Problem solving and decision making

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Key concepts and terms

- *Bounded rationality*
- *Creative thinking*
- *Decision making*
- *Occam's razor*
- *Problem solving*
- *Structured decisions*
- *Unstructured decisions*

LEARNING OUTCOMES

On completing this chapter you should be able to define these key concepts. You should also understand:

- How to improve problem-solving skills
- How to solve a problem
- Creative thinking
- Team-based decision making
- Ethical decision making
- How to communicate and justify decisions

Introduction

Problem solving and decision making are closely associated processes which are a constant feature of life in organizations and elsewhere. A logical approach is desirable but this is not easy – the situations where problems have to be solved and decisions made are often messy, with conflicting evidence, lack of data, and political and emotional issues affecting those involved. But even if it is not possible to apply neat logical and sequential methods, the principles remain the same: getting and analysing what information is available, considering alternatives and making the best choice based on the evidence, and analysis of the context and an assessment of the possible consequences.

Problem solving

Problem solving is the process of analysing and understanding a problem, diagnosing its cause and deciding on a solution which solves the problem and prevents it being repeated. You will often have to react to problems as they arise but as far as possible a proactive approach is desirable, which involves anticipating potential problems and dealing with them in advance by taking preventative action using the normal approaches to problem solving set out below. Proactive problem solving may require creative thinking as considered later in this section.

Problems and opportunities

It is often said that 'There are no problems, only opportunities.' This is not universally true, of course, but it does emphasize the point that a problem should lead to positive thinking about what is to be done now, rather than to recriminations. If a mistake has been made, the reasons for it should be analysed, to ensure that it does not happen again.

Improving your skills

How can you improve your ability to solve problems? There are a few basic approaches you should use.

Improve your analytical ability

A complicated situation can often be resolved by separating the whole into its component parts. Such an analysis should relate to facts, although, as Peter Drucker (1955) points out, when trying to understand the root causes of a problem you may have to start with an opinion. Even if you ask people to search for the facts first, they will probably look for those facts that fit the conclusion they have already reached.

Opinions are a perfectly good starting point as long as they are brought out into the open at once and then tested against reality. Analyse each hypothesis and pick out the parts which need to be studied and tested.

Mary Parker Follett's (1924) 'law of the situation' – the logic of facts and events – should rule in the end.

Being creative

A strictly logical answer to the problem may not be the best one. Use creative thinking to get off your tramlines and dream up an entirely new approach.

Keep it simple

One of the basic principles of problem solving is known as Occam's razor. It states that 'Entities are not to be multiplied without necessity.' That is, always believe the simplest of several explanations.

Focus on implementation

A problem has not been solved until the decision has been implemented. Think carefully not only about how a thing is to be done (by whom, with what resources and by when) but also about its likely consequences – its impact on the organization and the people concerned and the extent to which they will cooperate. You will get less cooperation if you impose a solution. The best method is to arrange things so that everyone arrives jointly at a solution freely agreed to be the one best suited to the situation (the law of the situation again).

Further consideration to the processes of evaluating evidence and options and to the consulting skills used in problem solving is given in the next chapter.

Twelve problem-solving steps

The 12 steps of problem solving are:

1. Define the situation – establish what has gone wrong or is about to go wrong.
2. Specify objectives – define what is to be achieved now or in the future to deal with an actual or potential problem or a change in circumstances.
3. Develop hypotheses – develop hypotheses about what has caused the problem.
4. Get the facts – find out what has actually happened and contrast this with an assessment of what ought to have happened. This is easier said than done. Insidious political factors may have contributed to the problem and could be difficult to identify and deal with. The facts may not be clear cut. They could be obscured by a mass of conflicting material. There may be lots of opinions but few verifiable

facts. Remember that people will see what has happened in terms of their own position and feelings (their framework of reference). Try to understand the political climate and the attitudes and motivation of those concerned. Bear in mind that, as Jeffrey Pfeffer (1996: 36) commented, 'Smart organizations occasionally do dumb things.' Obtain information about internal or external constraints that affect the situation.

