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Decision Making

CHAPTER LEARNING OBJECTIVE

- To understand the term decision making, which means selecting a course of action from a range
 of alternatives. It plays an integral part in planning but is also a fundamental part of the entire
 management process.
- To understand the different types of decision taken by organisations and the range of conditions, from complete certainty to risk and uncertainty.
- To understand that certainty means that the available alternatives and their costs or benefits are certain: managers know with certainty that particular alternatives will lead to definite outcomes and there is no element of doubt.
- To understand that under the risk condition all the available alternatives and their potential costs and benefits are known, but the outcomes are sometimes in doubt. Therefore while the alternatives are known the outcomes are unknown.
- To understand that uncertainty is when the available alternatives, the likelihood of their occurrence and the outcomes are all unknown. Decisions made under uncertain conditions are consequently the most difficult to take due to the lack of concrete knowledge. In the current business environment more and more decisions are being made under conditions of uncertainty.
- To appreciate that organisations make hundreds of decisions each day which can be classified as programmed or non-programmed. Programmed decisions are well structured, routine, repetitive and occur on a regular basis. Non-programmed decisions are new, unstructured and have no established procedures for making them.
- To understand the barriers to effective decision making, which include decision framing, the illusion of control and time pressures.
- To understand the decision-making process, which comprises six key steps: problem identification and diagnosis; identifying alternatives; evaluating alternatives; choice of alternative; implementation; and evaluation.
- To understand the most popular approaches to decision making: the rational model; bounded rationality; escalation of commitment; and the political model.
- To understand that rationality in relation to decision making refers to a process that is perfectly
 logical and objective, whereby managers gather information objectively, evaluate available
 evidence, consider all alternatives and ultimately make choices that will lead to the best outcomes
 for the organisation.
- To understand the dynamics of group and individual decision making.

5.1 Introduction

Decision making can be viewed as an integral part of planning in that key decisions have to taken throughout the planning process. The following sections focus on many of the issues that arise when making organisational decisions.

Decision making can be defined as 'the selection of a course of action from among alternatives'. In this sense decision making is at the heart of planning: for plans to be formulated and implemented, decisions on certain courses of action have to be taken. Some commentators have even argued that decision making can be viewed as the most fundamental managerial activity of all.² Decision making is discussed primarily within the context of planning; but despite the link with planning, decision making is a fundamental element of the entire management process.

Organisations make literally hundreds of decisions each day as they fulfil their operational requirements. Some of these decisions are small and minor and can be completed quickly, for example the size and colour of envelopes required by the organisation. Others are more complicated and far-reaching and require more detailed analysis, such as whether to expand into foreign markets. Decision making, which takes place at all levels of the organisation, is therefore a central part of the manager's role.

5.2 Characteristics of decisions

Making decisions in an organisational context requires good judgement and diagnostic skills. Most managers advance within an organisation as a result of their ability to make good decisions. The characteristics of decisions faced by most managers are varied in nature, depending on the type of decision in question. Given that managers make a variety of decisions during their daily lives we would expect that decisions would have different characteristics. There is no doubt that a relatively simple decision in relation to re-ordering stationery supplies will not have the same characteristics as a decision concerning establishing a new subsidiary in a foreign market. While decisions vary in nature it is possible to identify some key characteristics that define managerial decision making in the modern organisation, as shown in Figure 5.1.

FIGURE 5.1 CHARACTERISTICS OF MANAGERIAL DECISIONS



Some decisions that managers make are routine and well structured and are thus relatively easy to make. However, other decisions are poorly structured and lack full information, making them much more challenging for the manager. We can distinguish between **programmed** and **non-programmed** decisions (outlined in Figure 5.2).

Programmed decisions tend to be well structured, routine and repetitive, occurring on a regular basis. They are usually made at lower levels in the organisation, have short-term consequences and are based on readily available information. Due to the fact that the organisation is frequently presented with the decision, a decision rule can be developed that tells the organisation or decision maker which alternative to choose once the information is available. The decision rule ensures that a definite method for obtaining a solution can be found and that the decision does not have to be treated as something new each time it occurs. Frequently simple formulae can be applied to the situation. Examples of programmed decisions include ordering raw materials or office supplies and calculating holiday pay, sick pay or redundancy payments, which takes place frequently in Irish organisations.

Non-programmed decisions, in contrast, are new and unstructured and consequently a previously established decision rule cannot be applied. In other words, the organisation has no established procedures or records for dealing with the decision, which can therefore appear to be highly complex. Non-programmed decisions tend to occur at higher levels in the organisation, have long-term consequences and require a degree of judgement and creativity.³ Examples of non-programmed decisions include the decision to try an unproven technology or to expand into a previously unknown market. Allegro, the Irish distribution company, took a major non-programmed decision in deciding to launch the American snack Pringles on the Irish market. This product is very different from traditional snack foods in that it is marketed in a distinctive tube packaging, which protects the product from breaking, and has a long shelf life of 18 months. The decision paid off, and Pringles captured a significant share of the market.

FIGURE 5.2 CHARACTERISTICS OF PROGRAMMED AND NON-PROGRAMMED DECISIONS

Non-programmed	
Poorly structured	
New	
Little information	
Taken at higher levels	
Long time frame	
Judgement and creativity used	
	Poorly structured New Little information Taken at higher levels Long time frame

While these two types of decision are clearly distinguishable, they represent a continuum from programmed to non-programmed, rather than being exclusive categories. Many decisions will contain elements of each category.

