



Technology innovation and entrepreneurship: learning manual for the Diploma in Technology Commercialisation

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ATLANTIC UNIVERSITY ALLIANCE



DIPLOMA IN TECHNOLOGY COMMERCIALISATION

MASTERS IN TECHNOLOGY MANAGEMENT

Technology Innovation & Entrepreneurship



Diploma in Technology Commercialisation Masters in Technology Management

The Atlantic University Alliance

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Technology Innovation *and Entrepreneurship*

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Module Introduction and Overview

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Module Introduction and Overview

Section 1.1 Module Introduction

In recent years, major competitive threats to Ireland Inc. have emerged – including a rising cost-base relative to our trading partners, the continuing migration of traditional manufacturing to low-wage economies, and increased competition in the high-technology sector from other developed economies. Competition is becoming increasingly intense, and indigenous industries are finding it difficult to compete. Moreover, research and development by small- to medium-sized enterprises (SMEs) is limited, and economic growth is driven by consumer spending and the property market rather than by internationally traded goods and services.

With such significant changes in the economic landscape, Ireland now needs to increase the number and quality of indigenous companies. To continue to succeed as a developed and dynamic economy in an increasingly global and competitive marketplace, Ireland needs to plan for the future and create graduates who are entrepreneurial thinkers and entrepreneurial doers, particularly those graduates who do not have a traditional business education.

Despite the urgent need to generate 'home-grown' graduate entrepreneurs, the number of start-ups resulting from 'graduate' enquiries is alarmingly low across the country. We can point to a number of factors that have led to low levels of entrepreneurial activity, such as:

- ◆ A lack of entrepreneurial training on most undergraduate programmes
- ◆ Little focus on the value of enterprise development in third-level institutions
- ◆ No evidence of 'cross-disciplinary' teams or collaborations between schools
- ◆ No pre-incubation activities on campus
- ◆ Little planned connection between academic programmes and incubation centre activities
- ◆ Historically low levels of research and development

Creating, maintaining and sustaining an enterprise culture in Ireland is a key economic challenge. Ireland's future is dependent on sustained competitive improvements and radical changes in innovation being adopted and implemented by enterprises. This is necessary so that the Irish economy can reposition itself to bring more sophisticated customer-focused products and services to a highly competitive global marketplace. Our future economic success lies in the research, commercialisation, production and sale of higher-value-added products and services to worldwide markets. According to the Forfás Enterprise Strategy Group Report 2004, in order to achieve this it is imperative to develop a 'cohesive, strategic and focused approach to market-led applied research and technological development and to leverage increased enterprise investment' (p.93). Further, their more recent report on Ireland's future skills needs to 2020 emphasises the requirement for a knowledge economy in which skills drive innovation, productivity, and entrepreneurial activity. Irish enterprises must shift from a resource-intensive to a

knowledge-intensive, innovative sector that is capable of achieving and maintaining technological leadership in the global marketplace.

Section 1.2

Module Aims, Objectives and Approach

The module covers a broad range of topics that critically affect technology-based start-up companies. It is designed to help you develop strong conceptual foundations for understanding and exploiting technological innovation and entrepreneurship. More specifically, it aims to equip you with an understanding of the technology innovation lifecycle and the key issues involved in entrepreneurship and new venture creation. The module introduces concepts and frameworks to create, commercialise and capture value from technology-based products and services. It aims to provide you with a comprehensive toolbox to enable you to identify opportunities, and develop feasibility studies and business plans in order to develop and manage innovation throughout the product lifecycle, and exploit a new technological venture.

In summary, the module aims to:

- ◆ Present a curriculum in the area of technology innovation and entrepreneurship
- ◆ Provide easy-to-access, state-of-the-art reference material in the area of technology innovation and entrepreneurship to help learners to understand the essential fundamental concepts involved in the discipline
- ◆ Equip learners with the values, best practices, skills and supporting tools necessary to effectively design, develop and deploy technical projects in their organisations and to empower users to autonomously apply these concepts and tools

Section 1.3

Module Learning Outcomes

The multidisciplinary nature of technological innovation and entrepreneurship demands an interdisciplinary and innovative approach to the module structure and delivery. Therefore central to this module is the development within learners of the knowledge and skills necessary to bridge functional areas, to span boundaries and to manage your associated interfaces. The module maintains a strong focus on promoting action learning. For that reason action-reflection-learning is at the core of the learning approach. Therefore, on completion of the module learners will be equipped with the knowledge and skills to enable them to:

- ◆ State the fundamental concepts of technological innovation and entrepreneurship
- ◆ Describe the technological innovation and entrepreneurship processes
- ◆ Adopt entrepreneurial values and behaviours
- ◆ Manage the entrepreneurial process from opportunity to value creation
- ◆ Use appropriate tools to develop and exploit a technology

- ◆ Develop transferable skills such as creative thinking, problem specification, team working, and the ability to synthesise and apply acquired knowledge to solve real-world problems
- ◆ Explain the critical influencing factors for successful technology development and execution
- ◆ Write an effective feasibility study and business plan to negotiate and secure funding for technology projects

Section 1.4

Structure of the Module

The module is divided into ten separate units. Table 1.1 shows the main content of each unit.

Table 1.1 Structure of the Module

Unit		Contents
1	Introduction	Aims, learning objectives and approach Learning outcomes Structure of the module Assessment and resources
2	Understanding Technology Innovation	Defining technology innovation Technology innovation lifecycle Types of technology innovations
3	Dynamics of Technology Innovation	The technology innovation management process Critical success factors Self-assessment scorecard
4	Understanding Entrepreneurship	Defining entrepreneurship and concepts Key characteristics and traits of successful entrepreneurs Entrepreneurial process Failure in new ventures
5	Opportunity Recognition	Sources of innovation Idea-generation tools Converting an idea to an opportunity The opportunity checklist/scorecard
6	Market Analysis	Understanding market analysis Market segmentation External and internal analysis Positioning the product
7	Financial Management	Generating finance Financial projections Key success factors and common pitfalls Strategies for raising finance: The elevator pitch
8	Intellectual Property Management	The importance of intellectual property How intellectual property is protected Types of intellectual property
9	Project Management	Project management process Understanding project portfolio management Project selection methods Risk management
10	Exit Strategies	Reasons for exiting Exit strategies Factors that affect the disposal process The selling process Negotiation strategies
11	Appendices	Components of a feasibility study Components of a business plan Setting up a company in Ireland

Section 1.5

Assessment

This module places great emphasis on problem solving and project-based learning. Tutor-marked Assignments (TMAs) will include **case study analysis** and a **project**.

- ◆ **Case study analysis:** You are expected to complete assigned readings and cases, and prepare an analysis of the issues raised in each case without exception. Learners should clearly articulate their analysis, back up their views with any relevant facts, and continuously aim to move the analysis forward.
- ◆ **Project:** As part of the assessment for this module, you will be required to undertake a project. You are encouraged to use company-specific data to complete this assignment.

These assessments will account for 50% of your overall mark. You will also be required to take a written end-of-semester examination. The exam will be worth 50% of the course grade.

Section 1.6

Learning Resources for this Module

The recommended textbook for this module is Timmons, J.A. and Spinelli, S. (2003) *New Venture Creation: Entrepreneurship for the 21st Century*, 6th Edition, McGraw-Hill.

Additional resources such as papers, articles, cases, videos, podcasts and websites will be posted on a dedicated Blackboard site.

Understanding Technology Innovation

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Understanding Technology Innovation

Section 2.1

Unit Introduction

You need to understand the concept of innovation in order to develop new ways of creating and producing products, services and ventures. By understanding innovation, you can increase the likelihood of developing an appropriate environment, or infrastructure, for developing and deploying new products and services. This in turn will help you to minimise your failure rates and maximise your chances of success. In order to lay the foundations for successful innovation, every member of the organisation must have a fundamental understanding of what it means to innovate. However, innovation is a complex subject. Different types of professionals, ranging from designers and engineers to organisational behaviourists and industrial psychologists, have studied it from many different angles and perspectives. Thus, before beginning your study of entrepreneurship, we must set boundaries and parameters.

This unit focuses on the concept of **technology innovation**. It determines the importance of innovation for contemporary organisations. It defines innovation and examines the key stages in the innovation lifecycle. This unit also explores the typical types of innovation found in organisations and new ventures.

Section 2.2

Unit Learning Objectives

When you have successfully completed this unit you will be able to:

- ◆ Explain what innovation is and its potential impact on the future of an organisation
- ◆ State the value of innovation and the vital role every individual can play in an innovative organisation
- ◆ Outline the fundamental concepts of innovation in general and technology innovation in particular
- ◆ Explain several different ways to organise the technology innovation processes
- ◆ Discuss various classifications and typologies used in technology innovation

Section 2.3

Defining Technology Innovation

Innovation is the process of making changes to something established. It can result in a new product, service, system, device, policy, process or programme relating to any aspect of the organisation. According to Burgelman et al. (2004) technology innovation refers to all product and process activities as well as market development activities.

It is important to note that innovation is not confined to state-of-the-art or radical discovery

In fact, 95% of all innovations are small-scale conventional solutions or improvements

Therefore, any change that strives to improve existing circumstances or performance is an innovation

Invention refers to the discovery of a new product, service or technology. However, invention is useless to an organisation or venture unless it can be **commercially exploited**. True innovation therefore is not simply about identifying novel ideas or concepts, but about transforming these ideas and concepts into commercial solutions.

Technology innovation is the generation, acceptance and implementation of new ideas, processes, products or services. It is more than simply coming up with good ideas; it is the process of developing them into practical use. Innovation integrates the entire process from the generation of a potential idea to its successful implementation. Therefore, technology innovation can be seen in terms of the following equation:

$$\text{Technology innovation} = f(\text{Idea Generation, Concept Development, Implementation, Exploitation})$$

This means that technology innovation is **systematic** in nature and must be managed accordingly. Technology innovation is often achieved by listening to customers articulate business needs and then developing creative solutions that address them. It is gathered from new connections, new insights gained by journeys into other disciplines, from active networks and open boundaries. Therefore, critical to a successfully innovative organisation is a thorough understanding of its customer needs and expectations.

Section 2.4

Technology Innovation Lifecycle

Innovative ideas follow different paths from conception to approval and implementation. This path is referred to as the **innovation process or lifecycle**.

A considerable amount of attention has been paid to the process of innovation at organisational level in an attempt to improve the success of technology innovations. There are numerous models proposing the stages, or sequence of events, comprising the process. Figure 2.1 illustrates the three key stages in the technology innovation process. These are (a) diagnose, (b) develop and (c) deploy. These simple stages help to set the scene and scope for all innovation efforts.



Figure 2.1 Technology Innovation Lifecycle

- ◆ **Diagnose:** At this stage, the entrepreneur identifies strengths to exploit and weaknesses to address. This is the time also to identify and prioritise opportunities and threats. The astute entrepreneur will engage in boundary spanning activities (e.g. market appraisals, external audits, competitor analysis, gap analysis etc.) to observe changes in the market (e.g. new entries, increased demand, new legislation etc.). Organisations should also work closely with customers to uncover or better define problems for which solutions are required. Such activities will enable them to identify opportunities that best match their own strengths and capabilities.
- ◆ **Develop:** This involves planning and developing the innovation. As mentioned earlier, technology innovation may be a product, service or system. This stage involves identifying best practices in terms of activities, approaches and state-of-the-art expertise. It is at this point in the process that costs start to rise dramatically, as resources for development are needed. Innovations should therefore be ranked according to their relative importance. This enables the organisation to devote resources only to those ideas worthy of attention. A dedicated sponsor should support the development team throughout the innovation process. The sponsor should also be responsible and accountable for the success of the project.
- ◆ **Deploy:** This phase involves migration planning and roll-out. Support systems should also be aligned to reinforce the new technology and facilitate continuous learning. For example, feedback and on-going training should be provided for all employees affected by the change in order to sustain their energy and enthusiasm. Finally, the performance of the technology must be continuously monitored to help the users to alter actions so that they meet the original objectives.

Technology innovation should be viewed as a continuous, iterative and evolving process. Therefore the implementation of a new innovation can best be viewed as a journey (i.e. continuing improvement) rather than as a destination. Many technology innovations may be considered to be modifications of existing innovation systems. New technologies are rarely entirely separate from existing systems, but rather evolve from them. It is likely that an organisation's innovation system (e.g. new product development system, process improvement system) will have developed as a result of repeated introductions of new ways of doing things.

Section 2.5

Types of Technology Innovation

For a better understanding of innovation, it is helpful to classify the various types of innovation. There are a number of ways of classifying technology innovation. The distinction between product and process innovation is well established. You can distinguish these innovations based on their different outputs.

Product innovation results in a new device or a tangible object while process innovation deals with a new way of making an old thing.

Product and process innovations are inextricably linked. Established organisations and new ventures can achieve competitive advantage, increased market share and customer loyalty by developing innovative new products. On the other hand, they can increase their efficiency and effectiveness through faster cycle times, lower operating costs and greater productivity. Many of the advantages gained by product innovations are often only realised when closely coupled with process developments which ensure that the organisation can deliver the right products to the customer, on time, with zero defects.

Figure 2.2 examines the rate of product and process development in an organisation. The rate of product development peaks when the designers have ironed out most of the problems and changes with the design of the product or service. This is often called the **design standard** for the new product. After that it declines and the rate of development to improve the production process increases. This occurs because developers and manufacturers cannot focus on improving the production processes that will produce the product until the design has been standardised.

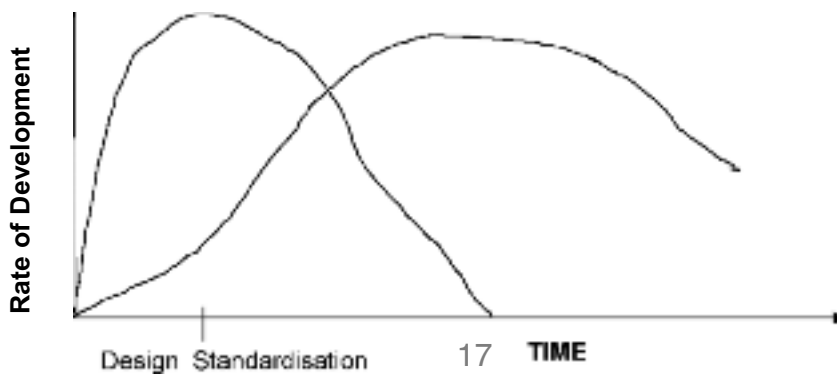


Figure 2.2 Relationship between Product and Process Innovations

Technology innovations can also be classified based on the degree of change that they encompass.

They can range from routine, continuous, incremental changes to major radical new designs or changes

This routine versus radical dimension is one of the most commonly used classifications. Routine innovations involve the adoption, refinement and enhancement of existing

products and services. It can also involve the introduction of something that is not totally new but is new to the organisation or setting. Routine innovations are normally short-term and low-risk projects.

A **radical innovation** on the other hand involves the development or introduction of entirely new product and service categories. Radical innovations are very different from what the organisation has done before. They are more disruptive and require more change within the organisation. Radical innovations are normally long-term projects and have a higher risk of failure.

Wheelwright and Clark (1992) present a framework for product and process innovation in which they propose that innovations range from the development of a new core product (involving radical design) and its associated process, to routine or small-scale product changes together with their associated process. This is illustrated in Figure 2.3.

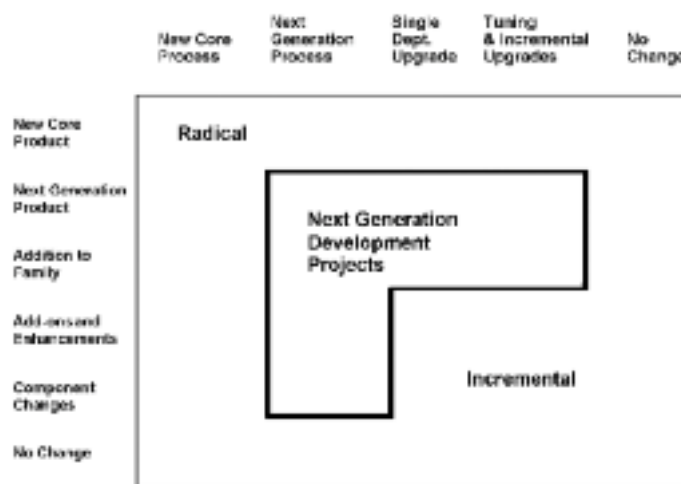


Figure 2.3 Types of Product Innovation Projects
(Based on Wheelwright and Clark 1992)

From this view, we can categorise technology innovation projects as follows:

- ◆ **R&D or advanced development projects:** Such projects are visionary and speculative and explore where the company might be in five years or more. These projects also require a totally new process to make the new product.
- ◆ **Breakthrough or radical projects:** Breakthrough projects focus on radical changes involving the development of new innovations. They also require a new approach to development.
- ◆ **Next generation or platform projects:** Next generation or platform projects involve significant incremental improvements but are still linked to the same basic platform. Here processes must be improved and altered to accommodate the new products.
- ◆ **Incremental or derivative projects:** Incremental or derivative projects incorporate small-scale incremental changes to existing products. The associated process will also require some small-scale tweaks and changes.

There is general agreement among researchers that the main design activity occurs at the routine end of the spectrum. Only between 5% and 10% of all new products are

truly innovative and most new innovation activity is devoted to improving existing products and processes. It is also clear that next generation or platform products provide the best opportunity for competitive advantage. This category is where the greatest opportunity to influence product characteristics arises.

Figure 2.4 classifies product innovation projects by degree of complexity. This illustrates that people who create new core products, which involve radical change, focus most of their attention on **technological activities**. On the other hand, people who create incremental component changes, which involve small-scale improvements, focus primarily on **marketing activities**.

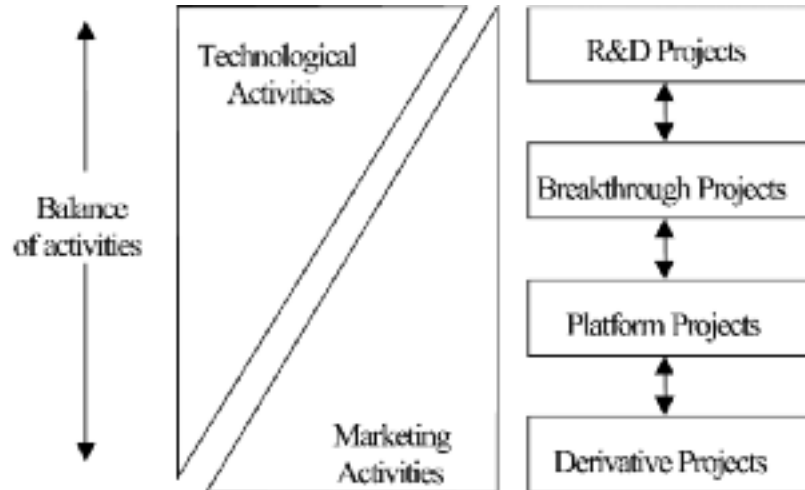


Figure 2.4: Classification of Products by Degree of Complexity
(Cormican 2001)

In general, an organisation's innovation portfolio will contain a mix of technologies. Some of these projects will represent incremental developments and improvements on existing and proven outputs, while others will focus on more radical innovations. Traditionally, emphasis has focused on managing the single individual project in isolation, and insufficient attention has been paid to the portfolio or collection of these projects.

More recently, leaders have understood the need to better manage the portfolio or suite of innovation projects. Organisations in general, and new ventures in particular, now realise that a key element of success involves employing a platform or family perspective when planning and executing innovation projects. In general, most firms will work on a portfolio of technologies, some of which will represent incremental developments and improvements on existing and proven products and processes, while others will focus on more radical innovations.

While different firms put together different portfolios, most will have a combination of low risk, short-term projects and high risk longer-term ones. Ideally, a company should have a portfolio of products whose lifecycles overlap. In other words, new innovation projects will have started before others have been completed. This guarantees continuity of income and growth potential.

Section 2.6

Unit Review

Progressive organisations contend that it is their ability to foster innovation that enables them to respond to changing markets, and thus retain their competitive advantage.

Innovation enables organisations to reinvent their business models, respond to customer requirements and improve operational performance. It helps them to reduce costs and increase revenues.

Successful organisations consciously and consistently promote innovation at all levels of the organisation. This helps them to run their business more efficiently and effectively.

Technology innovation is about intentionally making changes to something established. This can result in a new product, service, system, device, policy, process or programme.

The Technology Innovation lifecycle has three steps: **diagnose, deploy, develop.**

We can categorise technology innovations as **product** or **process** innovations, routine or radical. They can range from the introduction of something similar to previous organisational practice, to something very different from what the organisation has done before.

For technology innovations to be successful they must **add value** and **meet customer requirements.**

Section 2.7**SAQs**

- 1 What is innovation?
- 2 Why is innovation so important for organisations?
- 3 Innovation is more than coming up with a good idea. Identify the four key elements in innovation.
- 4 New products are the main output of an organisation's innovation endeavours. Identify three other outputs that can benefit an organisation.
- 5 Identify four types of product innovation projects.

