouse delivers them to Production. If the parts are not available, then the company must purchase them via the procurement process.
- After Production has created the products, it updates the production order specifying that, as planned, a specific number of units of product can now be shipped to the Warehouse.

Information Systems for Manufacturing Management

- As soon as the warehouse receives the finished goods, it issues a goods receipt document that certifies how many units of a product it received are available for sales.

Information Systems for Manufacturing Management

- ❖ The goal of production or manufacturing management is to optimally deploy human resources, machines, and materials to maximize production of goods and services by the organization
- ❖ In order to attain this goal, various types of information will be required.

Information Systems for Manufacturing Management

❖ Strategic Information for:

- Location of new production facilities
- Design of new products (use of CAD)
- Yearly and monthly production quotas and alternate schedules
- Policies on machine replacement, augmentation, and modernization

Information Systems for Manufacturing Management

❖ Strategic Information for:

- Introduction of new production technologies, acquisition, and mergers
- Identification of best product mix
- Policy on quality assurance

Information Systems for Manufacturing Management

❖ Tactical Information for:

- Identification and control of areas of high cost such as WIP inventories
- Identification of critical bottlenecks in production
- Identification of alternate production schedules based on tools, machines, material, and personnel availability

Information Systems for Manufacturing Management

❖ Tactical Information for:

- Performance measures of machines (breakdown histories and cost of repair and failure) to decide on replacement
- Quality control measures

Information Systems for Manufacturing Management

❖ Operational Information for:

- Monitoring up to date production information by examining assemblies, detecting likely shortages and generating early warning
- Scheduling better production dynamically
- Preventive maintenance schedules of machines

Information Systems for Manufacturing Management

❖ Operational Information for:

- Monitoring tools, machines, and human resources availability
- Ensuring quality at each step in production
- Machine control (i.e., controlling the action of machines and equipment)

Information Systems for Manufacturing Management

❖ Production Planning:

- This sub-system maintains data on all production-related activities such as:
 - ✓ raw materials,
 - ✓ sales forecasts and plans,
 - ✓ production schedules, and
 - ✓ bill of material for different products

Information Systems for Manufacturing Management

❖ Production Planning:

➤ This sub-system also maintains data on:

- orders for repetitive manufacturing,
- costs of production data, and so on.

➤ It is a high-level module for managing the production function including activities such as routing, scheduling, and loading.

Information Systems for Manufacturing Management

❖ Production Planning:

- Production planning has evolved from Materials Requirement Planning (MRP).
- Independent demand items (e.g., the number of identical personal computers a computer manufacturer will sell).

Information Systems for Manufacturing Management

❖ Production Planning:

- In manufacturing operations, the demand for some items is interdependent.
- For example, a company that makes three types of chairs, all of which use the same screws and bolts.

Information Systems for Manufacturing Management

❖ Production Planning:

- In this case, the demand for screws and bolts depends on the total demand for all three types of chairs and their shipment schedules.
- The planning process that integrates production, purchasing and inventory management of interdependent items is called materials requirement planning (MRP).

Information Systems for Manufacturing Management

❖ Production Planning:

➤ The main functions of MRP are,

- ❑ to monitor stocks and

- ❑ to determine which material you need in what quantity at what time, and

- ❑ to create the corresponding order proposals from this subsystem

- ✓ Production orders

- ✓ Purchase orders

Information Systems for Manufacturing Management

❖ Production Planning:

- In MRP, the subsystem compares available stock or the scheduled receipts from purchasing or production with planned requirements in the net requirements calculation.
- $\text{Net Requirement} = \text{Planned Requirement} - (\text{Available stock at warehouse} + \text{Scheduled receipts from purchasing or production})$
- Planned Requirement is calculated through explosion of bill of materials

Information Systems for Manufacturing Management

❖ Production Planning:

- Bill of Material (BOM) is a complete, formally structured list which make up the components of a product or assembly.
- The list contains the material identification number of each item, together with the quantity , unit of measure, and indicator for purchase or production.
- We can explode a BOM to show the total quantity of each item required to meet the planned requirement of the finished product.