5.3 Decision-making conditions

In general there are three different types of condition under which managers take decisions.⁴

The first condition is **certainty**, which means that the available alternatives and their costs or benefits are certain. In other words, managers know with certainty that particular alternatives will lead to definite outcomes and there is no element of doubt. Given the current turbulent business environment it is not surprising that very few decisions can be made with certainty. Only the most minor of decisions can be taken under a condition of complete certainty.

The second condition is **risk**. Under the risk condition, all available choices and their potential costs and benefits are known, but the outcomes are sometimes in doubt. So, while the alternatives are known, the outcomes are unknown. An example of a risk condition is the throw of a die: the alternatives (one to six) are known, but the outcome is not known – there is a one-in-six chance of each number coming up. The probability of certain events can be calculated by the organisation using statistical techniques. Objective probability is the likelihood of an event occurring based on hard quantitative data, normally statistical. In contrast, subjective probability is a personal judgement of the likelihood of an event occurring. In today's business environment, risk taking has become critically important for organisations.

The final condition is **uncertainty**, under which the available alternatives, the likelihood of their occurrence and the outcomes are all unknown. Decisions made under uncertainty are the most difficult to take because of this lack of concrete knowledge. Such decisions tend to be ambiguous, intangible and highly unusual.⁵ In the current business environment more and more decisions are taken under uncertainty. When making decisions under uncertain conditions, managers require intuition and judgement.

The decision-making conditions represent a continuum from certainty to uncertainty as shown in Figure 5.3.

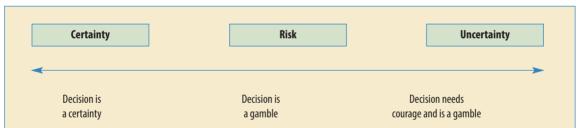


FIGURE 5.3 DECISION-MAKING CONDITIONS

While decisions taken under conditions of certainty tend to be the easiest to make and the most successful, decision failures can occur in relation to any type of decision. Given the additional problems associated with risk and uncertainty conditions it is not surprising that there are decision failures in these conditions. Any decision can suffer from adverse conditions and bad luck, but much decision failure can be attributed to decision-making procedures, which are under the manager's control.⁶

When managers are faced with the choice of competing alternatives they frequently experience conflict, both within themselves and also from other individuals and groups in the organisation. In the first instance managers experience psychological conflict when faced with a range of alternatives, none of which they find appealing. For example, when faced with the need to reduce costs the manager can reduce the hours of work or eliminate a bonus for all staff. Neither of these

alternatives is appealing and the manager may experience conflict over which choice to make. Alternatively, managers may also be faced with a range of extremely appealing alternatives but experience conflict because they have to choose only one. For example, a manager might have two very capable internal candidates going for promotion, but can only choose one.

In making decisions, managers also experience conflict with other members of the organisation. Different groups will protect the interests of their own work groups very carefully and will not want to see any reduction in status through declining resources. Unless the decision is construed to be a win–win scenario it is inevitable that some degree of conflict will emerge.

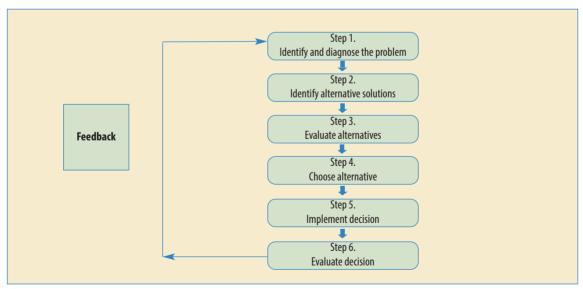
Given that most managers face lack of structure and information, and uncertainty and conflict as they make decisions, it is not surprising that managerial decision making has become all the more challenging, yet also critically important, in recent years. Decisions that managers make about strategy and direction are typically characterised by uncertainty and conflict and result in demanding decision-making scenarios.

5.4 The decision-making process

Most models of decision making include six essential steps that it is recommended managers should follow when making decisions. As shown in Figure 5.4, managers should:

- 1. Identify and diagnose the problem.
- 2. Identify alternative solutions.
- 3. Evaluate alternatives.
- 4. Choose an alternative.
- 5. Implement the decision.
- 6. Evaluate the decision.

FIGURE 5.4 STEPS IN THE DECISION-MAKING PROCESS



5.4.1 Step 1: Problem identification and diagnosis

The first stage of the decision-making process is recognising that a problem exists and that action has to be taken. A problem is a discrepancy between the current state of affairs and a desired state of affairs. Unless the problem is identified in precise terms, solutions are very difficult to find. In seeking to identify a problem, managers can use a variety of sources of data, including comparing organisational performance against historical performance, against the current performance of other organisations/departments or against future expected performance.

Problem identification must be followed by a willingness to do something to rectify the situation. Before taking action the problem needs accurate diagnosis. Diagnosis involves assessing the true cause of the problem by carefully selecting all relevant material and discarding information which is not relevant to the problem at hand. Sometimes decisions need to be made when a problem does not exist: for example, a company might want to grow rapidly to capitalise on market opportunities and will have to decide on what route to take.

5.4.2 Step 2: Identification of alternatives

Having identified and diagnosed the problem, the next step for an organisation is to identify a range of alternatives to solve the problem. Managers should try to identify as many alternatives as possible in order to broaden options for the organisation. In generating alternatives the organisation may look toward ready-made solutions that have been tried before, or custom-made solutions that have to be designed specifically for the problem at hand. In today's business environment more and more organisations are applying custom-made solutions to enhance competitive advantage.

