Module 4. Financing Innovation

Introduction

One of the major barriers to innovation is the lack of appropriate financing. The difficulty in accessing financial resources and the shortage of capital in the home market are seen as two of the most important barriers. The absence of private investors who focus on very early stage companies, which mostly are still pre-commercial in their activities, i.e. the so called research and technology development (RTD) phase, makes it very difficult to carry innovation to the market. Largely because of the market risks and also the financial risks involved, early stage investors, who focus on RTD, set high requirements. Eventually, if a company is looking for financial support, then it is required to provide a complete business plan or a project proposal including evidence and information about the offered opportunity, the presented solution, its market readiness and probability that it can be successfully executed by the team. This means enough evidence for the investor/funding body to believe in the potential success and to commit with financial support.  

This module is intended to help you identify the sources of finance which are the most relevant for innovative business ventures. The module consists of the following two chapters:

A. Overview of the dynamics of Innovation Financing.
This chapter focuses on the main elements involved in financing innovation. Starting from the development state of the product/company to the risks analysis and finally measuring the Return on Investment ratio.

B. Innovation Financing sources
The problem of obtaining funding and financing innovative companies and/or for projects involving innovation-oriented activities is a complicated one. For example, one of the many obstacles such companies face when seeking outside funding is their own poor understanding of investors’ goals and points of view. For this reason, the focus of this chapter is into providing a comprehensive review on the public and private funding schemes. The main elements of each funding source will be elaborated. The funding schemes to be analysed are the following

- Public Funding: National Funding support programmes & European and International programmes
- Private Funding: Own resources, Business Angels, Venture Capital & Bank Loans

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2 EC, Innovation Papers No 24, Innovation SME programme, European Entrepreneurship training curriculums.
There are 6 individual tasks to complete throughout the module, each task is related to content in the section. In addition there are 20 multiple choice questions at the end. Each task should take about 30 minutes to complete, and all the multiple choice questions should take about 30 minutes to complete. The module is assessed by a single submitted report, of 2,500 words.

**Learning Objectives**

After the completion of this module, students will be able to:

1. Identify the development stage of the investment/innovation (innovation)
2. Perform a risk analysis
3. Define the return on investment (innovation)
4. Identify the costs and revenues generated by an investment.
5. Demonstrate an understanding of the funding schemes available
6. Evaluate the sources of long and short term financing such as public and private sector for organisations the appropriateness for meeting different requirements
7. Demonstrate the capability of choosing the right form of financing/investment
Table of Contents

1 Overview of the dynamics of innovation financing ................................................................. 4
  1.1 Stage of development ........................................................................................................ 4
  1.2 Risks Analysis and Contingency Plans ............................................................................ 6
  1.3 Measuring Return on Investment (RoI) ........................................................................ 9

2. Innovation financing options ............................................................................................... 12
  2.1 Public Funding .................................................................................................................. 12
      2.1.1 National Funding support programmes ............................................................... 12
      2.1.2 European programmes ...................................................................................... 14
  2.2 Equity Finance .................................................................................................................. 17
  2.3 Debt Financing .................................................................................................................. 26
  2.4 Equity versus Debt Financing ........................................................................................ 29
  2.5 Own resources ................................................................................................................. 31

Self Assessment Test ............................................................................................................... 32
Summary .................................................................................................................................... 35
Bibliography ............................................................................................................................... 36
1 Overview of the dynamics of innovation financing

The financial needs of innovative enterprises vary according to their upfront feasibility and product development costs and the length of their market development and entry process. The main elements involved in assessing the financing needs are the identification of the development stage so as to be able to find the appropriate funding scheme, the level of risk involved and the Return on Investment ratio. This Chapter will equip students with a basic understanding on these elements as well as the needs of financial support based on the development stage.

1.1 Stage of development

There are several early, critical milestones in this development process for which sufficient financing and technical assistance is crucial: product R&D, product conception and prototype development, market definition and testing, initial production, shipping and marketing. Based on these development milestones and financing needs, several financing stages can be distinguished, each characterized by its specific amount and use of financial resources.

- The seed stage covers the initial research and development of a commercial idea or business concept, focused on determining its technical feasibility, market potential and economic viability.
- The start-up stage covers the development of a product prototype; initial market research and market-reach activities, and the establishment of a formal business organization.
- The early-growth stage pertains to small-scale commercialization and growth as well as to the development of the pillars for the scalability of the business.
- The expansion stage covers the substantial growth in the scale and market impact of the business.

The diagram below illustrates the cash flow of a typical innovative enterprise across its development stages and maps various sources of finance according to the stages at which they are available or most suitable.

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In order for a SME to introduce a new innovative product or service, Research and Development activity is a prerequisite. The financial needs of innovative enterprises vary according to their upfront feasibility and product development costs and the length of their market development and entry process. Depending on the stage of product-project there are the following options:

- **Research Stage**
  In this stage the funding is usually obtained by grants either from the Public Sector (National Governments, Regional Authorities, European Commission schemes) or from the Co-operate Sector (industrial companies, charities, industrial clusters and associations).

- **Development Stage**
  In this stage a prototype can be built and tested. Again funding can be obtained by the Public and Co-operate sectors. However, in this case an interest might be expressed by Venture Capitalists or Seed Capital firms.

- **Start up**
  In some respects this remains the most difficult stage to finance, though much depends on the size and type of project involved. Business Angels may be able to provide the start-up equity finance and "hands on" advice and help to the new company. This source is most appropriate where relatively small sums are needed and where the project in question is not in the high technology area. Venture capital: Although most venture funds concentrate on large deals, there are some willing to provide start-up finance. Usually venture capitalists are very experienced and able to contribute management assistance, good venture capitalist firms and trusts will be members of a professional association and work to strict guidelines. In
the EU the European Private Equity and Venture Capitalist Association (EVCA, http://www.evca.eu/) is a good source of information. Public sector: Can provide grants or other non-reimbursable finance to cover start-up and capital costs. Public sector venture funds may be willing to intervene where for example significant employment opportunities are seen. Corporate finance may also be available from industrial or commercial firms seeking a "window" on developments. Such firms are potential buyers of the new company.\footnote{European Communities, (2002), A Guide to Financing Innovation, Gate to Growth}

- \textit{Exploitation Stage}

At this stage all possible type of investors might be interested in investing.

At each stage the technical and business/commercial risks have been reduced, and hence any investment is perceived to be more 'secure' the later the investment.

