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# 15 Using computer spreadsheets

An essential management task is that of planning for future business activities. Among other things this may involve identifying potential markets and developing suitable products and services to satisfy demand, or perhaps consolidating the current share of an existing market. Whatever the case, planning is critical if our business is to remain competitive and profitable.

Having selected a potential course of action to be pursued, this is required to be assessed in monetary terms prior to incorporation in the annual budget. In the case where the budget indicates an inadequate financial return we will wish to know how profit would subsequently respond to certain changes in particular revenue and cost components. Examples are as follows:

- ◆ If we were to reduce admission fees by 10%, what is the possible impact on demand and how is this likely to effect the average visitor spend in the rest of the business mix, such as gift and souvenir shop sales?
- ◆ How would the introduction of a take-a-way food facility impact on our existing restaurant demand and what are the implications for revenue, cost and profit?
- ◆ What is our likelihood of maintaining average rate and occupancy by an in-room added-value policy, such as a complementary half-a-bottle of champagne on ice and fresh strawberries included for new arrivals, and how could this influence profit?

In the past, answers to these and other similar 'what if?' questions used to involve laborious calculation and recalculation of the revenue and cost items to map out alternative pathways. However, with the widespread availability of computer spreadsheets these 'what if' kind of questions raised by managers can be answered with greater ease and effectiveness than was previously possible. Using computer spreadsheet software, we can design and build effective models which facilitate routine, day-to-day, financial planning and control requirements, more simply and rapidly.

The aim of this chapter is three-fold, as follows:

- ◆ Explain and illustrate how a simple financial model can be created and tested.

- ◆ Outline the essentials of spreadsheet design and relate the principles to the simple model.
- ◆ Identify how such technology can be best utilised to aid management decision making.

## A brief review of the spreadsheet

A spreadsheet takes the form of a large grid which comprises columns and rows where labels and mathematical values are keyed in and processed. Once the spreadsheet programme is loaded, labels, values and formulae can be entered at any point on the grid. This is similar to entering words and numbers on accounting analysis paper. The difference is the spreadsheet allows formulae to be entered and then if a value (input variable) is changed the computer automatically recalculates the associated values via the appropriate formulae and reconfigures any related graphs or charts.

As a user the major benefits derived from spreadsheets are, as follows:

- ◆ ***Absence of programming:*** We can develop a spreadsheet model without the knowledge of how to programme, so managers can develop spreadsheet models without professional computing expertise. The command structure of the particular package has to be learned, but most of the packages are similar in principle and relatively straightforward to operate.
- ◆ ***Rapid computation:*** A key feature of the spreadsheet is the speed at which the programme calculates data. If we change an input the computer instantly recalculates other values.
- ◆ ***Instant feedback:*** Due to rapid computation results are available instantaneously. As numerical or mathematical data is entered on a spreadsheet the computation provides an instantaneous result. If a result is unrealistic the error will usually become apparent.
- ◆ ***Flexibility:*** If a spreadsheet is required to be adapted the rows and columns can easily be manipulated to facilitate a new and improved layout.
- ◆ ***Documentation:*** When the spreadsheet model is created it can be printed out (hard copy) and retained for reference.
- ◆ ***Data presentation:*** Spreadsheets allow the numerical layout to be viewed on screen and hard copies, but in addition will facilitate the display of the formulae in the same configuration. This makes interpretation of the model simpler for other users and/ or readers.