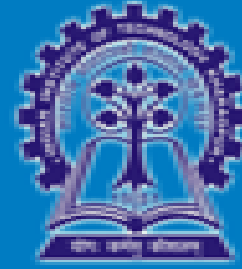
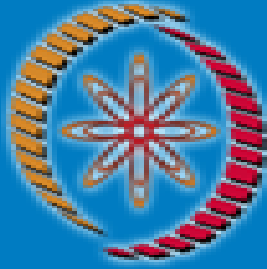
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Week 5: Module 2

Information Systems for Manufacturing Management (Continued)



CONCEPTS COVERED

- **Information Systems for Manufacturing Management**
- **Associated Business Processes and Subsystems for Manufacturing Management**

Information Systems for Manufacturing Management

❖ Capacity Planning:

- Capacity refers to the ability to produce output per time period.
- Capacities can be allocated to work centres or resources.
- Capacity requirements specify how much capacity is required for individual orders at a specific time.
- Capacity Requirement Planning is a tool for determining available capacity and capacity requirements, and for carrying out capacity levelling.

Information Systems for Manufacturing Management

❖ Production Control:

- This function helps maintain quality of the products by keeping a close eye on activities such as ordering, follow-ups, and inventory control

❖ Product Design:

- This function deals with all the activities that give shape to the product

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

➤ This subsystem automates

✓ the creation and

✓ revision of designs,

□ using computers and sophisticated graphics software.

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

➤ Using a more traditional physical design methodology,

❑ Each design modification requires

✓ a mould to be made and

✓ a prototype to be tested physically.

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

- This process is repeated many times
- ✓ which is very expensive and
- ✓ time consuming

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

➤ Using a CAD workstation,

✓ the designer need only make a physical prototype toward the end of the design process

✓ because the design can be

❑ easily tested and

❑ changed on the computer

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

- For example, Ford Motor Company used a computer simulation
 - ✓ to create an engine cylinder that came up with the most efficient design possible
- CAD systems have also provided many benefits to companies like
 - ✓ Tata Motors as well as
 - ✓ Jaguar Land Rover

Information Systems for Manufacturing Management



Design of Engine Components Using CAD System

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

➤ The ability of CAD software to provide

❑ design specifications for the tooling and manufacturing processes

✓ saves a great deal of time and money

✓ while producing a manufacturing process with far fewer problems.

Information Systems for Manufacturing Management

❖ Computer Aided Design (CAD):

- CAD systems are able to supply data for 3-D printing also known as additive manufacturing
- ✓ Additive manufacturing uses machines to make solid objects, layer by layer, from specifications to a digital file
- 3-D printing is currently being used for
 - ✓ producing prototypes, and
 - ✓ customized manufacturing work

Information Systems for Manufacturing Management



Additive Manufacturing System

Information Systems for Manufacturing Management

❖ Virtual Reality Systems:

➤ These subsystems have

✓ visualization,

✓ rendering, and

✓ simulation capabilities

❑ that go far beyond those of conventional CAD systems

Information Systems for Manufacturing Management

❖ Virtual Reality Systems:

➤ These systems use

✓ interactive graphics software to

✓ create computer generated simulations

❑ that are so close to reality that users almost believe they are participating in a real-world situation

Information Systems for Manufacturing Management

❖ Virtual Reality Systems:

- In many virtual reality systems, the user dons
 - ✓ special clothing,
 - ✓ headgear, and
 - ✓ equipment depending on the application

Information Systems for Manufacturing Management

❖ Virtual Reality Systems:

