

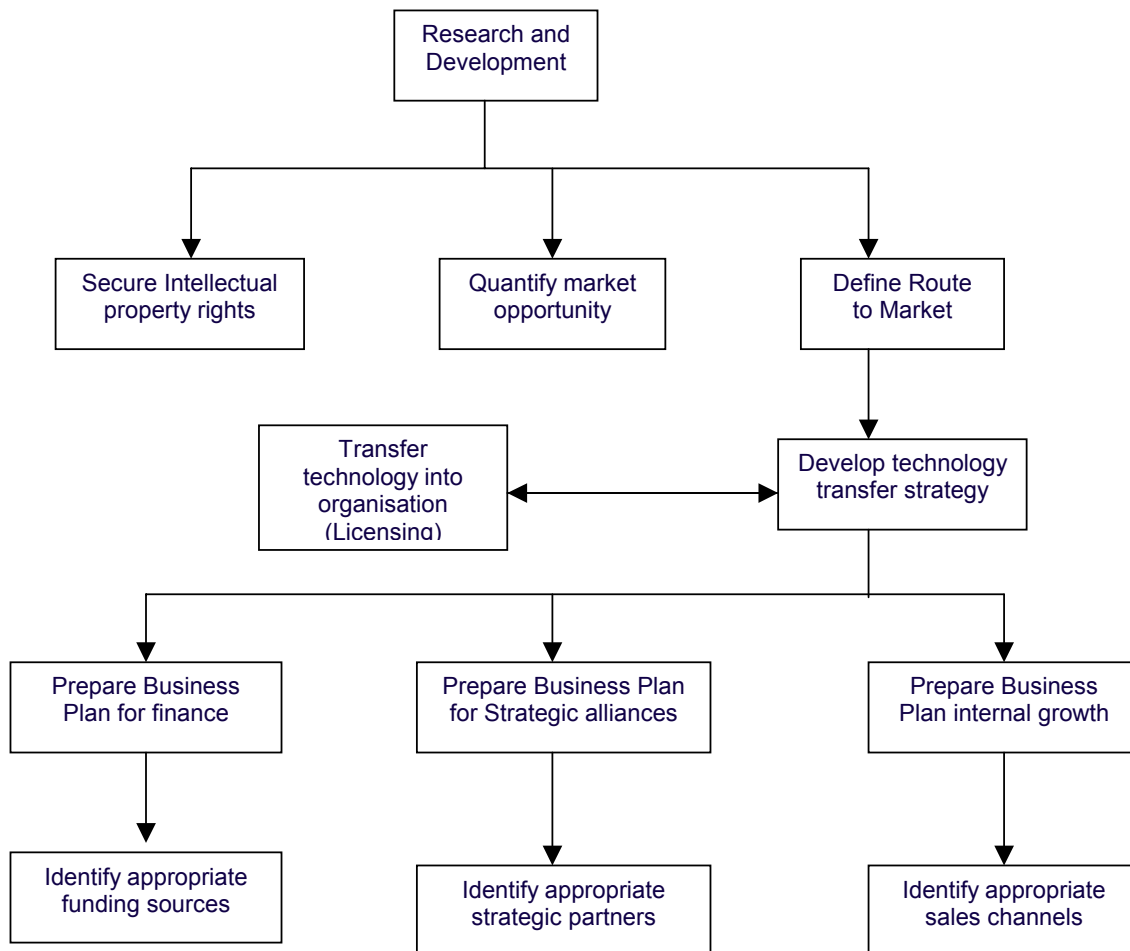
# AN INTRODUCTION TO TECHNOLOGY TRANSFER FOR THE SME

## TECHNOLOGY TRANSFER

can be defined as the transfer of intellectual property (patents, copyrights, trade secrets, know-how, et.) from the laboratory to the marketplace. It encompasses all the various life cycle aspects of a product, from the initial thought through design to marketing and selling the product.