Returning to the previous example of an organisation seeking growth opportunities, identifying all the alternatives is critically important when making a choice about a certain course of action. Some of the alternatives open to the company are:

- growth through acquisition
- growth through establishing an overseas facility
- using an agent to market and distribute the product abroad
- growth through diversification of the existing product line.

With such a decision the organisation has to design its own individual custom-made solution. While the organisation might be guided by previous decisions it has taken, or by what competitors have done, this decision is unique and therefore requires new solutions.

5.4.3 Step 3: Evaluation of alternatives

Having identified the available alternatives, a manager needs to evaluate each alternative in order to choose the best one. Consideration should be given to the advantages and disadvantages as well as the costs and benefits associated with each option. Most alternatives will have positive and negative aspects and the manager will have to try to balance anticipated outcomes.

Depending on the situation, evaluation of alternatives may be intuitive (based on gut feeling) or based on scientific analysis. Most organisations try to use a combination of both. When evaluating alternatives, managers may consider the potential consequences of alternatives under several different scenarios. In doing so they can develop contingency plans which can be implemented with possible future scenarios in mind. When evaluating the range of alternatives available to the organisation to handle growth, a number of different criteria can be applied. The organisation will consider the cost associated with each option as well as the time taken to complete each alternative. The chances of success of each of the options will also have to be considered, as will the impact of any decision on employees, training and culture.

5.4.4 Step 4: Choice of alternative

Having evaluated the various alternatives, the next step is to choose the most suitable one. If for some reason none of the options considered is suitable, the manager should revert back to Step 2 of the process and begin again. When there are suitable alternatives and Steps 2 and 3 have been conducted skilfully, selecting alternatives may be relatively easy. In practice, however, alternatives may not differ significantly in terms of their outcomes and therefore decisions will be a matter of judgement. In coming to a decision the manager will be confronted by many conflicting requirements that will have to be taken into account. For example, some trade-offs may involve quality versus acceptability of the decision, and political and resource constraints.

Returning to our example, using the evaluative criteria in Step 3 the organisation will make a decision about which alternative to choose for future growth. Based on an analysis of the market and the organisation's capabilities they decide to purchase a small company with a strong market presence in a geographical region presently unserved by the organisation.

5.4.5 Step 5: Implementation

Once the decision has been made it needs to be implemented. This stage of the process is critical to the success of the decision and is the key to effective decision making. The best alternative is worth nothing if it is not implemented properly. In order to successfully implement a decision, managers must ensure that those who are implementing it fully understand why the choice was made, why it is being implemented, and are fully committed to its success.

Decisions often fail at the implementation stage because managers do not ensure that people understand the rationale behind the decision and that they are fully committed to it. For this reason many organisations are attempting to push decision making further down the organisation to ensure that employees feel some sense of ownership in the decisions that are made.

To implement the decision to acquire another smaller business in a different country requires good conceptual skills and could prove challenging. In addition to legal and competitive issues the company will have to deal with assimilating aspects of the new business into their current operations.

5.4.6 Step 6: Evaluation

Once the decision is implemented, it needs to be evaluated to provide feedback. The process of evaluation should take place at all managerial levels. This step allows managers to see the results of the decision and to identify any adjustments that need to be executed. In almost all cases some form of adjustment will be made to ensure a more favourable outcome. Evaluation and feedback are not one-off activities, however, and they should form part of an ongoing process. As conditions

change, decisions should be re-evaluated to ensure that they are still the most appropriate for the organisation. This also helps managers to learn about making sound decisions taking past experience into account.

Evaluation of the acquisition of a new business will be measured on the success and profitability of the venture. As the primary goal of the decision was to increase growth opportunities, the organisation should carefully monitor growth rates. The organisation, having acquired a new business, will feed back its experiences into the next decision-making process with which it is faced.

The model presented in Figure 5.4, and discussed above, is a useful framework for managers to consider when making decisions. It must be recognised, however, that the process is never as neat and sequential as the one outlined above.

5.5 Barriers to making good decisions

The decision-making process discussed in the previous section is the suggested course of action that managers should take when making decisions. Research has shown that managers make better decisions when they follow a sequential process.⁷ However, as managers attempt to make good decisions they are faced with many challenges and barriers. Decisions can be framed either in terms of gains or losses, or by a reference point against which the various options can be evaluated. A manager normally applies a *decision frame* to a decision. A decision frame refers to the perception held by the manager in terms of gains or losses associated with the outcome of a decision.⁸ Consequently, the same outcome could be viewed as a gain or a loss depending on the perception and reference point used. For example, if an employee received a €1,000 bonus when everyone else received a €2,000 bonus, should this be viewed as a gain or as a loss? The answer depends on the individual and whether the reference point is the employee's original salary (gain) or a comparison with others (loss).

Management Focus 5.1 Coca-Cola's negative decision frame

In the mid-1980s Coca-Cola was the biggest-selling soft drink worldwide, yet the company decided to change the formula and introduce a 'new' Coca-Cola to the market. The result was disastrous: consumers disliked the new formula and preferred the old one. As a result, after three months the company had to reintroduce the old formula, using the brand name Coca-Cola Classic. What events led to the company taking such a poor decision? The decision was the product of a negative decision frame. Coca-Cola's share of the market had been steadily declining and the company's options were to make no changes and continue to decline, or to take the risky option to change the formula. In essence, the choice was between certain loss or risk, and the company chose the latter. As it turned out, though, the decision the company made resulted in more short-term losses than anticipated.

