
UNIT 10 MIS AND LOGISTICS PLANNING

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10.0 OBJECTIVES

After studying this unit, we should be able to:

- 1 Explain MIS and components of MIS;
- 1 Define market intelligence and market feedback system;
- 1 Describe sales reporting mechanism;

- 1 Explain Marketing decision support system; and
- 1 Discuss logistics, importance of logistics, and checklist for efficient logistics support.

10.1 INTRODUCTION

Marketing managers of any company should have a handful of information so that they can plan strategies to help running the business successfully. Companies who wants to stay in the competition finds out the information needed by the managers and designs marketing information systems (MIS) to provide the required information. Getting the appropriate information about the market and other competitor is very essential for any company to progress. Market decisions are based on the gathered information.

Logistics plays an important role in any business, as a customer always expects on time delivery of the product. Failing to fulfill the expectation dissatisfies the customer, which can affect company sales and reputation in the market. Logistics is providing goods to the end user.

In this chapter, we will learn about the market information system, sales reporting mechanism and the logistics.

10.2 MARKETING INFORMATION SYSTEMS

Marketing information systems (MIS) is a computer-based system, which helps managers in collecting, organizing, and evaluating the data efficiently. An MIS includes database, hardware, decision support system, applications, and software for the efficient running of the system.

According to Kotler "A marketing information system (MIS) consists of people, equipment, and procedures to gather, sort, analyze, evaluate, and distribute needed, timely, and accurate information to marketing decision makers."

i. Components of MIS

MIS involves finding out the information required by the managers, gather the required information, and presenting that information to managers in a timely fashion.

The components of MIS are:

- a. Internal company records
- b. Marketing intelligence system
- c. Marketing research system, and
- d. Marketing decision support analysis