Section 2.8**SAQs Suggested Answers**

- 1 Innovation is the process of making changes to something established by introducing something new.
- 2 Innovation is important for organisations because it helps to design, develop and deploy new products and services. This in turn promotes growth and increases profits.
- 3 The four key elements of innovation are (a) idea generation, (b) concept development, (c) implementation, and (d) exploitation.
- 4 Three other outputs that can benefit an organisation are (a) new processes, (b) new services and (c) new policies
- 5 Four types of product innovation projects are: (a) R&D or advanced development projects (b) breakthrough or radical projects (c) next generation or platform projects and (d) incremental or derivative projects.

Section 2.9

Learning Activity

- ◆ Does your organisation place much emphasis on innovation?
- ◆ If so, what type of innovation does your organisation focus on?

Section 2.10

References

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Supplementary Reading

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Dynamics of Technology Innovation

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Dynamics of Technology Innovation

Section 3.1

Unit Introduction

It is widely recognised that effective innovation management is critical to the success of new ventures and established organisations. However, technology innovation is a risky and expensive endeavour, which results in low success rates and many projects being terminated midway in the development cycle. Research also indicates that a very high proportion of new product ideas fail commercially in the market place.

The task of managing innovative endeavours is not trivial. Innovation is a complex and difficult process. Therefore, organisations must develop and implement an effective infrastructure to facilitate innovation. This will help minimise the probability of failure and maximise the chance of success.

This unit describes the key elements in the technology innovation process and determines how to manage them effectively. It then presents a best practice framework for managing technology innovation projects. The unit includes a self-assessment scorecard based on the critical success factors. This is designed to help entrepreneurs and innovators assess their organisations in terms of their strengths to be exploited and weaknesses to be addressed.

Section 3.2

Unit Learning Objectives

When you have successfully completed this unit, along with its associated readings and learning activities, you will be able to:

- ◆ Explain the dynamics of innovation and the tactics which encourage it
- ◆ Present a systematic process to effectively manage technology innovation projects
- ◆ Suggest the organisational forms appropriate for innovative activity
- ◆ Illustrate the significance of organisational culture to promoting effective technology innovation

Section 3.3

Technology Innovation Management Process

Innovative ideas follow a managed progression from conception to approval and implementation. This is referred to as **the innovation process**.

The technology innovation process includes those steps, activities and decision points that new product or process development projects follow from idea to launch and beyond, and each of these stages must be effectively managed.

Figure 3.1 details a typical product innovation management process. The process incorporates a stage gate facility.

A stage gate is an operational roadmap for driving innovation projects from idea to implementation. It separates this process into a series of activities (stages) and decision points (gates).

Each stage contains a set of defined concurrent activities, incorporating industry best practices. Gates are the checkpoints where senior managers decide whether to continue funding a project, terminate, delay or refine the project. This allows innovations to be synthesised, filtered and prioritised, taking into consideration the organisation's goals, requirements and constraints. Figure 3.1 presents a process for managing technology innovation projects. It adopts a systems approach to the technology innovation process and it identifies four major flows, namely, controls, mechanisms, inputs and outputs. The paragraphs below discuss these in more detail.

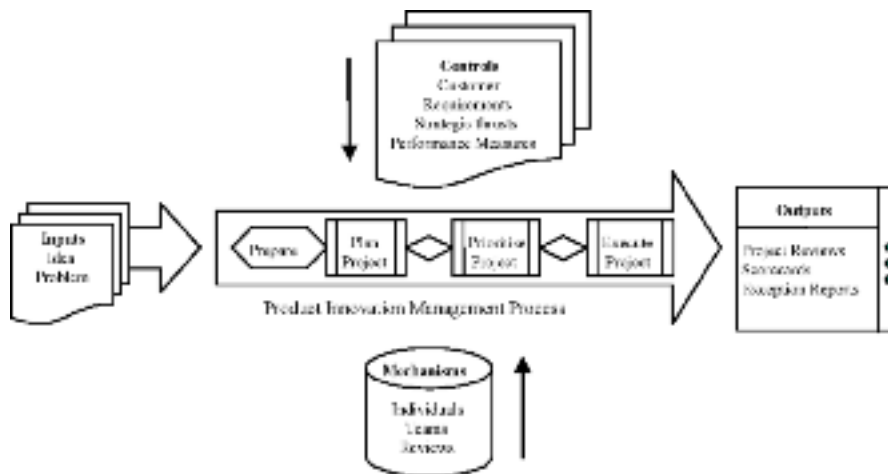


Figure 3.1: Technology Innovation Management Process
(Cormican and O'Sullivan 2007; Cormican and O'Sullivan 2004a)

- ◆ **Controls:** Controls help to guide or constrain an activity. They identify limitations, or restrictions to the innovation process. Elements such as requirements (i.e. customer requirements, conformance requirements, corporate requirements, employee requirements etc.) strategic thrusts (i.e. leadership, policy, resources, processes etc.) and measures of performance (i.e. time, cost, quality, environment etc.) constrain the process. Controls ensure that whatever an organisation does in terms of new technology development strategically aligns with the organisation's long-term strategy. For example, requirements identify the pressures exerted by various stakeholders in the organisation that must be complied with. These requirements influence the strategies and supporting measures pursued to achieve the organisation's vision. By deploying these requirements, strategies and measures into the innovative efforts of the organisation, the organisation can choose a portfolio of actions better aligned to achieve the organisational goals.

- ◆ **Mechanisms:** Mechanisms help to identify who or what is performing the activity. They can also constrain the technology innovation management process. They relate to how the organisation is organised in terms of individuals and teams. Teams represent the resource constraints of the organisation. This constraint will be weaker if people with more competencies and skills are available to work on the project. Employee performance reviews are another dimension to this constraint. More specifically, employees that are linked to goals through their performance appraisal system are motivated to engage in projects, and this element of the development process must also be incorporated to increase the flow of innovations.
- ◆ **Inputs:** Ideas and problems are the primary input to the technology innovation process. Innovations that map well with the controls and mechanisms of the organisation flow more easily into the system to become projects. Organisations can regulate the number of innovations by tightening the controls and increasing or reducing the resources. Poor goal definition or customer requirement definition results in the development process becoming cluttered. Poor resource (i.e. teams, equipment and budgets) availability reduces the amount of new ideas that the organisation can manage at any given time. The principal concept is that many new ideas and problems are encouraged through the system and the constraints regulate which innovations are allowed to become goal-centered projects. If innovations are well matched with the organisation's goals, then their likelihood of proceeding through the system increases.
- ◆ **Outputs:** Outputs deal with performance measurement and evaluation. It helps to ascertain whether the actions implemented led to the results envisioned. Outputs enable the status of the organisation's strategies, measures and deliverables to be viewed. Each of these modules contains a special results section that allows those team members who are responsible for the success of these goals to monitor and update the status of each activity. The organisation can capture critical knowledge about the results of its activities, such as: percentage complete and project status. An exception report allows management to concentrate their efforts on activities that are performing poorly. The exception report highlights all categories (i.e. requirements, measures and projects etc.) that are performing poorly. This enables the product manager to focus exclusively on those activities that are not reaching the required standard.

Section 3.4

Critical Success Factors for Managing Technology Innovation

There are many factors that affect the successful management of technology innovation projects. However, an organisation's and/or team's characteristics can have a significant impact on it.

Building an effective framework for technology innovation management depends on adopting a socio-technical systems approach to all aspects of the organisation.

This includes people and process, as well as technology-related issues. With this in mind, the following framework (Cormican and O'Sullivan 2004b) identifies and groups five key factors that have been found to facilitate technology innovation management. They are:

- ◆ Strategy and Leadership
- ◆ Culture and Climate
- ◆ Planning and Selection
- ◆ Structure and Performance
- ◆ Communication and Collaboration

3.4.1 Strategy and leadership

The importance of a product or technology's strategy is well documented in the literature. This strategy should define the aims and objectives of the technology innovation effort in relation to the organisation's overall strategy. It should specify market niches as targets to focus on, and formalise the necessary structures for implementation. It should also focus and integrate team effort and permit delegation.

Whereas every member in the project team has an input into technology innovation, leaders appear to have a significant impact on these initiatives. This is because the power to make and implement decisions is concentrated in the hands of a few leading individuals in an organisation. They also have the ability to influence a group towards the achievement of goals. They drive innovative practice at all levels of the organisation. A leader's role is to create a vision and effectively communicate this by setting clear objectives. Leaders must also create an environment that encourages employees to take risks and create new growth opportunities.

3.4.2 Culture and climate

Possession of positive cultural characteristics provides an organisation with the necessary ingredients to innovate. However, culture and climate are elusive concepts. While there is no widespread agreement on what exactly they are, there is some consensus that organisational culture concerns values, norms and beliefs, while climate concerns policies, practices and procedures. In this view, culture and climate can be considered in terms of the following equations:

Culture = f (Values, Norms, Beliefs)

Climate = f (Policies, Practices, Procedures)

Johannessen *et al.* (1999) note that innovative organisations possess the following characteristics:

- ◆ **Innovative organisations are proactive:** This refers to the ability to create opportunities. In other words, it refers to the ability to recognise or anticipate and act on opportunities when they present themselves.
- ◆ **Innovative organisations take risks:** World class performers are risk takers. In other words, they are prepared to gamble their resources (e.g. time, energy money and equipment) on an idea that is not guaranteed to succeed.
- ◆ **Innovative organisations create commitment:** Such organisations create a vision for the future that embodies the collective values and aspirations of the individuals and provides them with a shared mental picture of things not as they are but as how they should be.
- ◆ **Innovative organisations initiate change:** Such organisations are agile, flexible and have the capacity to change, control risks and adapt quickly to emerging circumstances.

3.4.3 Planning and selection

A rationally-planned innovation effort is imperative for success. Such pre-development activities are imperative to anticipate problems in advance and bring conflicts to the surface earlier in order to speed up the innovation process and facilitate the integration of new technologies. In order to address this, it is necessary to effectively plan and select projects which are customer focused, and link to the new product strategy and goals. Team members must work with customers in order to establish the *voice of the customer* and translate that value into the product concept and proposed solution. In order to do this, they must first identify, understand and interpret user expectations, voiced desires and as yet unperceived needs. Requirements engineering enables organisations to be pro-active rather than reactive and assures product quality as defined by the customer and/or user.

Project selection involves deciding if an idea should be rejected, deferred or accepted for further processing, and if so what priority it should be given. The purpose of doing this is to establish the best possible basis for making decisions regarding the processing of ideas and proposals for new and improved products. The screening process helps to eliminate projects that require extensive resources but are not justified by current business strategies. It also helps to prioritise projects so that efforts can focus on the critical few.

3.4.4 Structure and performance

Two very distinct approaches to organisational structure are **mechanistic** and **organic**. A centralised, mechanistic structure reinforces past behaviours while an organic, decentralised structure promotes learning and knowledge generation. Centralisation creates a more fragmented structure, which does not support people to challenge underlying assumptions and think for themselves. Decentralisation, on the other hand, enables faster and more effective decision making in dynamic, information-rich environments. In light of this, the traditional centralised, inflexible models have become increasingly uncompetitive and are being replaced with a flatter, organic and co-operative architecture.

Work teams are emerging as the dominant organisational component of the new economy. Autonomous cross-functional teams are more consistent with flatter, more flexible and more responsive organisations capable of managing intensifying competitive pressures and the inexorable acceleration of technology. They also are effective in working with customers to uncover or better define problems for which solutions are required.

3.4.5 Communication and collaboration

Innovation is a knowledge-intensive process. It can be described as an information transformation process where information is gathered, processed and transferred in a creative way. The right information must be made available to the right place, at the right time, and in the right format. Therefore, communication is a vital and basic necessity for technology innovation. Thus, the better project members are connected with each other and with key outsiders, the better the performance of the development team. For example, the presence of a gatekeeper, or someone that scans the organisation's boundaries and brings information to the organisation and disperses it to those inside, is essential for successful technology innovation. Strong formal links with suppliers are also very important, and it can reduce the complexity of the project and alert the team to potential problems earlier, when they are easier and faster to rectify.

Internal communication is also vital for product innovation success. Inter-functional harmony strongly correlates with project success. The importance of integration between marketing, R&D and manufacturing, during the idea generation and

screening stage of the process, is stressed. Concurrency has also been proven many times over to have a positive impact on new product development performance as it can help produce more innovations and faster development cycles than conventional sequential approaches.

Section 3.5 Self-Assessment Scorecard

The self-assessment scorecard presented in this section takes these theoretical concepts into consideration.

The scorecard is a self-assessment audit that consists of fifty statements, or traits, based on the critical success factors model.

It enables managers and decision-makers to acquire an overview of their strengths (to be exploited) and weaknesses (to be improved) with regard to product innovation management. In other words, it serves as a checklist for effective product innovation management. The scorecard requires respondents to circle the extent to which they agree or disagree with the statements. The list of statements is presented in Table 3.1.

TABLE 3.1 Self-Assessment Scorecard

Please circle the extent to which you agree or disagree with these statements where 1 represents strongly agree and 5 represents strongly disagree.

STATEMENT	SCORE				
Strategy and Leadership					
1. The product strategic plan is effective and used	1	2	3	4	5
2. Product strategy is clearly defined and communicated to all employees	1	2	3	4	5
3. The product innovation programme has a long-term thrust and focus	1	2	3	4	5
4. Product strategy is used to align priorities with other functions	1	2	3	4	5
5. Strategies are flexible enough to respond to changes in the environment	1	2	3	4	5
6. Senior management are accountable for new product results	1	2	3	4	5
7. Leaders visibly drive innovation	1	2	3	4	5
8. Leaders adopt a consensus and shared approach to decision making	1	2	3	4	5
9. Leaders adopt a participative decision making style	1	2	3	4	5
10. Senior management actively encourages the submission of new product ideas	1	2	3	4	5
Culture and Climate					
1. The organisation permits the emergence of intrapreneurs or product champions	1	2	3	4	5
2. The organisation provides support in terms of autonomy, time and rewards	1	2	3	4	5
3. Money is made available for internal projects	1	2	3	4	5
4. Adequate resources are available and committed to achieve project goals	1	2	3	4	5
5. All employees participate in generating ideas	1	2	3	4	5
6. Senior management is committed to risk taking in product innovation	1	2	3	4	5
7. Failures and mistakes are tolerated and not punished	1	2	3	4	5
8. Knowledge sharing is encouraged and rewarded	1	2	3	4	5
9. All operations are driven by customer needs	1	2	3	4	5
10. There is a formal idea-generation process in place	1	2	3	4	5

STATEMENT	SCORE				
Planning and Selection					
1. An effective product innovation process is consistently implemented	1	2	3	4	5
2. A formal process is used to determine and update project priorities	1	2	3	4	5
3. Concepts are selected using predefined, multiple and explicit criteria	1	2	3	4	5
4. Pre-development market and feasibility studies are rigorously undertaken	1	2	3	4	5
5. Projects are terminated if and when necessary	1	2	3	4	5
6. Project proposals are tested for alignment with organisational goals	1	2	3	4	5
7. The project and the spending breakdown mirror the organisation's goals and measures	1	2	3	4	5
8. There is a good balance of projects which maximises the value of the portfolio	1	2	3	4	5
9. The product portfolio is matched to the firm's competencies and capabilities	1	2	3	4	5
10. The voice of the customer is built into all product innovations	1	2	3	4	5
Structure and Performance					
1. Projects are developed using effective cross-functional teams	1	2	3	4	5
2. Project teams are organic, flexible and agile	1	2	3	4	5
3. All team operations are driven by customer needs	1	2	3	4	5
4. Team leaders are involved in setting the product performance objectives	1	2	3	4	5
5. Projects are terminated if and when necessary	1	2	3	4	5
6. Team members are empowered to make decisions	1	2	3	4	5
7. Virtual team members are equipped with effective ICT tools	1	2	3	4	5
8. Team members' rewards are equitable	1	2	3	4	5
9. Performance indicators are aligned with the organisation's goals	1	2	3	4	5
10. Performance indicators encourage desired behaviour	1	2	3	4	5
Communication and Collaboration					
1. Gatekeepers are in place to continuously span the external environment	1	2	3	4	5
2. Customers and suppliers are involved in the product innovation process	1	2	3	4	5
3. Alliances are often formed with other organisations for mutual benefit	1	2	3	4	5
4. Communication among team members is efficient and effective	1	2	3	4	5
5. Communication between project teams is efficient and effective	1	2	3	4	5
6. Information on ideas generated, problems raised and project status is accessible	1	2	3	4	5
7. User needs analysis is undertaken and communicated to all	1	2	3	4	5
8. Product strategy and performance measures are clearly communicated to all	1	2	3	4	5
9. Individual skills are effectively leveraged within and between project teams	1	2	3	4	5
10. Virtual team members seamlessly communicate with each other	1	2	3	4	5

(Cormican and O'Sullivan 2004b)

Section 3.6

Unit Review

This unit presented a structure for managing a portfolio of technology innovation projects in a dynamic environment. The framework is composed of **three** key elements:

- 1 The first element is a **systematic process** to facilitate the successful implementation of a portfolio of technology innovation initiatives. The process accommodates both idea-generation and problem-solving techniques in order to maximise the number and quality of new ideas generated for new product development. It employs a platform or family perspective to managing product innovation projects.
- 2 The second element identifies **five critical success factors** or enablers for effective product innovation management. These are factors that facilitate innovation and that must be actively managed in order to enhance and maximise product innovation initiatives.
- 3 From this, a **self-assessment audit or scorecard** was developed. This scorecard allows organisations to measure their performance against best practice.

It is important to remember that improving the product innovation process is not about quick fixes but rather about recognising true symptoms, identifying their cause and then applying the appropriate treatment or remedies. Therefore, the implementation of best practices for technology innovation can best be viewed as a journey (i.e. continuing process improvement) rather than a destination.

Frameworks must be adapted and tailored to meet the specific needs of the organisation designed to meet the objectives for which it is being implemented. Finally, as organisations evolve, it is imperative that their product innovation frameworks also evolve in a manner which continues to support strategic repositioning and growth objectives.

Section 3.7

SAQs

- 1 What is a stage gate?
- 2 What are the four key elements in the technology innovation management process?

Section 3.8

SAQs Suggested Answers

- 1 A stage gate is an operational roadmap for driving innovation projects from idea to implementation. It separates this process into a series of activities (stages) and decision points (gates).
- 2 The four key elements in the technology innovation management process are: (a) controls, (b) mechanisms, (c) inputs and (d) outputs.

Section 3.9

Learning Activity

- ◆ Complete the self-assessment scorecard for your own organisation.
- ◆ Determine your relative strengths and weaknesses.
- ◆ Identify a migration plan to exploit your strengths and overcome your weaknesses.

Section 3.10

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Understanding Entrepreneurship

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Understanding Entrepreneurship

Section 4.1

Unit Introduction

Entrepreneurship is a way of thinking, reasoning and acting that is fixated on an opportunity and is driven by great leaders. While inventors create something new, an entrepreneur assembles and then integrates all the resources needed to transform the invention into a viable business.

Technology entrepreneurship results in the design, development and deployment of value, not just for owners but for all customers and stakeholders.

The entrepreneurial process involves all the functions, activities, and actions associated with perceiving opportunities and creating organisations to pursue them. The crucial ingredients for entrepreneurial success are: an outstanding entrepreneur with a first rate management team, and an excellent market opportunity.

This unit seeks to provide a better understanding of entrepreneurship and entrepreneurs. It defines critical concepts and terms. It identifies three types of entrepreneurs. In order to build a profile of the successful and effective entrepreneur, this unit presents and discusses a framework that details the essential characteristics or traits of the entrepreneur.

The unit then focuses on the entrepreneurial process. First it presents the **Timmons** model. This model details the key elements in the process, namely **opportunity**, **resources** and **teams**. Next the unit presents a descriptive model. This model focuses on the key stages in the entrepreneurial process and discusses each of these in some detail. The unit concludes by presenting a list of some of the factors that contribute to start-up failures.

Section 4.2

Unit Learning Objectives

When you have successfully completed this unit you will be able to:

- ◆ Define key concepts such as 'entrepreneur' and 'entrepreneurship'
- ◆ Determine key characteristics and traits of successful entrepreneurs
- ◆ Explain the entrepreneurial process
- ◆ Describe factors that contribute to new venture failure
- ◆ Describe strategic information systems and how they are used

Section 4.3

Defining Entrepreneurship

Despite a large number of studies, the definition of entrepreneurship and/or an entrepreneur continues to generate debate. Simply put, an entrepreneur is someone who perceives an opportunity and creates an organisation to pursue it. Bolton and Thompson (2000) have defined an entrepreneur as '*a person who habitually creates and innovates to build something of recognised value around perceived opportunities*'.