\textbf{Task 1.1} Discuss why the funding of a new product idea which requires research is most often funded through a local, regional, national or international grant rather than through Venture Capital. List as many regional grants you know of for technology development. (15 minutes)

http://www.evca.eu/ [The European Venture Capital Association, links on the left hand tool bar go to the knowledge center, publications, statistics and policy documents which will help in task 1.1]

The following website is the European Commissions research and development portal, and gives information on grants, their application criteria and on-line forms.

http://cordis.europa.eu/

Case studies can be found at:


http://www.innovateuk.org/ [the UK R&D grant management agency, the Technology Strategy Board]

\textbf{1.2 Risks Analysis and Contingency Plans}

Before we investigate the forms of risk which all new projects and products may encounter it is worth looking at the ultimate risk takers, that is entrepreneurs. Successful businesses are often built on the very high risk taking strategies of their founders. The characteristics of the entrepreneur are well documented and analysed in many publications, but the important features are:

1. A total determination to succeed
2. Ability to understand and take risks in business
3. Excellent ability to solve problems and take control
4. Belief in their product or service and knowledge of the unique selling position
5. Natural leaders, with the ability to inspire and motivate employees

http://www.entrepreneur.com/homebasedbiz/article200730.html [25 common characteristics of successful entrepreneurs]
http://en.wikipedia.org/wiki/Entrepreneurship

The implementation and effective launch of an innovative project depends upon various elements including inputs from stakeholders, entities and human resources that make the project vulnerable to various unexpected changes. Project Risk Analysis is a process which enables the analysis and management of the risks associated with a project. Properly undertaken it will increase the likelihood of successful completion of a project to cost, time and performance objectives. According to D Hubbard (2009) Risk management is the identification, assessment, and prioritization of risks (defined in ISO 31000 as the effect of uncertainty on objectives, whether positive or negative) followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. Risks can come from uncertainty in financial markets, project failures, legal liabilities, credit risk, accidents, natural causes and disasters as well as deliberate attacks from an adversary.5

Risk Identification and Management both in Financial and non Financial terms will help the entrepreneur to assess his/her idea and it forms an integral part of the investment proposition to any investor. The risk analysis involves two types of categorization6:

- **Qualitative Analysis**
  This Analysis indentifies the main risk sources. This is usually done by using check lists, interviews with the main stakeholders or through brainstorming sessions. This is linked to a form of assessment in which each risk is defined along with its probability of occurrence and its potential impact.

- **Quantitative Analysis**
  This is usually a more formal process that requires:
  - measurement of uncertainty in cost and time estimates
  - probabilistic combination of individual uncertainties.

A very simple template that can be used for Risk Analysis is presented in Figure 2:

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6 Catriona Norris, John Perry, Peter Simon (2000), Project Risk Analysis and Management, The Association for Project Management
The main stages involve:
- Identify the risks
- Qualitatively assess the probability of the risk occurring
- Qualitatively assess the magnitude of the impact
- Select the most significant risks
- Plan how to avoid them or minimize damage (mitigation strategy)

The table below presents the most important categories of risks:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>from individuals or organizations, illness, death, etc</td>
</tr>
<tr>
<td>Operational</td>
<td>from disruption to supplies and operations, loss of access to essential assets, failures in distribution, etc.</td>
</tr>
<tr>
<td>Reputational</td>
<td>from loss of business partner or employee confidence, or damage to reputation in the market</td>
</tr>
<tr>
<td>Procedural</td>
<td>from failures of accountability, internal systems and controls, organization, fraud, etc.</td>
</tr>
<tr>
<td>Project</td>
<td>risks of cost over-runs, jobs taking too long, of insufficient product or service quality, etc.</td>
</tr>
<tr>
<td>Financial</td>
<td>from business failure, stock market, interest rates, unemployment, etc</td>
</tr>
<tr>
<td>Technical</td>
<td>from advances in technology, technical failure, etc.</td>
</tr>
<tr>
<td>Natural</td>
<td>threats from weather, natural disaster, accident, disease, etc.</td>
</tr>
<tr>
<td>Political</td>
<td>from changes in tax regimes, public opinion, government policy, foreign influence, etc.</td>
</tr>
</tbody>
</table>

Financial risks
Financial risk is a term used for any risk associated with any form of financing. Typically, in finance, risk is synonymous with downside risk or the difference between the actual return and the expected return (when the actual return is less). The formula for the quantification of the risk is the following:

\[ \text{Risk} = \text{Probability of Event} \times \text{Cost of Event}. \]

Financial risk modelling is the practice of measuring risks in various domains of finance. It is the most important part of pricing financial instruments. Financial risks can be classified broadly into the following categories:

1. **Market Risk**

This risk is associated with the change in the value of assets due to external market factors such as interest rates, exchange rates, prices, inflation etc. The modelling can play an important role here in terms of forecasting the changes and assessing their impact on asset value. The most popular measure for that is the one that calculates the maximum loss from an event for a certain time period.

2. **Credit Risk**

*Credit Risk is the change in value of a debt due to changes in the perceived ability of counterparties to meet their contractual obligations (or credit rating).* Credit risk can be transferred using credit derivatives, and also by securitization.

3. **Operational Risk**

This is the risk associated with inadequate internal processes. This can often be translated as the possibility of loss due to mistakes made in carrying out transactions.

**Task 1.2:** Using the table on 'categories of risk' in this section write down in each category the risks associated with a new start up company developing games for phone producers or use your own example. (15 minutes)

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**1.3 Measuring Return on Investment (RoI)**

In finance, rate of return (ROR), also known as return on investment (ROI), rate of profit or sometimes just return, is the ratio of money gained or lost (whether realized or unrealized) on an investment relative to the amount of money invested. The amount of money gained or lost may be referred to as interest, profit/loss, gain/loss, or net income/loss. The money invested may be referred to as the asset, capital, principal, or the cost basis of the investment. ROI is usually expressed as a percentage.

The relationship between profit and the investment that generates profit is one of the most widely used methods for calculating performance. RoI provides a company with a simple tool for calculating this performance.

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7 The Decision Craft (2010). Financial Risk Modelling, Issue No:10/03/1
To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.

The return on investment formula:

\[ \text{ROI} = \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}} \]

In the above formula "gains from investment", refers to the proceeds obtained from selling the investment of interest. Return on investment is a very popular metric because of its versatility and simplicity. That is, if an investment does not have a positive ROI, or if there are other opportunities with a higher ROI, then the investment should be not be undertaken.