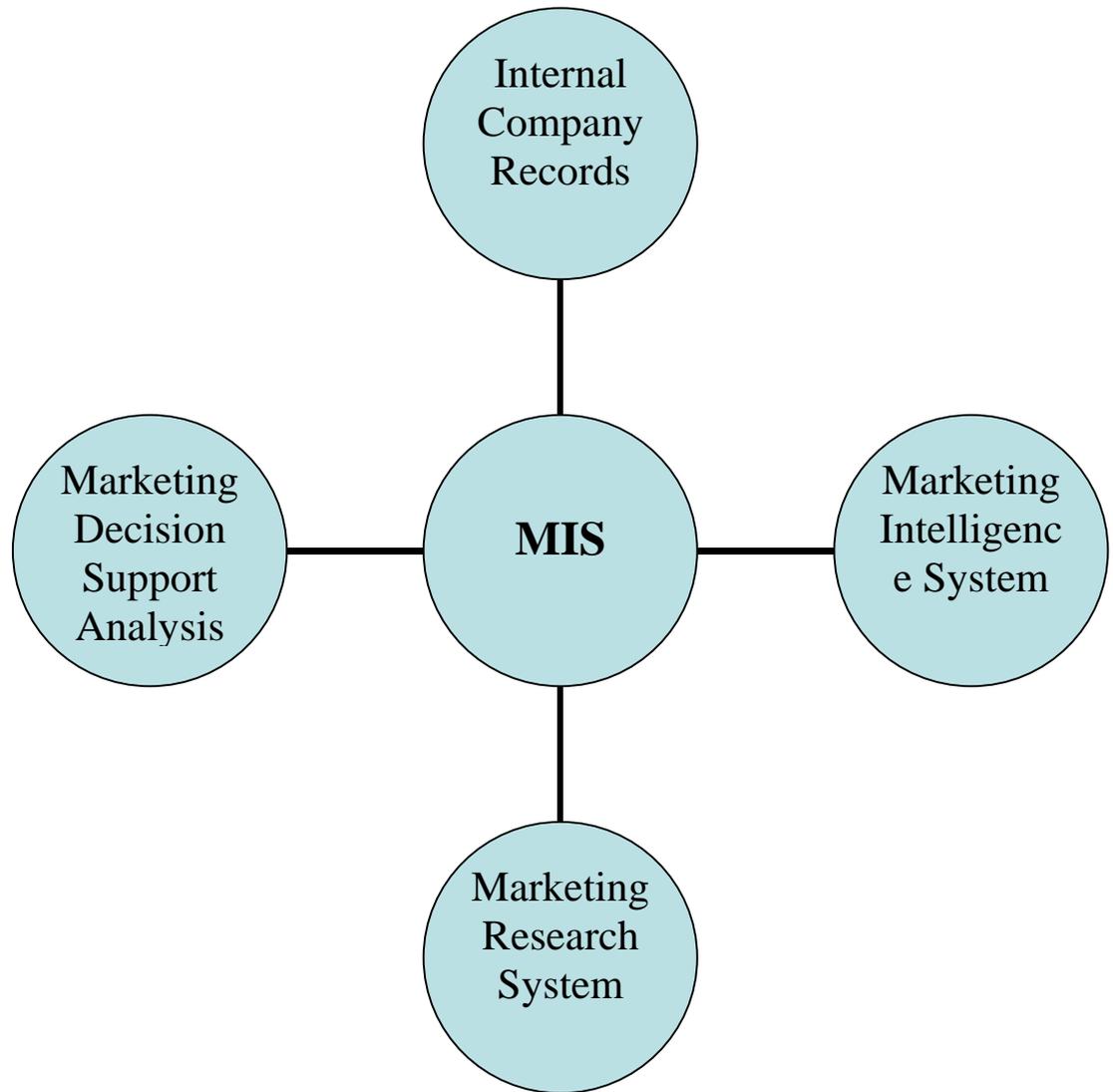


Figure - 10.1

- a. Internal Company Records:** Internal company records are used to know about the market. Internal reports are made which includes reports on orders, sales, price, costs, inventory levels, payments etc. to keep tab and handle the day to day operations of the company.

Internal report formats and designs are driven by business processes followed by various departments. For example finance department will have its own set of reports while sales department will have its own different set to meet its requirements.

An internal report consists of:

- i) Order-to-Payment Cycle:** The steps included in this cycle are:
- 1 Ordering - done by sales people, dealers, and customers.
 - 1 Invoices are prepared and copies are dispatched to different departments
 - 1 On availability of stock goods are delivered otherwise out-of-stock items are reordered.

A customer expects on time delivery of the ordered item. Therefore, the above steps should be performed quickly.

ii) Sales Information Systems: Marketing managers require the latest and updated information about the market. Using this information, they can analyse data about the prospects/customers and immediately send feedback/sales reports to the sales staff at the front end for taking necessary action to either increase sales or stop fall in sales.

According to Kotler some questions that can be asked from the managers to know their information needs are:

1. What decisions do you regularly make?
2. What information do you need to make these decisions?
3. What information do you regularly get?
4. What special studies do you periodically request?
5. What information would you want that you are not getting now?
6. What information would you want daily? Weekly? Monthly? Yearly?
7. What magazines and trade reports would you like to see on a regular basis?
8. What topics would you like to be kept informed of?
9. What data analysis programs would you want?
10. What are the four most helpful improvements that could be made in the present marketing information system?

b. Market Intelligence System: An internal company record provides the results data however market intelligence system gives data about the ongoing activities in the market place.

Marketing Intelligence System:

According to Kotler, "A marketing intelligence system is a set of procedures and sources used by managers to obtain everyday information about developments in the market environment." Information is gained through various sources like reading articles, talking to customers, distributors, and suppliers, meeting with other company persons etc.