5. Analyse the facts – determine what is relevant and what is irrelevant. Diagnose the likely cause or causes of the problem. Do not be tempted to focus on symptoms rather than root causes. Test any assumptions. Distinguish between opinions and facts. Dig into what lies behind the problem.
6. Identify possible courses of action – spell out what each involves.
7. Evaluate alternative courses of action – assess the extent to which they are likely to achieve the objectives, the cost of implementation, any practical difficulties that might emerge and the possible reactions of stakeholders. Critical evaluation techniques as described in Chapter 19 can be used for this purpose.
8. Weigh and decide – determine which alternative is likely to result in the most practical and acceptable solution to the problem. This is often a balanced judgement.
9. Decide on objectives – set out goals for implementation of the decision.
10. Adopt a 'means–end' approach where appropriate – in complicated situations with long-term implications it may be useful to identify the steps required and select an action at each step which will move the process closer to the goal.
11. Plan implementation – prepare timetable and identify and assemble the resources required.
12. Implement – monitor progress and evaluate success. Remember that a problem has not been solved until the decision has been implemented. Always work out the solution to a problem with implementation in mind.

Decision making

Decision making is about analysing and defining the situation or problem, identifying possible courses of action, weighing them up and defining a course of action. Buchanan and Huczynski (2007) distinguished between structured and unstructured decisions. Structured decisions are programmable and can be resolved using decision rules. These are the day-to-day decisions, such as how much stock to order, which are standardized and uncontroversial. Unstructured decisions are unprogrammable and cannot

be reached using standard rules and procedures. The latter are the more common.

Peter Drucker (1955) produced the following words of wisdom on the subject, which have not been bettered since:

> Management is always a decision-making process. (p 310)
>
> The important and difficult job is never to find the right answer; it is to find the right question. (p 311)
>
> The first job in decision making is… to find the real problem and to define it. (p 312)
>
> To take no action is a decision fully as much as to take specific action. (p 319)
>
> No decision can be better than the people who carry it out. (p 321)
>
> A manager's decision is always a decision concerning what other people should do. (p 322)

In 1967 (p 120) he added: 'A decision is a judgement. It is a choice between alternatives. It is rarely a choice between right and wrong. It is at best a choice between almost right and probably wrong – but much more often a choice between two courses of action neither of which is probably more nearly right than the other.'

Limitations of a logical approach to decision making

A claim that logical decision making based on the problem-solving sequence referred to above is the obvious and most valid approach is convincing. After all, who would advocate an illogical approach? But there are limitations to the power and applicability of pure logic in the real world inhabited by managers. Purcell (1999: 37) argued that we should 'avoid being trapped in the logic of rational choice'. Mabey et al (1998: 524) observed that: 'From what we know of the role of existing structures, cultures, mindsets and politics on managers' thinking, there are serious grounds for questioning the rationality of management decision making.'

As Buchanan and Huczynski (2007: 819) commented: 'The number of decisions that can be reached unambiguously using information, analysis and logical reasoning tends to be small… Most of the significant decisions in organizations, and virtually all at senior management levels, tend to be unstructured. They cannot be based on reason and logic alone, but involve in some way the values and prejudices of key organizational members… Such unstructured decisions often have to be made in a period of change and uncertainty during which an organization is unlikely to have a single, unambiguous, clearly defined objective with which all members agree.'

This situation is an important cause of the political behaviour endemic in any organization subject to change, which means most if not all organizations. Political behaviour is driven by the pursuit of power and influence, not the desire to make logical decisions and achieve optimum solutions to problems. Mintzberg (1983) identified the four political games people

play in organizations: authority games, power base games, rivalry games and change games. Decisions may be made for political reasons rather than being based on logical analysis.

What is decided is influenced by the context in which it is decided. Cultural, social and political factors influence perceptions and judgements, and the extent to which people behave rationally is limited by their capacity to understand the complexities of the situation they are in and by their emotional reactions to it – the concept of bounded rationality as expressed by Simon (1957). As Harrison (2009: 331) explained: 'Some of the factors that militate against a purely "rational" approach include confused, excessive, incomplete or unreliable data, incompetent processing or communicating of information, pressures of time, human emotions, and differences in individuals' cognitive processes, mental maps and reasoning capacity.'

All this means that it is necessary to recognize that there are no simple solutions, no universal prescriptions, no sequences of actions that will inevitably lead to the one and only right conclusion. Short-term fixes may become long-term problems. Logical determinism – the belief that human actions can be governed by external forces in the shape of prescribed formulae – won't work. There is always choice. We may favour the idea of going from A to D via B and C but sometimes we have to start in the middle because our circumstances compel us to do so. We have to make the best of the situation in which we find ourselves and proceed from that point.