For more accurate forecast it is suggested that the ROI is calculated on a year basis as the ratio might vary depending on the parameters and values that are developed over a number of years. The graph below summarizes the main steps in calculating the ROI:

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8 G. Thomas Friedlob, Franklin James Plewa (1996), Understanding Return on Investment, John Willey and Sons, New York
Task 1.3: From the following figures calculate the RoI and annualized RoI for this investment (25 minutes)

01.01.2011   Investment of € 240,000
01.01.2011 to 01.01.2015  R&D spend € 50,000
01.01.2011 to 01.01.2015  Operational spend € 520,000
01.01.2011 to 01.01.2015  Tax paid € 20,000
01.01.2011 to 01.01.2015  Revenue received from product sales € 750,000

The above exercise is a very simplified calculation and does not include the inclusion of any factors to account for the different risks associated with getting the revenue. Risk is taken account of by including a discount factor which reduces the revenues by a calculated
percentage. The interested student should refer to the following websites for details of calculating the net present value of a predicted revenue stream.

http://en.wikipedia.org/wiki/Net_present_value
http://www.ivsc.org/

2. Innovation financing options

In general, innovation finance comes from the public sector, banks or from private finance-sources. Which of these is appropriate to a specific case depends on a number of factors: the stage of development of the project, the size of the innovating company, the amount of money required, etc. When seeking to gain finance there is a range of potential options available to businesses. The difficulty may reside in selecting the option which is most appropriate and cost effective for a business, while at the same time ensuring that finance can actually be obtained on acceptable terms. This Chapter looks into all the main types of finance available, their specific features and advantages and disadvantages. **On completion of this chapter the student will be able to indentify the main sources of finance available and do a preliminary evaluation of the options available.**

2.1 Public Funding

Public funding initiatives can range from local, regional, national, European or International sources. Their purpose is to support companies to innovate through conducting RTD, to create jobs and regional development. Individual initiatives may comprise direct involvement with potential innovative enterprises, through provision of feasibility grants, promotion of relationships with R&D institutions, and provision of business support services, and indirect involvement, through provision of financial and technical support and incentives to specialized intermediaries such as microcredit institutions, business angels, venture capitalists and corporate venture capital units.

2.1.1 National Funding support programmes

In every country there is a certain framework of schemes that supports innovative ideas. Various Research Councils and Government Departments (usually administered by the Ministry of Development or equivalent) provide RTD grants for carrying out research while there are also grants targeted directly to support SMEs. The list below presents the main UK schemes:
**Capital for Enterprise Fund**

Under the Capital for Enterprise Fund launched in January 2009 the UK Government and banks will invest £75m (£50m from the Government and £25m from the banks) in viable companies that have high levels of existing debt. This is an expansion of an original scheme to help small businesses to convert debt into equity. In the private sectors Business Angels would be an alternative option. The **Capital Enterprise Fund** will invest through professional commercial fund managers, making investments of between £250,000 and £2m into SME’s. Investment is aimed at fundamentally sound businesses which are constrained through being over-borrowed. The fund will offer equity or mezzanine investment (lower security ranking), aimed at releasing and sustaining growth potential.

*Summary of Features*

- £75m Capital For Enterprise Fund
- £50m provided by Government and £25m by the banks Barclays, Lloyds, HSBC and RBS
- To allow businesses to sell debt in exchange for equity
- Companies with up to £50m turnover may gain equity of between £250k and £2m


**Working Capital Scheme**

*Summary of Features*

- The Working Capital Scheme is aimed at boosting credit available to small businesses.
- The Government provides banks with guarantees covering 50% of the risk on existing and new working capital portfolios, covering up to £20 billion of short term loans
- It is designed for businesses with a turnover of up to £500m.
- Banks will submit a portfolio of loans to BIS who will then guarantee 50%. BIS: Department of Business, Innovation and Skills and the banks Barclays, Lloyds, HSBC and RBS are all participating in the scheme

[http://www.bis.gov.uk](http://www.bis.gov.uk)

**Research Councils UK**

Each year the Research Councils invest around £3 billion in research covering the full spectrum of academic disciplines from the medical and biological sciences to astronomy, physics, chemistry and engineering, social sciences, economics, environmental sciences and the arts and humanities. They nurture the highest quality research, as judged by international peer review providing the UK with a competitive advantage. Global research requires they sustain a diversity of funding approaches, fostering international collaborations, and providing access to the best facilities and infrastructure, and locating skilled researchers in stimulating environments. Their research achieves impact – the demonstrable contribution to society and the economy made by knowledge and skilled people.

[http://www.rcuk.ac.uk/Pages/Home.aspx](http://www.rcuk.ac.uk/Pages/Home.aspx)

**Science Enterprise Challenge Programme**
Parallel to its programmes aimed to improve the financing conditions for innovative enterprises, the UK has devoted significant effort to increase the supply of innovative enterprises. For example, the Science Enterprise Challenge was established in 1999 to fund the creation of enterprise centres at UK universities with the following three main goals: (1) to foster the commercialization of high quality research and new ideas, (2) to help stimulate a culture of scientific entrepreneurship within British universities, and (3) to incorporate more centrally the teaching of enterprise into the UK science and engineering curricula. In 2005, the remit of the programme was changed to cover entrepreneurship education across all curriculum areas. The programme has grown from 12 centres in 1999 to over 64 today. For further information: http://www.berr.gov.uk/dius/science/knowledgetransfer/schemes/Science_Enterprise_Challenge/page12138.html

**Innovation Voucher Schemes**

Innovation vouchers entitle the owner to approach a knowledge institution to obtain services for innovative projects. SMEs often lack in-house technical expertise and infrastructure for R&D, as well as innovation management skills. The capacity of many SMEs to hire skilled people for innovative projects and activities is also limited. Innovation vouchers are also used to overcome a co-operation barrier by making them more aware of the opportunities which external know-how, at research institutions offers them.

A number of new innovation voucher schemes have been established by regional and national innovation support organisations.

### 2.1. 2 European programmes

**European Investment Bank (EIB) Funding for Small and Medium Size Businesses**

One of the European Investment Bank’s (EIB) top priorities is to support the investments of small and medium sized enterprises (SME’s). The support includes what are termed EIB loans for SME’s channelled through banks. The banks have to apply for and secure financing from the EIB.

**Features and Benefits**

- Businesses with 250 employees or less are eligible to apply (with certain sectors excluded such as arms, property investment, gambling and tobacco)

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9 OECD (2011), OECD Reviews of Regional Innovation: Regions and Innovation policy, OECD publishing
• A key benefit of an EIB funded loan is cheaper credit from the participating bank – which is passed onto the business through a reduced loan cost or via cash back
• The loan must be for a minimum of two years and the loans cannot be used for short-term working capital needs
• Examples of projects on which finance may be provided include;
  o Research and development expenditure
  o Purchase, renovation or extension of tangible assets, including business premises
  o Projects that enhance certain industries or provide environmental benefits
  o Building up of distribution networks in domestic or other EU markets
  o Permanent increases to working capital
• To apply for an EIB loan a business must contact their bank. Any loan will be subject to each bank’s own lending criteria
• Businesses must agree that upon reasonable notice that they will permit a representative of the EIB to inspect the sites/works which is the subject of the loan.