The steps involved in marketing intelligence systems are:

1. Training and motivating the sales force to keep a track on new developments.
2. Motivate distributors, retailers and other mediators to pass the knowledge.
3. Companies should have knowledge about the competitors. A company can get information about its competitors by:
 1. Buying the competitors product

- 1 Attending trade shows, and meetings
- 1 Talking to employees, dealers, suppliers
- 4. Sending information for the manager to make business decisions. Information should be send carefully to the concerned person. Only the concerned person should get the required information.
- 5. A customer advisory panel should be made, having customers as the members. Where the topic discussed can be customer's requirement of services, new technologies, or anything a customer want to share with the company about the products. It helps the company to understand the customer needs.
- 6. Purchasing the information from outside sources.

Establishment of marketing information center to collect and circulate the information.

c. Marketing Research System: According to Kotler, "Marketing research is the systematic design, collection, analysis, and reporting of data and findings relevant to a specific marketing situation facing the company". The Marketing research process involves the following:

- i) Define the problem and research objectives
- ii) Develop research plan
- iii) Collect information
- iv) Analyze information, and
- v) Present the findings

Note: Marketing research system is discussed in detail in the chapter "Fundamentals of marketing".

d. Marketing Decision Support System: Marketing decision support system is a collection of data, tools, techniques that helps the marketing managers to take important decisions. These are customized internal as well as external reports that help a manager get a bird's eye view of the business. Marketing decision support system will be discussed later in the same chapter.:

Check Your Progress - 1

- 1. Which component of MIS would you use to get the updated info about the market developments?

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10.3 SALES REPORTING MECHANISM

The decisive moment in any business is the sales numbers. The sales numbers contain every possible reason of low/high sales. It means that after going through the sales reports one can guess reasons for sales drop or increase for the business at that point of time. A drop in sales volumes can be attributed to reasons like out of stock condition, more number of holidays in the month or loss of a key distributor for the company. Similarly, increase in volumes can also be assigned an appropriate reason.

i. Importance of Sales Reporting

Sales reporting mechanism is used to capture the sales data accurately, timely, and in detail and, which is critical to assess if the organization strategies are giving desired results and required mid course corrections. Sales reporting can be done at various parameters some of them could be:

- 1 territory level details i.e. region wise, zone wise
- 1 product wise weekly, monthly sales figures
- 1 sales representative wise weekly, monthly sales figures
- 1 Distribution channel wise weekly, monthly sales figures
- 1 Competitors sales figures on monthly basis

It is important to collect information in as much detail as possible. This data can be collected from sales team, or centrally from warehouse/dispatch center or from distribution channel. Once the data is collected, it is used in various analyses to derive reports and conclusions.

Sales reporting mechanism helps in building common objective amongst the sales team to move faster to achieve targets for the accomplishment of the overall organizational goal. The two important benefits of sales reporting are:

a. Faster Growth - Target Achievement

A sales report provides direction to sales/marketing team to reach the desired goal. It also provides the area of growth and concern on which a company can work. An accurate and timely sales report helps grow the business. These reports can be used to ensure that all the clients, and the entire territory is adequately covered. For example, a company has set itself a target of Rs.50 lakhs of sales in financial year 2006-2007. At the end of the first quarter, the company finds that it has achieved only Rs. 8 lakhs, a shortfall of Rs. 4.5 lakhs (assuming that it should have achieved 25% of estimated yearly sales in first quarter). To analyze the reasons for low sales, the company can use sales report across various parameters like - zones, product lines, distributors, sales man, months etc. to pin point the find the actual cause. With this analysis, company can take appropriate corrective measures to achieve its final targets.

b. Focus in Employees

Sales reports are actively used by sales force as well as the support functions to

know about the organisation's overall goals. It helps them to plan their efforts. For example, based on the analysis of sales report, the sales team could do the following activities:

- 1 Plan new promotion activities to push sales in a particular market
- 1 Plan their sales calls as per market requirement
- 1 Sales manager could motivate the team which has done well and set their performance as benchmark for others to follow

ii. Sales Reports

We have just discussed the criticality of sales reporting in any business organization. Some of the critical aspects of sales reporting plan are as follows:

a. Target Setting

Sales report should measure achievement against the set target. Sales target are derived from annual sales forecast, which in turn is derived from management's decision on desired market share and their assessment of external environment. The sales forecast becomes the starting point for planning production, finance and workforce size etc. The sales forecast is further broken up into sales forecast of different products and different territories. Such plans are further divided into sales for each area and each sales representative.

