

**Table 4.2 Summary of the organisational characteristics that facilitate the innovation process**

Organisational requirement	Characterised by
1 Growth orientation	A commitment to long-term growth rather than short-term profit
2 Organisational heritage and innovation experience	Widespread recognition of the value of innovation
3 Vigilance and external links	The ability of the organisation to be aware of its threats and opportunities
4 Commitment to technology and R&D intensity	The willingness to invest in the long-term development of technology
5 Acceptance of risks	The willingness to include risky opportunities in a balanced portfolio
6 Cross-functional cooperation and coordination within organisational structure	Mutual respect amongst individuals and a willingness to work together across functions
7 <b>Receptivity</b>	The ability to be aware of, to identify and to take effective advantage of, externally developed technology
8 Space for creativity	An ability to manage the innovation dilemma and provide room for creativity
9 Strategy towards innovation	Strategic planning and selection of technologies and markets
10 Coordination of a diverse range of skills	Developing a marketable product requires combining a wide range of specialised knowledge

## Growth orientation

It is sometimes surprising to learn that not all companies' first and foremost objective is growth. Some companies are established merely to exploit a short-term opportunity. Other companies, particularly family-run ones, would like to maintain the company at its existing size. At that size, the family can manage the operation without having to employ outside help. Companies that are seeking growth are more likely to be interested in innovation than those that are not. For those companies whose objective is to grow the business, innovation provides a means to achieving growth. This does not imply that they make large profits one year then huge losses the next, but they actively plan for the long term. There are many companies that make this explicit in their annual reports, for example, Roche, Siemens, Google and Microsoft (see Dobini, 2010).

### Pause for thought



If we know what organisational characteristics are required for innovation, why are not all firms innovative?

## Organisational heritage and innovation experience

A firm's heritage and culture is, undisputedly, considered crucial to the firm's technological capabilities, as it fosters and encourages widespread recognition of the need to innovate. This is clearly illustrated in the extent to which groups and departments are willing to cooperate. Numerous problems arise when individuals and groups are either unwilling or reluctant to work together and share ideas. At the very least, it slows down communication and decision making and, at worst, leads to projects being abandoned due to lack of progress. Frequently, the difference between a firm succeeding or not lies not in their scientific ability or commercial knowledge but simply in the firm's internal ability to share information and knowledge. The pharmaceutical firm Pfizer is frequently cited as delivering exceptional new products, yet its R&D is not more highly regarded than other firms. In other words, it is the ability of the firm to convert technology into products that sets it apart from its competitors.

Previous experience with innovative projects is clearly conducive to the firm's technology and R&D management capabilities, as these enhance the skills that are necessary to turn technology into marketable products. Numerous advantages also flow from learning by doing and learning from failure effects.

## Vigilance and external links

Vigilance requires continual external scanning, not just by senior management but also by all other members of the organisation. Part of this activity may be formalised. For example, within the marketing function the activity would form part of market research and competitor analysis. Within the research and development department scientists and engineers will spend a large amount of their time reading the scientific literature in order to keep up to date with the latest developments in their field. In other functions it may not be as formalised but it still needs to occur. Collecting valuable information is one thing, but relaying it to the necessary individuals and acting on it are two necessary, associated requirements. An open communication system will help to facilitate this. Extensive external linkages with the market, competitors, customers, suppliers and others will all contribute to the flow of information into the firm (see Kang and Kang, 2009; also see Chapter 11).

## Commitment to technology and R&D intensity

Most innovative firms exhibit patience in permitting ideas to germinate and develop over time. This also needs to be accompanied by a commitment to resources in terms of intellectual input from science, technology and engineering. Those ideas that look most promising will require further investment. Without this long-term approach, it would be extremely difficult for the company to attract good scientists. Similarly, a climate that invests in technology development one year then decides to cut investment the next will alienate the same people in which the company encourages creativity. Such a disruptive environment does not foster creativity and probably will cause many creative people to search for a more suitable company with a stronger commitment to technology.

In addition, it seems almost obvious to state that a firm that invests more in R&D will increase its total innovative output. But the relationship between R&D expenditures as a percentage of sales and commercial success is less clear-cut. This will be examined in more detail in Chapter 9.

## Acceptance of risks

Accepting risks does not mean a willingness to gamble. It means the willingness to consider carefully risky opportunities. It also includes the ability to make risk-assessment decisions, to take calculated risks and to include them in a balanced portfolio of projects, some of which will have a low element of risk and some a high degree of risk.

## Cross-functional cooperation and coordination within organisational structure

Interdepartmental conflict is a well-documented barrier to innovation. The relationship between the marketing and R&D functions has received a great deal of attention in the research literature. This will be explored further in Chapter 17, but, generally, this is because the two groups often have very different interests. Scientists and technologists can be fascinated by new technology and may sometimes lose sight of the business objective. Similarly, the marketing function often fails to understand the technology involved in the development of a new product. Research has shown that the presence of some conflict is desirable, probably acting as a motivational force (Souder, 1987). It is the ability to confront and resolve frustration and conflict that is required. In addition, a supportive organisational structure underpinned by a robust information and communication technology system all contribute to facilitating the organisation to coordinate cross-functional cooperation (see later sections in this chapter).

## Receptivity

The capability of the organisation to be aware of, identify and take effective advantage of externally developed technology is key. Most technology-based innovations involve a combination of several different technologies. It would be unusual for all the technology to be developed in-house. Indeed, businesses are witnessing an increasing number of joint ventures and alliances (see Chapter 8), often with former competitors. For example, Sony and Ericsson formed a joint venture to work on the development of mobile phone handsets (see the case study on Sony-Ericsson in Chapter 11 for more details). Previously, these two companies fought ferociously in the battle for market share in the mobile phone handset market.

## Space for creativity

Whilst organisations place great emphasis on the need for efficiency, there is also a need for a certain amount of slack to allow individuals room to think, experiment,

discuss ideas and be creative (Birdi, et al., 2012; Dobini, 2010; Troilo et al., 2014). In many R&D functions this issue is directly addressed by allowing scientists to spend 10–15 per cent of their time on the projects they choose. This is not always supported in other functional areas. (See also ambidexterity in the earlier section, ‘The dilemma of innovation management’.)

## Strategy towards innovation

An explicit strategic approach towards innovation can come in many forms, as is shown in Chapter 7. For the firm and those within it, however, it means that the firm has developed plans for the future regarding selection of markets to enter and which technologies may be appropriate for the firm. Recognising that the organisation possesses skills, technology and knowledge and that there are appropriate markets that suit these, requires careful planning, probably utilising a project portfolio approach. This will involve further long-term planning, establishing a range of projects, some of which will subsequently provide opportunities that the firm will be able to exploit. This long-term planning and investment with regard to technology and markets distinguishes such firms from their short-termism counterparts (see Dobini, 2010).

## Diverse range of skills

Organisations require a combination of specialist skills and knowledge in the form of experts in, say, science, advertising or accountancy and generalist skills that facilitate cross-fertilisation of the specialist knowledge. In addition, they require individuals of a hybrid nature who are able to understand a variety of technical subjects and facilitate the transfer of knowledge within the company. Similarly, hybrid managers who have technical and commercial training are particularly useful in the area of product development (Wheelwright and Clark, 1992). It is the ability to manage this diversity of knowledge and skills effectively that lies at the heart of the innovation process. This is wonderfully illustrated below in the analysis of conducting or managing an orchestra. On the one hand, great individual musical talent is required and yet, at the same time, individuals must play as part of the team. Even the greatest business pioneers in technology cannot do it alone, as is shown in Illustration 4.1.