Banks Participation in the Scheme
Banks have launched and promoted schemes, each have different features, for example;
✓ Minimum borrowing amounts, in some cases starting from €25,000
✓ Maximum borrowing amounts can extend to high levels, for example £10m
✓ Minimum funding of 2 years, terms can extend to 25 years
✓ Base rate linked or fixed interest rate finance
✓ Reduced loan cost or cash back, for example 0.6% of the loan amount
✓ Banks may make some loans available for limited periods
  http://www.eib.org/ [European Investment Bank]
  http://www.eif.org/ [European Investment Fund]

The Seventh Framework Programme (FP7)
The Seventh Framework Programme (FP7) bundles all research-related EU initiatives together under a common roof playing a crucial role in reaching the goals of growth, competitiveness and employment; along with a new Competitiveness and Innovation Framework Programme (CIP), Education and Training programmes, and Structural and Cohesion Funds for regional convergence and competitiveness. This is the EU's main instrument for funding research in Europe and it will run from 2007-2013. FP7 is also designed to respond to Europe's employment needs, competitiveness and quality of life.

Participation in FP7 is open to a wide range of organisations and individuals:
• research groups at universities or research institutes
• companies intending to innovate
• small or medium-sized enterprises (SMEs)
• SME associations or groupings
• public or governmental administration (local, regional or national)
• early-stage researchers (postgraduate students)
• experienced researchers
• institutions running research infrastructures of trans-national interest
• organisations and researchers from third countries
• international organisations
• civil society organisations.

The above list is only indicative, not exhaustive.

Competitiveness and Innovation Framework Programme (CIP)

With small and medium-sized enterprises (SMEs) as its main target, the Competitiveness and Innovation Framework Programme (CIP) supports innovation activities (including eco-innovation), provides better access to finance and delivers business support services in the regions. It encourages a better take-up and use of information and communication technologies (ICT) and helps to develop the information society. It also promotes the increased use of renewable energies and energy efficiency. The CIP runs from 2007 to 2013 with an overall budget of € 3621 million.

The CIP is divided into three operational programmes. Each programme has its specific objectives, aimed at contributing to the competitiveness of enterprises and their innovative capacity in their own areas, such as ICT or sustainable energy both in products or services related projects:

• The Entrepreneurship and Innovation Programme (EIP)
• The Information Communication Technologies Policy Support Programme (ICT-PSP)

The Intelligent Energy Europe Programme (IEE)
The following website is the European Commissions research and development portal, and gives information on grants, their application criteria and on-line forms.

http://cordis.europa.eu/

In answering the task below look first at regional [local schemes], then national and finally EU wide schemes.

Task 2.1: With the following information, research which grants you could apply for to support this SME in getting its R&D funded through to prototype manufacture (30 minutes)

Company: Wind in the Willows Limited
Location: Your own EU Member State
Project: Make a prototype of a new wind turbine designed for optimum energy conversion to electrical power
Project Cost: € 1,420,500
Company funds: € 115,000
Collaborators: Would consider using 2 companies in Latvia and Italy, Delft University in the Netherlands and Trinity College Dublin, Ireland
Dates: 01.05.2011 until 01.06.2014
2.2 Equity Finance

Equity Finance is the money raised for company activities by selling common or preferred stock to individual or institutional investors. In return for the money paid, shareholders receive ownership interests in the corporation. It is also known as "share capital". Equity finance comes in various forms and is principally provided by venture capitalists and business angels. There is a lot of risk involved; this can be said based on the fact that the payment of the investors is highly dependent on the success of the company. Having no growth or profit would result in an adverse effect on the payment possibilities of investors. This is the reason why equity finance is also referred to as risk capital. Equity Finance is likely to be most suitable where:

- The nature of a project deters debt providers, e.g. banks
- The business will not have enough cash to pay loan interest because it is needed for core activities or funding growth

The table below summarizes the main advantages and disadvantages of this financing method:

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Disadvantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No obligation to repay the money</td>
<td>The founders of the business must give up some control of their company</td>
</tr>
<tr>
<td>May be more likely to be available to new businesses than debt financing</td>
<td>Investors may have different ideas about the strategic direction or day to day operation of a business</td>
</tr>
<tr>
<td>Investors can be good sources of advice and contacts for businesses</td>
<td>Equity financing may require detailed legal and accounting work</td>
</tr>
</tbody>
</table>

Business angels

A Business Angel is an affluent individual who provides capital for a business start-up, usually in exchange for convertible debt or ownership equity. A small but increasing number of angel investors organize themselves into business angel groups or business angel networks to share research and pool their investment capital. Angels may specialise in particular business sectors and the contacts they can provide may prove invaluable, as well as the mentoring they can offer to the business owners. Individually, their investments may be quite small - around €50,000 - but in syndication, considerably larger sums may be available. Business angels typically invest between €25,000 and €250,000, and up to €1-2 million, (for syndicated deals involving several angels and angels investing via co-investment funds). In Europe in
2007, the average amount invested in one round was €170,000. Generally deals are smaller from those of the formal Venture Capital but occurring at earlier stages of firm development. A study by NESTA in 2009 estimated that there were between 4,000 and 6,000 angel investors in the UK with an average investment size of £42,000 per investment. Furthermore, each angel investor on average acquired 8% of the venture in the deal with 10 per cent of investments accounting for more than 20 per cent of the venture. In terms of returns, 35 percent of investments produced returns of between one and five times the initial investment, whilst 9 per cent produced returns of multiples of ten times or more. The mean return, however, was 2.2 times investment in 3.6 years and an approximate internal rate of return of 22 per cent gross.

The table below illustrates the main pos and cons in obtaining financing from Business Angels:

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>patient about their investment – they want to see it succeed and will do what they can to achieve success</td>
<td>Less finance available</td>
</tr>
<tr>
<td>Businesses receive more than money, they receive business expertise and industry contacts</td>
<td>More limited investment experience</td>
</tr>
<tr>
<td>Less restricted investment criteria</td>
<td>Danger of excessive intrusion in business</td>
</tr>
<tr>
<td>Lower ROI expectations</td>
<td>Less prestigious than VC backing</td>
</tr>
<tr>
<td>Widely spread in economy/community</td>
<td>More difficult to find</td>
</tr>
<tr>
<td>Invest in own locality</td>
<td>If more than one business angel there may be divergent interests of the different investors</td>
</tr>
<tr>
<td>Possible ‘leverage effect’ on other investors</td>
<td></td>
</tr>
</tbody>
</table>

**Venture capital**

Venture capital may be described as the money that is provided by investors to businesses that are starting to assist them in their business operations. Venture capital can also be called a type of private equity capital. The venture capital services are provided on a professional basis. This capital is seen as crucial in knowledge driven innovation economies as it provides

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significant funding for commercially risky early-stage opportunities which may eventually redefine industries and sectors. Venture capital also brings with it networks and support frameworks which guide emerging commercial opportunities.