The nature of decision framing is important because managers usually tend to avoid risky options, though when faced with a choice between losses, managers will tend to opt for a risky alternative. Choosing between losses is a choice between risky alternatives: between certain loss and possibly

even greater loss. Decision framing may be responsible for many decision failures in that risky decisions that normally go wrong are the product of a choice between losses. The result is a strong preference for risk rather than perceived certain loss. This motivates managers to take risks in order to avoid losses. Although such behaviour might sometimes avoid loss, the typical result is actually to increase it.

Decision making is also susceptible to psychological biases. Managers frequently allow their subjective biases to interfere with objective decision making. Individuals often allow their own personal feelings and emotions to creep into the decision-making process. Consider the example of a manager faced with a decision about where to relocate his/her office. One location is the most effective but the other alternative is in a far nicer location and is closer to where the manager lives. Which option will the manager choose? If subjective biases come into play, it will be the latter.

Managers can also be affected by the 'illusion of control'. This essentially means that managers develop a sense that they can influence outcomes even when they have no control over events. Such over-confidence can be very dangerous for decision making, particularly if an important strategic decision is in question. Managers can also pay too much attention to short-term gains at the expense of long-term sustainable success. This has tended to be a feature of national culture in Western societies. Quite often long-term strategies require short-term pain.

The final barrier to making effective managerial decisions is the issue of time. Pressures of time frequently mean that decisions are rushed. If managers are under pressure to reach a decision quickly they may not have time to thoroughly research all of the available options, and the quality of the decision could suffer accordingly. Unless the decision is a programmed one it can be very difficult to make under pressure of time.

5.6 Approaches to decision making

The four most popular approaches to the study of decision making are: the rational model; bounded rationality; the political model; and escalation to commitment. In this section each will be examined and their contribution evaluated.

5.6.1 The concept of rationality

Rationality in relation to decision making refers to a process that is perfectly logical and objective, whereby managers gather information objectively, evaluate available evidence, consider all alternatives and eventually make choices that will lead to the best outcomes for the organisation. The rational approach to decision making has its foundations in traditional economic theory, which argues that managers attempt to maximise benefits and have the capacity to make complex decisions quickly. Such a rational approach to decision making assumes that four conditions are fulfilled:

- 1. There is perfect knowledge of all the available alternatives.
- 2. There is perfect knowledge of all of the consequences of the available alternatives.
- 3. Managers have the capacity to objectively evaluate the consequences of the available alternatives.
- 4. Managers have a well-structured and definite set of procedures to allow them to make optimum decisions.

Although managers rarely have total control over all of the factors that determine how successful decisions will be, they can ensure a degree of control over the process that they use for making decisions. It is increasingly clear that few managerial decisions are taken in a completely rational manner. Indeed, some of the most effective and innovative decisions used little in the way of rational guidelines.¹⁰

5.6.2 Bounded rationality

As we have seen, decisions are made under varying conditions ranging from certainty and risk to uncertainty. In the current environment managers seldom make decisions under the conditions of certainty that would be needed to apply a completely rational model. For many managers today the rational approach represents an ideal approach, but one that is simply not attainable under current conditions of risk and uncertainty.

Given the fact that managers cannot always make decisions under certainty conditions, and in a rational manner, they have to apply a less than perfect form of rationality. Herbert Simon called this 'bounded rationality', and argued that decisions taken by managers are bounded by limited mental capacity and emotions, and by environmental factors over which they have no control. Due to these limitations managers rarely maximise or take ideal decisions with the best possible outcomes.

Intuition and judgement are therefore used by the manager to solve problems and make decisions. Taking a rational approach to problem solving and decision making involves clear identification of goals, objectives, alternatives, potential consequences and their outcomes. Each of these is in turn evaluated in terms of contribution to the overall aim. In judgemental decision making, the response to the need for a decision is usually rapid – too rapid to allow for an orderly sequential analysis of the situation – and the decision maker cannot usually give a veridical account of either the process by which the decision was reached or the grounds for judging it correct.¹¹

As we saw in section 5.5, psychological biases can influence judgement. For example, a manager might have to make a decision about where to establish a subsidiary office of the organisation. When making the decision the manager could be influenced by personal opinions, emotions and personal bias in favour of one location over another. This might be particularly noticeable if the manager is subsequently going to work in the office, as the choice might be heavily influenced by his/her desire to live in one location. In this way, total rationality is not applied as the manager may choose a location that s/he favours and this will not necessarily be the most rational choice.

Another integral part of the bounded rationality approach is the notion that managers seek to *satisfice*, that is, settle for an alternative which is satisfactory, rather than continuing to search for the optimal solution. Satisficing may occur because the manager tires of the decision-making process and seeks to resolve the problem quickly with the first minimally acceptable solution rather than searching further for a better one.

Managers may also be unable to handle large amounts of complex information. Bounded rationality also recognises that managers may not have full and complete information and may experience problems processing information, which clearly affects a manager's ability to make optimal decisions. Decisions made under bounded rationality may not always be the best; however, on occasion good decisions have been made on the basis of judgement and gut feeling.