In an ongoing business, the sales target should be at least equal to sales achievement of last year and plus some growth. For example, last year in territory A for product Z, a sales person achieved 100 units. Then for the next year he should at least target 100 units plus a reasonable growth of 15% to finalise his sales target. In this case it would be 115.

The growth is a function of sales representative's assessment of market, his willingness to accept higher target, spend budget and any significant change in external environment.

The business owner has to be cautious while setting targets. Setting very high targets may de-motivate the sales team and at the same time, setting very low target may lead to under utilization of sales team potential and complacency in the sales force.

b. Report Analysis

Any sales report contains lots of insights about the market and the sales team. These insights have to be derived from the data and require human intelligence. To keep the sales team motivated, it is important that sales manager or the business owner analyzes the data and gives a regular feedback to the sales team. Over a period, certain analysis can be standardized. A typical sales report for a dairy unit would look like:

| Month | April | May | June | July |
|------------------------------------|-------|-----|------|------|
| Sales of Liquid Milk (Kilo Liters) | 100 | 100 | 90 | 88 |
| Sales of Ice-Cream (Liters) | 200 | 210 | 210 | 240 |
| Target achieved (%) | 80 | 80 | 75 | 74 |
| No of sales call | 80 | 84 | 84 | 96 |
| No of active dealers | 30 | 25 | 30 | 28 |
| No of new dealers added | 12 | 13 | 13 | 13 |
| Traveling expense | 2 | 2 | 2 | 2.2 |

Sales manager or the business owner can analyze the above report as follows:

Sales Growth: Sales of Ice-cream is declining while sales of Liquid Milk is growing. This data can be compared with similar data from other regions. In case the trend is showing faster growth figures month over month in other regions, then the company needs to further probe into communication strategy, product features, pricing etc. to understand why sales growth is lower in case of this territory. Sales team needs to be asked reasons for the slower growth.

No of Sales Calls: This measures number of customers (dealers/distributors) visited. In this case, the number is almost stagnant. Sales manager should give feedback to sales team on expected number of sales call and plan to achieve it.

No of Active Dealers: This measures number of dealers who are selling our product. In this case, this data is also stagnant. The sales manager needs to compare it with other regions and also against the given target. Another insight that can be derived from the report is that the region is losing dealers. This is derived by deducting number of new dealers added from total number of active dealers.

Such reports can be combined with other information to analyze various aspects of business.

c. Objectivity in Rewards

The reward system should be based on transparent assessment of results. In addition to annual rewards, you can have a reward system for sales contests. The annual award or an incentive scheme is announced at the beginning to incentivise the sales team to exceed the set targets. The reward system should contain a combination of growth in pay package, promotion, recognition of efforts by you and prizes for contests. These incentive schemes could be:

- a. The best salesman for the year", for the person who sells the maximum
- b. Distributor King for the year, for the person who appoints the maximum number of new distributors

Check Your Progress - 2

1) You found that the sale of cheese is declining. On which parameters would you analyze to decide on the corrective measures?

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2) Analyze the following table:

| Month | April | May | June | July |
|--|-------|-----|------|------|
| Sales of your Pouched Milk (Kilo Liters) | 100 | 100 | 80 | 70 |
| Sales of competing brand of Pouched Milk (Kilo Liters) | 0 | 0 | 40 | 60 |
| No of active dealers | 30 | 28 | 22 | 20 |
| No of new dealers added | 5 | 3 | 1 | 1 |

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10.4 MARKETING DECISION SUPPORT SYSTEM

A marketing decision support system (MDSS) helps a company to make better decisions. According to Kotler "A marketing decision support system is a coordinated collection of data, systems, tools, and techniques with supporting software and hardware by which an organization gathers and interprets relevant information from business and environment and turns it into a basis for marketing action."