- ◆ The use of the word 'habitually' implies serial behaviour, in other words, the pursuit of more than one opportunity.
- ◆ The recognised value can be economic or social. Entrepreneurial behaviour is not necessarily confined to the business world.
- ◆ This definition distinguishes between the enterprising person and the entrepreneur. It is arguable that every one of us could, and perhaps should, be more creative and innovative in many things that we do. The impact, however valuable, might well be limited in scope.
- ◆ While everyone has the capacity to be creative and innovative in many things that they do, entrepreneurs develop something substantial and significantly different.

Technology Entrepreneurship is about managing the process from opportunity to value creation.

A technology entrepreneur generally seeks to solve a problem that exists in the market. Whether that means developing a better software application, a better optical switching device, or a better medical device, the entrepreneur always identifies a problem or a gap, and then attempts to fill it.

Section 4.4

Understanding Entrepreneurs

According to Smilor (2001) there are three types of entrepreneurs. These are:

- ◆ **Aspiring Entrepreneurs:** These entrepreneurs dream of starting a business. They hope for a chance to be their own boss but have not yet left the security of their own employment to venture into the unknown world of a start-up.
- ◆ **Lifestyle Entrepreneurs:** These have developed a business that fits with their personal circumstances and way of life. The central goal of such entrepreneurs is to earn an income for themselves.
- ◆ **Growth Entrepreneurs:** These have the desire and ability to grow as fast and as large as possible. They are often referred to as gazelles. They are key job creators.

Bolton and Thompson (2003) offer a framework for defining the entrepreneur, based on six character themes that form the acronym FACETS:

- ◆ **Focus:** People with an entrepreneurial mindset execute. In other words, they move forward and don't analyse things to death. They also pursue opportunities with enormous discipline.

- ◆ **Advantage:** Successful entrepreneurs pursue the very best opportunities and they avoid chasing after every option. Most successful entrepreneurs limit the number of projects they pursue. They go after a tightly-controlled portfolio of opportunities.
- ◆ **Creativity:** Creativity is the source of ideas and opportunities. Entrepreneurs passionately seek out new opportunities and are always looking for the opportunity to profit from change and disruption in the way business is done.
- ◆ **Ego:** Ego has six components, split into our inner ego and our outer ego. The inner ego embraces motivation (typically a desire to achieve, to make a difference and maybe to 'leave footprints'), self-assurance and dedication. The outer ego is the entrepreneur's internal locus of control, a desire to be in charge of his or her own destiny. It includes responsibility and accountability and, especially significant, 'courage' – an ability and willingness to deal with setbacks.
- ◆ **Team:** An entrepreneur should be able to find and select the right people and build these people into an effective entrepreneur team. According to Bagchi (2006) an 'A' team will be technically competent, have complementary skills, possess the ability to multi-task, have a shared vision, enjoy personal integrity and mutual trust and be able to question each other and disagree, be resilient, and possess a sense of humour. Entrepreneurs should also know when and where help is required and be able to network.
- ◆ **Social:** Social influences depend on the nature of the business or initiative, affecting the extent to which it has a community or environmental outlook. The social dimension also affects the culture and style of the organisation and the way employees are treated.

Table 4.1 lists successful entrepreneurs. All these people started their enterprises while they were in their 20s!

TABLE 4.1 Successful Entrepreneurs

Name	Organisation
Bill Gates and Paul Allen	Microsoft
Michael Dell	Dell Computers
Steve Jobs and Steve Wozniak	Apple Computers
Jeff Bezos	Amazon
Phil Knight	Nike
Fred Smith	Federal Express

Section 4.5

The Entrepreneurial Process

Successful high-performance entrepreneurship does not happen by accident. It is designed that way. The Timmons Model of the entrepreneurial process is a good way of explaining how this process occurs.



Figure 4.1: The Entrepreneurial Process (Timmons and Spinelli, 2003)

According to this model, there are three key elements: **opportunity**, **resources** and **teams**. Each of these is presented in more detail below.

- ◆ **Opportunity:** The process starts with opportunity, not strategy, resources or planning. Opportunity recognition results from creativity, which is shared by the entrepreneur and the entrepreneurial team. Successful entrepreneurs understand that a good idea does not necessarily equate to a good opportunity. Research suggests that for every 100 ideas presented to investors, less than four get funded. This would suggest that much time and effort is wasted by potential entrepreneurs developing and fine-tuning ideas that have little or no potential. Successful entrepreneurs possess that ability to determine whether serious potential exists and then decide how much time and effort to invest.
- ◆ **Resources:** Contrary to popular belief, it is not essential to have all the resources in place from the outset in order to succeed in business. According to Timmons, money follows high-potential opportunities created and led by a strong management team. It seems that there is a shortage of quality entrepreneurs with good opportunities rather than a shortage of money. Successful entrepreneurs are notoriously prudent when it comes to spending scarce cash. They are also considered to be very creative in their ability to marshal and gain control of resources.
- ◆ **Team:** Much has been written about the importance of a grade A entrepreneurial team. A grade A team will have relevant technical experience and a good track record, and the motivation, commitment and determination to excel. They will also be creative and adaptive, and possess good communication and leadership skills.

If you analyse all of this you can see that value creation results from integration of opportunity and efficient use of resources. Therefore it is the combination of people, opportunity and resources coming together at a particular time which may determine the probability of success.

Another way to better understand the entrepreneurial process is to view it from a descriptive approach. Such an approach identifies the key stages in the entrepreneurial process. An example is provided in Table 4.2. Each of these stages must be effectively managed in order to optimise the process. The remainder of this module addresses each these elements in more detail.

TABLE 4.2: A Descriptive Model of the Entrepreneurial Process

Stage	Description
1. Assess interest	What are my interests? What am I passionate about? What am I good at? Do I want to be an entrepreneur?
2. Recognise an opportunity	Establish goals for the business Search for ideas Convert an Idea to an opportunity Evaluate the idea and opportunity
3. Analyse the market	Define product/service offering Segment the market Analyse competition Target potential customers
4. Generate and manage the finance	Source personal and/or equity funding Manage the money Develop financial statements
5. Protect intellectual property	Understand how intellectual property is protected Determine the criteria for qualification and acceptance Manage the process from idea to patent
6. Manage the venture	Implement the business plan Monitor performance Manage risk
7. Harvest the venture	Identify suitable exit strategy Evaluate offers Make a business attractive to potential purchasers

(Source:Cormican 2008)

Section 4.6

New Venture Failure

Clearly there are many factors that promote and also many which impede entrepreneurial success. The causes of failure have been widely researched and can vary considerably. Some causes will be external to the organisation and outside the founder's influence or control. Others will be internal to the venture and ultimately within the control of the founder, managing team and organisation. Some of the common causes of failure within the project management process in most organisations are synthesised and distilled into the following categories:

- ◆ **Founder:** Most ventures require a team of people with complementary skills. A venture with a single founder is often seen as a vote of no confidence in the business. It probably means that the founder was not able to persuade any of his colleagues or friends into starting the company with him. In addition, a group of founders who do not share the same vision and disagree over strategies and expectations is a recipe for ruin.
- ◆ **Unoriginal idea:** Many technologies developed are merely bland imitations of some existing product or service. In other words, they do not have a unique selling proposition. Successful start-ups normally originate from some specific, unsolved problem the founders identified.
- ◆ **Marginal niche:** It is not good business practice to focus on a niche market that is too narrow and vague, in the hope of avoiding competition. The target market must be large enough for repeat business. It should also be a growing market and not already saturated with competing products and technologies.
- ◆ **Inflexibility:** In some fields the way to succeed is to have a vision of what you want to achieve, and to hold true to it no matter what setbacks you encounter. Starting start-ups is not one of them. When starting a new venture you need to be flexible and adapt to wherever the market takes you.
- ◆ **Insufficient funds:** Most successful start-ups need external funding at some point. While different businesses require different levels of funding, too little money will hamper a business's ability to get up and running.
- ◆ **High burn rate:** Burn rate is a measure for how fast a company will use up its capital. When all the funds are exhausted, the company will either have to find additional funding or close down. The classic way to burn through money is by hiring a lot of people.
- ◆ **Poor investor management:** As a founder, you have to manage your investors. While investors often bring experience and useful insights to the business, they should not be allowed to take over the company. Always remember, if investors had sufficient vision and capability to run the companies they fund, they would have started them themselves.
- ◆ **Lethargy:** The most common type of venture failure is the one that doesn't do much of anything, the one that never got anywhere and was gradually abandoned. Half-hearted efforts will never succeed. Successful new ventures require passion, determination and a lot of hard work.

Section 4.7

Unit Review

This unit focused on defining and explaining the concept of entrepreneurship. It defined critical terms and identified **three types of entrepreneurs**:

- ◆ **Aspiring entrepreneurs**
- ◆ **Lifestyle entrepreneurs**
- ◆ **Growth entrepreneurs**

The unit described the **characteristics of successful entrepreneurs** based on the acronym FACETS:

- ◆ Focus
- ◆ Advantage
- ◆ Creativity
- ◆ Ego
- ◆ Team
- ◆ Social

It then focused on the entrepreneurial process, looking first at the **Timmons model** and then at a **descriptive model**.

Finally, the unit outlined factors that contribute to failures in new ventures.

- ◆ Single founder
- ◆ Unoriginal idea
- ◆ Marginal niche
- ◆ Inflexibility
- ◆ Insufficient funds
- ◆ High burn rate
- ◆ Poor investor management
- ◆ Lethargy

Section 4.8

SAQs

- 1 What is technology entrepreneurship?
- 2 What are the primary traits and characteristics of successful entrepreneurs?
- 3 Identify a successful entrepreneur.
 - ◆ How did the entrepreneur create value?
 - ◆ How did the entrepreneur use the resources around him/her to satisfy needs or solve problems
- 4 Determine the key causes of failure in new ventures. In your opinion, which of these factors is the most important?

Section 4.9

SAQs Suggested Answers

- 1 Technology entrepreneurship is about managing the process from opportunity to value creation.
- 2 Primary traits of successful entrepreneurs include (but are not limited to) (a) the ability to implement and execute ideas (b) the relentless pursuit of good opportunities, (c) creativity, (d) motivation, self-assurance and dedication, (e) the ability to select a good team of people with complementary skills and talents and (f) the ability to network.
- 3 There is no set answer to this question.
- 4 Some of the causes of failure in new ventures include (a) poor team of people, (b) inflexible leader, (c) laziness (d) poor market definition, (e) poor idea, (f) insufficient funds, (g) poor money management and (h) poor investor management. These are listed in order of relative importance.

Section 4.10

Learning Activity

- ◆ Read recent issues of Fast Company magazine (<http://fastcompany.com>) to identify what is happening in corporate America and Europe.
- ◆ Read *The Art of the Start: The Best Resources for Start-Ups*, by Guy Kawasaki on the following web link http://www.forbes.com/work/2004/08/12/cx_gk_0812artofthestart.html
- ◆ How would you characterise the attitudes, behaviours and mindsets of the most effective leaders and managers you have worked for?
- ◆ How would you characterise the attitudes, behaviours and mindsets of the least effective leaders and managers you have worked for?
- ◆ What makes the most effective leaders and managers effective? What makes the least effective leaders and managers so bad?

Section 4.11

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Opportunity Recognition

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Opportunity Recognition

Section 5.1

Unit Introduction

In order to understand how to effectively manage innovation, it is crucial to learn where innovations come from. Innovations can occur as a result of serendipity. In other words, they can spring from a flash of genius. However, this is not always the case. Most innovations, especially the successful ones, result from a conscious, purposeful search for new ideas and opportunities. This unit begins by identifying the sources of innovation. Next it provides an example of some practical idea generation tools. The unit then describes the difference between an opportunity and an idea. Learners are reminded that many firms fail, not because the entrepreneurs involved didn't work hard, but because there was no real opportunity to begin with. The unit concludes by describing methods that can help you to evaluate ideas and opportunities.

Section 5.2

Unit Learning Objectives

When you have successfully completed this unit, you will be able to:

- ◆ Determine where ideas come from
- ◆ Use various idea generation tools
- ◆ Explain the difference between an opportunity and an idea
- ◆ Present general approaches entrepreneurs use to identify opportunities
- ◆ Define key concepts such as 'entrepreneur' and 'entrepreneurship'

Section 5.3

Sources of Innovation

Innovative ideas follow different paths from generation to development to deployment.

Research suggests that innovations can be either technology driven or market driven. These are often referred to as push or pull factors.

A **push factor** is when people make a discovery and recognise an opportunity to exploit the discovery. For example, employees may identify a new technology that promises to enhance the organisation's performance, and decide to implement it.

On the other hand, a **pull factor** is where a need for a change is identified. This is usually triggered by a problem or a potential opportunity. Employees then actively seek an innovative response to solve the problem or exploit the opportunity.

In reality, the sources of innovation are much more varied than either of these two models portray. Ideas often occur as a result of a combination of influences from within or outside the organisation. Providing and developing information from a large number and a wide variety of sources is known to be conducive to innovation. It also has a significant relationship with the success of the innovation and performance.

Figure 5.1 portrays an **interactive model of innovation**. This model suggests that innovations occur as a result of the interaction of the market place, scientific research and the organisation's capabilities. Here, there is no explicit starting point. Information flows are used to explain how innovations can arise from many points. This model advocates that innovation happens at the fringes. Therefore, it can be said that the key to successful innovation is about managing those at the boundaries and providing them with the appropriate encouragement as well as the freedom, time and resources needed to generate ideas.

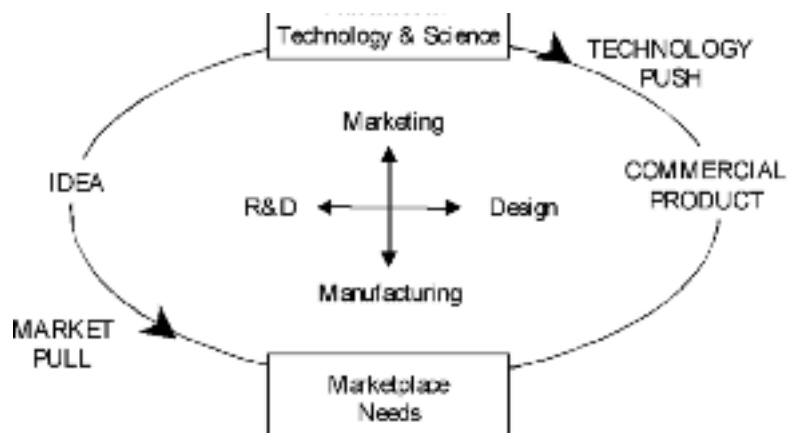


FIGURE 5.1: Interactive Model of Innovation
(Source: Adapted from Trott 2005)

Technology innovation occurs most often when a need and a means for resolving this need are simultaneously recognised. They originate from experts who understand and are interested in a particular kind of development. They know when something new is needed, they know whether a new idea can fit with their current technology, and they also know how to implement it.

However, it is important to remember that the vast majority of new ideas do not result in a successful innovation. According to Stevens and Burley's study (2003), 90% of raw ideas never advanced beyond the idea generator's desk-top. The remaining 10% of ideas succeeded in advancing beyond the drawing board to the small project stage. Of these, only 3% obtained the backing to develop into significant projects, less than 2% became major development efforts, less than 1% were ever launched commercially, and only 0.3% achieved commercial success. With this in mind, it seems that approximately 3,000 raw innovative ideas are required to yield one commercially successful new product.

Section 5.4

Idea-Generation Tools

Effective idea generation is critical to successful product innovation.

It is important to note that ideas are usually not independent, but rather they build on each other to form streams of ideas. Therefore the more ideas generated, the higher the expected contribution. The use of tools can help increase the possibility of generating new ideas. Many of these tools are problem-solving techniques used to facilitate creativity in a person or a group of people. Such techniques use associations between the goal (or the problem), the current state (which may be an imperfect solution to the problem), and some stimulus (possibly selected randomly). Table 5.1 provides an example of the most popular tools in use. It is important to remember that this list is by no means exhaustive but it does demonstrate some of the tools available.

Table 5.1: Idea-Generation Tools

Tool	Description
SMART Goals	<p>SMART is a mnemonic used in business at the objective-setting stage. It is a way of evaluating whether the objectives that are being set are appropriate. The acronym SMART has a number of slightly different variations, but in general they refer to:</p> <p>S Specific, concrete and detailed M Measurable, meaningful, motivational A Agreed upon, attainable, achievable, acceptable, action-oriented R Realistic, relevant, reasonable, rewarding, results-oriented T Time-based, timely, tangible, traceable</p>
Problem Definition	<p>Problem definition helps to focus an effort and establish accuracy and clarity in the scope of a project. It involves determining a problem's characteristics, limitations, and applications. These include:</p> <ul style="list-style-type: none"> ◆ Define the problem ◆ Determine who is affected by it ◆ Establish where is it happening ◆ Specify how it manifests itself as a problem ◆ Clarify when it occurs ◆ Evaluate whether it is a major or a minor problem
Cause-and-Effect Diagrams	<p>The cause-and-effect diagram (otherwise known as Ishikawa or fishbone diagram) is used to explore all the potential causes (or inputs) that result in a single effect (or output). It categorises the possible causes of problems using the 4 M's technique. These include: (a) Method, (b) Manpower, (c) Machine, (d) Materials. Steps in the process include:</p> <ul style="list-style-type: none"> ◆ Draw a fishbone diagram, with the categories at the tip of the herring bone ◆ Invite input from those involved to determine the cause(s) ◆ Create lower-level cause-and-effect diagrams on individual causes to get to the root cause of failure ◆ Analyse and discuss findings

Tool	Description
Brainstorming	<p>This is a popular group-based method, focused on finding solutions to a problem. To follow this technique you should:</p> <ul style="list-style-type: none"> ◆ Gather an appropriate group together ◆ Advise the group about the problem ◆ Pose a clear question, not too complex or vague ◆ If appropriate, break into manageable sub-topics ◆ Invite suggestions and record everything <p>It is important to focus on quantity not quality and not allow discussion or criticism. It is also important to welcome unusual ideas and also to combine and improve ideas in order to find a new one.</p>
Affinity Diagrams	<p>Affinity diagrams are used to provide initial structure to a predetermined set of ideas. They are used to organise a large number of ideas into their natural relationships. The steps in the process are:</p> <ul style="list-style-type: none"> ◆ Invite group members to capture ideas ◆ Write one idea per post-it and stick them all on a wall or chart ◆ Categorise the post-its until you have similar or disconnected themes ◆ Determine titles that capture the themes of each group and write on top of the sheet ◆ If appropriate, move the sheets into a sequence to link to one another
Mind Maps	<p>A mind map is a diagram used to organise ideas or tasks related to a problem. It is used to generate, visualise, structure and classify ideas. It involves writing down a central idea and thinking up new and related ideas which radiate out from the centre. By focussing on key ideas and then looking for branches out and connections between the ideas, you can map knowledge in such a way that it will help you to understand and remember new information.</p>
SCAMPER	<p>SCAMPER is a tool used to find ways to improve an existing product and find ideas for a new one. The acronym refers to:</p> <ul style="list-style-type: none"> ◆ Substitute: components, materials, people ◆ Combine: mix, combine with other assemblies or services, integrate ◆ Adapt: alter, change function, use part of another element ◆ Modify: increase or reduce in scale, change shape, modify attributes (e.g. colour) ◆ Put to another use ◆ Eliminate: remove elements, simplify, reduce to core functionality ◆ Reverse: turn inside-out or upside-down.

Some of these approaches can be more fruitful than others. Users may not appreciate the value of each approach in advance, but must learn it through practice and experience.

Section 5.5

Turning an Idea into an Opportunity

It is important to understand that there is a difference between an idea and an opportunity.

An idea is a thought, impression, or notion.

An opportunity is a favourable set of circumstances that creates a need for a new product, service, or business.

For an entrepreneur to capitalise on an opportunity, its window of opportunity must be open. In other words, the time-period in which a firm can realistically enter a new market must be right. According to Barringer and Ireland (2008) an opportunity has four essential qualities: it must be (a) attractive, (b) durable, (c) timely, and (d) anchored in a product, service, or business that creates value for its buyer or end user. An idea may or may not meet the criteria of an opportunity. This is a critical point because, many businesses fail not because the entrepreneurs that started them didn't work hard, but because there was no real opportunity to begin with.

In order to assess whether your idea will be successful, you should evaluate its worthiness. To do this you should ask, and attempt to answer, the following questions about your idea:

- ◆ What need are you filling or what problem are you solving?
- ◆ Who are you selling to?
- ◆ How will you make money?
- ◆ How will you differentiate your company from what is already out there?
- ◆ How many competitors do you have and of what quality are they?
- ◆ How big is your market in euro?
- ◆ Is the market growing or shrinking?
- ◆ What percentage of the market do you believe you could gain?
- ◆ How much will it cost to get started?
- ◆ Do you plan to use debt capital or raise investment? If so, how much and what type?
- ◆ Do you plan to sell your company or go public (list the company on the stock markets) one day?
- ◆ If you take on investment, how much money do you think your investors will get back in return?