Therefore the rational approach associated with traditional economic theory proposes that managers seek to maximise benefits and in this sense outlines how managers should behave. Bounded rationality, however, concentrates on how managers actually behave in practice when making decisions, and argues that limitations placed on managers mean that they will seek to satisfice rather than maximise.

5.6.3 The political model

While the previous approaches have concentrated on the role played by rationality in the decision-making process, the political model concentrates on the impact of organisational politics on decision making. Power and politics play an important role in the decision-making process.

Power is the ability to influence others. In the context of an organisation power can be viewed as the ability to exert influence over individuals, work groups or departments. There are five main types of power found in the organisational setting:

- 1. **Legitimate** power originates from the manager's position within the organisation's hierarchy. The power is inherent in the hierarchical position the manager occupies.
- 2. **Reward** power originates from the manager's ability to withhold rewards from others.
- 3. **Expert** power derives from the expert knowledge and information that an individual/manager has amassed.
- 4. Referent power originates from the charisma or identification that a manager has developed.
- Coercive power is associated with emotional or physical threats to ensure compliance.

In the decision-making process those who possess power are clearly an important dynamic. Political decision processes are used in situations where uncertainty, disagreement and lack of information are common. Within organisations it is common to find different coalitions, all of which possess varying degrees of power depending on the situation. Coalitions can be formed by particular work groups, teams, managers, functional specialists, external stakeholders and trade unions. Each group brings with it certain ideas and values, coupled with power, in relation to the decision under discussion. It is common for each coalition to defend its own territory and to ensure that any decisions made do not negatively impact on its members (both formal and informal). The presence of coalitions therefore adds an important ingredient to the decision-making process.

Different coalitions are likely to possess different and conflicting objectives. Depending on the relative power of each coalition, negotiation and compromise will feature strongly. In some cases the compromise and outcome will be a win–lose situation, which means that one coalition's gain is another's loss. In other cases a win–win situation can be generated. The political model recognises that, apart from actually making the decision, many other factors are at work, including negotiation, compromise and power struggles. The presence of political forces can be beneficial to the decision-making process if it means that a wider range of issues is considered and greater input and commitment is achieved. On the other hand, power struggles may lead to a lack of focus on key issues and produce narrowly defined decisions largely following the self-interest of particular groups.

5.6.4 Escalation of commitment

While it does not explain how decisions are made, this approach concentrates on why people continue to pursue a failing course of action: that is, why commitment to a poor decision often escalates after the initial decision has been made. This approach is particularly concerned with decision makers who, even in the face of failure, continue to invest resources in a failing decision. For example, an organisation may decide to enter a particular market by introducing a certain product. After a little while it may become obvious that the product is not suited to that market. The organisation, however, continues to increase spending on advertising and marketing rather than exiting from the market.

Escalation of commitment to a failing decision is often attributed to self-justification and a feeling of personal responsibility for the decision. When individuals are personally responsible for negative consequences they may decide to increase investment of resources in a previously chosen course of action.¹³ Organisations therefore have to strike a balance between persevering with a decision and recognising when a decision is failing and should be abandoned. Not all organisations fall into the escalation of commitment trap. In the previous example of Coca-Cola, the organisation realised that the decision to change the formula was incorrect and subsequently altered its course of action.

5.7 Group versus individual decision making

Task forces, teams and boards are all examples of where decision making occurs in a group setting. The basic idea behind group decision making is the notion that two heads are better than one. Generally the diversity of groups facilitates better-quality decisions. ¹⁴ However, a group can be inferior to the best individual in the group. 15 In some cases, groups will provide the best-quality decisions and in others the individual will do better. 16 In coming to a conclusion about the efficiency of groups it is necessary to consider the advantages and disadvantages of group decision making.

Group decision making: advantages and disadvantages

Advantages

- Group decision making allows a greater number of perspectives and approaches to be considered, thereby increasing the number of alternatives that can be drawn up.
- Groups generally facilitate a larger pool of information to be processed. Individuals from different areas can bring varied information to the decision-making setting.
- By increasing the number of people involved in the process it is more likely that a greater number of people will understand why the decision was made, and this facilitates implementation.
- Group decision making allows people to become involved and produces a sense of ownership of the final decision, which means that people will be more committed to the decision.
- Using a group to arrive at a decision means that less co-ordination and communication is required when implementing the decision.

Disadvantages

- Group decisions take longer to arrive at and this can be problematic when speed of action is key.
- Groups can be indecisive and opt for satisficing rather then maximising. Indecision can arise from lack of agreement among members. Satisficing occurs when individuals grow tired of the process and want it brought to a conclusion, leading to satisficing rather than maximisation.
- Individuals who have either a strong personality or a strong position can dominate groups. The
 result is that a particular individual can exert more influence than others. The main problem
 with such a situation is that the dominating person's view of the decision need not necessarily
 be right; and if his/her view is the right one, convening a group for discussion is a waste of time.
- Groups inevitably have to compromise to reach a decision and this can lead to mediocre decisions. Mediocrity results when an individual's thinking is brought into line with the average quality of a group's thinking. This is called the levelling effect.
- Groups can lead to group think, which can be defined as 'a mode of thinking that people engage in when they are deeply involved in a cohesive group, when members' strivings for unanimity override their motivation to realistically appraise alternative courses of action'. Group think happens in situations where the need to achieve consensus among group members becomes so powerful that it takes over realistic evaluations of available alternatives. Criticism is suppressed and conflicting views are not aired for fear of breaking up a positive team spirit. Such groups become over confident and too willing to take risks.