The companies that provide venture capital services do so in exchange for the ownership of a certain percentage of the company. It has been observed that, normally, the investors who provide venture capital services are economically well off. Venture capital services may also be provided by financial institutions like investment banks for example.

**Venture capital at different stages of development**

With regards to the stage of development of the company, the venture capitalist investments are categorized as follows:

- Early stage - incubation. VCs they focus on start up businesses and infuse seed capital
- Development stage. VCs focus on infusing capital into firms that face a shift in development
- Structure capital infusion. VCs acquire businesses either by buy-outs or buy-ins for the purpose of obtaining control and ensure the correct and most valuable structure

The tables below illustrate the venture capital investments by type of investment stage in 2009.

Figure 3: Venture Capital for Early Stage Investments

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13 Lars Krull, (2005) How to find Venture Capital-Inspiration and Advise from a venture investor, Gate2Growth
Anatomy of VC Fund

A venture capitalist (also known as a VC) is a person or investment firm that makes venture investments, and these venture capitalists are expected to bring managerial and technical expertise as well as capital to their investments. A venture capital fund refers to a pooled investment vehicle (often an LP or LLC) that primarily invests the financial capital of third-party investors in enterprises that are too risky for the standard capital markets or bank loans. Venture capital firms typically comprise small teams with technology backgrounds (scientists, researchers) or those with business training or deep industry experience.

A core skill within VC is the ability to identify novel technologies that have the potential to generate high commercial returns at an early stage. By definition, VCs also take a role in managing entrepreneurial companies at an early stage, thus adding skills as well as capital (thereby differentiating VC from buy-out private equity, which typically invest in companies with proven revenue), and thereby potentially realizing much higher rates of returns. Inherent in realizing abnormally high rates of returns is the risk of losing all of one's investment in a given startup company. As a consequence, most venture capital investments are done in a pool format, where several investors combine their investments into one large fund that invests in many different startup companies. By investing in the pool format, the investors are spreading out their risk to many different investments versus taking the chance of putting all of their money in one start up firm.
VC firms manage a series of individual investment funds. Each fund is typically organized as a limited liability partnership, in which some or all of the VC firm managers act as general partners and the capital providers such as institutional investors (e.g. pension funds, university endowments, banks or insurance companies), or wealthy individuals serve as limited partners. LLPs have a fixed-term life, typically 10-12 years. Transfer of partnership stakes and early withdrawals from the partnership before the termination date is generally prohibited. LLPs allow distributions to flow through the partnership structure to the limited partners and be taxed at the limited partners’ marginal rate, thereby avoiding the double taxation associated with a corporate form. They also allow for securities to be distributed to the partners without incurring tax liability before the security is actually sold. The exact tax treatment of LLPs varies across countries and so in some countries the LLP vehicle is not feasible. In such cases, VC funds may be organized as investment funds or corporations. The general partners provide a small part (typically 1%) of the fund’s capital and make all investment and divestment decisions. Limited partners are prohibited from active management of the fund, although they use a variety of covenants to govern the behaviour of the general partners (the VC managers). For each investment, the VC firm monitors the venture’s progress, helps in its development through active managerial involvement, strategic oversight and corporate governance, and ultimately seeks to sell its equity stake to public investors or strategic acquirers.\(^{14}\)

In a typical compensation arrangement, the VC firm receives a management fee of 2-2.5% of the committed capital during the life of the fund and 20%-25% of the distribution to the partners beyond a minimum (the nominal amount plus a specified minimum return). The compensation structure creates incentives for the manager to seek high profits for the fund and the investors in the funds as it aligns the interests of the manager with the interests of the investor in the fund. Because VC firms do not borrow funds and incur few liabilities, there are few detrimental consequences to the unlimited liability of the general partners. Given that they provide a small portion of the fund’s capital, their downside exposure is limited. Yet, given their disproportionate share of the fund’s distribution, they have significant exposure to the upside of the fund and thus have a strong incentive to increase it. In contrast, alternative structures often put pressure on the fund to generate periodic cash flows and provide no competitive compensation for the fund managers, which in turn affects the fund’s ability to attract or retain competent managers.\(^{15}\)

### Main characteristics\(^{16}\)

1. A VC is a financial intermediary, meaning that it takes the investors’ capital and invests it directly in portfolio companies.
2. A VC invests only in private companies. This means that once the investments are made, the companies cannot be immediately traded on a public exchange.

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\(^{14}\) United Nations (2009), Policy Options and Instruments for Financing Innovation, A practical guide to early stage financing, New York and Geneva

\(^{15}\) United Nations (2009), Policy Options and Instruments for Financing Innovation, A practical guide to early stage financing, New York and Geneva

\(^{16}\) A Metrick, A Yasuda (2010), Venture Capital and the Finance of Innovation, Wiley, USA
3. A VC takes an active role in monitoring and helping the companies in its portfolio.
4. A VC’s primary goal is to maximize its financial return by exiting investments through a sale or an initial public offering (IPO).
5. A VC invests to fund the internal growth of companies.

Exit Strategies
Exit strategy is the method by which a venture capitalist or business owner intends to get out of an investment that he or she has made in the past. In other words, the exit strategy is a way of "cashing out" an investment. In order to attract investment for the business, it’s critical to supply an exit plan to investors so they can get their money back (hopefully with a healthy return) and exit your company. The exit strategy section of the business should also outline the long-term plans for the business.

Possible exit strategies that an owner should consider are the following:
· Initial Public Offering (a very, very rare event for most startups)
· A trade sale
· Merger/Acquisition
· Buyout by partner in business
· Franchise the business
· Hand down the business to another family member

Taxonomy of VC funds

(a) Public vs. private. Depending on the affiliation of the VC fund managers, funds can be private or public. Public VC funds are run by specially created government development agencies and use public funds as their capital base.

(b) National vs. regional. Depending on the explicit mandate or geographical focus, funds can be national (international) or regional. Regional funds aim to support enterprises in particular regions.

(c) Captive vs. independent. Captive funds are subsidiaries of financial institutions such as commercial or investment banks. Accordingly, the parent company provides the funds with which their VC arm operates and can influence the decision making process. In contrast, independent funds operate with capital from third parties and are managed without interference.

(d) Fund-of-funds. Some VC funds operate as fund-of-funds, i.e. they do not invest their capital directly in entrepreneurial companies but allocate it to other VC funds that do so. Fund-of-funds allow institutional investors to diversify their private equity holdings and thus develop expertise for the selection of well-performing VC funds.