With this short checklist, you can already realise if your idea is really an opportunity. You can also use another tool which poses similar questions but in a more organised manner. This method is called RAMP. Each letter stands for an important point to focus on.

- ◆ **R stands for return.** Return in term of return on investment. You must be sure that you idea can be profitable. You must also identify how long this will take and assess how much money you need to start the venture.
- ◆ **A stands for advantages.** You must see if you will have competitors, and if yes, what can you do better than them. You should also determine how to manage the intellectual property of your idea.
- ◆ **M stands for market.** It is crucial to know who could buy your product. You must identify whether there is a real need for your product or service.
- ◆ **P stands for potential.** You should identify what is the balance between risk and reward for your project. This is an important question for investors. You should also assess whether the timing is right for your idea.

These evaluation tools can be very useful and it is important to take them very seriously. In fact, making mistakes in evaluating your ideas can lead to dramatic consequences for your product and your pocket!

Section 5.6

Unit Review

Idea-generation is critical to effective product innovation. However, there has been relatively little formal research on the underlying incentives needed to encourage people to focus their energies on relevant and novel ideas. This unit begins by identifying the sources of innovation. You learned that ideas come from many sources and that generating plenty of ideas is imperative for success. In order facilitate this process, the unit provided an example of some popular and useful **idea-generation tools**.

The focus of attention then moved to the concept of **opportunity**. You learned the difference between an idea and an opportunity.

The unit provided techniques to help you assess your opportunity to see if your idea is worthy of further development. It is useful to assess your idea using the **RAMP** checklist:

- ◆ Return
- ◆ Advantages
- ◆ Market
- ◆ Potential

Section 5.7

Learning Activity

- ◆ Think of a problem you or someone you know is facing. Ask yourself whether others may be facing the same problem. Determine if you could make money by providing a solution.
 - ◆ Write down what the problem or situation is that you intend to examine
 - ◆ Think up a number of ideas (aim for 15–20)
 - ◆ Think about the opposites of your ideas – does this generate more ideas or possibilities?
 - ◆ Group your work
 - ◆ Prioritise your ideas – beginning with what you consider to be the best

- ◆ Make a list of the three to five most compelling 'technological advances' that have occurred in the world in recent years. Think of at least two new product ideas that have emerged from each of these advances. To what extent do you believe each of these advances will continue to spawn new product ideas?

- ◆ Frank Black, the manager of a midsize advertising agency, is conducting brainstorming sessions to identify new ideas for products and services to offer his clients. The first session is tomorrow, and he remembers from your CV that you took an entrepreneurship class. He calls you to his office to ask if you know anything about how to conduct brainstorming sessions. Using materials in this unit, prepare an answer to Frank's question.

- ◆ Luke, a software engineer, plans to write a memo to his boss describing an idea he has for a new software product. He wants to convince his boss that his idea represents an opportunity the firm should pursue. In your opinion, what should Luke put in the memo?

- ◆ Tessa is very perceptive and believes she has identified an opportunity for a new business in the fashion industry. However she wants to make sure that her instincts are correct and that the opportunity is sound. What criteria can Tessa use to determine whether she has identified an attractive opportunity?

- ◆ Log on to You Tube (<http://uk.youtube.com/watch?v=YrpPMXDhLCI>) and watch a preview of idea generation techniques by BrainReactions. See if you can find other recommended video clips.

- ◆ Subscribe to VentureAlert (www.djnewsletters@dowjones.com). Monitor the stories on a regular basis. Determine which companies are receiving venture capital. Can you see any trends?

- ◆ Read 'From Needle to Nose, Biotech entrepreneur John Patton wants to change how drugs are delivered into the body' by Claudia Kalb and Jamie Reno, Newsweek, May 12, 2003.

Section 5.8

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Market Analysis

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Market Analysis

Section 6.1

Unit Introduction

Effective market analysis is imperative for the development and sustainability of a venture. Surveys of the market provide details on a large range of factors that affect the company, such as the environment it operates in, the competitive situation, the size of the market, the potential market share etc. An entrepreneur will use this information to determine if the industry is **accessible**. In other words, he or she must figure out whether the market is a realistic place for a new venture to enter. The entrepreneur will also use the information to identify whether the industry contains niche markets that are currently underserved, or whether they are ripe for innovation. Equipped with this information, the entrepreneur will be able to position a product or service relative to the competition.

This unit begins by discussing the concept of **market analysis** and some of the unique challenges that entrepreneurs face in this regard. The remainder of the unit focuses on specific **tools for analysing the market**. More specifically, the unit explains how to segment the market and evaluate its effectiveness; how to analyse the external environment using tools such as **PEST**, **Porter's Five Forces model** and a **competitive analysis audit**; and how to analyse the internal environment using tools such as the **SWOT** framework and the **TOWS** matrix. The unit concludes by explaining how to position a product relative to others.

Section 6.2

Unit Learning Objectives

When you have successfully completed this unit, you will be able to:

- ◆ Explain the purpose and importance of market analysis
- ◆ Identify specific problems that entrepreneurs face regarding market analysis
- ◆ Describe how to segment a market
- ◆ Use appropriate tools to analyse the external environment
- ◆ Use appropriate tools to analyse the internal environment
- ◆ Determine how to position a product

Section 6.3

Sources of Innovation

Market analysis plays a major part in a venture's planning activities. It provides decision makers with detailed information regarding crucial factors that have an impact on the product and target market. In order to understand the potential market you should ask the following questions:

- ◆ Who are your potential customers?
- ◆ How many potential customers are there?
- ◆ What type of products or services would be profitable to introduce in the market?
- ◆ Would potential customers use your product/service? If so why or why not?
- ◆ Is the company able to satisfy customer needs, wants and expectations?
- ◆ Why do potential customers not purchase your product/service at present?
- ◆ How do these customers respond to marketing approaches?
- ◆ Should any changes be made to the packaging, delivery or the product itself?

The answers to these questions will guide decisions on many aspects of the company. It will also help decision makers to formulate a viable marketing plan. However, market analysis can be a complex, intricate and expensive process and entrepreneurs typically face many problems in this regard. According to Kaplan and Warren (2007) entrepreneurs face different challenges than those in established companies. For example:

- ◆ They have limited resources. They rarely have enough money to enable extensive market analysis surveys and they do not normally have proven marketing experience within the firm. Furthermore, many do not have the option of hiring experienced marketing managers. Time is also in short supply for start-up companies. Consequently, entrepreneurs must find creative and cheaper means to test and validate their ideas.
- ◆ Start-ups by their nature do not have any market share. They also have a limited geographic market presence. As a result they cannot take advantage of economies of scale. Entrepreneurs are also restricted in their access to distributors. Furthermore, as they are just entering the market place they suffer from low brand awareness and poor customer loyalty.
- ◆ Market information is limited and decision making can be clouded by strong personal biases and beliefs. Research suggests that the most common marketing problems relate to overestimating demand, underestimating competitor response and making poor distribution decisions.
- ◆ Entrepreneurs have a lot of ground-work to do. They must target, position and sell themselves to many audiences, namely customers, employees, distributors, investors and business partners.

In order to analyse the market, there are several things the entrepreneur must do. Figure 6.1 illustrates the process involved. *The key stages are:*

- A segment the market and evaluate its effectiveness;
- B analyse the external environment;
- C analyse the internal environment and
- D position the product.

The remainder of this unit deals with each of these activities in more detail.

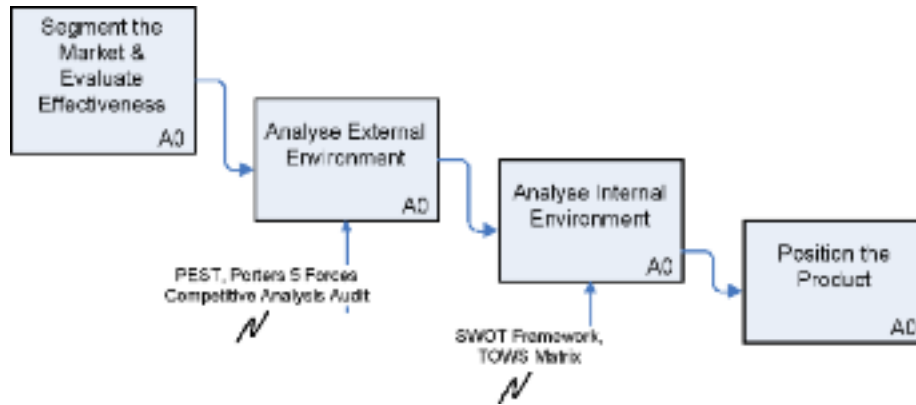


Figure 6.1: Market Analysis Process

Section 6.4 Market Segmentation

Market segmentation is the identification of sections of the market that are different from one another. The process helps to establish the profile or details about customers in order to identify the most valuable ones.

The purpose of segmenting a market is to concentrate on the subset of potential customers that are 'most likely' to purchase your product or service.

This will help to better satisfy the needs of potential customers and ensure the highest return for investment. There are several ways to segment a market:

- ◆ **Demographic segmentation:** divides the market into groups, based on age, gender, family size, occupation, income level, nationality, religion and social class.
- ◆ **Geographic segmentation:** divides people or businesses into regions (continent, country, neighbourhood), size of the population, population density and climate.
- ◆ **Psychographic segmentation:** divides into cultural groups, value or social categories such as activities, interests, opinions, attitudes and values.
- ◆ **Behaviouralistic segmentation:** divides by actual customer behaviour towards the product such as benefits sought, usage rate, brand loyalty and readiness to buy.

In order to assess whether or not you have adopted the right approach to market segmentation, you should evaluate its effectiveness. To do this, you should assess if the target market is

- (a) identifiable;
 - (b) accessible;
 - (c) substantial;
 - (d) possesses unique needs, and finally
 - (e) durable.
- ◆ **Identifiable:** Can you allocate the customers to a particular segment? Can you measure the different attributes of the segment?
 - ◆ **Accessible:** Can you reach the segment in a cost-effective manner? Can you access the segment through distribution channels?
 - ◆ **Substantial:** Is the segment large enough to be profitable? Does it justify the resources needed to target it?
 - ◆ **Possesses unique needs:** Do potential customer groups have different needs? Are separate product offerings justified?
 - ◆ **Durable:** Are the segments relatively stable? Are customers in the segments both willing and able to pay?

Once the company has found its specific segment of the market, it can investigate the influences on the decision to purchase the product. Depending on your product/service you may have to be very price-competitive to break into the market, especially if there are well-established companies already operating there. If your product is similar to that of another company, then price is possibly one of the deciding factors when buying your product. If your company has something unique about its product/service or the company set-up, then you should really promote this.

Once you have an idea of the market that you are interested in, you can proceed to a more detailed market analysis. You can do this by conducting an **external analysis** which examines the environment, the industry and the competition. You can then examine the **internal operating environment** of the organisation. The next and final step is to **position your product** relative to others in order to target your customers.

Section 6.5

External Analysis

In order to have a better understanding of the environment you intend to operate in, it is good practice to systematically analyse all external influences that affect the company's decisions and performance. In order to avoid creating too much information, you should distinguish the vital from the merely important.

Some of the most popular tools for external analysis are PEST, Porter's five forces model and competitive analyses.

6.5.1 Environmental analysis: PEST

In order to better understand the context in which a business operates, you should undertake an analysis of the operating environment. You can analyse the key forces in operation in the macro environment using a PEST analysis. This provides a framework for discussion under the headings political/legal, economic, socio-cultural, technological and legal. Table 6.1 provides an example of a PEST analysis. This example captures and documents details of the Irish medical device industry.

Table 6.1: PEST Analysis of the Irish Medical Device Industry

	Strategic Issues	Implications
Political	EU Enlargement	New member states can offer similar advantages with lower wage costs.
	Regulation	Regulation complexities delay product approval. The US and European bodies are working towards harmonised standards.
	Intellectual Property Rights	Companies are reluctant to operate in countries that allow the unlicensed manufacture of generic drugs under patent protection. Royalty from products developed in Ireland is tax free.
	Corporate Tax Rates	Irish corporation tax rate is only 12.5%.
Economic	Euro Currency	Countries may invest in the euro zone to avoid currency fluctuations and exchange costs, and to avail of low interest rates.
	Inflation	Inflation in the Irish economy has increased total costs.
Social	Education Standards	The education system in Ireland is good and outscores many of its European counterparts.
	Demographics in Ireland	Ireland has a high proportion of young adults entering the workforce, a high proportion of whom have third-level qualifications.
	Demographics in the Developed World	The developed world has an increasing aged population. Therefore the demand for healthcare is set to grow for the foreseeable future. There is also a trend towards independent living which is changing the types of medical products that are in demand.

Technological	R&D Spending	Several well-funded R&D support programmes that promote basic research have been initiated by both the EU and the Irish government.
	Rate of Advance	Technological advances are faster than medical application of that technology.
	Obsolescence	There is a large number of new and cost-reduced products entering the market. These are displacing older products. Furthermore, stringent regulations can render many older products obsolete.

(Fennelly and Cormican 2006)

6.5.2 Industry analysis: Porter's five forces model

Having looked at the general macro environment, it is time to turn your attention to the competitive environment in which the company operates. According to Michael Porter (1980), the state of competition in an industry depends on five forces. Figure 6.2 illustrates these. The section below discusses them in more detail.

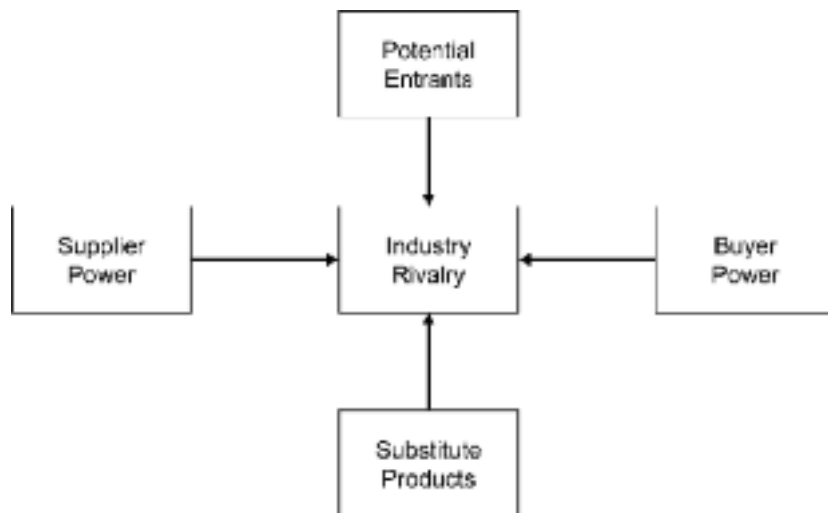


Figure 6.2: Porter's Five Forces Model

(Porter 1980)

- ◆ **The risk of new and potential competitors:** Effectively, this refers to the barriers to entry. These incorporate factors that make it harder or easier for another company to enter into the industry. They may include proprietary product differences, brand identity, the cost of switching, capital requirements etc.
- ◆ **Supplier power:** This refers to the bargaining power of suppliers. Factors that influence the amount of power suppliers have include the switching costs of suppliers, the presence of substitute inputs and supplier concentration.
- ◆ **The threat of substitute products:** Factors that affect the risk of an alternative entering the market include the relative price performance of substitutes, switching costs and the buyer's propensity to substitute.

- ◆ **Buyer power:** This refers to the bargaining power of buyers. Factors that affect the influence of buyers include buyer concentration versus supplier concentration, buyer information, buyer volume, substitute products, price sensitivity, product differences etc.
- ◆ **Industry rivalry:** This refers to the degree of competition among established companies within an industry. Factors to consider here include industry growth, product differences, brand identity, switching costs and exit barriers.

6.5.3 Competitive analysis: audit

It is particularly important for leaders of new ventures to identify which businesses will provide the most significant competition. It is important to attempt to predict what key competitors are most likely to do. Entrepreneurs can understand and analyse the situation by asking the questions provided below regarding six key areas of competition (see Table 6.2).

Table 6.2: Competitive Analysis Audit

Category	Questions
Product and service	How is the competitive product or service defined? How is it similar or different? Does the competition cater to a mass or targeted market? What features of the product are superior? What strengths or weaknesses of the competition can be exploited?
Price	What is the competitor's pricing strategy? Is the competitor's price higher or lower? What is the competitor's gross margin for similar products? Does the competitor offer terms, discounts, or promotions?
Industry competitors	Define the competition in terms of new or potential threats of existing companies. What are the strengths and weaknesses of each? How will e-commerce companies affect the business? How can the suppliers or buyers affect the competition?
Selling promotion	How do the competitors advertise? What are the strengths and weaknesses of each? Will e-advertising affect the business? How can the suppliers or buyers affect the competition?
Management team	Define the competition in terms of new or potential threats from existing companies. What are the strengths and weaknesses of each? How can the suppliers or buyers affect the competition?
Financial	Are all competitors profitable? What are the sales and market shares volumes?

(Kaplan and Warren 2007)

Section 6.6

Internal Analysis

The previous sections analysed the macro and industry environments within which the organisation operates. It is equally important to understand the internal operating environment of the business. Questions that all entrepreneurs should ask, but often don't, include:

- ◆ What business are we in?
- ◆ Who is our competition?
- ◆ What competitive advantages do we possess?
- ◆ What are our core skills and capabilities?
- ◆ Who are our customers?
- ◆ What are our customer needs?
- ◆ How can we meet our customer needs?

In order to help answer these questions in a systematic manner, you can use simple tools such as the SWOT framework and the TOWS matrix.

6.6.1 Internal analysis: SWOT analysis

The SWOT matrix provides a framework to analyse the internal factors (strengths and weaknesses) and external factors (opportunities and threats) of a company. This matrix gives an overview of the strategic position of the company at a glance. The Strengths and Weaknesses represent the internal environment of a firm's functional and process capabilities and financial resources. They help to identify and/or create new market spaces, whilst the Opportunities and Threats build from the PEST and Porter's five forces external environment. The SWOT Framework (see Figure 6.3) helps you ask, and answer, the following questions:

- ◆ How do you make the most of your strengths?
- ◆ How do you avert your weaknesses?
- ◆ How do you exploit your opportunities?
- ◆ How do you manage your threats?

Strengths		Weakness	
Opportunities		Threats	

Figure 6.3: SWOT Analysis Framework

6.6.2 TOWS matrix

You can invert the SWOT analysis to construct a TOWS matrix (Wehrich 1982), suggesting strategy options that might benefit the company in the short, medium and long term. The TOWS matrix is more externally focused and helps you think about the options that you could pursue. To do this you match external opportunities and threats with your internal strengths and weaknesses, as illustrated in Figure 6.4.

Internal Elements	Have and Want (Strengths)	Have and Not Want (Weaknesses)
External Elements		
Not Have and Want (Opportunities)	SO: Strengths can be used to capitalise or build upon existing or emerging opportunities	WO: The options developed need to overcome weaknesses if existing or emerging opportunities are to be exploited
Not Have and Not Want (Threats)	ST: Strengths can be used to minimise existing or emerging threats	WT: The options pursued must minimise or overcome weaknesses and as far as possible cope with threats

Figure 6.4: TOWS Matrix

(Wehrich 1982)

The TOWS matrix helps you ask, and answer, the following questions:

- ◆ **Strengths and Opportunities (SO):** How can you use your strengths to take advantage of these opportunities?
- ◆ **Strengths and Threats (ST):** How can you take advantage of your strengths to avoid real and potential threats?

- ◆ **Weaknesses and Opportunities (WO):** How can you use your opportunities to overcome the weaknesses you are experiencing?
- ◆ **Weaknesses and Threats (WT):** How can you minimise your weaknesses and avoid threats?

Section 6.7

Position the Product

A critical aspect of any start-up's chance for success is how it positions itself relative to its industry rivals.

Product positioning refers to the process used by organisations to create an image or identity in the minds of a target market for its product, brand, and/or organisation

A product's position is how potential buyers see the product. It is normally considered relative to the position of competitors. Some strategies to help position your product include:

- ◆ **Unique selling proposition:** This refers to something unique that you have to offer. It does not necessarily have to be completely unique. It can appear unique by simply packaging your product or service in a different way.
- ◆ **Risk reversal:** You can differentiate yourself by using self-assured guarantees. Most people are genuinely honest, and if your service is what you say it is, you've got nothing to worry about. The increased sales volume will be well worth it.
- ◆ **Customer education:** You can use clear, complete and concise language or text to let potential customers know exactly what you are offering. Customers should not have to figure out on their own why they should be doing business with you – you should educate them.
- ◆ **Pricing strategies:** One way to position a product is to charge a high price when there is a low level of competition or substitution products. Another is to 'match competition' by pricing slightly under the competitor's rates to expand your own market share. A third is to substantially under-price the market, so as to exclude competitors altogether.