Source: Irving, J. (1982) Group Think. Boston: Houghton Mifflin.

Having considered the advantages and disadvantages of group decision making, it is clear that group decision making is well suited to certain circumstances. We can identify factors that favour individual and group decision making.¹⁷

Factors favouring individual decision making include:

- Short time frame.
- Decision is relatively unimportant to the group.
- Manager has all the data needed to make the decision.
- One or two members of the group are likely to dominate.
- Conflict is likely.
- People attend too many meetings.
- The data is confidential.
- Group members are not sufficiently qualified.
- The manager is dominant.
- The decision does not directly affect the group.

Factors favouring group decision making include:

- Creativity is required.
- Data is held by the group.
- Acceptance of the solution by group members is important.
- Understanding of the solution is important.

- The problem is complex and needs a broad range of knowledge.
- The manager wants to build commitment.
- More risk taking is involved.
- Better understanding of group members is needed.
- The group is responsible for the decision.
- The manager wants feedback on ideas.

Management Focus 5.2 Baileys: the result of a brainstorming session

The concept of Baileys Irish Cream was developed from a brainstorming session. Baileys is a unique mixture of fresh, premium Irish dairy cream, spirits, Irish whiskey and a proprietary recipe of chocolate flavours.

It's now sold in 180 countries worldwide and is both the world's top selling liqueur brand and the world's top selling cream liqueur brand. Baileys accounts for over 50 per cent of all spirits exported from Ireland. Over 75% of the raw ingredients and packaging used to make and present Baileys is sourced from the island of Ireland.



Source: www.the-baileys-lounge.baileys.com/en-ie/Product-and-Company-Information.aspx.

5.8 Improving group decision making

In order to avoid the disadvantages associated with group decision making and to build on the advantages, three main ways of improving group decision making have been proposed.

Brainstorming, which became popular in the 1950s, was developed by Alexander Osborn to facilitate the development of creative solutions and alternatives. Brainstorming is solely concerned with idea generation rather than evaluation, choice or implementation. The term effectively means using the brain creatively to 'storm' a problem. It is based on the belief that when people interact in a relaxed and unrestrained setting they will generate creative ideas. The acceptance of new ideas is also more likely when the decision is made by the group involved with its implementation. ¹⁸ In brainstorming the group members are normally given a summary of the problem before the meeting. At the meeting members come up with various ideas, which are recorded in full view of all other members. None of the alternatives is evaluated or criticised at this stage. As members produce new ideas and alternatives this serves to stimulate other members in the hope that a truly good solution can be identified.

The **Delphi technique** was developed in the early 1960s as a means of avoiding the undesirable effects, while retaining the positive aspects, of group interaction. Delphi was the seat of the Greek god Apollo, who was renowned for his wise decisions. The Delphi technique consists of a panel of experts formed to examine a problem. Rather than physically meeting, the various members are kept apart so that social or psychological pressures associated with group behaviour cannot influence them. In order to find out their views, they are asked to complete a questionnaire. A coordinator then summarises the findings and members are asked to fill out another questionnaire to re-evaluate earlier points. The technique assumes that, as repeated questionnaires are conducted, the range of responses will narrow to produce a consensus. The Delphi technique is particularly

useful where experts are physically dispersed, anonymity is required and members have difficulty communicating with each other. On the negative side, however, it reduces direct interaction among group members.

Nominal grouping was developed in the 1970s. In contrast to brainstorming, it does not allow a free association of ideas, tries to restrict verbal interaction and can be used at many other stages of the decision-making process apart from idea generation.²⁰ In nominal grouping, members are given a problem and are asked to think of ideas individually with no discussion. They then present these ideas on a flip chart. A period of discussion follows, which builds on the ideas presented. After the discussion, members privately rank the ideas. Generation of ideas and discussion proceeds in this manner until a solution is found.²¹

The main advantage of this approach is that it overcomes differences in power and prestige between members and it can also be used at a variety of stages in the overall decision-making process. Its main disadvantages are that its structure may limit creativity and it is costly and timeconsuming.

5.9 Summary of key propositions

- Decision making is the selection of a course of action from a range of alternatives. It plays an integral part in planning but is also a fundamental part of the entire management process.
- Organisations make hundreds of decisions each day, which can be classified as programmed and non-programmed. Programmed decisions are well structured, routine, repetitive, occurring on a regular basis. Non-programmed decisions are new, unstructured and have no established procedures for making them.
- Decisions are taken under different conditions ranging from complete certainty to risk and uncertainty.
- Certainty means that the available alternatives and their costs or benefits are certain: managers know with certainty that particular alternatives will lead to definite outcomes and there is no element of doubt.
- Under the risk condition, all the possible alternatives and their potential costs and benefits
 are known, but the outcomes are sometimes in doubt: the alternatives are known but the
 outcomes are unknown.
- Uncertainty is when the available alternatives, the likelihood of their occurrence and the
 outcomes are all unknown. Decisions made under uncertain conditions are consequently the
 most difficult to take due to the lack of concrete knowledge. In the current business
 environment more and more decisions are being made under conditions of uncertainty.
- Barriers to effective decision making include: decision framing, the illusion of control and time pressures.
- The decision making process contains six key steps: problem identification and diagnosis; identification of alternatives; evaluating alternatives; choice of alternative; implementation; and evaluation.
- The four most popular approaches to decision making are: the rational model; bounded rationality; escalation of commitment; and the political model.
- Rationality in relation to decision making refers to a process that is perfectly logical and objective, whereby managers gather information objectively, evaluate available evidence,

- consider all alternatives and ultimately make choices that will lead to the best outcomes for the organisation.
- Decisions can be taken by either groups or individuals depending on the nature of the decision. The quality of group decisions can be enhanced by three main techniques: brainstorming; the Delphi technique; and nominal grouping.