(e) Sidecar funds. Some angel groups operate sidecar funds – they pool some of the capital of usually the less active members into a fund that invests alongside deals made by active

members, i.e. those who participate in the selection, screening and post-investment support of investments.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps to compose a balanced board</td>
<td>Long and complex process</td>
</tr>
<tr>
<td>Strategic and tactical sparring</td>
<td>Not easy to obtain</td>
</tr>
<tr>
<td>Business receives industry expertise and contacts</td>
<td>Might influence the strategic direction of the company</td>
</tr>
<tr>
<td>Venture capital firm may have more money to invest if successful</td>
<td>They take over the Control</td>
</tr>
<tr>
<td>Large sums of equity finance</td>
<td>Must be a ‘fast growth’ business</td>
</tr>
<tr>
<td>Ongoing strategic, operational and financial advice</td>
<td>To realise their investment the venture capital firm may want to sell the business, or become a public quoted company, within 3 to 5 years – in order to get a return on their investment</td>
</tr>
<tr>
<td>Facilitate exit</td>
<td>Investors become part owners of your business</td>
</tr>
<tr>
<td>Owner can concentrate on growing the business (and not repay the loan)</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4 below shows the risk/return profile used by VC’s as a function of the technology sector [vertical axis] and type of investment [horizontal axis]. From the figure it is clear to see that a management buy out/management buy in of a financial services company is far less risky than seedcorn finance for a medical company.
### Figure 5: Risk Return Profile for VC Investments

| Bank loans                  | • Banke: universal banks, investment banks, finance boutiques  
|                            | • Invoice discounting / factoring  
|                            | • Asset-backed borrowing  
|                            | • 3-rd party loan guarantees  
|                            | • Credit cards  
|                            | • Consumer loan  
| Family & friends            | • Tapping personal ties  
|                            | • Sale of personal assets (house, car, children)  
| Government support          | • Loan guarantees, EFG  
|                            | • Lower tax rate  
|                            | • Preferential rent and other support services  
|                            | • National, regional and local initiatives  
| Private equity              | • Performance oriented, flexible terms  
|                            | • Redeemable, preferred stock  
|                            | • Need professional adviser / introducer  
| Public equity               | • Investment bank  
|                            | • Brokers  
|                            | • Fund managers  
| Corporate support           | • Strategic partnerships  
|                            | • Suppliers  
|                            | • Customers  
| The right contacts          | • Capital intermediaries (accountants, lawyers, corporate finance boutiques)  
|                            | • Networking links  
|                            | • Alumni directories  

### Figure 6: Sources of Entrepreneur Capital
Issue New Shares

This form of financing is commonly known in publicly quoted companies. In the case of a private limited company shares may only be sold with the permission of the directors, share issues of this nature can be more associated with long term funding. These can be issued as non-voting shares, for example to employees. Investors, however, are likely to insist on voting rights.

Preference shares are an alternative form of share issue and common to private companies, usually they are redeemable. They are a different class of share, with some of the following features

- Usually carry no voting rights
- Preference over ordinary shareholders in the form of dividends, and preference over assets
- in the event of liquidity
- Convertible into ordinary stock
- Preference shares are not usually secured against assets in the business
If a private company needs more funds to continue expanding they can then decide to become a public limited company, what is termed ‘floating the businesses. The business will have to go through administrative and legal procedures to allow it to be able to offer shares to the general public.

If a public limited company raising finance through share issues this can take the form of;
- Selling new shares to the existing shareholders (termed a “rights issue”)
- Selling new shares to the general public and investing institutions

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relatively straightforward and quick process</td>
<td>Can dilute the value of shares for existing shareholders which they may not be</td>
</tr>
<tr>
<td></td>
<td>prepared to support</td>
</tr>
<tr>
<td>A company can defer dividends</td>
<td>If shares are sold to outside investors or as part of a stock market flotation</td>
</tr>
<tr>
<td></td>
<td>this can result in a lot of time and effort in producing documents such as</td>
</tr>
<tr>
<td></td>
<td>the “Offer for Sale” document</td>
</tr>
</tbody>
</table>

**Task 2.2** You are approached by a Venture Capitalist Trust who are a member of the EVCA, and well known. You have already spent €750,000 on the research and development phases. They know that you require €150,000 to get a product to market and believe your profit predictions of €1,000,000 in the next 3 years. Based on these figures would you approve of the investors wanting 40% equity in your company in exchange for this investment? What do you consider to be a fair equity loss for such an investment.? (30 minutes)

Before you attempt this task the following websites give some basics on the purchase of equity in a start-up company, and how the pre and post valuation are worked out.

http://www.inc.com/resources/startup/articles/20080101/mlechter.html

**2.3 Debt Financing**

Debt is borrowing money from an outside source with the promise to return the principal, in addition to an agreed-upon level of interest. Although the term tends to have a negative connotation, startup companies often turn to debt to finance their operations. In fact, even the healthiest of corporate balance sheets will include some level of debt. In finance, debt is also referred to as “leverage.” The most popular source for debt financing is the bank, but debt can also be issued by a private company or even a friend or family member.
Debt financing is a strategy that involves borrowing money from a lender or investor with the understanding that the full amount will be repaid in the future, usually with interest. In contrast, equity financing—in which investors receive partial ownership in the company in exchange for their funds—does not have to be repaid. In most cases, debt financing does not include any provision for ownership of the company (although some types of debt are convertible to stock). Instead, small businesses that employ debt financing accept a direct obligation to repay the funds within a certain period of time. The interest rate charged on the borrowed funds reflects the level of risk that the lender undertakes by providing the money. For example, a lender might charge a startup company a higher interest rate than it would a company that had shown a profit for several years. Since lenders are paid off before owners in the event of business liquidation, debt financing entails less risk than equity financing and thus usually commands a lower return.\(^\text{18}\)

**Loans**

Term loans can be used for a variety of business purposes but are usually associated with a specific event, for example acquiring an asset such as a property or machinery, or expanding into a new market. They are not as suitable for meeting the working capital needs of a business.

**Features:**

- A loan is an amount of money borrowed for a set period
- There is an agreed repayment schedule
- The amount repaid will depend on the amount and term of the loan, and rate of interest
- The terms and cost of loans can vary by provider
- A bank will usually seek security for a loan, unless the business is in a strong credit position
- Loan conditions and financial covenants are likely to be a condition of borrowing
- Loans can be subject to payment holidays usually at the beginning, but sometimes during the life of a loan. These involve the payment of interest only for a defined period – with no capital payments
- Loans can be taken out in sterling or currency. For an exporter a loan in currency may have particular benefits in managing against exchange rate exposure, and using the source of repayment to directly repay the borrowing.

Banks are the sources that most people immediately think of for debt financing. There are many different types of banks, although in general they exist to accept deposits and make loans. Most banks tend to be fairly risk averse and proceed cautiously when making loans. As a result, it may be difficult for a young business to obtain this sort of financing. Commercial banks usually have more experience in making business loans than do regular savings banks. It may be helpful to review the differences among banks before choosing one as the target of a loan request. Credit unions are another common source of business loans. Since these financial institutions are intended to aid the members of a group—such as employees of a

\(^{18}\) Encyclopaedia for Business (2010), Debt Financing, 2nd edition
company or members of a labor union—they often provide funds more readily and under more favorable terms than banks. However, the amount of money that may be borrowed through a credit union is usually not as large.