But we need to know what that situation is – what's right and what's wrong about it. We need to know about the social and political factors affecting the situation. We need then to understand what approaches are available to address the particular issues emerging from the situation.

Decisions will have to be made on the basis of obscure or conflicting evidence or no reliable evidence at all. What has happened in the past or is happening now may be shrouded in mystery. The future is uncertain. The consequences of decisions can only be guessed and unpredictable events will derail the actions resulting from the decision. This is the uncertainty principle applied to decision making – it is impossible to simultaneously measure the present position and determine the future position. There will always be a choice.

But the existence of all these barriers to logical decision making does not preclude the use of systematic processes to assemble and analyse the evidence in order to reach the best conclusion possible in the circumstances. It is still important to be decisive.

Ten approaches to being decisive

- Analyse and understand the context – bear in mind that while a logical approach such as that described earlier for problem solving is desirable, there are all sorts of factors that will affect the decision which have to be taken into account.

- Avoid procrastination – it is easy to put an e-mail demanding a decision into the 'too difficult' section of your actual or mental in-tray. Avoid the temptation to fill your time with trivial tasks so that the evil moment when you have to address the issue is postponed. Make a start. Once you get going you can deal with the unpleasant task of making a decision in stages. A challenge often becomes easier once we have started dealing with it. Having spent five minutes on it, we don't want to feel they were wasted, so we carry on and complete the job.
- Expect the unexpected – you are then in the frame of mind needed to respond decisively to a new situation.
- Think it through – decisive people use their analytical ability to come to swift conclusions about the nature of the situation and what should be done about it.
- Be careful about assumptions – we have a tendency to leap to conclusions and seize on assumptions that support our case and ignore the facts that might contradict it.
- Learn from the past – build on your experience in decision making; what approaches work best? But don't rely too much on precedents. Situations change. The right decision last time could well be the wrong one now.
- Be systematic – adopt a problem-solving approach as described above. It won't guarantee that a brilliant decision will emerge but at least it will have been based on an attempt to understand the circumstances rather than guesswork.
- Talk it through – before you make a significant decision talk it through with someone who is likely to disagree so that any challenge they make can be taken into account (but you have to canvass opinion swiftly).
- Leave time to think it over – swift decision making is highly desirable but you must avoid knee-jerk reactions. Pause, if only for a few minutes, to allow yourself time to think through the decision you propose to make. And confirm that it is justified.
- Consider the potential consequences – McKinsey call this 'consequence management'. Every decision has a consequence and you should consider very carefully what that might be and how you will manage it. You won't be able to anticipate everything but it is worth making the attempt. When making a decision, it is a good idea to start from where you mean to end – define the end result and then work out the steps needed to achieve it.

As described above, decision making can be a logical process following a problem-solving approach but it can benefit from creative thinking. It can also benefit from involving other people. Attention has to be paid to ethical considerations and communicating the decision.

Creative thinking

Creative thinking is imaginative thinking. It produces new ways of looking at things and innovative decisions. It relates things or ideas which were previously unrelated. It is discontinuous and divergent. Edward de Bono (1971) invented the phrase 'lateral thinking' for it and this term has stuck; it implies sideways leaps in the imagination rather than a continuous progression down a logical chain of reasoning.

Creative thinking is not superior to logical thinking. It's just different. The best managers are both creative and logical. Eventually, irrespective of how creative they have been, they have to make a decision. And logical thinking helps to ensure that it is the right decision. Creative thinking involves breaking away from any restrictions and opening up your mind to generate new ideas.

Breaking away

To break away from the constraints on your ability to generate new ideas you should:

- identify the dominant ideas influencing your thinking;
- define the boundaries (ie past experience, precedents, policies, procedures, rules) within which you are working and try to get outside them by asking questions such as: Are the constraints reasonable? Is past experience reliable? What's new about the present situation? Is there another way?
- bring your assumptions out into the open and challenge any which restrict your freedom to develop new ideas;
- reject 'either/or' propositions – ask, 'Is there really a simple choice between alternatives?'
- keep on asking 'Why?' (but bear in mind that if you do this too bluntly to other people you can antagonize them).