A market decision support system consists of tools, models, and optimization routines. Let us have a look at each of them one by one.

The statistical tools used in decision support system are:

1. **Multiple Regressions:** It is a statistical tool to find out the correct strategy, it shows the change in dependent variable when the value of independent variable is changed. For example, if we add some promotional scheme with any milk tetra pack, how will it impact the sales?
2. **Discriminant Analysis:** A technique to differentiate an object or persons into different categories. For example, we are selling a dairy product in different locations of a city then finding out the location for maximum or minimum sale is discriminant analysis.

- 3. Factor Analysis:** Factor analysis is a mathematical tool to determine the dimensions under interconnected variables. For example, dairy products can be divided into milk and milk products, and milk can further be subdivided into packaged milk, tetra pack, loose milk etc. This factorization is helpful in understanding a business better.
- 4. Cluster Analysis:** A technique to divide the objects into identical groups. For example, in case of dairy, we can divide the city into different locations or clusters depending on the sale of a particular product. For example, with the help of Cluster analyses you can find out that the south zone in Delhi consumes more Ice-cream in brick form as compared to novelty or stick form.
- 5. Conjoint Analysis:** A technique where the users ranked preferences for offers are used to find out the users utility for each attribute and the relative importance of each attribute. The attributes for milk can be defined as packaging quality, smell of milk, timely delivery etc.
- 6. Multidimensional Scaling:** A variety of techniques for generating maps of the competitive products or brands on the basis of perception. For example, finding out the position of a dairy product with respect to other dairy brands.

Different models for marketing decision support system are:

- 1. Markov-process Model:** It shows the possibility of movement of goods from a current state to future state.
- 2. Queuing Model:** This model shows how much expected time a system can take to process the queue, if the arrival time, service time, and number of service channels are given.
- 3. New-product Pretest Model:** This model helps in estimating the relations between buyers awareness, trial, and repurchase on the basis of user's preferences, when the new product comes in the market for testing
- 4. Sales- response Models:** This model is a set of models that helps in finding out the relations between the variables. For e.g. sales-promotion expenditure, advertising expenditure etc.

As described by Kotler, optimization routines involve:

- 1. Differential Calculus:** This technique helps in finding out the maximum or minimum value along well-behaved function.
- 2. Mathematical Programming:** This technique helps finding the values that would optimize some objective function that is subject to a set of constraints.
- 3. Statistical Decision Theory:** This technique allows determining the course of action that produces the maximum expected value.
- 4. Game Theory:** This technique allows determining the course of action that will minimize the decision maker's maximum loss in the face of the uncertain behavior of one or more components.
- 5. Heuristics:** This involves using a set of rules of thumb that shorten the time of work required to find a reasonably good solution in a complex system.

Check Your Progress - 3

1) To find out effectiveness of advertisement on increasing sale, which decision support system tool would you use?

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10.5 LOGISTICS PLANNING

Making the goods available to the customer involves planning, implementation, and controlling the flow of material and goods and this whole process is known as market logistics. To deliver the goods to the customer on time and at the lowest cost, business sets up the places to store the products (warehouse) and chooses the transportation carriers.