## VERTICAL TRANSFER

Vertical technology transfer is the process of transferring research into the local, known commercial environment. This transfer process frequently involves the management of intellectual property rights to protect inventions and may also involve the need to obtain additional financing and expertise required to translate research into defined products. Finally it requires commercial discussion and negotiation to secure reliable relationships with intermediaries and the end customer. Each of these stages requires appropriate information to support good decision-making.



The individual steps within the process are discussed below and a number of proposals put forward to assist the SME approaching this process for the first time

## **Research and development**

Research and development is usually the process which requires least support. The opportunity for technology transfer is not realised until there is some technology to consider transferring.

## **Securing Intellectual Property Rights**

The best way to secure IPR will depend on a variety of factors including the type of intellectual property, the degree of development and the life expectancy of the technology.

1. Type of intellectual property
  - a. Patents or patentable inventions
  - b. Trade secrets or know how
  - c. Brands and trademarks
  - d. Copyright
  
2. Rate of change in the market
  - a. Level of innovation
  - b. Competitive activity
  - c. Life expectancy
  
3. Cost of protection
  - a. Patent applications
  - b. Brand name registration
  - c. Design Registration
  
4. History of disclosure
  - a. Technical papers
  - b. Seminars
  - c. Sharing agreements etc.

This may require specialised legal advice

## **Quantify Market Opportunity**

Research and development is not a linear process. The process may result in technology which was not initially targeted but still presents a major business opportunity. Perhaps the best example of this is the telephone, discovered whilst searching for a way to enable the deaf to comprehend speech through visualised electrical signals.

The essential first step in the process is to assess the potential value of the discovery. This relies on a mix of market research and interpretation that may be outside the skill set of the developing company. This assessment may be the first iteration of a continuing process which will become more refined as the company learns more about its product and the potential market.

1. Category and role of product
  - a. Software, hardware, service etc
  - b. Competitive offerings
  - c. Type of customer
  - d. Number of customers
  - e. Estimate of latent demand
  
2. Customers motivation to change
  - a. Current products unsatisfactory
  - b. Increased convenience
  - c. Improved product/service performance
  - d. Reduced cost

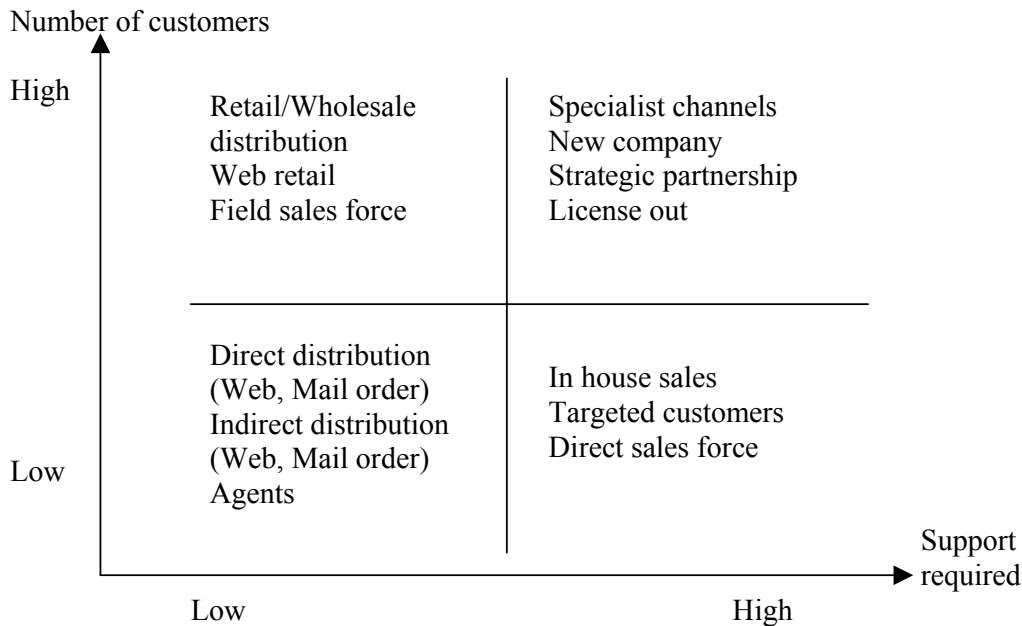
This is an area in which Findtech can assist in the provision and evaluation of market information.