Section 6.8

Unit Review

This unit focused on market analysis for start-ups. It introduced the concept and stressed the importance of this activity. It highlighted particular challenges faced by entrepreneurs. The unit then focused on presenting simple, practical and useful tools to help analyse the market.

Key stages in market analysis are:

- (a) segment the market and evaluate its effectiveness;
- (b) analyse the external environment;
- (c) analyse the internal environment and
- (d) position the product.

Market segmentation approaches include:

- ◆ Demographic segmentation
- ◆ Geographic segmentation
- ◆ Psychographic segmentation
- ◆ Behaviouralistic segmentation

Your market must be:

- (a) identifiable;
- (b) accessible;
- (c) substantial;
- (d) possesses unique needs, and finally
- (e) durable.

Once you have an idea of the market that you are interested in, you can proceed to a more detailed market analysis. You can do this by conducting an **external analysis** which examines the environment, the industry and the competition. You can then examine the **internal operating environment** of the organisation. Tools for external analysis include:

- ◆ PEST, Porter's five forces
- ◆ Tools for internal analysis include SWOT and TOWS.
- ◆ The next and final step is to **position your product** relative to others in order to target your customers.

Section 6.9

SAQs

- 1 Why is market analysis important for new ventures?
- 2 List some problems that entrepreneurs face regarding market analysis.
- 3 Describe how to segment a market.
- 4 Explain how to position a product.

Section 6.10

SAQs Suggested Answers

- 1 Market analysis provides decision makers with detailed information regarding crucial factors that have an impact on the product and target market such as
(a) Who are the potential customers? (b) How many potential customers are there? (c) What type of products or services would be profitable to introduce in the market? (d) Would potential customers use the product/service? (e) Is the company able to satisfy customer needs, wants and expectations? etc.
- 2 Some problems that entrepreneurs face regarding market analysis include:
(a) They have limited resources.
(b) New ventures do not have any market share and they also have a limited geographic market presence.
(c) Entrepreneurs do not have access to much market information.
(d) Entrepreneurs have a lot of ground-work to do – they must target, position and sell themselves to many stakeholders.
- 3 There are several ways to segment a market. These include:
(a) demographic segmentation
(b) geographic segmentation
(c) psychographic segmentation
(d) behaviouralistic segmentation
- 4 Some strategies to help position a product include:
(a) identify the unique selling proposition
(b) use self-assured guarantees
(c) educate the customer
(d) use creative pricing strategies

Section 6.11

Learning Activity

- ◆ Analyse your industry using Porter's five forces model. What do you think are the biggest threats to your industry today? What is your organisation doing to try to deter these threats?
- ◆ Think of examples of at least two companies who operate in industries that are subject to the strong bargaining power of buyers. Do you think the profitability of these firms is being suppressed by the strong bargaining power of buyers? What, if anything, can these firms do to neutralise this threat?
- ◆ Your friend Luke Ferguson is opening a smoothie shop that will sell a variety of smoothie drinks in the €3 to €4 price range. When you ask him if he is concerned that the steep price of smoothies might prompt potential customers to buy a bottle of water or a fizzy drink instead, Luke answers, 'You're right. Someone could substitute a bottle of water or a fizzy drink for a smoothie and save a lot of money. Is there anything I can do to discourage that?' What do you say to Luke?
- ◆ Conduct a SWOT analysis and complete a TOWS matrix of your organisation. What are your top three action items as a result of this activity?
- ◆ Use the TOWS matrix to assess yourself, paying particular attention to your professional career. Do you see any red lights flashing? Should you switch to another organisation, industry, or career? Should you consider setting up a new business for yourself?

Section 6.12

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Financial Management

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Financial Management

Section 7.1

Unit Introduction

If entrepreneurship is defined as the relentless pursuit of an opportunity, and finance is defined as the study of the generation and allocation of cash, and risk to create value for the enterprise, then entrepreneurial finance refers to generating and managing cash and risk in order to create value in the relentless pursuit of opportunity. Simply put, finance is management. Finance is a way of thinking about cash, risk and value. It helps to view problems from perspectives that concentrate on creating value. When viewed from the financial perspective, some decisions will turn out to be illogical or unfeasible, and so should be abandoned.

This unit focuses on the important topic of generating financing and managing those funds. It discusses sources of personal financing, which are all common in start-up firms. These sources include an entrepreneur using his or her personal funds, bootstrapping, and borrowing from friends and family. The unit also addresses common sources of both equity funding and debt financing namely venture capital, initial public offerings, business angels, commercial banks and guaranteed loans. The unit also discusses concepts such as financial projections and creating financial statements. It identifies and discusses key success factors and common pitfalls. The unit concludes by identifying strategies for raising finance, and discussing briefly the notion of an elevator pitch.

Section 7.2

Unit Learning Objectives

When you have successfully completed this unit you will be able to:

- ◆ Explain why most entrepreneurial ventures need to raise money at some point during their early life
- ◆ Identify the sources of personal, equity and debt financing available to entrepreneurs
- ◆ Present and discuss the concept of financial projections and financial statements
- ◆ Identify the critical success factors and typical problems associated with financial plans
- ◆ Outline a common strategy used by entrepreneurs to generate finance, namely the elevator pitch

Section 7.3

Generating Finance

Before we begin our discussion on generating finance, it is imperative to state that cash is the most important financial resource. More cash is always better than less cash and cash on hand is better than cash due to arrive. It is always better to focus on cash flow (i.e. the amount of cash coming into and spent by the business during a specific period of time) as opposed to profit and loss statements (i.e. revenue that a company receives from the sale of products minus invoices and expenses). Moreover, attention should be paid to the dynamic picture of cash flow (i.e. cash cycles, seasonality and note that today's investments are tomorrow's growth opportunities).

In short, cash management is critical, so you should never run out of cash.

Nevertheless, most companies, at one time or another, will have to generate finance in order to undertake initiatives such as establish the business, launch a new product, renew equipment, initiate international expansion etc. The three key reasons why most new firms need to raise money during their early life are:

- ◆ **Cash flow challenges:** The company must pay its employees and purchase equipment and inventory before it can generate any cash from sales.
- ◆ **Cash investments:** A small company typically does not have the ability to purchase sites, building facilities and equipment from the outset.
- ◆ **Long technology development cycles:** Some technologies and products are under development for years before they generate any income. The up-front costs associated with development often exceed a firm's ability to fund these activities on its own.

There are many options available to entrepreneurs to generate finance.
Three key options include
(a) personal finance (b) equity funding and (c) debt finance.

The sections below discuss these in more detail.

7.3.1 Sources of personal funding

The three main ways entrepreneurs generate personal funds are (a) personal savings (b) friends and family and (c) bootstrapping.

- ◆ **Personal savings:** In general, the founders of a company generate the seed money that gets a company off the ground by using their personal savings, mortgages, credit cards and life insurance policies.
- ◆ **Friends and family:** Friends and family are the second source of funds for many new ventures. This form of contribution often comes as loans, investments or gifts.
- ◆ **Bootstrapping:** Another source of seed money for new ventures is referred to as bootstrapping. Bootstrapping is the use of creativity, ingenuity, and any means possible to obtain resources other than borrowing money or raising capital from traditional sources.

7.3.2 Sources of equity funding

Sources of equity funding are essentially comprised of (a) venture capital (b) business angels and (c) initial public offering.

- ◆ **Venture capital:** Venture capital, often called risk capital, refers to money provided by investors to start-up firms and small businesses with perceived long-term growth potential. It is used by funders to finance innovative companies by taking equity or a stake in the business. This is a very important source of funding for start-ups that do not have access to capital markets. Contrary to a banker who is looking for guarantees, the venture investor becomes an active partner of the firm and shares the risks of the business. Venture capital entails a high level of risk for the investor but also has the potential for above-average returns.
- ◆ **Business angels:** A business angel is an individual who invests assets in a company with innovative potential. A typical business angel would be the former head of the company or senior executive who is able to invest between €5,000 and €20,000 per year, or an entrepreneur who has sold a company and who can invest amounts between €50,000 and €500,000. An angel also makes available to the contractor skills, experience, and networks of relationships as well as their time.
- ◆ **Initial public offerings:** An initial public offering (IPO) is a company's first offer to sell stock to the public. It is a financial transaction conducted by a brokerage company and various actors such as bankers, auditors and lawyers, which allows listing of a company on a stock exchange. IPO's are used to obtain new funds, decrease the cost of the capital, or to provide cash to existing shareholders. Participating in an IPO can be a complex exercise and it requires a good knowledge of the process and procedures.

7.3.3. Sources of debt finance

Debt finance can be generated from commercial banks and guaranteed loans.

- ◆ **Commercial banks:** A commercial bank is a bank that accepts deposits, makes business loans, and offers related services. Historically, commercial banks have not been viewed as practical sources of financing for start-up firms as they are risk averse, and financing new ventures is risky business. Furthermore, lending to small firms is not as profitable as lending to large firms. In many instances, it is simply not worth a banker's time to do the due diligence necessary to determine the entrepreneur's risk.
- ◆ **Guaranteed loans:** A guaranteed loan is a loan offer by a government agency. The agency undertakes to repay a loan in case the borrower defaults.

Section 7.4 Financial Projections

Planning for the future is vitally important for a new venture. Whatever a business is trying to achieve, it is almost impossible to be successful if its managers do not have a

clear idea of what their business is going to be like in the future. Central to this is the concept of financial projections.

Simply put, a financial projection is an estimate or forecast of future revenues and costs.

Projected financial statements reveal the likely financial outcomes of a particular action. They can be used to allocate resources in a more efficient and effective manner. Financial statements (or financial reports) are formal records of a business' financial activities. These statements provide an overview of a business' financial condition in both the short and long term. Projections should include key financial ratios and comparisons relative to competitors' and/or industry averages. Financial projections should answer the following questions:

- ◆ How will the business perform financially?
- ◆ What will the company's cash position be?
- ◆ What will the company's financial position be?

There are *three* basic financial statements, namely:

- ◆ **A projected profit and loss account:** This is often referred to as the income statement. It tells you how well the business is doing in terms of sales, costs and profitability. Normally it is produced for an accounting period of a year, but often it is produced on a monthly basis so that the performance of the business can be monitored and any corrective action can be taken.
- ◆ **A projected balance sheet:** A balance sheet or 'statement of financial position' is a summary of the value of all the assets, liabilities and ownership equity in an organisation. It shows a company's financial condition on a given date. Of the three basic financial statements, it is the only statement which applies to a single point in time, instead of a period of time. A company's balance sheet has three parts: assets, liabilities and shareholders' equity. The difference between the assets and the liabilities is known as the net assets of the company.
- ◆ **A projected cash flow statement:** Cash flow is determined by taking your inflows of cash (cash you're receiving) and subtracting your outflows of cash (cash you're paying out). It is important to most lenders because it provides an indication of whether you will have enough cash to pay your suppliers, vendors, and other creditors on time.

When taken together, these statements or reports should provide a good view of the current and future performance and position of the company.

Section 7.5

Key Success Factors and Common Pitfalls

Financial projections should be consistent with the venture's overall strategy. The process of developing such statements will help demonstrate whether the strategy is financially feasible. It should also indicate the amount of outside financing necessary to support the execution of the venture's strategy.

Financial projections should adopt a five-year approach. They should be monthly for the first two years and quarterly for the remaining three years. They should avoid any assumptions and include any historical financial information.

All financial projections should include a list of significant assumptions. They should also consider all financial obligations involved in bringing the product or service to the marketplace. This may include the cost of new employees, additional physical space, purchasing support materials and services and increases in inventory and accounts receivable. Deviations from historical trends should also be highlighted and finally, all assertions and assumptions should be supported with valid data. It is good practice to identify what data you have and also be clear about what you don't know.

While most entrepreneurs will attempt to create comprehensive financial projections or plans, many errors are made. A synthesis of the literature and best practice reveals that the common mistakes include:

- ◆ Too much ink is wasted on numbers and too little focuses on information that really matters.
- ◆ Often the numbers do not support the company's strategy or the key drivers of the venture's success or failure.
- ◆ Few entrepreneurs correctly anticipate how much capital and time will be required to accomplish objectives.
- ◆ Many financial projections are wildly optimistic.

Section 7.6

Strategies for Raising Finance

You have learned that raising finance can come in many different forms and so it is important to go through all the options before choosing which one to use. The decision about which option is most suitable will depend on the nature of the business, its level of maturity, the level of profitability, the financial structure of the business, and the aspirations of the owner-manager.

Young start-up companies normally access funds in the form of venture capital in order to develop and grow.

A key strategy used by entrepreneurs to raise funds from venture capitalists is called the elevator pitch.

An elevator pitch is a very brief overview of your product, service, technology or project and the benefits associated with it.

The name reflects the fact that an entrepreneur can deliver an elevator pitch in the time-span of an elevator journey (i.e. between thirty seconds and two minutes). The term is typically used in the context of an entrepreneur pitching an idea to a venture capitalist to receive funding. Venture capitalists often judge the quality of an idea on the basis of the quality of its elevator pitch, and will ask entrepreneurs for the elevator pitch to quickly weed out bad ideas. In reality, a venture capitalist will normally afford an entrepreneur more than thirty seconds to pitch their idea – they may in fact stretch

to ten minutes. If you are lucky enough to get ten minutes with a venture capitalist, you should consider including the following key points in your pitch:

- 1 **Define the problem and determine exactly who is experiencing this pain.** Use graphs, pictures or better still describe a problem scenario or usage case.
- 2 **Present the solution.** This is an overview of the product or service offering that will solve the problem. Use photos, screen shots, briefly list the features and benefits. Remember to be clear about the status of product development.
- 3 **Profile of the company.** Be specific. For example:
 - ◆ State the year it was founded
 - ◆ Identify the number of employees (full-time and part-time)
 - ◆ State the date the product was launched
 - ◆ Determine the number of beta users and number of paying customers
 - ◆ Mention the names of any channel partners
 - ◆ List any certification received
 - ◆ Determine the number of patents filed
 - ◆ Mention any press coverage or awards
- 4 **Determine the market size.** Identify the total potential target market, show the different segments and explain how you prioritise the segments. If you must use third party figures, cite the source.
- 5 **Present your sales strategy.** Specify how you sell your product. If you sell directly, identify (a) How many sales people are needed? (b) How long does it take to close a deal? (c) Who is the key decision maker? If you use a channel, determine (a) Who are the partners? (b) How many are required? (c) How are the territories divided?
- 6 **Describe your revenue model.** This should include both revenue and cost drivers. If you're part of a network dealing with brokers, value added resellers, or wholesalers, each member of the value chain will require a share of the revenues. A graphical representation of how this is allocated can give investors a clear understanding of the profitability of the business.
- 7 **Determine your competition.** Be sure to present all your competitors. They may be direct competitors or indirect competitors. In other words, you should identify and summarise existing alternatives (other technologies or types of products) that are offered.
- 8 **Present your management team.** Identify all members of the management team and their position in the venture. Also identify all members of the advisory board and their areas of expertise.
- 9 **Present your (five year) financial projections and assumptions.** Be specific. You should list the following:
 - ◆ In 2015, €? per sale
 - ◆ In 2015, number of customers
 - ◆ 2015 market share: ?%
 - ◆ In 2015, ?% from new sales; ?% from recurring

- ◆ Clearly determine which market you are serving
- ◆ State that figures do not consider future product extensions

10 Determine your funding requirements. Again be specific and consider the following:

- ◆ Prior Funding: €? from founders, €? from outside investors, €? grants
- ◆ Current Round: Seeking €? million (€? raised)
- ◆ Use of Funds: Finish v 2.0 Prototype, launch in ??? market, file patents
- ◆ Future rounds: Series B of €? million expected in early 2010
- ◆ Exit Strategy: Acquisition (list potential buyers)

Remember, your pitch must be must be succinct. You should stick to ten minutes at most. It should be easy to understand so don't spend too much time on the technology. Also, remember that investors are sensitive to exaggeration. They know that 700 customers is not equal to 680 beta users and 20 paying customers; so don't inflate your numbers. Your pitch must also be tempting – investors want to make money, so be sure to sell the value of your idea. Furthermore, be aware of the figures the investors want and remember that your figures must add up. Finally, remember that investors are looking for the following attributes in a technology or venture:

- ◆ Outstanding team with prior experience
- ◆ A good fit between the investor and the firm
- ◆ Unique value proposition as opposed to another 'me too' product offering
- ◆ Good return on investment
- ◆ Realistic assessment of risks
- ◆ Detailed and realistic financial plans
- ◆ Exit strategies within 4 to 7 years

Section 7.7

Unit Review

Young start-up companies need access to finance, normally in the form of venture capital, in order to develop and grow.

The *three* key reasons why most new firms need to raise money during their early life are:

- ◆ Cash flow challenges
- ◆ The need to make cash investments for the fledgling business
- ◆ Long technology development cycles

This unit discusses how new firms facing a number of potential options might effectively raise funds at early stages, especially when a firm is small or has not yet developed a marketable product.

You learned that financial projections are a critical element of managing the money in a business. A financial projection is an estimate or forecast of future revenues and costs.

The unit provided a brief introduction to the three basic financial statements:

- ◆ profit and loss
- ◆ balance sheet
- ◆ cash flow statements

Options for financing the start-up include: (a) personal financing, (b) equity funding and (c) debt financing.

The *three* main ways entrepreneurs generate personal funds are (a) personal savings (b) friends and family and (c) bootstrapping.

Sources of equity funding are essentially comprised of (a) venture capital (b) business angels and (c) initial public offering.

The unit also addressed the critical success factors and typical problems associated with financial plans.

Finally, the unit explained briefly how to prepare an elevator pitch.

An elevator pitch is a very brief overview of your product, service, technology or project and the benefits associated with it.

Section 7.8**SAQs**

- 1 Why do most entrepreneurial ventures need to raise money?
- 2 Identify the sources of personal and debt financing available to entrepreneurs
- 3 What is bootstrapping? Provide some examples of how entrepreneurs bootstrap to raise money or cut costs. In your opinion, how important is the art of bootstrapping for an entrepreneurial firm?

Section 7.9

SAQs Suggested Answers

- 1** New ventures often have cash flow challenges and so will be obliged to borrow money. A young company will also need money to invest in sites, facilities and equipment and so they will need to generate finance to do this. Furthermore, new ventures need finance to help fund long development cycles.
- 2** Examples of personal financing include: (a) an entrepreneur using his or her personal funds, (b) bootstrapping, and (c) borrowing from friends, fools and family! Examples of debt financing include: (a) venture capital, (b) initial public offerings, (c) business angels, (d) commercial banks and (e) guaranteed loans.
- 3** Bootstrapping is the use of creativity, ingenuity, and any means possible to obtain resources other than borrowing money or raising capital from traditional sources. Examples of bootstrapping include: (a) using credit cards, (b) getting a second mortgage (c) cashing in or selling life assurance policies and other personal savings.

Section 7.10

Learning Activity

- ◆ Look up the Business Week website and other relevant sites (see <http://www.businessweek.com/smallbiz/bizminer/bizminer.htm>). Check out some comparison metrics. How do your sales per employee figures match the benchmark reports? How does your pro-forma balance sheet match up to some of the presented ratios? Can you explain any differences?
- ◆ YouTube (www.youtube.com) is a web site that allows users to upload, view, and share video clips. It was founded in February 2005. Since then it has become one of the most popular sites on the Internet, and now streams more than 100 million videos per day. As of mid 2006, YouTube had obtained more than \$11.5 million in venture capital funding. Many observers are sceptical that YouTube has a viable business model and wonder if the venture capitalists involved got caught up in the hype surrounding the company's rapid success. Study YouTube and describe the company's business model. Do you think the venture capitalists that funded YouTube made sensible investments? How does Google's late decision to acquire YouTube influence your judgment about the venture capitalists' investments? Explain your answers.
- ◆ Visit the US hosted Small Business Administration website (www.sba.gov). This site has some useful information on a number of start-up issues.
- ◆ Read the Art Of The Start: Attracting VCs To Your Business and What Are The Different Types Of VCs? by Guy Kawasaki, on the following web pages:
http://www.forbes.com/work/2004/07/12/cx_gk_0712artofthestart.html
 and
http://www.forbes.com/work/2004/06/03/cx_gk_0603artofthestart.html
- ◆ Create an elevator pitch for an innovative product you think could possibly be a viable business proposition.

Intellectual Property Management

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Intellectual Property Management

Section 8.1

Unit Introduction

Intellectual property (IP) deals with creations of the intellect. A company's IP can offer customers something new and different which helps to distinguish the business from its competitors. The company can also sell or license these rights, generating an important revenue stream.

Intellectual property rights are valuable assets for your business and so you should protect them against infringement, otherwise their worth will be diluted.

You may be surprised at how many aspects of your business you can protect. For example, its name and logo, designs, inventions, works of creative or intellectual effort or trade marks that distinguish your business are all types of IP. Some IP rights are automatically safeguarded by intellectual property law, but there are also other types of legal protection you must apply for.

