

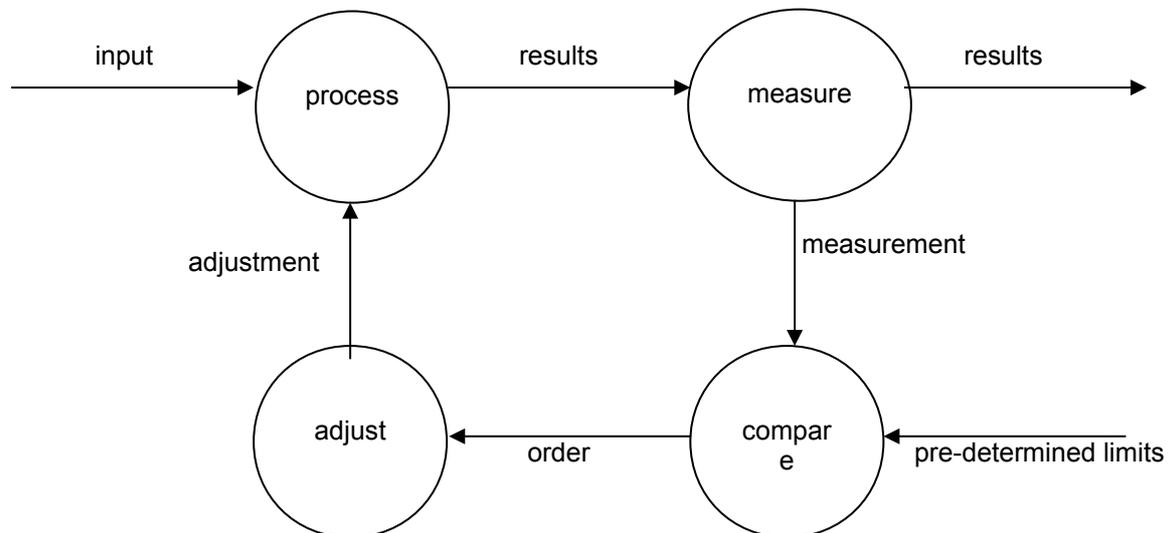
Information Systems

5 Management Information Systems

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We have seen how information is used in business. The main aim of business is to maximise profits and minimise costs. We see how management information systems (MIS) help.

5.1 Feedback Loops



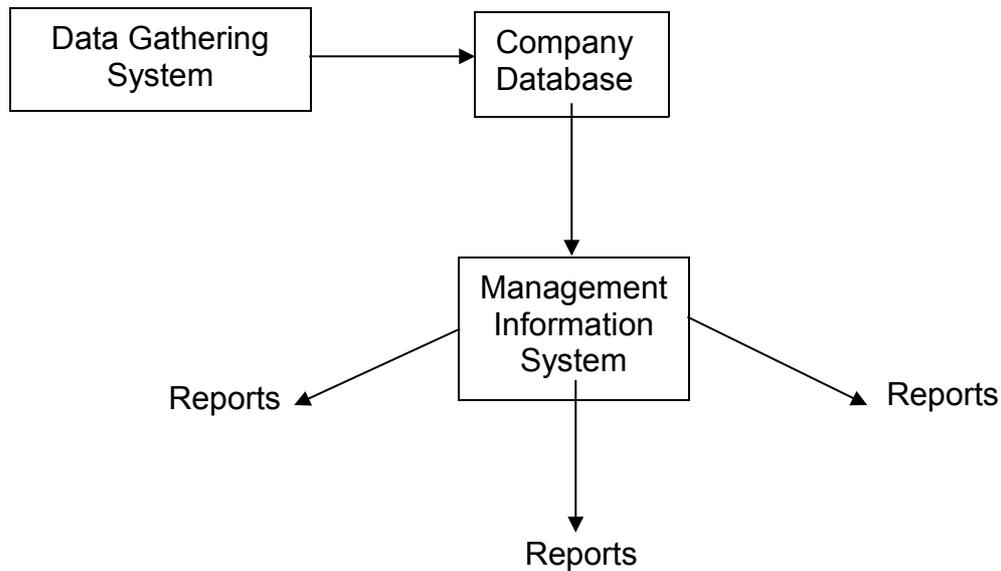
The essential process of a Management Information System is to

- measure results
- compare results with a pre-determined limit
- make adjustments if necessary

For example:

- measure the length of time students stand in the refectory queue
- compare this time with a target time e.g. less than 3 minutes
- if the students have to wait longer either employ extra staff, cooks and equipment or adjust the target

5.2 Features of an MIS



MIS relies on data from the company's databases to produce various reports. And, of course, the database gets its data from data input systems. Types of report include:

- *detailed* e.g. all the foodstuffs bought, consumed and discarded each day
- *summary* e.g. total income from sales and total expenditure on purchases this month
- *exception* e.g. generated automatically only when planned things go wrong, such as *out of potatoes* when you plan to have at least 10kg potatoes in stock at any one time. Managers do not usually need to know when things are going right, only when things are going wrong do they need to know.
- *periodic* e.g. daily, weekly, monthly, ... how many tonnes of potatoes consumed this month?
- *online ad hoc request* e.g. how many times has the chip fryer broken down this past month? [ad hoc - especially for the purpose of]

Of course, management need/want their information to be:

- accurate
- up-to-date
- easy to understand

otherwise, how can they do their job?

5.3 MIS and Functional Areas

Previously, we have largely ignored the role of management in the functional areas of a college refectory. We now put that right in the following table.

Functional Area	MIS - elements and features
Sales	<p>Sales made are recorded on the POS (point of sale) terminal by the checkout staff, who updates the database. Management reports include:</p> <ul style="list-style-type: none"> • most popular items • least popular items • money collected.
Purchasing	<p>Special and routine items purchased are recorded directly on the database via keyboard by the purchase department staff. Management reports include:</p> <ul style="list-style-type: none"> • money spent on routine items • money spent on special items • routine items that have increased in price by more than (say) 5%
Manufacturing	<p>The cooks record food cooked directly on the database via touch screen. Management reports include:</p> <ul style="list-style-type: none"> • most popular items • least popular items
Marketing	<p>Results of surveys and details of advertising are put on the database via keyboard by the marketing staff. Management reports include:</p> <ul style="list-style-type: none"> • results of surveys • costs of advertising • results of advertising
Finance	<p>Management reports include:</p> <ul style="list-style-type: none"> • predicted cash flow • profit and loss report • payroll records
Personnel	<p>Details of personnel activity are put on the database via keyboard by personnel staff. Management reports include:</p> <ul style="list-style-type: none"> • training programs undergone by staff • staff absence statistics • accident reports
Management	<ul style="list-style-type: none"> • operational: junior managers create, publish and refer to duty rosters directly on the database via keyboard • tactical: middle managers document procedures that govern how tasks are to be performed • strategic : senior managers model "what if" scenarios e.g. what if there were two queues (instead of one) - would that reduce the waiting time?

5.4 Exercises

You are the manager of a college's computing department. What management information systems reports would you expect to see and why?

Bibliography

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Next we look at tools.