Discussion Questions

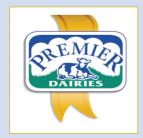
- 1 Explain the nature and importance of decision making.
- Explain, using your own examples, the differences between programmed and nonprogrammed decisions.
- Explain the different decision-making conditions under which decisions are taken.
- What do you understand by the term 'rationality' in relation to decision making?
- Explain the term 'bounded rationality'.
- What role do political forces play in organisational decision making?
- Apply the rational model of decision making to your decision about how to spend next year's summer holiday. Evaluate its effectiveness.
- Outline the advantages of group decision making.
- Outline the disadvantages of group decision making.
- 10 Explain the terms 'group think' and the 'levelling effect'.
- 11 Evaluate group versus individual decision making.
- 12 How can group decision making be improved?

Concluding Case: Glanbia – big plans; key decisions

Glanbia plc is an international nutritional solutions and cheese group. Its headquarters are in Ireland, and it produces some of the best-known brands in Ireland. Glanbia is a major supplier of mozzarella for pizza toppings, and cheese for both McDonald's and Burger King. The company was formed from the merger of Avonmore Foods and Waterford Foods in 1997. It employs 4,300 people worldwide and has manufacturing and processing facilities in seven countries. The company is quoted on both the Dublin and London Stock Exchanges. Total group revenue for 2010 was €2.6 billion.









The company's vision is 'to be the leading global nutritional solutions and cheese group'. To this end the business strategy of Glanbia is 'to deliver attractive and growing returns to shareholders, excellent solutions and service to our customers, value adding routes to market for our milk suppliers and to provide rewarding careers to our employees'.

Operationally the group is divided into three main divisions, reflecting its history and the direction of its strategy.

- **US Cheese and Global Nutritionals.** This division is one of the leading producers of Americanstyle Cheddar cheese for both the US market and also for export to overseas markets. Glanbia has a large-scale cheese processing facility in Idaho, USA. The Global Nutritionals side of the business developed as a by-product associated with cheese processing, namely whey pool, which is a key raw material for nutritionals. The nutritionals business can be further divided into: Ingredient Technologies, a business-to-business nutritional ingredients solutions development sector; Performance Nutrition, consisting of health and wellness products; and Customised Premix Solutions, a business-to-business vitamins and minerals business. Examples of nutritional products include Thermax, used in ready to drink beverages, and Revive, a recovery beverage.
- 2. **Dairy Ireland.** This division consists of three main sectors: Agribusiness produces and sells a wide variety of farm inputs, including animal feed, to the group's main farming suppliers; Dairy Ingredients uses 1.5 billion litres of milk to produce cheese- and dairy-based ingredients (Glanbia processes 25 per cent of the Irish milk pool and 40 per cent of the Irish whey pool) and Consumer Products uses 0.3 billion litres of milk annually to produce dairy products and liquid milk.
- 3. **Joint Ventures and Associates.** Glanbia has three main international joint ventures: Southwest Cheese, based in the USA; Glanbia Cheese in the UK; and Nutricima in Nigeria.

Key strategic priorities for the group include: alignment with key customers and markets; first-class science-based innovation; effective risk and capital management and operational excellence; and strategic cost management.

US Cheese and Global Nutritionals	Dairy Ireland	Joint Ventures and Associates
 US Cheese 	 Dairy Ingredients 	Southwest Cheese
 Ingredient Technologies 	 Consumer Products 	Glanbia Cheese
Performance NutritionCustomised Premix Solutions	Agribusiness	Nutricima
40% group revenue	44% group revenue	16% group revenue

Glanbia's strategy centres on maximising the scale and efficiency of its businesses. To this end, the company aims to secure and enhance its strong market leadership in key sectors by continuous development in innovation, market knowledge operations and technological standards. In pursuit of this strategy and in response to events in the competitive marketplace, Glanbia has taken a number of important decisions. Some of these decisions were expansionary in nature; others were responses to strong market competition and unfavourable environmental conditions.

Following the 1997 merger, Glanbia decided to create a single group identity, which it introduced in 1999. The Glanbia group name was designed to replace the previous use of both Avonmore and Waterford. It was envisaged that this move would reduce consumer confusion, especially in the UK market, and also reduce internal divisions between the former Avonmore and Waterford staff.

After the merger and creation of Glanbia the overall focus centred on a number of sectors, the two most significant of which were nutritional products and cheese. The cheese sector involved the USA, pizza and cheese production for the EU market, and the Irish and UK retail cheese market. The USA cheese business, based in Idaho, is thriving due to its low-cost location and the scale advantages accruing to Glanbia. Glanbia benefited from strong demand and increases in the price of cheese. The competitive position of some of Glanbia's other divisions deteriorated over the same period and this presented the company with some tough decisions. Many of the problems centred on the UK market where the strength of sterling, price wars between supermarkets and strong competition among suppliers have all negatively affected Glanbia.