This unit begins by discussing the importance of intellectual property, and examines how to determine which intellectual property to legally protect. The unit then introduces **four key forms of intellectual property: patents, trademarks, copyright, and trade secrets**. It provides a brief discussion on confidentiality agreements and trade secrets.

Section 8.2

Unit Learning Objectives

When you have successfully completed this unit you will be able to:

- ◆ Define the term 'intellectual property' and explain its importance
- ◆ Discuss the four major forms of intellectual property, namely patents, trademarks, copyrights, and trade secrets
- ◆ Specify the rule of thumb for determining whether a particular piece of intellectual property is worth the time and expense of protecting it
- ◆ Describe the process for obtaining a patent

Section 8.3

Intellectual Property

Intellectual property is a legal field that represents the property of your mind or intellect.

It is called 'intellectual' property because it is the product of human imagination, creativity, and inventiveness, such as: inventions, literary and artistic works, as well as symbols, names, images, and designs used in business.

Intellectual property is divided into *two* categories:

- 1 **Industrial property**, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source;
- 2 **Copyright**, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs.

Under intellectual property law, the holder of one these abstract 'properties' has certain exclusive rights to the creative work, proprietary knowledge, or invention which is covered by it. The laws exist to encourage creativity and innovation by granting to individuals who invest their time, energy and money in creative activities exclusive rights to the fruits of their work for a period of time. It can provide the edge which sets successful companies apart, and as world markets become increasingly competitive, protecting your intellectual property becomes essential.

Some of the reasons for securing intellectual property rights include:

- ◆ To provide incentive to inventors for new creations
- ◆ To provide due recognition to the creators and inventors
- ◆ To ensure material reward for creative work
- ◆ To ensure the availability of genuine and original products

The process of protecting intellectual property can be long and expensive, depending on the route taken. Therefore it is important to assess in advance whether it is worth your while securing these rights. There are *two* primary rules of thumb for determining whether to pursue intellectual property protection for a particular intellectual asset.

- 1 First, you should determine whether the intellectual property in question is directly related to the company's competitive advantage.
- 2 Second, you should determine whether the intellectual property has value in the marketplace and if so you should determine exactly what that value is.

You can then apply for protection for your invention in order:

- ◆ To protect it against infringement by others and ultimately defend in the courts your sole right to use, make, sell or import it
- ◆ To stop others using, making, selling or importing it without your permission
- ◆ To earn royalties by licensing it

- ◆ To exploit it through strategic alliances
- ◆ To make money by selling it

An example of the possible intellectual property rights associated with a bottle of Guinness Draught is illustrated in Figure 8.1.

- ◆ Recipe, method of manufacture, Rocket Widget (Patent)
- ◆ Shape of bottle (Registered Design)
- ◆ Text on label, in an advertisement (Copyright)
- ◆ Trade name 'Guinness' (Trade Mark)



Figure 8.1: Intellectual Property Rights Associated with a Bottle of Guinness Draught

From this we can see that that the *four* main types of intellectual property are

- (a) patents (protect how something works);
- (b) registered designs (protect how something looks);
- (c) copyright (protects the expression of ideas) and
- (d) trade marks (protect the brand).

The sections which follow explain each of these categories in more detail.

Section 8.4

Understanding Patents

A patent protects how something works. They are used to protect technological inventions, such as products or processes.

A patent is a monopoly right conferred by the government which gives the patent holder the right to stop others making, using or selling an invention. It provides the patent holder with the right to exploit (i.e. to make, use, sell or import) the invention for a limited period (usually 20 years) in an exclusive manner. A patent can be bought and sold, licensed or used by the owner either in whole or in part.

There are *three* requirements that must be fulfilled to be granted a patent: (a) the invention must be new; (b) it must imply an inventive step and (c) it must be capable of industrial application.

- ◆ **Novelty:** An invention is considered new if it does not form part of the existing state of the art. The state of the art comprises everything made available to the public in any way, anywhere in the world, before the date of filing of the patent application. This also includes material made available by the inventors of the patent application. Any written or oral disclosure to third parties except under 'Non Disclosure Agreement' will affect the novelty of the invention. When deciding on the novelty of an invention is it recommended that you search existing publications and patents. Both the European and US patent offices allow for online searches of published patents and patent applications.
- ◆ **Inventive step:** An invention is considered to have an inventive step if it is not obvious to a person skilled in the technical area or a practitioner who knows the technical field in which the invention falls. In other words, the invention should solve a technical problem in a non-obvious way.
- ◆ **Industrial applicability:** The invention must be capable of being made or used in some kind of industry. Purely theoretical inventions are beyond the scope of patent protection.

Section 8.5

The Patent Process

A patent is a means to an end and not an end in itself. Therefore, an inventor should develop a patent strategy that focuses on the commercial aspects and requirements of the invention and its potential application(s). A patent strategy should consider the following questions:

- ◆ How can the invention be applied?
- ◆ What markets will use these applications?
- ◆ What are the sizes of these markets?
- ◆ Where are these markets based?
- ◆ Who are the key competitors in the market?
- ◆ How is the patent to be commercialised?
- ◆ What are the competing technologies in these markets?
- ◆ Is there a working prototype or is the invention at the idea stage?
- ◆ How much resources are required to bring the technology to market?

The patent strategy will influence the timing of the patent filing and the territory in which to file the application. By identifying the potential applications for the invention in advance, you can write the patent specification in such a way as to offer maximum protection for the intended application.

The process begins when you believe you have a patentable invention. The first step is to review the current state of the art or best practice to ensure that the invention is novel. You must then identify the problem addressed by the invention and clearly define the uniqueness of the invention over current solutions. The final step is to prepare a patent application for filing in the patent office. This remainder of this section discusses each of these steps in more detail.

1. **Analyse the state of the art:** You must carry out a comprehensive search to identify the current state of the art before drafting a patent application. This is required to establish whether the invention is novel. You can use various online search engines such as Google, Science Direct, European Patent Office and US Patent Office to begin the searching process. It is also important to note that the inventor's own disclosed material (such as publications, presentations, web pages etc.) should also be reviewed as part of the search.
2. **Identify the problem:** The next step in the process is to identify the technical problem addressed by the invention and to describe how current inventions address this problem. Using this problem-solution approach allows you to highlight the inventive step of the invention and define the benefits of the invention over the current state of the art.
3. **Draft the patent:** Once you have reviewed the current state of the art and identified the inventive step, the next step is to begin drafting the patent application. Drafting successful patent applications requires not only an understanding of patent law, but also knowledge of the technology being described and claimed. For this reason, we strongly advise hiring a patent agent who has the relevant scientific or engineering training. The patent agent will normally prepare the first draft and allow the inventors to review the application before preparing the final draft for filing.
4. **File the patent:** An initial application is usually filed in order to set a 'priority date'. This priority date is an important part of the process. Once the initial application is filed, an applicant has one year to update or add to the application before deciding whether or not to file the application in other countries. Updates and additions to the specification that are added to the application during these twelve months are considered to be part of the initial application and so are considered to be filed on the priority date.

In most countries, patent applications are published around eighteen months after the priority date. The applicant is then required to request that the patent office subject the application to a substantive examination. The agent for the applicant can write to the patent examiner to initiate this activity. The examination should result in an agreed set of claims, which the examiner can then process to either grant or deny the patent application.

The procedure of granting an application can be expensive and time-consuming. It should also be noted that for a patent granted by the European Patent Office it is necessary to provide translations of the accepted claims into other official languages such as French and German. If the European patent is to be validated in individual European countries, this will often require translations of the whole specification and claims. Thus, costs can be of the order of €30,000 to €50,000.

Finally, many patent jurisdictions provide an opportunity for opposition to the patent at either the pre-grant (i.e. pre-acceptance) or post-grant stage. Consequently, a European patent can be opposed within nine months of being granted. This effectively can re-open the whole question of whether the patent should have been granted and/or the scope of the granted claims.

Section 8.6 Understanding Trademarks

A trademark is the means by which a business identifies its goods or services and distinguishes them from the goods and services supplied by other businesses.

The Trade Marks Act, 1996 defines a trademark as 'any sign capable of being represented graphically which is capable of distinguishing the goods or services of one undertaking from those of other undertakings'. It is a marketing tool, which allows consumers to identify and recognise the products and services offered by a certain trader.



Figure 8.2: Examples of Trademarks

A trademark must be distinctive and can consist of words, personal names, letters, numerals, designs, logos, three-dimensional shapes or the packaging of goods.

Trademarks provides a monopoly right to prevent use of identical or similar marks in a given territory for a limited time (usually ten years but renewable indefinitely) for an identical or similar service.

Section 8.7 Understanding Industrial Design

This industrial property right has been defined by the Council Regulation on Community Designs as 'the appearance of the whole or a part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation'.

You can deduce from this definition that the design represents the aesthetic or ornamental character of a product.

Technical features or functional characteristics do not fall under the design. Its main function is to attract consumers' attention by making the product more attractive.

An industrial design must be new, original or enjoy an individual character. To be new, the design must have not been made public before the date of the registration application. By original, we understand that the design must be its author's work and not the imitation of another's work. Its individual character will be based on the consumer's impression when they see the product. If their impression is different from their previous attitude concerning another product, the individual character will be satisfied.

Some countries consider the product's useful function as another criterion. The product must be useful; it must have a function for which it has been created.

Registered designs provide five years of protection and it is renewable up to a maximum of twenty-five years.

Section 8.8 Understanding Copyright

Copyright protects many different types of works: literary works (novels, poems, stories, etc...), musical works (e.g. songs, operas, etc...), artistic works (e.g. drawings, paintings, sculptures, etc...), maps and technical drawings, photographic works (e.g. portraits, landscapes, etc...), motion pictures, computer programmes, databases, etc.

Copyright protection is independent from the quality of the work and the author's purpose in doing such a work. In order to enjoy copyright protection, a work needs to fulfil two conditions: **form of expression and originality**.

1. By **form of expression**, we understand materialisation, or whatever may be the mode or form of expression. It could be a piece of choreography, a book, a compact disc, a computer programme, and so on.
2. The **originality** concept has not been harmonised in Europe, except for database and software protection. In continental countries, a work is original if it is marked by the personality of its creator. This supposes that the creator has played a decisive role in determining the form of the work. By contrast, in the United Kingdom the concept of originality is more linked to a special skill or labour.

There is no registration system in most of the world for copyright and it exists automatically on creation. The duration of copyright is for the life of the creator and 70 years following death (or for 70 years from the date of publication if the author is unknown).

Section 8.9 Other Forms of Intellectual Property

Other forms of protection include:
Confidentiality agreements
Trade secrets

They are discussed in more detail below.

- ◆ **Confidentiality Agreements:** This type of agreement guarantees that the information, ideas or data revealed by one person to another will stay secret under the terms of the contract and so will not be transmitted to third parties. This contract can take place in many different situations, such as in the contractual relation between the employer and his employee; two persons sharing a common project; or a person who has an idea and looks for an enterprise to develop it. In order to draft a confidentiality agreement, you should consult a lawyer specialised in this domain.
- ◆ **Trade secret:** The notion of 'secret' refers to something that is not generally known or easily accessible. A secret keeps somebody's idea separate from the knowledge of competitors in the market. A secret represents an interest for its holder often in the form of competitive advantage with regard to the competitors. Despite much debate, trade secrets do not receive any protection from intellectual property rights. They could, however, fall under the scope of protection of civil law and unfair competition. An industrial secret may also be kept by including appropriate rules in an employment contract or by using specific confidentiality agreements.

It is worth mentioning that intellectual property protection is a matter of sovereign national legislation. Hence, registration in one country only protects you in that country. There is no such thing yet as an international registration that gives you worldwide coverage. However, there are certain protocols and treaties that aim to provide a common filing system that helps cut down the paperwork and costs for registration in multiple member countries.

Section 8.10

Unit Review

Intellectual property is divided into *two* categories:

- ◆ Industrial property
- ◆ Copyright

This unit examined intellectual property issues. More specifically, it explained how to protect an idea and invention. The unit identified and discussed specific topics relating to the following types of intellectual property:

- ◆ patents
- ◆ trademarks
- ◆ industrial design
- ◆ copyright

The unit also described other forms of protection such as **confidentiality agreements** and **trade secrets**.

Some of the reasons for securing intellectual property rights include:

- ◆ To provide incentive to inventors for new creations
- ◆ To provide due recognition to the creators and inventors
- ◆ To ensure material reward for creative work
- ◆ To ensure the availability of genuine and original products

There are two primary rules of thumb for determining whether to pursue intellectual property protection for a particular intellectual asset.

- ◆ Is the particular intellectual property give the company competitive advantage?
- ◆ Has the intellectual property value in the marketplace and if so how much?

For a **patent**:

(a) the invention must be new; (b) it must imply an inventive step and (c) it must be capable of industrial application.

Steps in applying for a patent:

1. Review the current state of the art
2. Identify the problem the invention solves
3. Define the uniqueness of the invention over current solutions
4. Prepare a patent application

A **trademark** is the means by which a business identifies its goods or services and distinguishes them from the goods and services supplied by other businesses. A trademark must be distinctive and can consist of words, personal names, letters, numerals, designs, logos, three-dimensional shapes or the packaging of goods.

An **industrial design** represents the aesthetic or ornamental character of a product.

Copyright protection relates to form of expression and originality.

Other forms of intellectual property

- ◆ confidentiality agreements
- ◆ trade secrets

Section 8.11

Case Study Questions and Answers

Q I have an idea for developing pottery in the market. How can I protect my idea before entering into contact with a marketing enterprise?

A In principle, ideas as such are not protected by IP rights as long as they are not materialised and do not fulfil the concrete criteria. Once you have created the pottery, normally you would fulfil copyright criteria (form and originality) and design criteria (novelty and individual character). While your pottery is not 'real', and just at the idea stage, you should ensure the signature of a confidentiality agreement with the enterprise to whom you are going to explain your project. Under this agreement, you would prevent that enterprise from using your idea or communicating it to third parties.

Q I have developed a scientific method; if I explain the idea in writing (which I assume gives me copyright on it), may I prevent others from using my method without permission?

A The documents in which you describe the scientific method you wish to later develop will be protected by copyright. You can prevent others from copying the documents you have written (plagiarism), but not from expressing the idea in another way. You may enjoy copyright protection thanks to the original and personal expression (in the documents) you have made of your idea. Nevertheless, copyright will not cover the use of your scientific method because, insofar as they respond to a technical problem, this type of work may be protected by patent, not copyright.

In order to enjoy patent protection, the scientific method must be an invention – a technical solution to a technical problem – and fulfil the three requirements of novelty, inventive step and industrial application. If you are granted a patent for your scientific method, you will have the exclusive right of using and exploiting it for 20 years. As regards the territorial scope of protection, there is no international patent and so you are obliged to apply for protections in specific regions. Nevertheless, you also have the right to sell or transfer your right to another person. If you sell it (assignment) you lose your holder title. But if you just want to allow another person to use your invention (licence), you will be still the patent holder. Assignments and licences are normally remunerated.

Q As an advertising agency, we are interested in protecting an idea of advertisement against clients who could use our idea before us. Can we protect this idea?

A Ideas as such cannot be protected by IP rights. In this case, the idea has not yet been materialised, so the best thing is to sign a confidentiality agreement with your client. Through this agreement, he will not be able to communicate your idea to third parties nor to use it himself. Once your idea has been represented in some form, you will receive protection if the criteria are fulfilled.

- Q** I am an individual who has developed several insurance, financing and banking models and would like to protect them. How can I obtain such protection?
- A** Your idea of creating such models is not protected by any IP rights outside the US. Your models can benefit from protection if they are expressed in a concrete way. Concerning copyright, your schemas, texts, graphics etc. can receive this protection. As regards patents, business methods are excluded from patentability (Article 52.2.c of the European Patent Convention) because of their lack of technical character. However, the European Patent Office (EPO) has granted a certain number of patents for software, as such, and business methods if they fulfil the condition that they have a technical effect. But this is a solution based only on the EPO practice.

Section 8.12

SAQs

- 1 What is intellectual property?
- 2 Why is intellectual property protection important for new ventures?
- 3 How do you determine if a particular piece of intellectual property is worth the time and expense of protecting it?
- 4 Describe the process for obtaining a patent.

Section 8.13

SAQs Suggested Answers

- 1 Intellectual property is a legal field that represents the property of the mind or intellect.
- 2 Intellectual property protection is important for new ventures because a company's IP can offer customers something new and different which helps to distinguish the business from its competitors. The company can also sell or license these rights, generating an important revenue stream.
- 3 A particular piece of intellectual property is worth the time and expense of protecting it if the intellectual property in question is directly related to the company's competitive advantage and if it has value in the marketplace.
- 4 The process for obtaining a patent consists of four steps. These are: (a) analyse the state of the art, (b) identify the problem, (c) draft the patent, and (d) file the patent.

Section 8.14

Web Resources

For more information on **intellectual property protection** please see the following:

- ◆ The Irish Patent Office (www.patentsoffice.ie)
- ◆ The UK Patent Office (www.patent.gov.uk)
- ◆ World Intellectual Property Organisation (www.wipo.int)

For more information on **patent search engines** please see the following:

- ◆ European Patent Search Engine (<http://ep.espacenet.com/>)
- ◆ British Patent Search Engine (<http://www.patent.gov.uk/search/index.htm>)
- ◆ US Patent Search Engine (<http://patents.uspto.gov/>)

Project Management

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Project Management

Section 9.1

Unit Introduction

Project management it is about setting clear goals, managing time, material, people and costs to deliver a result on time, within budget and to the highest possible standard.

It is an essential element to managing a growing business. It is composed of several different types of activities, namely—

- (a) planning (i.e. identifying requirements and targets and setting clear goals)
- (b) scheduling (i.e. co-ordinating activities from inception to completion and identifying deadlines and resources)
- (c) controlling (i.e. monitoring progress and ensuring it is completed on time, within budget and to required quality standards).

Each of these activities must be effectively managed to ensure the success of an individual project as well as the overall business.

This unit focuses on the important topic of project management for start-up companies. It emphasises the importance of putting a systematic process in place from the outset. The unit illustrates and explains a generic project management process. The unit then stresses the importance of project portfolio management and discusses some project selection techniques. The unit concludes with a discussion on risk assessment and management in an effort to help minimise a venture's exposure to risk.

Section 9.2

Unit Learning Objectives

When you have successfully completed this unit you will be able to:

- ◆ Determine the importance of using effective project management techniques in new ventures and start-up companies
- ◆ Explain the project management process
- ◆ Analyse various project selection models
- ◆ Discuss the concepts of risk assessment and risk management
- ◆ Present simple tools to help minimise a venture's exposure to risk

Section 9.3

The Project Management Process

By following a structured approach to project management, an entrepreneur can increase the likelihood of success. If the entrepreneur has a clear understanding of what they are doing and why, and if the organisation has an established mechanism in place to initiate and undertake innovation, development can happen quickly and predictably.

Where such infrastructure is not in place, it has to be put in place for each initiative. This slows down the reaction-time of individuals in the company, and may limit the success of the project, as there is no pattern to follow and the process has to be re-invented each time. Thus the results are not always predictable.

The benefits of project management methods include:

- ◆ Ensures that the company meets customers' wants, needs and expectations
- ◆ Allows the company to do more work in less time with fewer people
- ◆ Standardises routine project work and eliminates 'reinventing the wheel'
- ◆ Ensures that people complete all tasks on time, within budget and to the highest possible standards
- ◆ Reduces duplication of effort and rework as well as power struggles

In light of this, entrepreneurs must identify and integrate the most valuable and successful ways to plan and develop effective projects. This ensures that the venture is focused on where it wants to be in the future. The remainder of this section sets out the key stages in the project management process and discusses them in more detail.

9.3.1 Define scope, strategy and goals

This stage of the project management process ensures that the founder and his/her team have a clear view, image or vision of where the business will be in the future. In other words, it encourages the entrepreneur or decision maker to create a clear picture of the desired outcome and communicate this vision to all relevant stakeholders in the process.

A strategy is a coherent or consistent stream of actions which an organisation takes to move towards this vision. The organisation's goals should be linked to its strategy. They should be specific, well defined and measurable so that people know exactly what to accomplish. This stage also prompts you to establish the scope of the project in question. This should detail what the project will cover as well as what it will not cover.

9.3.2 Plan project and select sponsor

A project's outcomes are largely decided in the early stages of the project management process; in other words in the stages that precede the actual implementation or execution of the project. Ironically, these activities often receive little attention. Yet, comprehensive project planning significantly increases new product success and is strongly correlated with financial performance.

It is at this point in the process that costs start to rise dramatically as resources for development are needed. Therefore, it is imperative to plan appropriately from the outset. Assigning a sponsor (normally a senior member of the organisation) is also essential for successful results. The sponsoring manager has a pivotal role in the process. This person must be responsible and accountable for the success of the project. It is their responsibility to initiate the project and to ensure that adequate resources are allocated to it.