➤ These clothing contains

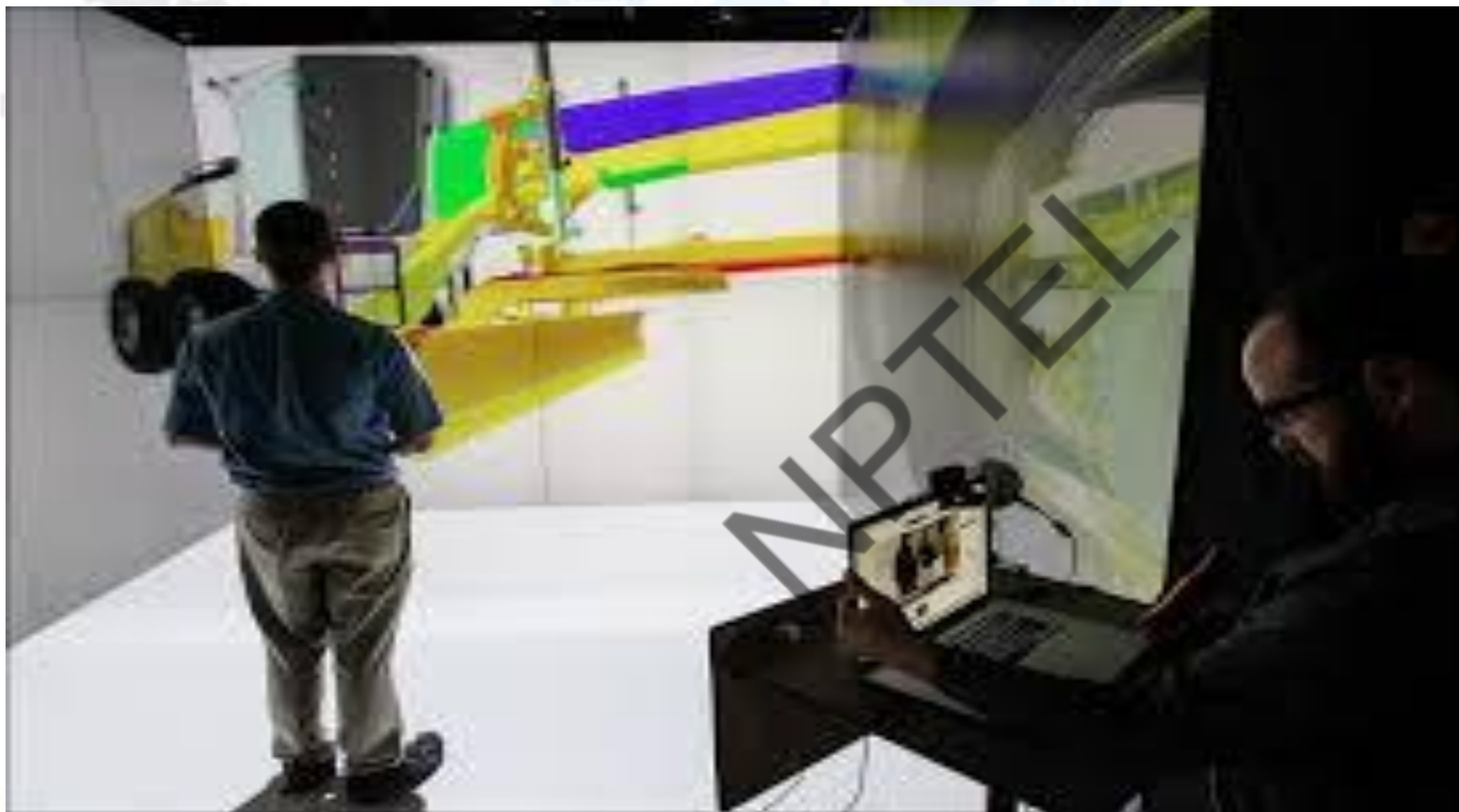
- ✓ sensors that record the user's movements and
- ✓ immediately transmit the information back to the computer

Information Systems for Manufacturing Management

❖ Virtual Reality Systems:

- For example, to walk through a virtual reality simulation of a house,
 - ✓ you would need special clothing that monitors the movement of your feet, hands, and head
 - ✓ you will also need
 - ❑ goggles containing video screens, and
 - ❑ sometimes audio attachments, and
 - ❑ feeling gloves
- so that you can be immersed in the computer feedback

Virtual Reality System



Information Systems for Manufacturing Management

- ❖ Thus the manufacturing management information system helps a firm accomplish all those objectives as mentioned before.
- ❖ In a highly dynamic business environment, with complex production processes, volumes of data are massive.
- ❖ This system stores and manages this data and guides the manager in achieving effective control of production activities.
- ❖ For example, the inventory control system, which is a part of the manufacturing management information system, makes it easy to manage inventory automatically.

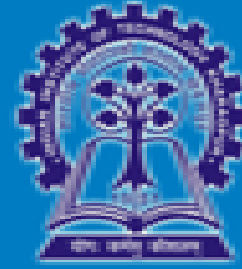
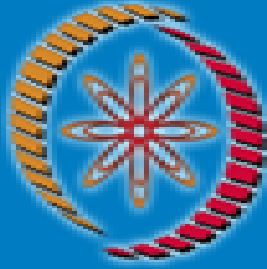
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Week 5: Module 3

Information Systems for Materials Management



CONCEPTS COVERED

- **Information Systems for Materials Management (MM)**
- **Associated Business Processes and Subsystems for MM**

Information Systems for Materials Management

- ❖ Materials management is one of the important functions in any organization wherein the materials alone may account for as much as 50% to 60% of the cost of the final product
- ❖ Proper attention and tight control is bestowed on this function to ensure proper utilization of available resources

Information Systems for Materials Management

- ❖ The magnitude of this problem increases when
 - the operations are of a large scale,
 - spread over multiple locations, and
 - the company manufactures wide variety of products

Information Systems for Materials Management

- ❖ The main consideration that shapes management decisions in materials management is
 - to ensure maintenance of minimum stock all the time, subject to
 - ✓ availability of the right material,
 - ✓ at the right place, and
 - ✓ at the right time

Information Systems for Materials Management

❖ The inventory to be maintained depends on,

- ☐ Demand
- ☐ Lead time
- ☐ Quality of material
- ☐ Supplier reliability
- ☐ Alternative material / sources

Information Systems for Materials Management

❖ And the most important factor on which the inventory to be maintained depends is,

❑ prompt and up-to-date information on

- shipments,
- receipts,
- rejections,
- stocks, and
- consumption for enabling better control

Information Systems for Materials Management

➤ Thus, an efficient MIS almost always helps the managers,

- ❑ to reduce inventories and

- ❑ ensure availability of

- ✓ the right material,

- ✓ at the right place, and

- ✓ at the right time

Information Systems for Materials Management

- ❖ The primary objectives of MIS for “materials management” are,
 - To maintain up-to-date stocks of all materials
 - To immediately respond to any changes in the production plan, due to
 - To respond to changes in the demand pattern, or actual production, by generating delivery schedules and purchase orders for suppliers

Information Systems for Materials Management

- ❖ The other related objectives of MIS for “materials management” are,
 - To report critical or excess inventory items
 - To initiate follow-up action on the suppliers
 - To ensure availability of the right material at the right time

Information Systems for Materials Management

- ❖ The other objectives of MIS for “materials management” are,
 - To assist materials managers in proper assessment of the performance of the suppliers in terms of
 - ✓ quality,
 - ✓ reliability, and
 - ✓ price

Information Systems for Materials Management

- ❖ The other related objectives of MIS for “materials management” are,
 - To accurately report on the current inventories and forecast the same for the future periods
 - To enable the top management in review and formulation of purchasing policies
 - To provide demand forecasting for material planning