### **Define the Route to Market**

This part of the process depends on the nature of the product and the nature of the market. Key issues facing the SME include:

1. How many potential customers are there?
  - a. Type of customer
  - b. Geographical distribution
  - c. Business or consumer
  
2. What level of support does the product require?
  - a. Inventory holding
  - b. Technical support
  - c. Service and repair
  
3. What is the likely impact on existing business?
  - a. Very similar or totally dissimilar
  - b. High or low value
  - c. Available sales capacity
  - d. Available manufacturing capacity
  - e. Financial implications
  
4. What is the competition?
  - a. Alternative similar products or services
  - b. Totally different approaches
  - c. There is none
  
5. License in complementary products?
  - a. Identify needs
  - b. Identify potential providers
  - c. Negotiate agreement

It will be necessary to assess these variables and others to identify the most appropriate route to market. An illustration of some of the alternatives is shown below



Because this part of the process depends on the major features of the company, the product and the market it is essential to bring together diverse strands of information. Findtech can help specifically on the provision of market, competitor and channel information. They can also assist in the identification and location of external IP which can be licensed in to complement existing IP based products.

### Developing Technology Transfer Strategy

Once the route to market is clarified it is essential to develop a technology transfer strategy which successfully addresses some of the following objectives

1. Minimise time to market
2. Maximise potential revenue,
3. Maximise ROI
4. Minimise cash requirements
5. Generate short term cash
6. Provide swiftest exit route

Findtech can assist in this process particularly where there are information gaps.

### Prepare Business Plan

The defining of the strategy enables the entrepreneur or SME to address the issue of the business plan. This is the critical document which must be owned by the

entrepreneur. Advice and support can be used but the business owner must be the ultimate decision maker.

Although the business plans for each of the strategies identified above are different they are based on the same fundamental information as far as the company and the product are concerned. In many cases businessmen may try to progress more than one strategy as a hedge against failure

Some of the key types of question to be addressed in this process are:

1. The product
  - a. Ease of production
  - b. Level of complexity of use
  - c. Reliability and support required
  - d. Special requirements
  - e. Price
  - f. Health and safety implications
  - g. Product liability
  
2. The customers
  - a. Consumer or business
  - b. Number potentially available
  - c. Technical competence
  - d. Product awareness
  - e. The buying decision process
  
3. The investment
  - a. Production facilities required
  - b. Market development needs
  - c. Distribution and support requirements
  - d. Finance available/necessary
  - e. Expertise required
  - f. New skills and capabilities
  - g. Space and facilities
  - h. Working capital
  
4. The company
  - a. Impact of additional demand
  - b. Contact with potential customers
  - c. Sales process/capacity
  - d. Degree of and readiness for change

In many cases the research within SMEs is focused on their existing markets and the impact of marginal additional business is low. However, for SMEs with no previous experience of the technology, or of technology transfer, the support of experienced experts can be invaluable. Findtech is able to provide this type of support in parallel with structuring the business plan and where necessary linking businesses to sources of funds or other expertise.

In cases where strategic alliances are appropriate Findtech can help by profiling likely alliance candidates and developing a target list of appropriate contacts.

In areas where sales channels are critical Findtech can assist by providing focused information on channels which are profiled to meet the needs of the business.

## **HORIZONTAL TRANSFER**

Horizontal technology transfer is the process of taking technology that exists in one market and transferring it to another, usually less developed, market. This is best exemplified by the controlled transfer of intellectual property based products and services to export markets.

In such cases the same processes are appropriate but the conditions are different and may well include an additional legal element. Usually the transferor has experience of using and selling the technology within his own market environment. The translation to a new market may require some product development or update. Assuming the product is ready to be transferred the focus becomes one of assessing the opportunities in the target market and reiterating the lower levels of the process identified above.

Information, particularly market, competitor or alternative product information, is a key resource in all technology transfer processes. Findtech can assist in these processes by providing key profile information on companies operating successfully in that export market.