In 1999, the liquid milk business in the UK provided Glanbia with many problems as the company found one of its traditional markets under severe price pressure. Glanbia lost an important account with Asda WalMart and continued to face strong competition from other suppliers. In addition, the supermarkets began a process of rationalising the number of suppliers they traded with. Under such competitive pressure Glanbia decided to sell the liquid milk business in the UK to Express Dairies. The global meat market has also been faced with oversupply and falling demand. From 1998 onwards, demand from Russia and Asia declined. This was coupled with increased international competition. The extent of oversupply in the international pig meat market in the EU and USA led Glanbia to dispose of its beef operation to Dawn Meats; and it also disposed of its sheep meats division.

In 2010 Glanbia announced its intention to sell its Irish dairy business to Glanbia Co-operative Society (its 54.6 per cent shareholder) in order to focus on expansion of its international business. In 2008 the company acquired Optimum Nutrition, a US body-building supplement manufacturer. By focusing on the nutritionals side of the business Glanbia could see faster and more consistent growth. In addition, the recession had dented earnings across the food industry and global diary markets had become more volatile. However, the sale did not receive the required agreement by the Glanbia Co-operative members in May 2010 and the plan was put on hold. In November 2012 a decision was made to establish a joint venture between Glanbia Co-op and Glanbia plc (on a 60:40 basis), that would take control of the company's Irish milk processing unit. To finance the plan the co-op reduced its shareholding in Glanbia plc from 54.4 per cent to 51.4 per cent.

Keep up to date

www.glanbia.com

Sources: www.glanbia.com/glance; O'Brien, D. and Flanagan, P. (2012) 'Windfall for Irish Farmers as 82pc Vote Yes to Glanbia Share Sale', *Irish Independent* [online] www.independent.ie/irish-news/windfall-for-farmers-as-82pc-vote-yes-to-glanbia-share-sale-28941062.html.

Case Questions

- Discuss the link between Glanbia's vision, business strategy and key strategic priorities.
- 2. Identify the key decisions that have been made by Glanbia.
- 3. What type of decisions were they? Under what conditions were they made?
- 4. How successful have the decisions been?

Notes and References

- 1 Weihrich, H. and Koontz, H. (1993) *Management*. New York: McGraw-Hill.
- 2 See Priem, R. (1994) 'Executive Judgement, Organisational Congruence and Firm Performance', Organisational Science, August, 421–32.
- 3 Agor, W. (1986) 'How Top Executives Use Their Intuition to Make Important Decisions', *Business Horizons* 29(2), 49–53.
- 4 Bass, B. (1983) Organisational Decision Making. Illinois: Irwin; March, J. (1994) A Primer on Decision Making: How Decisions Happen. New York: Free Press; Harrison, F. (1994) The Managerial Decision Making Process. Boston: Houghton Mifflin.
- Boynton, A. (1993) 'Management Search Activity: The Impact of Perceived Role Uncertainty and Threat', *Journal of Management* 19(4), 725–48.
- Whyte. G. (1991) 'Decision Failures: Why They Occur and How to Prevent Them', *Academy of Management Executive* 5(3), 23–31.
- Dean, J. and Sharfman, M. (1996) 'Does Decision Process Matter? A Study of Strategic Decision-making Effectiveness', *Academy of Management Journal* 9, 368–96.
- 8 Tversky, A. and Kahneman, D. (1981) 'The Framing of Decisions and the Psychology of Choice', *Science* 59, 453–8.
- 9 Whyte. G. (1991) 'Decision Failures: Why They Occur and How to Prevent Them', *Academy of Management Executive* 5(3), 23–31.
- 10 Imparato, N. and Harari, O. (1995) *Jumping the Curve: Innovation and Strategic Choice in an Age of Transition*. San Francisco: Jossey-Bass.
- 11 Simon, H. (1987) 'Making Management Decisions: The Role of Intuition and Emotion', *Academy of Management Executive*, February, 57–64.
- Saunders, C. and Jones, J. (1990) 'Temporal Sequences in Information Acquisition for Decision-Making: A Focus on Source and Medium', *Academy of Management Review* 15, 29–46.
- 13 Staw, B. (1976) 'Knee Deep in the Big Muddy: A Study of Escalating Commitment to a Chosen Course of Action', *Organisational Behaviour and Human Performance* 16, 27–44.
- 14 Shaw, M. (1981) *Group Dynamics: The Psychology of Small Group Behaviour*. New York: McGraw-Hill; Sussman, L. and Deep, S. (1984) *COMEX: The Communication Experience in Human Relations*. Cincinnati: South Western.
- Hill, G. (1982) 'Group Versus Individual Performance: Are n + 1 Heads Better than One?', *Psychological Bulletin* 91, 517–39.
- 16 Locke, E., Schweiger, D. and Latham, G. (1986) 'Participation in Decision Making: Should it be Used?', *Organisation Dynamics* 14(3), 65–79.
- 17 Sussman and Deep, op. cit.
- Summers, I. and White, D. (1976) 'Creativity Techniques: Towards Improvement of the Decision Process', *Academy of Management Review* 1(3), 99–107.
- 19 Dalkey, N. and Helmar, O. (1963) 'An Experimental Application of the Delphi Methods to the Use of Experts', *Managerial Science* 9, 458–67.
- Delbecq, A. and Van de Ven, A. (1971) 'A Group Process Model for Problem Identification and Programme Planning', *Journal of Applied Behavioural Science* 7, 466–92.
- 21 Dowling, K. (2000) 'Asynchronous Implementation of the Nominal Group Technique: Is it Effective?' *Decision Support Systems* No. 3.