Information Systems for Materials Management

- ❑ Major goal is to have readily available materials needed by the organization and to keep optimal levels of stock of items
- ❑ To attain this goal, the information necessary at various levels of management may be classified as follows:

Strategic Information Requirement for Materials Management

❖ Strategic Information

- ☐ Developing vendors for critical items
- ☐ Determining optimal levels of inventory
- ☐ Determining proportion of materials to be ordered from different vendors
- ☐ Reducing varieties of inventory

Tactical Information Requirement for Materials Management

❖ Tactical Information

- ☐ Developing vendor performance measures
- ☐ Determining optimal reorder levels
- ☐ Determining issues of items to shops versus standard needs

Tactical Information Requirement for Materials Management

❖ Tactical Information

- ☐ Controlling high value of inventory
- ☐ Determining impact of
 - ✓ material cost,
 - ✓ procurement with design changes, and
 - ✓ new project introduction

Operational Information Requirement for Materials Management

❖ Operational Information

- ☐ List of excess and deficient items received
- ☐ List of items rejected
- ☐ List of critical items received

Operational Information Requirement for Materials Management

❖ Operational Information

- ☐ List of items in transit and under inspection
- ☐ Value of inventory-on-hand
- ☐ Goods received, rejected, and issued

Operational Information Requirement for Materials Management

- ❖ Provide proper feedback on
 - the impact of current decisions, and
 - to help in formulating new guidelines consistent with the overall interests of the organization
- ❖ Such systems also highlight areas wherein there is a possibility of the guidelines not being fully implemented

MIS for Tactical and Operational Requirement for Materials Management

- ❖ Ordering subsystem enables materials managers to,
 - Calculate optimum reorder quantity, taking into account
 - ❑ manufacturing and supply lead times,
 - ❑ such that the inventory will be maintained at the safety stock level

MIS for Tactical and Operational Requirement for Materials Management

❖ Ordering subsystem enables materials managers to

- Prepare delivery schedules for each supplier of each item, taking into account
 - ✓ the minimum lot size,
 - ✓ transit time, and
 - ✓ inter-shipment times

MIS for Tactical and Operational Requirement for Materials Management

- ❖ Ordering subsystem enables materials managers to
 - Maintain firm minimum schedules on the suppliers
 - ❑ for some period,
 - ❑ as per the organization policy,
 - ❑ so that the suppliers get sufficient lead time
 - ❑ to plan their production to meet the revised requirements

MIS for Tactical and Operational Requirement for Materials Management

❖ Ordering subsystem enables materials managers to

➤ ensure that all delivery schedules,

❑ at least up to the firm period,

❑ are covered by valid purchase orders

❑ with the latest terms and conditions

Operational Information Requirement for Materials Management

- ❖ System Deliverables include,
 - ✓ Monthly inventory statements
 - ✓ Inventory forecast and budget
 - ✓ Critical items report

Operational Information Requirement for Materials Management

❖ **System Deliverables include,**

- ✓ **Effect of price changes of raw materials and components in the product**
- ✓ **Theoretical versus Actual issues report**
- ✓ **Ideal inventory report**
- ✓ **Non-moving / Obsolete items report**
- ✓ **Purchase Variance report**

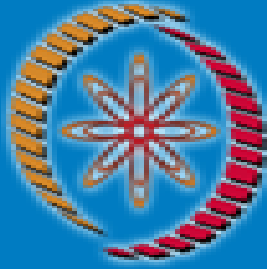
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Week 5: Module 4

Information Systems for Quality Management



CONCEPTS COVERED

- **Information Systems for Quality Management (QM)**
- **Associated Business Processes and Subsystems for QM**

Information Systems for Quality Management

- ❖ **Quality Management Systems** integrate manufacturing, quality, and intelligence capabilities with the goal of continuously improving both product and process qualities
- ❖ These systems provide information about the quality of incoming material and parts as well as the quality of in-process, semi-finished and finished products
- ❖ These systems focus on preventing defects and as a result, minimize the number and impact of defects and quality recalls