The market logistics requires integrated logistics systems (ILS) supported by information technology (IT). Integrated logistics system involves activities like:

- 1 Materials management
- 1 Material flow systems
- 1 Distribution of goods to the end user

Information technology plays a vital role in managing market logistics. IT helps in ordering the required goods online, making payments electronically without any hassle of traveling or moving around. The various activities involve in market logistics are:

- 1 Sales forecasting - a base for any company to decide how much to produce, distribution of goods, and inventory.
- 1 Planning - Analysing and understanding market demand and planning for production
- 1 Inventory management - Managing quantity of goods/product
- 1 Packaging - Finalising packaging material, printing quality and pack sizes
- 1 In plant - warehousing : stock of raw material
- 1 Dispatching - Managing timely dispatch of received orders
- 1 Transportation - Arranging vehicles at economical price for timely delivery
- 1 Field warehousing - Managing stocks at locations away from main production unit
- 1 Final delivery to the end user and providing services

i. Importance of Logistics in Dairying

Logistics is one of the most important functions for the effective execution of dairy business plan. Nowadays logistics itself has become a business that fulfills the requirements of moving goods of any company. Logistics is also gaining more importance because of the geographical distances between the production site and the consumer. In case of dairying it assumes even more importance because of perishable nature of the products.

For many companies the market-logistics objective is defined as "getting the right goods to the right places at the right time for the least cost". However, practically it is not true in most of the cases because meeting all the objectives simultaneously is difficult. For example, delivery of goods by train will cost less but at the same time it will take more time comparative to air shipment (which will cost more).

If a company does not have an efficient logistics system, it can loose customers because of not supplying the goods on time. In case of dairying special vehicles are required because milk and most of the milk products can not be transported at ambient temperature. Insulated tankers, reefers and refrigerated vans form an essential part of the cold chain that is needed for an efficient transportation system for dairy products.

Logistics decisions are based on:

- 1 The customer's need and expectation
- 1 The services offered by the competitors
- 1 Nature and type of product

For a customer the things that matter are:

- 1 On time delivery of products
- 1 In case of defected item, the product should be taken back and should be re-supplied
- 1 Careful handling of the product

For a company it is important to know the customers requirement and the competitor's service offerings to improve the company's service level.

Milk is a perishable commodity that is required by everyone on daily basis. It is one of the most essential food items. Because of its perishable nature and almost constant requirement everyday in any household, the logistics of milk assumes a unique character and importance.

ii. Checklist for Efficient Logistics Support

For an efficient logistics, there are some decisions that need to be taken carefully.

According to Kotler the four major decisions that must be made with regard to market logistics are:

- i. How should orders be handled? (order processing)

- i. Where should stocks be located? (warehousing)
- i. How much stock should be held? (inventory) and
- ii. How should goods be shipped? (transportation)

Let us discuss each of them one by one:

i) Order Processing: the steps involved in this process are:

- 1 Receiving an order receipt
- 1 Delivering the product to the customer
- 1 Payment receiving

The order processing has to be standardized to save time to delivery. It should also be predictable. There should be a standard time from the receipt of the order and the time of dispatch of product from the dairy premises. This can be called as Order Dispatch Time. The lower this time is the better order processing system is.

Order processing should not take much time otherwise it leads to customer dissatisfaction, which can lower the company's profit.

ii) Warehousing: warehouse is a place to store the ready goods. A warehouse helps to manage the gap between the production and consumption process. The company decides number of warehouses to keep its goods. More number of warehouses helps to supply the required product to the customer quickly but in that case warehousing cost will be higher for the company. You need to manage this by efficient and judicious selection of warehousing facility across your markets. Location is a function of cost of warehouse and the cost of transportation from that warehouse. In case of dairy products large cold storage space is needed for intermediate storage of products.

iii) Inventory: Salespeople want that the company should provide the desired stock immediately that means the stock should always be there but that is not always cost-effective. Keeping a more stock requires more space and the maintenance of the stock. It may also result in more damages and storage losses.

According to Kotler, "Management would need to know by how much sales and profits would increase as a result of carrying large inventories and promising faster order fulfillment times, and then make a decision."