Generating new ideas

To generate new ideas you have to open up your mind. If you have removed some of the constraints as suggested above you will be in a better position to look at the situation differently, exploring all possible angles. You should list as many alternative approaches as possible without seeking the 'one best way' (there is no such thing).

In de Bono's words, it is also necessary to 'arrange discontinuity' by:

- deliberately setting out to break the mould by such means as free thinking (allowing your mind to wander over alternative and in many cases apparently irrelevant ways of looking at the situation);

- exposing yourself to new influences in the form of people, articles, books, indeed anything which could give you a different insight, even though it might not be immediately relevant;
- switching yourself or other people from problem to problem, arranging for the cross-fertilization of ideas with other people;
- 'reframing' – placing the problem in a different context to generate new insights.

Involving people in decision making

As Drucker (1955: 323) noted: 'People who have to carry out the decision should always participate in the work of developing alternatives… This is also likely to improve the quality of the final decision by revealing points the manager may have missed, spotting hidden difficulties and uncovering available but unused resources.'

The advantages of involving teams in decision making are that more minds will be brought to bear on the problem to generate better ideas for its solution. Those taking part are likely to 'own' the solution and should therefore be more likely to welcome it and willingly take part in its implementation.

Work teams can be involved in collectively dealing with problems, or special problem-solving groups can be formed which can resemble the once fashionable quality circles. Charles Handy (1985: 160) pointed out that:

> Groups produce less (sic) ideas, in total than the individuals of those groups working separately. So much for the stereotyping of brainstorming! But groups, though producing less ideas in total, produce better ideas in the sense that they are better evaluated, more thought through… We tend to behave more adventurously in groups than in private, where we do not have to live up to any public standard.

Group problem solving and problem solving will be most effective when:

- the problem to be solved – the task of the group – is clearly defined by a briefing or by the group itself;
- the members of the group interact with one another cooperatively;
- between them, members of the group have the knowledge and skills required, including problem-solving and decision-making skills;
- the group has access to the information it needs;
- the problem-solving processes are enhanced by a skilled facilitator;
- the group is able to communicate its findings to an appropriate authority;
- the group can take part in planning and executing the decision.

You should not expect or even welcome a bland consensus view. The best decisions emerge from conflicting viewpoints. You can benefit from a clash of opinion to prevent people falling into the trap of starting with the conclusion and then looking for the facts that support it.

Ethical decision making

Answers to the following questions should be obtained to provide guidance on whether or not a proposed decision is ethical:

- Is the proposed decision consistent with the principles of natural, procedural or distributive justice and the requirements of the organization's ethical code (if there is one)?
- Can the decision be justified on the basis of the benefits it will provide to the organization and its employees?
- Will the decision be harmful to the individual affected or to employees generally in any way and if so how?
- Will the decision harm the organization's reputation for fair dealing?

Communicating and justifying decisions

Decisions affecting people should be communicated to all concerned. The communication should spell out what the decision was, why the decision was made, who made the decision, who will be affected by the decision and the right of anyone affected to raise questions or concerns about the decision.

KEY LEARNING POINTS

Problem solving and decision making are closely associated processes which are a constant feature of life in organizations and elsewhere.

Problem solving

Problem solving is the process of analysing and understanding a problem, diagnosing its cause and deciding on a solution which solves the problem and prevents it being repeated.

Decision making

Decision making is about analysing the situation or problem, identifying possible courses of action, weighing them up and defining a course of action. However, the extent to which it can be entirely logical is limited by social, political and contextual factors.

Creative thinking

Creative thinking is imaginative thinking. It produces new ideas, new ways of looking at things and innovative decisions.

Involving teams

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likely to 'own' the solution and should therefore be more likely to welcome it and willingly take part in its implementation.

Ethical considerations

Decisions affecting people should take account of ethical principles and be communicated to all concerned.

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Questions

1. What is the nature of problem solving?
2. What is the purpose of analysis in problem solving?
3. What are the key steps that should be taken in problem solving?
4. What is the nature of decision making?
5. What are the limitations of a logical approach to decision making?
6. What are the key steps to effective decision making?
7. What is creative thinking?
8. How can you best generate new ideas?
9. What are the advantages of involving people in decision making?
10. What are the key questions you should answer when deciding on the degree to which a decision is ethical?