Information Systems for Quality Management

- ❖ These systems record the results of all inspections and then compare the actual results with the expected results (established metrics)
- ❖ Quality control data may be collected by sensors or radio frequency identification (RFID) systems and interpreted in real time or they can be stored in a database for future analysis
- ❖ These systems also generate periodic reports on the percentage of defects or percentage of rework needed to keep managers informed of performance among departments

Information Systems for Quality Management

- ❖ All people participating in the value adding processes can connect to these systems and benefit from high quality, real-time information about all elements of the supply chain

Information Systems for Quality Management

❖ Perspectives of Quality

➤ In a manufacturing-oriented company, quality has many facets including:

- ☐ Engineered and manufactured product quality
- ☐ Quality of supplied parts
- ☐ Control and documentation of all quality-related processes
- ☐ Quality inspections and tests

Information Systems for Quality Management

❖ Perspectives of Quality

- Quality inspections have until now been the cornerstones of quality management
- Now however, world-class manufacturing (WCM) focuses on engineering and management processes – the emphasis has clearly changed to engineered quality

Information Systems for Quality Management

❖ Perspectives of Quality

- Quality management system provides functionality for quality control throughout the supply chain
- Here you find a rich set of capabilities to plan and perform quality inspections of manufactured parts as well as of purchased parts or raw materials
- Organizations can define inspection operations for in-process inspections or they can use inspection orders to control purchased parts

Information Systems for Quality Management

❖ Perspectives of Quality

- Organizations may carry out inspections continually or periodically using statistical process control (SPC)
- All inspection data and quality information are available for online display

Information Systems for Quality management

❖ **Quality Management System uses the following basic data to control the tasks of quality management:**

- ☐ **Material Master (containing the basic data for a material)**
- ☐ **Inspection Characteristics**
- ☐ **Inspection Methods**
- ☐ **Sampling Procedures**
- ☐ **Inspection Catalogs**

Information Systems for Quality Management

- ❖ Inspection characteristics in a plan containing a description of what is to be inspected, an inspection method, a sampling procedure, and a dynamic modification rule (for sample determination based on the quality history)
- ❖ Inspection characteristics can be linked to a material specification, which the system can use as an inspection specification

Information Systems for Quality Management

- ❖ Inspection plans contain inspection operations, inspection characteristics and test equipment
- ❖ Inspection plans can be created using master inspection characteristics.
- ❖ Inspection plans can be assigned to the materials to be inspected

Information Systems for Quality Management

❖ Quality Inspection at Goods Receipt:

- Based on the settings in the material master, the system creates an inspection lot at goods receipt and this specifies how a material is to be inspected
- An inspection lot is created automatically or manually
- After the inspection, results are recorded in the system and based on this usage decision (i.e., whether to accept the material or not) is taken
- For a certified vendor, there is no need of inspection lot during goods receipt

Information Systems for Quality Management

❖ Vendor Evaluation:

- ☐ Based on the usage decision of the material (i.e., whether the material is accepted or rejected), a vendor's quality score can be calculated
- ☐ This quality score along with other criteria like vendor's price performance, delivery performance and service performance makes a vendor's overall score
- ☐ Weightage is given to each criteria
- ☐ Criteria to be used may differ by organizations
- ☐ However, quality, price, delivery and service are the most common criteria used across industry

Information Systems for Quality Management

❖ Blocking of Invoices/Vendors based on Quality Inspection:

- A vendor's invoice can be blocked because of a quality inspection as and when an inspection lot is rejected
- If there is continuous rejection from the same vendor, the vendor itself can be blocked

Information Systems for Quality Management

❖ QM Standard Reports

- ❖ QM systems can provide lot of standard reports on defects, inspection lots, inspection results, and so on either from the view point of vendors or from the perspectives of material