9.3.3 Prioritise project and assign teams

Projects require a substantial investment in terms of resources such as time, money and personnel, all of which are limited. Therefore, it is vitally important that the projects that are selected for implementation provide good returns on the resources and capital invested. This process helps to eliminate projects that require extensive resources but are not justified by current business strategies. It also helps to position projects so that efforts can focus on the critical few.

Following this decision, the individual project will have time schedules and budgets put in place. Specific teams are then assigned to individual projects and management should strive to appoint a well-balanced team in terms of composition and mix.

9.3.4 Monitor and control performance

The project's progress must be continuously monitored to assess its performance relative to its goals and schedule. Actions may have to be altered in order to keep in line with goals developed from the outset. This stage involves recognising warning signs and problems, identifying their cause and then applying the appropriate treatment or remedies. Continuous feedback and on-going training should be provided for all team members in order to sustain their energy and enthusiasm.

Section 9.4

Understanding Project Portfolio Management

In the past, project management focused on the dynamics of managing an individual project well. However, as we mentioned earlier, an organisation will normally have a portfolio of many types of projects. Some of these projects will represent small-scale incremental developments or improvements, while others will focus on more radical innovations.

A young start-up company must effectively manage all projects in its portfolio.

Portfolio management is a decision-making process, whereby a business's list of active projects is constantly updated and revised.

In this process, new projects are evaluated, selected, and prioritised; existing projects may be accelerated, killed, or de-prioritised; and resources are allocated and reallocated to the active projects. The portfolio decision-making process is a complex one. It is characterised by uncertain and changing information, dynamic opportunities, multiple goals and strategic considerations, interdependence among projects, and multiple stakeholders. Therefore, the company should adopt and use portfolio management techniques and methods. These techniques and methods should include the following performance goals:

- ◆ To have the right number of projects in the portfolio for the resources available
- ◆ To avoid pipeline gridlock in the portfolio, undertaking projects on time and in a time-efficient manner
- ◆ To have a portfolio of profitable, high-return projects with solid commercial prospects

- ◆ To have a balanced portfolio i.e. long-term versus short-term, high-risk versus low-risk, and across markets and technologies
- ◆ To have a portfolio of projects that is aligned with the business's strategy
- ◆ To have a portfolio with a spending breakdown that mirrors the business's strategy and strategic priorities

Many organisations have too many projects in their portfolio and not enough resources to execute or implement them well.

This is stressful for a large organisation but detrimental to a small one as scarce resources are spread too thinly over too many projects. The reasons why organisations have too many projects include:

- ◆ There are too many projects that 'must' be done. This can be because organisations are too eager to respond to customer and sales requests in case they will adversely affect their relationship with them.
- ◆ Once projects are generated there is no mechanism to stop them from developing.
- ◆ There are no criteria for making prioritisation decisions.
- ◆ Management are often not engaged in the decision-making process, for reasons of time and not understanding how critical the decision process is.
- ◆ There is often pressure on management to deliver many projects as it makes them look good.

For these reasons, a structured project selection process is essential. The screening of projects is one of the most critical project management activities, yet it is often performed poorly.

Section 9.5

Project Selection Methods

Every company has limited resources and therefore cannot carry out all the projects they may need or want. The company needs a process for selecting and ranking projects on the basis of beneficial change to the organisation.

Project selection involves deciding if a project should be rejected, deferred or accepted for further processing, and if so what priority to give it.

The purpose of doing this is to establish the best possible basis for making decisions regarding the processing of ideas and proposals for new and improved products, services or initiatives. The screening process will help an entrepreneur to eliminate projects that require extensive resources but are not justified by current business strategies. It will also help to prioritise projects so that efforts can focus on the critical few. This section discusses some project selection methods and techniques in more detail. This list is by no means exhaustive but it does provide an example of some of the tools available.

9.5.1 Payback period

The payback period is a widely-used numeric method. It involves assessing a project based on how many years it takes to generate enough money to cover the initial capital investment in the project. The shorter the time it takes to do this, the more attractive the project is.

The payback period is the initial fixed investment in the project divided by the estimated annual cash inflows from the project.

The time period is usually expressed in months and years.

The **advantages** of the payback method include:

- (a) it is simple and easy to use;
- (b) it reduces the project's exposure to risk by selecting the project that has the shortest payback period;
- (c) it quantifies the selection criteria in terms the decision-makers are familiar with.

The **disadvantages** of the payback method include:

- (a) it is not suitable for evaluating long-term projects where the effects of inflation and interest rates could change the results;
- (b) it can reduce the duration of risk but it does not quantify the exposure to risk, and
- (c) figures are based on project cash flow only; all other financial and non-financial data are ignored.

9.5.2 Return on Investment (ROI)

Another numeric or financial technique is return on investment (ROI).

The method calculates the average annual profit, which is the project outlay deducted from the total gains, divided by the number of years the investment will run. The profit is then converted into a percentage of the total outlay.

The ROI technique has the advantage of being simple to use and it also considers the cash flow over the whole project. The disadvantage is that it averages out the profit over successive years.

9.5.3 Democratic selection models

The democratic selection model is an example of a non-numeric selection model.

These models include any model where the final decision or selection is made by voting.

This type of model works well in a stable and broadly speaking united environment, where open discussion and debate can take place and where team members are willing to abide by and support the selection that is made.

A major advantage of democratic decisions is that they involve everyone who is concerned with the selection process and can thus be an effective form of employee empowerment. They also encourage contributions and participation from a wider group and help to share both responsibility and credit for the outcome of the decision. Active participation harnesses the creative talents and skills of as many individuals as possible, and lowers resistance to change by engaging everyone in the process.

9.5.4 Dictatorial selection models

Dictatorial selection models are non numeric.

Here, either a single individual or a small group of senior people (normally the founder and his/her team) make the decision.

The selection is often preceded by a series of discussions or presentations from a wider group, often including those involved with developing the projects. This type of selection procedure also supports the implementation of projects that represent the personal ambition of the selector, so called 'sacred cow' projects. For dictatorial selection models to be effective, the selector must command a high level of respect and trust from the rest of the organisation.

9.5.5 Scoring and ranking techniques

Project selection models based on scoring or ranking attempt to broaden the base on which the selection of projects takes place. This is not to say that they ignore questions of cost and profit, but rather that they seek to include other factors so as to get a wider perspective on the merits of a project.

This method involves identifying and examining the predicted benefits of each project and then assessing the value or importance of each of these benefits with respect to goals of the organisation.

Scoring models often help to highlight the level of compatibility that a project might have with the firm's overall strategic aims.

Table 9.1 adopts an alternative approach to project selection. It comprises a list of issues that a decision maker should consider. Each of these issues is related to some function or discipline that will impact the venture. Taking these into consideration helps the decision-making process.

Table 9.1: Project Selection Factors

Discipline	Description
Production	Method of implementation Time to be running Cost of power requirements
Marketing	Number of potential users Market share Time to market
Financial	Cost of new system Time to break even Payback period
Personnel	Skill requirements and availability Training requirements Level of resistance to change
Administrative	Compliance standards Customer service Legal considerations

Section 9.6

Risk Management

Risk is the potential harm or negative effect that may arise from some future event. Risk can therefore be defined as a function of these components. Generally speaking, risk comprises the probability of a negative event occurring with how harmful that event would be.

$$\text{Risk} = f(\text{event, probability, impact})$$

Risk assessment refers to the identification, analysis and prioritisation of the level of risk in a project.

It involves measuring two elements of risk

- (a) the magnitude of the potential loss, and
- (b) the probability that the loss will occur.

Risk assessment may be the most important step in the risk management process and therefore should be carried out at the project selection stage. However, it is also the most difficult step in the process and prone to error and there is often a high degree of uncertainty in the assessment of measurement of both these elements.

Also, risk management would be simpler if a single metric could embody all of the information in the measurement. However, since two quantities are being measured, this is not possible. A risk with a large potential loss and a low probability of occurring must be treated differently than one with a low potential loss but a high likelihood of occurring.

Once the company has identified and assessed the risks, the steps to properly deal with them are much more systematic and methodical. Table 9.2 is a useful tool to use to help capture these critical data.

Table 9.2: Risk Analysis Chart

Activity	Probability of Occurrence			Magnitude of Damage			Planned Action	
	Low	Medium	High	Low	Medium	High	No Action	Type of Action

Risk management is the process of assessing or measuring risk and then developing appropriate strategies or corrective actions to manage the risk.

It is a continuous process. It starts as a strategy when the project is being established and continues during the life cycle of a project until it is completed. Risk management includes several processes that, although shown as discrete elements here, are highly interrelated. These are:

- ◆ **Identification:** Determine which risks are likely to affect the project and document the characteristics of each.
- ◆ **Quantification:** Evaluate the probability and consequences of risks and risk interactions on the possible range of outcomes to a project so as to examine and develop alternative options.
- ◆ **Mitigation:** Use techniques and methods for the reduction and control of risks or the enhancement of opportunities.
- ◆ **Control:** Usually the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

The final decision may be linked to the tolerance an entrepreneur or project manager has for risk. Therefore the manager's tolerance to risk must be explored in more detail. The three commonly used classifications for risk include

- (a) the risk averter or avoider
- (b) the neutral risk taker and
- (c) the risk seeker.

Section 9.7

Unit Review

Effective project management is essential for all organisations, especially growing ventures and small firms. This unit focused on the important topic of project management for start-up companies. The unit presented a simple four-step project management process.

Project management it is about setting clear goals, managing time, material, people and costs to deliver a result on time, within budget and to the highest possible standard.

The stages in this process include:

- (a) define scope, strategy and goals,
- (b) plan project and select sponsor,
- (c) prioritise project and assign teams, and finally
- (d) monitor and control performance.

The unit then stressed the importance of project portfolio management in young ventures. It introduced and discussed various project selection techniques, namely:

- (a) payback period,
- (b) return on investment,
- (c) democratic selection models,
- (d) dictatorial selection models and
- (e) scoring and ranking techniques.

The unit concluded with a discussion on risk management. It presented a simple methodology to help minimise a venture's exposure to risk.

Section 9.8

SAQs

- 1 Why is it important to use effective project management techniques in new ventures and start-up companies?

Section 9.9

SAQs Suggested Answers

- 1 Some of the benefits of implementing effective project management techniques in new ventures and start-up companies include:
 - (a) They ensure that the company meets customers' wants, needs and expectations,
 - (b) They allow the company to do more work in less time with fewer people,
 - (c) They standardise routine project work and eliminate 'reinventing the wheel',
 - (d) They ensure that people complete all tasks on time, within budget and to the highest possible standards and
 - (e) They help to reduce duplication of effort and rework as well as power struggles.

Section 9.10

Learning Activity

- ◆ Do you have a project management process in place in your organisation? If so, what are the key stages? Is the process used? Are all the stages rigorously implemented? Who is responsible for key activities? What tools do you use to help facilitate this process?
- ◆ Do you have selection models in place in your organisation to rank and prioritise projects? If so, are they effective? What are the strengths and weaknesses of these methods?
- ◆ Do you use established mechanisms to help mitigate risk in your organisation? Describe them and discuss their effectiveness.

Exit Strategies

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Exit Strategies

Section 10.1

Unit Introduction

The issue of selling a business, often referred to as 'harvesting the venture', is one that many entrepreneurs consider at some point in their career. Some entrepreneurs constantly buy and sell businesses in order to make a profit along the way. Others will manage the venture for a long time and then sell their stake in the organisation in order to profit from their years of hard work and effort.

The way in which you exit the business can affect many things such as the value you and other shareholders realise from it, as well as the future success of its products or services. Therefore it is important to think seriously about how you intend to leave. A well-planned exit strategy allows potential investors to clearly understand how you intend to withdraw from the business. Moreover, it will help to define how the company will be marketed to potential buyers or investors, it will ensure that you get the most value out of your company and it will ensure you can end your involvement with the minimum amount of disruption to the business.

This unit discusses some of the factors that affect an entrepreneur's decision to exit the business, as well as some of the exit strategy options available. When the entrepreneur decides to exit or sell the venture, it is important that all structures and systems in the business are in control. This unit provides useful tips to help with this process. The unit then examines the key stages in the selling process and concludes with a brief discussion and practical tips on effective negotiation strategies.

Section 10.2

Unit Learning Objectives

When you have successfully completed this unit you will be able to:

- ◆ Determine the motivating factors that affect an entrepreneur's decision to exit the venture
- ◆ Identify various options available to dispose of the business
- ◆ Discuss common factors that affect the disposal process
- ◆ Examine the stages in the selling process
- ◆ Provide some useful insights on negotiation techniques

Section 10.3

Reasons for Exiting the Business

Liquidation of ownership in your business is a very personal decision, and it seems that there is no right or wrong way to exit a business. Clearly there are many reasons why entrepreneurs wish to sell their businesses. Kaplan and Warren (2007) have undertaken some research in this area and they present personal and business reason for selling. *These include:*

Personal reasons for leaving the business

- ◆ You wish to cash in your chips
- ◆ Investors put pressure on you to sell
- ◆ Disagreements between you and your team and/or investors
- ◆ You receive an attractive unsolicited offer
- ◆ You are suffering from exhaustion and are burnt out
- ◆ A personal event occurs or you suffer from poor health

Business reasons for leaving the business

- ◆ The business requires significant capital for growth
- ◆ New competition enters the market
- ◆ The market has limited opportunity
- ◆ The business is not performing well enough to survive
- ◆ The future looks bleak

Many commentators assert that it is not a matter of whether you will sell, or otherwise dispose of, your interest in this business. Your only decisions are when and how this will be done. So, with this in mind, it is important to determine when the right time to exit the venture is. It may be time to think about selling your business when you are losing sleep (or your hair) or because you become conscious of one or more of the following factors:

- ◆ Your business is a very valuable asset
- ◆ All of your assets are invested in the company
- ◆ Some power outside your control (i.e. competitor, government, etc.) could take that away from you.

Section 10.4

Exit Strategies

It is important to note that your exit strategy will impact many decisions that you make in growing your business. Having an exit strategy in place from the outset will help to create the business model that aligns with your chosen exit option. This will help to maximise the value you get from it.

A well-defined exit strategy can also act as a guide for the appointment of successors in the business. This will ultimately allow you to exit the business at a time of your choosing.

It is always a good idea to plan your exit strategy early so that you do not limit your options in the future.

It is also important that your partners, colleagues and investors agree with it.

Choosing the right exit strategy is a big decision and generally one that is difficult to make. *Some of the options available to you include:*

- ◆ **Management buyout:** The founder can sell the company to existing partners or other key managers in the business.
- ◆ **Selling to employees:** Employee ownership can take several forms such as employee stock ownership plans (ESOPs) which are managed like a pension plan with all company contributions used to buy company stock. Employees can also be given other forms of equity, such as stock options, stock purchase plans and performance based stock bonuses. These plans generally allow the founder to maintain control of the company while his or her shares are diluted by those shares made available to the employees.
- ◆ **Merger:** A merger is where two organisations combine resources to form one larger organisation. It is often used to expand operations in an attempt to increase long-term profitability.
- ◆ **Acquisition:** An acquisition, also known as a takeover, is where one company buys another. It usually refers to a purchase of a smaller firm by a larger one. An acquisition may be friendly (i.e. there is consensus between the companies and they cooperate in the negotiation process) or hostile (there is no consensus and the target company is unwilling to be bought).
- ◆ **Outright sale:** This is where the founders sells the company to another. It is often seen as the ideal route for an entrepreneur to take as they receive cash in hand for the company.
- ◆ **Public offering:** Public offering is the sale of stock by a private company to the public. They are often issued by smaller, younger companies who seek capital to expand, but they can also be done by large privately-owned companies seeking to become publicly traded.
- ◆ **Passing control to your family:** Transferring the ownership of a business to your heirs is another common option that should be considered. However, it may not be a feasible option for high-tech entrepreneurs, because such products may have limited life-spans.

Section 10.5

Factors that Affect the Disposal Process

There are common factors which affect the disposal process and ultimately impact on the potential return to the seller. You should identify the key drivers that make your business attractive to potential purchasers and you will need to focus your energy on ensuring that these are maximised prior to the sale. An example of this could be where a business generates recurring income on an annual basis. The income should be attractive to potential acquirers, so the vendor should ensure that the basis for the recurring income is documented and, if possible, is the subject of a long-term contract, thus ensuring the income stream for a reasonable period. *Other examples of good practice include:*

- ◆ **Maximise profitability:** Quite often an owner managed business will carry unnecessary costs purely as a matter of convenience to the owners. In addition, a business may generate various sources of wealth for the owners, which understate the underlying profitability of the operation. If your business can generate higher profits by eliminating unnecessary costs, then this should be done. A potential purchaser will not pay for 'potential' that you say can be achieved, but only for what you have achieved.
- ◆ **Resolve all problems:** Potential purchasers prefer to buy cleanly run, efficient companies. If you have contentious issues attaching to your business, make every effort to get these resolved prior to entry into the disposal process. If there are contingent issues such as industrial relations disputes or potential legal actions attaching to your business, buyers will generally take a worst case scenario view and discount the potential price accordingly.
- ◆ **Streamline all procedures:** It is likely that any potential purchaser will want to carry out a level of due diligence on your business. The cleaner and clearer your records are, the easier that process becomes. This in turn will facilitate a smooth and quick transaction. It is important that the information underlying the profits generated is clear, concise and easily accessible. It is also important that your balance sheet is clean and all major control accounts are reconciled.
- ◆ **Keep your eye on the ball:** The disposal process can become a long and drawn-out process. It often happens that the business owner's attention to the business wanes while the owner gets caught up in the negotiation process. This can lead to a renegotiation on price at a later stage if there is a reduction in performance.

Section 10.6

The Selling Process

There are many factors that affect the selling process. These include preparing prudently for the business sale, maximising the price obtained for the business and arriving at a suitable sale mechanism that meets both the vendor's and purchaser's obligations. The selling process is illustrated in Figure 10.1 and discussed in more detail below.

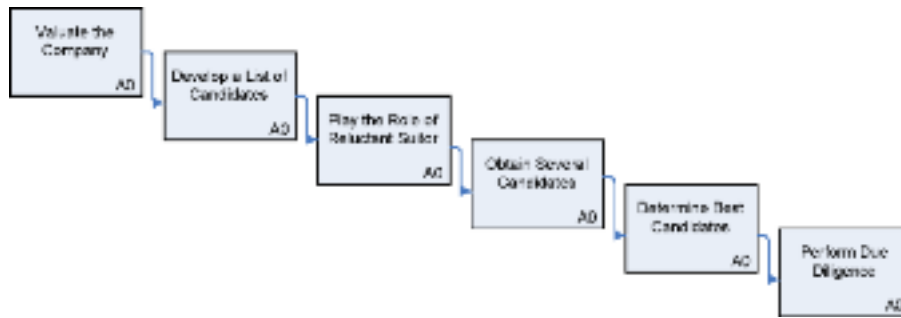


Figure 10.1: The Selling Process

10.6.1 Determine the company's valuation

- ◆ The valuation may be based on financial evaluation. If so, you should have all profit and loss, cash flow and balance sheet statements up to date.
- ◆ The valuation may be based on strategic market value. Therefore you should have all appropriate figures prepared. These may include actual and projected accounts, actual and projected product sales etc. for a three-year projection period.

10.6.2 Develop a list of candidates

- ◆ Consider a group of strategic buyers. These may include competitors, related businesses, manufacturers of related products, companies with announced acquisition plans
- ◆ Consider a group of financial buyers. These may include management or employees, related businesses, high net worth individuals

10.6.3 Try to play the role of a 'reluctant suitor'

- ◆ Have others (i.e. investment bankers, consultants, brokers, etc.) make initial contacts with potential buyers

10.6.4 Obtain more than one serious candidate

- ◆ Use competitive negotiation strategies
- ◆ Let all candidates know others are interested
- ◆ Negotiate an equitable sales price and related issues

10.6.5 Determine best candidates

- ◆ Determine the criteria for assessment
- ◆ Develop a letter of intent

10.6.6 Carry out due diligence

- ◆ It may take some time (15 to 60 days)
- ◆ Negotiate a definitive agreement of sale
- ◆ Close the sale

It is important to note that the average time from beginning the selling process to closing the sale is around one year – so be patient!

Section 10.7

Negotiation Strategies

Negotiation can be defined as a discussion between two or more parties who are trying to work out a solution to a problem.

When you negotiate, you try to use your influence to get a better deal, rather than simply taking what the other side will voluntarily give you. You should always seek to agree rather than fight openly, give in, or break off contact. When you negotiate, you should expect some give and take.

There have been numerous articles, books and guidelines written on the topic of negotiation strategies and techniques. Harvey Mackay is a business coach and motivational speaker who has synthesised many of the best practices in this area. He provides some very practical tips that should be considered when engaging in this process. These strategies and tips are listed on Table 10.1.