Finance companies are another option for small business loans. Although they generally charge higher interest rates than banks and credit unions, they also are able to approve more requests for loans. Most loans obtained through finance companies are secured by a specific asset as collateral, and that asset can be seized if the entrepreneur defaults on the loan. Consumer finance companies make small loans against personal assets and provide an option for individuals with poor credit ratings. Commercial finance companies provide small businesses with loans for inventory and equipment purchases and are a good resource for manufacturing enterprises. Insurance companies often make commercial loans as a way of reinvesting their income. They usually provide payment terms and interest rates comparable to a commercial bank, but require a business to have more assets available as collateral.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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</thead>
<tbody>
<tr>
<td>Firm has a greater understanding of how such loans operate</td>
<td>Interest rate</td>
</tr>
<tr>
<td>A business is guaranteed finance for a specific period</td>
<td>Some loans can carry strict terms and conditions</td>
</tr>
<tr>
<td>Tax deductions</td>
<td>They lack flexibility</td>
</tr>
<tr>
<td>The owner maintains ownership and control</td>
<td>Regular payments could cause cash flow difficulties</td>
</tr>
<tr>
<td>Tax deductions</td>
<td>Security is usually a requirement (business assets or personal assets)</td>
</tr>
<tr>
<td>Relatively fast and simple procedure</td>
<td>Impacts on the credit rating</td>
</tr>
</tbody>
</table>

**Overdrafts**

Overdrafts can offer flexible borrowing to meet short-term needs.

An overdraft occurs when a person withdraws from a bank account and they exceed the available balance. If there is a prior agreement with the account provider for an overdraft protection plan, and the amount overdrawn is within this authorized overdraft limit, then interest is normally charged at the agreed rate. If the balance exceeds the agreed terms, then fees may be charged and higher interest rate might apply.

Features;
- They are generally easier to arrange or increase
- They are subject to a pre-agreed limit
- Interest is paid on the amount of the overdraft
o Overdrafts are usually reviewed annually and a renewal fee taken
o Businesses must be careful concerning non-authorised overdrafts, which can carry heavy fees
o In small and start-up businesses banks invariably prefer to provide an overdraft, rather than establish a formal loan

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overdrafts are a flexible way of funding the day to day finance requirements of the business (meeting working capital needs)</td>
<td>A business may be left with no contingency funds if they are regularly overdrawn</td>
</tr>
<tr>
<td>Banks may not ask for security for ‘small overdrafts’</td>
<td>Interest rates can be higher than more structured loan arrangements</td>
</tr>
<tr>
<td>Interest is only payable on the amount the business is overdrawn</td>
<td>Banks are increasingly charging non-utilisation fees on the amount of an approved overdraft which is not drawn</td>
</tr>
<tr>
<td>Quick and easy to access</td>
<td>Banks can ask for repayment at any time</td>
</tr>
</tbody>
</table>

**Task 2.3**: For your local region produce a table of the banks and other institutions who will lend entrepreneurs money in order to fund a new innovation in a company. For each tabulate the following:

1. The maximum and minimum amount which can be borrowed
2. The term of the loan [repayment period]
3. The annual interest rate payable on the loan
4. What security [if any] the loan agent wants before loaning the money
5. What information the loan agent needs to see before making a decision [business plan for instance, 5 years profit/loss accounts]
6. What happens if the company defaults on repayments (45 minutes)

**2.4 Equity versus Debt Financing**

In order to expand, it is necessary for business owners to tap financial resources. Business owners can utilize a variety of financing resources, initially broken into two categories, debt and equity. "Debt" involves borrowing money to be repaid, plus interest. "Equity" involves raising money by selling interests in the company. The following table discusses the advantages and disadvantages of debt financing as compared to equity financing.

*Advantages of debt compared to equity*
Because the lender does not have a claim to equity in the business, debt does not dilute the owner’s ownership interest in the company.

A lender is entitled only to repayment of the agreed-upon principal of the loan plus interest, and has no direct claim on future profits of the business. If the company is successful, the owners reap a larger portion of the rewards than they would if they had sold stock in the company to investors in order to finance the growth.

Except in the case of variable rate loans, principal and interest obligations are known amounts which can be forecasted and planned for.

Interest on the debt can be deducted on the company’s tax return, lowering the actual cost of the loan to the company.

Raising debt capital is less complicated because the company is not required to comply with state and federal securities laws and regulations.

The company is not required to send periodic mailings to large numbers of investors, hold periodic meetings of shareholders, and seek the vote of shareholders before taking certain actions.

**Disadvantages of debt compared to equity**

Unlike equity, debt must at some point be repaid.

Interest is a fixed cost which raises the company's break-even point. High interest costs during difficult financial periods can increase the risk of insolvency. Companies that are too highly leveraged (that have large amounts of debt as compared to equity) often find it difficult to grow because of the high cost of servicing the debt.

Cash flow is required for both principal and interest payments and must be budgeted for. Most loans are not repayable in varying amounts over time based on the business cycles of the company.

Debt instruments often contain restrictions on the company's activities, preventing management from pursuing alternative financing options and non-core business opportunities.

The larger a company’s debt-equity ratio, the more risky the company is considered by lenders and investors. Accordingly, a business is limited as to the amount of debt it can carry.
• The company is usually required to pledge assets of the company to the lender as collateral, and owners of the company are in some cases required to personally guarantee repayment of the loan

2.5 Own resources

Without doubt, personal resources is one of the most cost effective, easiest and bureaucracy-free mean to obtain financing. It will also demonstrate a commitment to the business which investors and banks are likely to want to see at a later stage as a requirement of their involvement. Most of the investors view use of personal savings as an indication that individuals are motivated to succeed and will try hard to make their project work.

However, there are certain risks involved. From a personal perspective the individual must be committed to the business and confident of success before committing. Another consideration is what percentage of their personal savings they should use. The business may additionally require further cash during the early years after formation. Aside from the amount of savings put in, it will cost the individual the interest they would have earned on the sum were it invested. Personal savings are the most common source of funds for a new business.

Existing Cash Reserves

Cash reserves are usually built up through retained profits – as opposed to taking profits out of the business through Dividends or Directors salaries. A cash reserve may be used for large asset purchases or to support short-term cash flow needs, in anticipation of a large cash receipt from a sales contract. Businesses may be impacted by economic cycles and should seek to retain profits in the business during good times in case the reserve needed to be called on in a harder economic climate.