Information Systems for Quality Management

❖ QM in Production

❖ Following quality management processes are supported during production:

- ☐ Inspection during production
- ☐ Statistical process control
- ☐ Test equipment calibration

Information Systems for Quality Management

❖ Statistical Process Control (SPC)

- ☐ During production, the system uses statistical process control (SPC) techniques to monitor and control the production process.
- ☐ This process involves the use of control charts, for example, to display the mean value and standard deviation of measured values.
- ☐ Control charts are graphical tools that are used to determine whether or not a process is under statistical control and to detect external impacts on the process

Information Systems for Quality Management

❖ Statistical Process Control (SPC)

- If the upper or lower limits of a control chart are exceeded, the process is out of control and the concerned process owner must take appropriate corrective action

Information Systems for Quality Management

❖ Quality Management in Sales and Service

❖ Following quality management processes are supported by the system:

- ☐ Delivering Material as per Customer's Quality Specification
- ☐ Quality Certificate
- ☐ Batch Tracking
- ☐ Batch Determination
- ☐ Quality Inspection for Delivery

Information Systems for Quality Management

❖ Delivering material as per customer's quality specification

- ❑ In “make-to-order” scenario, the characteristics required by the customer are specified in the sales order and these characteristics need to be inspected during production

❖ Quality Certificate

- ❑ When goods are shipped, a certificate can be produced by the system and can be included to document that the goods comply with the customer specification

Information Systems for Quality Management

❖ Quality Inspection for Delivery

- The system provides support to perform quality inspection before goods are issued for delivery to customer
- The quality inspection for a delivery is necessary to check the quality of a material or product before it leaves the premises of the manufacturer or vendor to ensure that the goods are in perfect condition before they are sent to the customer

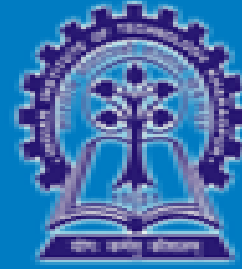
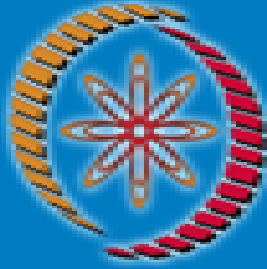
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Week 5: Module 5

Information Systems for Marketing



CONCEPTS COVERED

- **Information Systems for Marketing (MKIS)**
- **Business Processes and Subsystems for Marketing**

Information Systems for Marketing (MKIS)

- ❖ The role of this type of information system is to help the managers identify key customers
- ❖ It can be also used to generate reports on sales based on
 - ✓ time,
 - ✓ region, and so on.

Information Systems for Marketing (MKIS)

- ❖ If a customer is identified as a potential source of revenue, their loyalty can be appreciated in the form of;
 - ✓ personalized after-sales service,
 - ✓ discounts,
 - ✓ new offerings, or
 - ✓ prioritizing their orders

Information Systems for Marketing (MKIS)

- ❖ Customer satisfaction is key to the success of business today, and so it becomes important to identify the target market accurately
- ❖ Most businesses with similar offerings try to differentiate themselves through the experience they create for customers

Information Systems for Marketing (MKIS)

- Marketing information systems help with market segmentation
 - so that the appropriate marketing activities can be targeted at the relevant segment
- Very few firms today produce products for the mass market

Information Systems for Marketing (MKIS)

- Marketing information system processes data such as;
 - ✓ sales figures,
 - ✓ past trends, and
 - ✓ government policies to get the useful information that can be utilized by managers for taking decisions

Information Systems for Marketing (MKIS)

- When you buy an item from a retail store, your billing data is fed into the system
- Managers can,
 - ✓ take a look at the consolidated statements of such data. and
 - ✓ draw conclusions about the products that are in demand

Information Systems for Marketing (MKIS)

- If a discount scheme was offered, managers can understand the impact that the scheme had on sales
- Similarly, the performance of sales team in the store can also be evaluated based on,
 - the data from the marketing information system