Table 10.1 Negotiating Strategies

Harvey Mackay's Negotiating Strategies	
1	Never accept any proposal immediately, no matter how good it sounds.
2	Never negotiate with yourself. Once you've made an offer, if the other party doesn't accept it, don't make another offer. Get a counter offer. It's a sign of weakness when you lower your own demands without getting your opponent to lower theirs.
3	Never cut a deal with someone who has to 'go back and get the boss's approval.' That gives the other side two bites of the apple to your one. They can take any deal you are willing to make and renegotiate it.
4	If you can't say yes, it's no. Just because a deal can be done, doesn't mean it should be done. No one ever went broke saying 'no' too often.
5	Just because it may look nonnegotiable, doesn't mean it is. Take that beautifully printed 'standard contract' you've just been handed. Many a smart negotiator has been able to name a term and get away with it by making it appear to be chiseled in granite, when they will deal if their bluff is called.
6	Do your homework before you deal. Learn as much as you can about the other side. Instincts are no match for information.
7	Rehearse. Practice. Get someone to play the other side. Then switch roles. Instincts are no match for preparation.
8	Beware the late dealer. Feigning indifference or casually disregarding timetables is often just a negotiator's way of trying to make you believe he/she doesn't care if you make the deal or not.
9	Be nice, but if you can't be nice, go away and let someone else do the deal. You'll blow it.
10	A deal can always be made when both parties see their own benefit in making it.
11	A dream is a bargain no matter what you pay for it. Set the scene. Tell the tale. Generate excitement. Help the other side visualize the benefits, and they'll sell themselves.
12	Watch the game films. Top players in any game, including negotiating, debrief themselves immediately after every major session. They always keep a book on themselves and the other side.
13	No one is going to show you their whole card. You have to figure out what they really want. Clue: Since the given reason is never the real reason, you can eliminate the given reason.
14	Always let the other side talk first. Their first offer could surprise you and be better than you ever expected.

(Mackay 1996)

Section 10.8

Unit Review

An exit strategy has become an almost de facto consideration in business plans as it allows potential investors to clearly understand how you ultimately intend to withdraw from the business, and outlines the stages and targets you envisage for achieving this. This unit focused on some of these issues. It began by identifying some of the factors that stimulate an entrepreneur's decision to exit or leave the venture. It examined some disposal options that should be considered and discussed various factors that affect the disposal process. The unit also highlighted the stages in the selling process and provided some useful insights on negotiation techniques to help optimise the return to the seller.

Section 10.9**SAQs**

- 1 What are the motivating factors that affect an entrepreneur's decision to exit the venture?
- 2 Identify various options available to an entrepreneur to dispose of the business.
- 3 List some factors that affect the disposal process.
- 4 What are the key stages in the selling process?
- 5 Identify some good practices that may help to negotiate a deal.

Section 10.10

SAQs Suggested Answers

- 1 Some of the motivating factors that affect an entrepreneur's decision to exit the venture include:
 - (a) the desire to accumulate money,
 - (b) investors exert pressure to sell,
 - (c) disagreements and conflicts,
 - (d) the receipt of a attractive unsolicited offer,
 - (e) the founder is tired of work and needs a break,
 - (f) poor health,
 - (g) new and aggressive competition enters the market,
 - (h) the business is not performing well enough to survive.

- 2 Some of the options available to an entrepreneur to dispose of the business include:
 - (a) management buyout,
 - (b) selling to employees,
 - (c) merger,
 - (d) acquisition,
 - (e) outright sale,
 - (f) public offering and
 - (g) passing control to a family member.

- 3 Some factors that affect the disposal process include:
 - (a) maximise profitability,
 - (b) resolve all problems,
 - (c) streamline all procedures and
 - (d) keep your eye on the ball.

- 4 The key stages in the selling process are:
 - (a) determine the company's value,
 - (b) develop a list of candidates,
 - (c) play the role of a 'reluctant suitor',
 - (d) obtain more than one serious candidate,
 - (e) determine best candidates and
 - (f) carry out due diligence

- 5 When negotiating you should try to use your influence to get a better deal, rather than simply taking what the other side will voluntarily give you. You should always seek to agree rather than fight openly, give in, or break off contact. When you negotiate, you should expect some give and take.

Section 10.11

Learning Activity

- ◆ How will you personally define success in 5, 10 and 25 years? Document your answer.
- ◆ Assume that at the age of 50 you have achieved a net worth of €25 million in today's currency. What will you do then? Give reasons for your answer.

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Appendix A: Feasibility Analysis

A.1

Introduction

A feasibility analysis helps to determine if a business idea is viable. Essentially it is an initial or rough-cut evaluation of an idea or concept. Such studies are undertaken to determine if an idea is worth pursuing. The process helps to screen ideas before spending resources on them. There are various assessment methods for determining the likely feasibility of a technology. Barringer and Ireland (2008) suggest conducting four key tests in a feasibility analysis. These are discussed in more detail below.

A.2

Product/Service Feasibility

This is an assessment of the overall attractiveness of the proposed technology, product or service. It involves two tests: (a) concept test and (b) usability test.

- ◆ **Concept test:** A concept test involves assessing whether potential buyers are interested in the product and if so if they would be willing to purchase the product. A concept test enables an entrepreneur to better evaluate the underlying assumptions of a product or service and to estimate the potential market share the product or service might command. If the concept test is successful, the next step is to develop a prototype of the product or service.
- ◆ **Usability test:** A usability test requires a sample of potential users of a product to perform certain tasks with a prototype in order to measure the product's ease of use and the user's perception of the experience.

A.3

Industry/Market Feasibility

The purpose of these tests is to assess the overall appeal of the market for the product or service. Some of these tests include:

- ◆ **Industry attractiveness:** Is the industry large enough to sustain the business. Is the industry growing? How crowded is the industry? Is there room for a new entrant? Are the operating margins high enough?
- ◆ **Market timeliness:** Is the time right to enter the market?
- ◆ **Availability of niche markets:** Is there a large market segment that represents a narrower group of customers with similar interests?

A.4 Organisational Feasibility

The purpose of an examination of the organisation is to determine whether the venture has sufficient management expertise, organisational competence, and resources to successfully launch its business. Useful questions to pose include:

- ◆ Is the management team competent and capable?
- ◆ Are there sufficient resources available to develop the technology?

A.5 Financial Feasibility

The financial element is normally the final stage of the feasibility analysis. Some of the factors to consider include:

- ◆ Total funds needed to start the venture: Identify where the money will come from to fund the venture's start-up costs.
- ◆ The financial health of similar businesses: Estimate the proposed start-up's potential financial performance by comparing it to similar, already established businesses.
- ◆ Overall financial attractiveness of the proposed venture: Typically, these evaluations are based primarily on a new venture's projected financial rate of return. A new venture should consider the following factors which help to determine whether the projected return is adequate to justify the launch of the business.
 - The amount of capital invested
 - The amount of time required to earn the return
 - The risks assumed in launching the business
 - The existing alternatives for the money being invested
 - The existing alternatives for the entrepreneur's time and efforts.

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Appendix B: Business Plans

B.1

Introduction

In general, every business has two basic needs.

- (a) to develop a strategy or plan for achieving future competitive advantage and financial success
- (b) to implement or execute this strategy in a systematic manner.

A business plan is a tool used by organisations in general and new ventures in particular to define where they are, where they want to go to and how they are going to get there. It serves as an operating guide for the future. Business plans also help to focus resources on the critical elements that are needed to meet those objectives.

The key reasons for developing a business plan include:

- ◆ To attract investors
- ◆ To attract potential business partners, employees, customers and suppliers
- ◆ To evaluate the feasibility of the business concept
- ◆ To set realistic goals
- ◆ To communicate more clearly

Many commentators state that the development process is as important as the outcome. Some of the benefits associated with preparing business plans include:

- ◆ To help people understand their own motives and commitment
- ◆ To promote proactive collaborative planning and coordination
- ◆ To identify resources requirements
- ◆ To monitor progress and control activities

B.2

Before you Start

Writing a business plan can be an extremely time-consuming activity. Therefore before you start on the process you should carefully consider the following issues. Otherwise you may find that spending time, effort and energy on a business plan is a futile activity.

- ◆ Try to ascertain why this business should exist. Who will be its customers, and how will it benefit them? Why will they be better off?
- ◆ List five critical factors that will be essential to this new business' survival. If you want the business to work, don't underestimate the importance of critical elements.

- ◆ Do a simple market analysis. Estimate how many potential customers the business will have. Define the traits that will make somebody a potential customer. Where do those customers now purchase, if at all? Are there enough potential customers?
- ◆ Do a simple break-even analysis. How many units of sales will you need to cover costs? Are you being realistic? Add up costs (i.e. rent, heat, light, wages) then calculate how much money you can earn for each unit you sell, then calculate how many units you need to break even.
- ◆ Determine whether you have a potential business. If you do, then you need to create a business plan. If you don't, then save yourself the time and effort.

B.3

Components of a Business Plan

Much has been written about the development of business plans in an effort to promote new business activity and help entrepreneurs with the process. There is a wealth of information freely available on the web. However a generic outline would comprise:

- ◆ **Executive summary:** This summary provides a condensed overview of your company and where you'd like to take it. It often is the last section written, since it is based on the details you've provided in the rest of the business plan.
- ◆ **Company description:** Describe your company, product, competencies, and market needs being satisfied.
- ◆ **Products/services description:** Describe your product offering. Identify unique selling propositions. Address intellectual property protections and the status of product development.
- ◆ **Market analysis:** Identify and quantify your initial target markets. Include the current status and anticipated competitive response.
- ◆ **Management team:** Identify the business owners, key additions to the team, their experience and qualifications. Describe the legal structure of the business and board memberships.
- ◆ **Operations:** Illustrate here what your company does and how it does it. Also identify vital value-chain relationships and networks.
- ◆ **Critical risks:** Proactively determine any potential risks, the level of importance of these risks and the probability of their occurrence. You should also present any mitigation plans you may have to deal with these risks.
- ◆ **Financial projections:** Describe and analyse your planned financial performance. Keep the data in the appendices.
- ◆ **Funds required:** Determine exactly what you need in terms of funds and what you intend to do with this money.
- ◆ **Exit strategy:** Determine if you intend to exit the business and if so when you intend to do so and how you intend to leave.

- ◆ **Appendix:** Include any additional documentation that will support your application here, such as detailed market analysis and detailed financial projections.

B.4 Reasons for Failure

There are many reasons why business plans fail to attract investors or key personnel. A synthesis of the literature and best practice will reveal some common pitfalls. These include:

- ◆ Not selling the concept in the executive summary
- ◆ Claiming there is no competition
- ◆ Miscalculation of market share and size
- ◆ Over-emphasis on technology as opposed to the business
- ◆ Assuming that the customer benefits are obvious
- ◆ Insufficient emphasis on the experience and capabilities of the management team
- ◆ Poor estimation of costs
- ◆ Unrealistic and underestimated timescales
- ◆ Report is too long
- ◆ Report or presentation is too vague
- ◆ Too much jargon used

The vast majority of business plans submitted to venture capitalists or bank managers are not overstated but understated. Consequently they do not do justice to the businesses they propose. Unfortunately if potential investors or lenders form a negative perception of your business from your business plan, it is almost impossible to change that perception, however much the plan is subsequently improved. Remember you don't get a second chance to make a first impression!

There will always be some inevitabilities when presenting your business plan to others. *Some of these include:*

- ◆ Everyone is an expert on business plans
- ◆ You will always be caught out on something
- ◆ Many involved parties will not take the time to read it
- ◆ Every party will focus on different elements
- ◆ It will need to be tailored for different investors
- ◆ Identify various options available to dispose of the business

B.5 Ground Rules

Remember there is no one correct approach to adopt or format to follow as different things are important to different people and industries. However you should consider the following points which will help you to develop an effective business plan.

- ◆ **Target your reader:** Your chances of success can significantly improve when you write the business plan to address the needs of the reader.
- ◆ **Always work to a timetable:** Make sure you have enough time to complete your application so it meets any deadlines. If you don't have time to do it properly, don't do it at all.
- ◆ **Keep it readable and concise:** Use large, easy-to-read, dark type. Don't use fancy bindings; use paper clips and staples instead. Open the proposal with a clear, succinct explanation of your request. Rambling, unclear proposals will fare badly in competition.
- ◆ **Number the pages:** If the proposal is longer than ten pages (most should not be), provide a table of contents.
- ◆ **Be careful with illustrations:** Use charts and statistics only where appropriate and always explain and interpret them.
- ◆ **Appendices:** Add a limited number of attachments, press releases, news clippings, resumes, etc. Keep appendices to a minimum.

Furthermore, consider the following regarding the appropriate writing style to adopt:

- ◆ Be honest, concise and realistic.
- ◆ Use the active rather than the passive voice.
- ◆ Do not use jargon or acronyms unless absolutely necessary, and then provide explanations.
- ◆ Use simple sentences; keep paragraphs short; use headings and subheadings.
- ◆ Write your business plan from the point of view of those who will benefit from it. Talk about their needs and how your deliverable will help.
- ◆ Write in a positive manner. Try to communicate your energy and enthusiasm for the project, but do not promise benefits that are obviously out of reach.
- ◆ Be sure to tell the readers who you are and make a case for why you are the best organisation. Do not be modest.
- ◆ Remember that the numbers really do matter.
- ◆ Get someone to proof read your document before you submit it.

Table B1 provides an interesting take on some of the language used in business plans.

Table B1: Business Plan Language

What they say...	What they mean
The project is 98% complete	To complete the remaining 2% will take as long as it took to create the initial 98% but will cost twice as much
Our business model is proven	If you take the evidence from our customers (who is my brother)
We only need a 10% market share	So do the other 50 entrants getting funded
Customers are excited about our product	Although we have not asked them to pay for it yet
We are the low-cost producer	We have not produced anything yet, but we are confident that we will be able to
We have no competition	Only IBM, Microsoft, Netscape, and Sun have announced plans to enter the business

Finally, a good business plan is never finished or set in stone. It will always be a work in progress. As actual results are known the business plan will be revisited and modified. The business plan is more than just a document – it is a process. Although the finished product is often a written plan, the thinking, preparation and analysis that goes into the development of that document is very beneficial to the entrepreneur.

B.6

Learning Activity

Scan the internet for business plan preparation sites. Notice the different types of templates that are available. Determine the benefits and limitations of using these templates. Develop a template based on your own specific needs.

For more Information on Business Plans check out the following:

- ◆ City and County Enterprise Boards offer guidance and support to those who are thinking of starting a new business.
- ◆ The Business and Innovation Centres (BICs) help to convert innovative ideas into projects.
- ◆ Area Partnerships provide an enterprise support service to the unemployed.
- ◆ All the main banks and accountancy practices provide free information on starting a business and developing business plans.
- ◆ The Chambers of Commerce offer guidance and support.

Appendix C: Setting Up a Company in Ireland

C.1

Assess Yourself

The main reason entrepreneurs decide to establish their own company is because it provides them with an opportunity – an opportunity to be their own boss, an opportunity to provide a product or service, an opportunity to implement an idea, an opportunity to generate an income. Starting a business demands a combination of hard work, skill and perseverance. *Therefore you should try to answer the following questions:*

- ◆ Can you work alone?
- ◆ Can you take responsibility?
- ◆ Are you of a positive disposition?
- ◆ Are you prepared to take a risk?

C.2

Undertake a Feasibility Study

A feasibility study is a preliminary study undertaken to determine the viability of the business.

- ◆ **Product:** To do this you should determine the unique selling proposition of the product or service. You should also research your market and analyse the future demand (or supply) of the product for the next 3 to 5 years and ensure that demand will remain there for a considerable period of time.
- ◆ **Market:** It is imperative to listen to the voice of the customer, supplier and industry in order to gauge the market and anticipate the future demands. There are many market survey documents or market reports published by individual agencies and government departments on this aspect. An entrepreneur can use these as an indicative guide to project the future conditions.
- ◆ **Organisation:** You should identify a location that is suitable for your business i.e. home, incubator, industrial estate or technology park etc. You should also determine how you will manufacture your product. For some complex products, process know-how has to be imported. It is also important to develop integrated processes and systems, keeping in mind the critical requirements of the business. Human Resource is an important element to keep in mind while setting up a business.
- ◆ **Financial:** It is important to estimate what costs are involved in the purchase of capital equipment/premises as well as the labour costs and the costs involved in production. Taking these factors into consideration, you should then estimate your selling price.

C.3

Determine the Right Type of Business Organisation

There are many types of business organisations. It is important that you choose the right one. The four most popular types include (a) a sole trader, (b) a partnership (c) a limited company and (d) Co-operative.

- ◆ **Sole Trader:** A sole trader's business is run by one person who funds the business activities and is responsible for all the activities. There is no legal distinction between the sole trader and the business. The advantages of this type of organisation include: (a) easy to set up; (b) sole traders are their own boss and they can run the business at their own pace and in their own way; (c) they keep the profits (d) certain business expenses can be offset against earnings for tax purposes; (e) there is no public disclosure and (f) profit or loss in one trade can be set off against profit and loss in any other business that the sole trader runs. Some disadvantages include: (a) the sole trader is totally responsible for any debts that the business incurs. If the trader goes bankrupt, the creditors are entitled to seize and sell all personal as well as business assets; (b) it can be lonely.
- ◆ **Partnership:** The trading partnership can be explained as a business that consists of at least two co-owners. By pooling resources the company has more capital and skills. All owners are responsible for the commitments of the business such as debts and agreements made. As a result, if the company's funds are not sufficient to cover the debts, one of the two partners can be forced to pay all the debts of the company. The legal regulations governing this field are detailed in the partnership Act.

The main provisions include:

- ◆ All partners contribute capital equally.
 - ◆ All partners share profits and losses equally.
 - ◆ No partner shall have interest paid on his or her capital.
 - ◆ No partner shall be paid a salary.
 - ◆ All partners have an equal say in the management of the business.
- ◆ **A Limited Company:** A limited company is defined by a clear distinction between the company and the owners. A limited company can take many forms of ownership such as sole ownership or a partnership between many persons and/ or enterprises. The owners are not personally responsible for the company's commitment, which means that their financial risk is limited to the capital invested.

The advantages of the limited company include:

- (a) members' financial liability is limited to the amount of money they have paid for shares;
- (b) the management structure is clearly defined, which makes it easy to appoint, retire or remove directors;
- (c) if extra capital is needed it can be raised by selling more shares privately;
- (d) it is simple to admit more members;
- (e) the death, bankruptcy or withdrawal of capital by one member does not affect the company's ability to trade;
- (f) the disposal of the whole or part of the business is easily arranged.

The disadvantages include:

- (a) there is a requirement to register the company with the registrar of companies and provide annual returns and accounts which must be audited. All details of the company are available for public inspection so there can be no secrecy,
 - (b) can be more expensive to set up;
 - (c) may need professional help to establish and run;
 - (d) directors are treated as an employee and therefore must pay tax.
- ◆ **A co-operative** is a business that operates for the benefits of its members. Based on the values of fairness, equity, democracy and mutual support they offer an alternative to the traditional business model. Co-operatives are owned and controlled by their members. They can be formed and registered by any group but they must consist of at least seven members over the age of 18.

C.4

Register the Business Name

A business name is a trading name and you must register it with the Companies Registration Office if you want to conduct business under any name other than your own. Registration of a business name does not result in the creation of an entity with separate legal personality. It costs €40 to register a new business name or €20 if this is done electronically.

C.5

Register the Company

A company is a legal form of business organisation. It is a separate legal entity and so it is separate and distinct from those who run it. In order to form a company you must register it with the Companies Registration Office (CRO). To do this you should complete and submit the following documents to the Companies Registration Office.

- ◆ **Memorandum of Association:** This document sets out the conditions upon which the company is granted incorporation. It must contain provisions dealing with certain matters e.g. the name and objects of the company and, if it is a company with limited liability, that fact must also be stated.
- ◆ **Articles of Association:** This document sets out the rules under which the company proposes to regulate its affairs. Articles are required to be registered by a company limited by guarantee and having a share capital or an unlimited company.
- ◆ **Form A1:** This form requires you to give details of the company name, its registered office, details of secretary and directors, their consent to acting as such, the subscribers and details of their shares. It incorporates a statutory declaration that the requirements of the Companies Acts have been complied with, and as to the activity which the company is being formed to engage in.

C.6

Prepare a Business Plan

A business plan is a tool that is used to determine the current position, establish and document realistic goals or targets to achieve, forewarn of possible roadblocks along the way, formulate responses to contingencies and keep the business on track to reach its planned goals. It enables entrepreneurs to have an organised and effective response to a situation which may arise in future. It is not just for a start-up company but also for growing businesses.

C.7

Generate Finance to Start the Business

To start and set up their business, all entrepreneurs need money. Before seeking funds, the costs (e.g. working capital) should be estimated. Next they must decide how to raise the capital i.e. should it be equity finance, debt finance, loans or a combination of these.

C.8

Manage the Business

Have a suitable feedback mechanism in place to learn from experiences and lessons learned. This enables entrepreneurs to gain an insight into what is actually happening in the business, and helps them to remember the things that went well and why they were successful. It also helps to prevent mistakes from recurring in the future.