Trading Profits in the Business Year

In a similar vein profits made in the business financial year can be used to meet ongoing working capital needs, once they are realised as cash. As a means of ‘avoiding’ equity finance or debt finance, and if possible, business owners can review the amount of money they are withdrawing for their own salaries/personal needs.
Self Assessment Test

1. Why don't banks fund fundamental research?
   • The bank manager's bonuses aren't big enough
   • The risk is too high
   • They haven't got enough money
   • No one wants to put up security against loans
   • There isn't enough profit for the bank
   • Regulators won't allow this

2. Which of the following are advantages of bank loans
   • no repayments are needed
   • no equity is lost in the business
   • no pressure is put on the company to make profits
   • repayments can be planned for in financial cash flow predictions
   • banks can never fail, therefore the loan is safe
   • tax can be deducted on interest repayments

3. Which of the following are advantages of equity investment
   • banks don't get involved in any way
   • the EU recommends this route for raising funds
   • the owner has total control over the investor
   • the V.C.s can add value on the Board of the company in addition to cash
   • no security is required for investment
   • exit/sale of the business can be facilitated when V.C's are involved
   • potentially large sums can be raised

4. Which of the following are disadvantages of bank loans
   • interest has to be paid
   • loans are inflexible
   • company ownership is lost in bank loans
   • the company has to put assets up as security on loans
   • loans are the easiest funds to raise
   • interest rates will always be very high and fixed

5. Which of the following are disadvantages of equity investment
   • V.C's don't understand business and are unregulated
   • you could lose the entire company if profits fall
   • you lose equity in the business
   • V.C.'s might restrict the direction which a company can go in
   • the equity has to be repaid within 5 years
   • V.C's have no interest in the company once an investment has been made

6. What is a 'rights issue' in raising finance?
   • What a priest says before you die
• Giving away what is rightfully yours to a bank
• Selling new shares to existing shareholders
• Selling old shares to another country
• Borrowing what the bank considers is your right amount of money
• What is under scrutiny in China

7. Which of the following is the formula for the quantification of risk?
   • Risk = Probability of Event \times Cost of Event
   • Risk = Probability of Event \times Bank Interest Rate
   • Risk = Probability of Failure \times Cost of Failure
   • Risk = Probability of Winning \times Cost of the Bet
   • Risk = Probability of a bank loaning money \times bank Interest Rate

8. What is the 'Valley of Death'?
   • When an actor forgets his/her lines
   • A large desert in California
   • A type of low fat yogurt
   • A lack of early stage investment for companies
   • The scene of a military battle in the Crimean war

9. Which of the following is the correct order of reducing risk for VC investment?
   • start-up, seedcorn, management buyout/in, expansion, repurchase/refinance
   • management buyout/in, seedcorn, start-up, repurchase/refinance, expansion
   • seedcorn, start-up, expansion, repurchase/refinance, management buyout/in
   • repurchase/refinance, expansion, seedcorn, start-up, management buyout/in
   • expansion, start-up, management buyout/in, seedcorn, repurchase/refinance

10. A V.C. made an investment of €120,000, and a gain from the investment of €600,000. What was his RoI?
    • 300%
    • 65%
    • 7.5%
    • 200%
    • 400%
    • 91%

11. If the following investment took 3 years to be realised what would the annualized RoI be?
    • 450%
    • 133.33%
    • 10.5%
    • 50%
    • 350%
    • 600%

12. Project risk analysis is designed to:
• Cut the cost of resources in a project
• Remove managers who don’t take risks during Project delivery
• **Increase likelihood of project completion to cost, time and objectives**
• Select the best hedge funds
• Spread financial risk across national boundaries
• Delay projects to save money long term

13. What does IPO stand for in business?
   • International Plant Operations
   • In Perpetuity Option
   • Internal Property Organisation
   • Increased Personal Operations
   • **Initial Public Offering**
   • Initial Private Offer

14. If a venture capitalist is conducting due diligence, what’s happening?
   • A company has gone into liquidation
   • **They are examining in detail whether to make an offer to a company**
   • They are employing ‘diligents’
   • They are requesting what is due to them
   • The venture capitalist is in a court case over dues
   • Nothing, this is a term for putting a company investment on hold

15. If a company is leveraged to 40%, what is correct?
   • **The debt/equity ratio is 2/3**
   • 40% of the staff are working
   • 40% of the company is privately owned
   • 4 out of 10 contracts are loosing money
   • **40% of the finance is from banks, 60% from equity**
   • It is bound to fail as the ratio has to be 50%
   • 40% of the funds are from quantitative easing

16. For the most accurate risk analysis for a Project what 2 factors are combined?
   • Guess work and science
   • Money and equipment
   • Quantitative and numerical modelling
   • **Quantitative and Qualitative methods**
   • Scientific results and probability theory
   • Management and Accounting methods

17. Net present value is based upon the assumption of?
   • Loss
   • Gross profit
   • Net profit
   • Tax relief
   • **Time value of money**
• Stock market returns
• Cash in the bank

18. If you were a venture capitalist making an investment, which one of the following would be the least ‘risky’?
• **Financial Services company in a MBO/MBI**
• Software and hardware company at start-up phase
• Retail company at expansion phase
• Communications company at seed corn stage
• Transport company at repurchase or refinancing
• Medical company at seed corn stage

19. For grant and other funding purposes what is the correct EU definition of a SME?
• A pre start-up company
• A company with over 1,000 employees but making a loss
• A company going through an IPO
• **A company with less than 250 employees, less than €50 million turnover or less than €43 million bank balance**
• A company in a new accession member state
• One exposed to excessive debt and less than 10 employees
• A company with less than 100 employees, turnover of less than €150 million or balance sheet less than €100 million

20. Which of the following is not a possible exit strategy for a venture capital fund?
• Initial Public Offering
• A trade sale
• Merger/Acquisition
• Buyout by partner in business
• **Stock market crash**

**Summary**

In this module we examined the major sources of financing. The module intended to help you identify the sources of finance which are the most relevant for innovative business ventures. Starting from an overview of the dynamics involved in innovation financing we delved into the various stages of development that refer to the innovative idea/business. The Risk Analysis, which is a core part of any financing proposal, was analysed while mitigation strategies methods were suggested. Measuring the return on investment based on simple calculations offers the opportunity to assess whether an innovation is worth pursuing.

The second chapter heavily focused on the various financing channels. The basic distinction was in a. public funding b. equity finance c. dept financing and using own resources. An comparison between dept financing and equity finance was made in order to assist students
indentify the best route. A presentation of main advantages and disadvantages as well as the main characteristics of each funding source was included.

**Module 4 Final Assessment**

Please provide a report of 2500 words summarizing a plan on the funding options for an idea of a new product or a service of your company. Please consider all funding options: public funding, Dept financing, own resources and choose the most suitable. Please explain your choice. In addition carry out a basic risk assessment for your venture, along with a mitigation strategy for risk reduction.

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