Information Systems for Marketing (MKIS)

❖ Marketing is concerned with:

- Identification of the customer group for an organization's products or services,
- Determination of what these customer group need,
- Planning and enabling development of the identified products/services to meet those needs, and
- Advertising and promoting these products and services

Information Systems for Marketing (MKIS)

- ❖ A "marketing information system" is defined as,
 - ❑ a "system in which marketing data is
 - ✓ formally gathered,
 - ✓ stored,
 - ✓ analyzed, and
 - ✓ distributed to marketing managers in accordance with their informational needs on a regular basis" (Jobber, 2007)

Information Systems for Marketing (MKIS)

- ❖ Marketing information is gathered continuously from sources inside and outside an organization or a store

Information Systems for Marketing (MKIS)

- ❖ An overall “marketing information system” can be defined as,
 - ✓ “a set structure of procedures and methods for the regular and planned collection, analysis and presentation of information for use in making marketing decisions” (Kotler et al., 2006)

Information Systems for Marketing (MKIS)

- ❖ MKIS helps to monitor the degree of the marketing success
- ❖ It helps the managers to ensure that the objectives of the operations function is also achieved

Information Systems for Marketing (MKIS)

❖ Relevance of MKIS:

- When companies diversify into new markets, both
 - ✓ the companies and
 - ✓ customer's point of view
 - are needed to be handled by the marketing managers
- ❑ Therefore, there would be greater need for marketing information

Information Systems for Marketing (MKIS)

❖ Relevance of MKIS:

- Marketing managers should be aware of
 - ✓ the drivers behind consumers' preference for a particular brand
- They should know about the points
 - ✓ that distinguish their brands from that of the rivals
- This awareness is possible only with the help of a well-designed effective MKIS

Information Systems for Marketing (MKIS)

❖ Relevance of MKIS:

- Marketing managers should also be aware of
 - ✓ the response of the consumers towards different strategic implementations, and
 - ✓ technological developments adopted by the competitors with respect to non-price grounds of competition

Information Systems for Marketing (MKIS)

❖ Relevance of MKIS:

➤ An effective MKIS is designed to,

☐ gather,

☐ integrate,

☐ process, and

☐ distribute

✓ such information comprehensively from all sources, including that from marketing research

Information Systems for Marketing (MKIS)

- ❖ Marketing information system consists of several subsystems
 - Each of these subsystems,
 - ✓ perform a specific task, and
 - ✓ supplies specific information to the marketing managers

Information Systems for Marketing (MKIS)

- ❖ Some of the subsystems,
 - ✓ use advanced analytical models to provide
 - ❑ information about the present environment, as well as
 - ❑ the likely future scenarios

Information Systems for Marketing (MKIS)

❖ Subsystems of MKIS:

- Marketing Intelligence Subsystem
- Market Research Subsystem
- Promotion and Advertising Subsystem

Information Systems for Marketing (MKIS)

❖ Marketing Intelligence Subsystem

- It is the main source used by managers for
 - ✓ obtaining daily information of the external environment,
 - ✓ hence, assists marketing managers to react to the changing scenario in a rapid manner

Information Systems for Marketing (MKIS)

❖ Marketing Intelligence Subsystem

- It filters data and stores critical information related to
 - ✓ competitor's transaction data, and
 - ✓ market-related intelligence data
- This subsystem works as a key information provider for other subsystems in MKIS

Information Systems for Marketing (MKIS)

❖ Marketing Intelligence Subsystem

➤ Sources of Marketing Intelligence

- ✓ Marketing Managers
- ✓ Sales Forces

Information Systems for Marketing (MKIS)

❖ Marketing Intelligence Subsystem

➤ Sources of Marketing Intelligence

- ✓ Middlemen
- ✓ Specialists
- ✓ Marketing Information Section

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THANK

YOU !