Inventory decision involves two important things i.e. when to order (order/reorder point) and how much to order. Management should know at what stock level a new production order for a particular product or product line has to be placed. The second important decision is how much to produce. Large number of ordered quantity reduces the frequency of ordering but increases the inventory and in turn inventory carrying costs.

iv. Transportation: transportation decisions should be taken very carefully because it affects many things that affect customer satisfaction. On-time delivery of a product, product pricing, and the product's condition after arrival; all these things

are based on the transportation choice made by the company. There are different transportation modes like rail, truck, ship, and air. Various attributes of these shipping modes that have to be considered before making choice are: speed, frequency, dependability, cost, and availability.

Check Your Progress - 4

1. Write down the activities involved in integrated logistics system (ILS).
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2. Which aspect do you think is the most important in supply of pouched milk to consumers?
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10.6 LET US SUM UP

- 1 As an entrepreneur and business owner one should have a handful of information so that you can plan strategies to help running the business successfully.

- 1 A marketing information system (MIS) consists of people, equipment, and procedures to collect/gather, sort, analyze, evaluate, and distribute. This ensures delivery of timely and accurate information to decision makers that is the business owners.

- 1 The components of MIS are: Internal company records, Marketing intelligence system, Marketing research system, and Marketing decision support analysis.

- 1 Internal company records are used to know about the market. Internal reports are made which includes reports on orders, sales, price, costs, inventory levels, payments etc.

- 1 A marketing intelligence system is a set of procedures and sources used by managers to obtain everyday information about developments in the marketing environment.

- 1 A market feedback system allows a company to test the company's performance and encourages a company to take desired steps. There are two types of market feedback systems formal and informal feedback.

- 1 Sales reporting mechanism is used to capture the sales data accurately, timely, and in detail. A sales report provides direction to sales/marketing team to reach the desired goal.

- 1 MDSS is a coordinated collection of data, systems, tools, and techniques with supporting software and hardware by which an organization gathers and interprets relevant information from business and environment and turns it into a basis for marketing action.
- 1 Making the goods available to the customer involves planning, implementation, and controlling the flow of material and goods; and this whole process is known as market logistics. ILS involves activities like Materials management, Material flow systems, Distribution of goods to the end user.

10.7 KEY WORDS

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|--------------------------------------|--|
| MIS | : Management information systems provides the needed information to the marketing managers |
| Marketing intelligence system | : provides data about ongoing activities |
| MDSS | : Market decision support system, which provides tools to collect information |
| Warehouse | : a place where the stock is kept |
| Inventory | : required amount of stock to be held by a company |
| Logistics | : making the goods available to the end user |

10.8 SOME USEFUL BOOKS

Kotler, P. (1976), Marketing Management, millennium ed., Prentice-Hall, Englewood Cliffs, NJ.

Kotler, P., Ang, S.H., Leong, S.M. and Tan, C.T. (1999), Marketing Management - An Asian Perspective, 2nd Ed., Prentice Hall.

Druzdzal, M.J. and R.R. Flynn (1999). Decision Support Systems. Encyclopedia of Library and Information Science. A. Kent, Marcel Dekker, Inc.

Sarah Iorge, "A Priceless Brand," Sales & Marketing Management, October 1998.

10.9 ANSWERS TO CHECK YOUR PROGRESS

Your answer should include the following points:

Check Your Progress - 1

1. Sales information systems of internal company records.

Check Your Progress - 2

1. Parameters can be - sales reporting at territory level, month wise, and distribution channel wise.

2. Effect of launch of competing brand:
 - 1 Drop in sales of your brand
 - 1 Increase in total market size
 - 1 Loss of dealers to competition

The management has to analyze the product features, pricing, and communication strategy of competition to find reasons for drop in sales and take corrective action

Check Your Progress - 3

1. Multiple regression could be used

Check Your Progress - 4

1. The activities involved in ILS are as follows:
 - 1 Materials management
 - 1 Material flow systems
 - 1 Distribution of goods to the end user.
2. Transportation is the most important aspect as consumers expect milk to be delivered on time.