Starting and growing a technology-based new venture is challenging. But where do these firms originate and how can their chances for success be increased? UQ Business School lecturer Martie-Louise Verreyne writes

Managing an organisation through the new firm development and growth process represents a formidable challenge. This is particularly so in the high-technology context, where it is not uncommon for firms to grow from start-up to maturity in just a few years; or alternatively, take up to 20 years and longer just to get to the market.

Much has been written about the growth stages that new firms go through. Academics have proposed theories about the stages that new firms follow, talking about the actual start-up, survival, first growth, expansion or maturity and global expansion. However, when the growth paths of high technology (high-tech) firms are described, the picture changes dramatically. The stages are then broadly summarised as: gestation, inception of concept, prototype development, launch, growth, expansion and maturity.

High-tech firms are from a wide variety of industries, including information technology, bio-technology, nanotechnology and the like. Firms from these industries do not necessarily share similar behaviours.

For example, where bio-technology firms have long commercialisation periods, information technology firms generally make it to market much faster.

Generally technology based firms are spun-out from universities, non-university research organisations (CRCs and CSIRO) and parent companies. In some cases individuals come up with innovations with the potential to become a successful high-tech firm. The availability of initial seed money from government sources (in the case of universities and CRCs), or the parent company is crucial to the success of high-tech firms.

Benefits of incubation

In most cases the chances of success of a technology based start-up can be greatly enhanced if it spends some time in a business incubator.

Business incubators offer start-ups office space, basic services such as secretarial, accounting, recruiting, and legal services, as well as support in getting finance and often a mentoring service.

In 2000 the Australian Government established 10 technology incubators, and since then incubation has become increasingly popular, with several other incubators being set up all over Australia, including the Innovation Centre Sunshine Coast and i.lab in Brisbane.

i.lab, whose major sponsor is the Queensland Government, was the 2006 Australian Incubator of the Year, and maintains close ties with Queensland Universities.

It focuses on technology based firms, with an incubator in Toowong for information technology firms, and another at Eight Mile Plains for biotechnology firms.

As indicated earlier, a comparison of the stages that most new ventures go through with those that high-tech firms follow indicate that high-tech firms are vastly different from firms in general.

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These differences are mainly in the early commercialisation stages.

Commercialisation is the sequence of actions necessary to achieve market entry. The ability of a firm, whether it is a new venture or an existing firm, to commercialise technology may be crucial to its survival.

Catalyst to commercialisation

Nevens identifies several factors that enhance a firm’s ability to commercialise successfully.

Successful firms get products or services to the market faster, are able to apply their technologies to a variety of industries, introduce more products or services, and are able to integrate various technologies in one product.

Even so, all fledging ventures progress through an evolutionary process during which three components of the venture grow simultaneously: the people involved, the product/service idea itself, and the money required to launch.

The initial idea of one individual with limited associated funds typically progress to a founding team and more developed product or service concept and early stage or seed funding to move to launch.

Finaly, a business model or even fully articulated business plan and venture funding are typically required to launch the product as a company with employees and legal status.

Typical life cycle

The life cycle literature suggests that firms evolve in a consistent and predictable manner.

Each life cycle stage can usually be described in terms of factors such as the stage of industry development, type of industry, and organisational structure.

Scholars have argued that as firms move through various stages of growth, differing problems must be addressed, resulting in the need for different management skills, priorities, and structural configurations.

Although it is assumed that all managers will have at least a basic functional mastery of literacy, numeracy and computer skills, in the early concept and prototype development stages it is more often the technical skills of scientist founders of high-technology new ventures that prove most valuable.

But without entrepreneurial instinct and some basic management skills, it is unlikely that such a scientist founder would be able to take the new venture much down the path of commercialisation.

For this reason, new venture founders often find themselves unprepared to manage launch and growth-related transitions effectively.

At this stage communication skills become of primary importance for a variety of reasons including: securing finance from venture capitalists or loan officers; selling their product or service; and forging partnerships and alliances.

The importance of the introduction of formal policies, routines and procedures further necessitate the use of a professional manager.

Additionally, most new ventures struggle with resource constraints during the development process.

Research has shown that experienced managers use a process of bricolage to deal with these constraints. Bricolage means that firms make do with their available resources in creative ways.

This is another way in which professional managers contribute to the development of new ventures.

Whether the original founder or a professional manager takes the new venture through its crucial developmental stages, they must endeavor to hold the system in place, as well as expand into more advanced stages of venture creation.

The strategies they use to ‘lock down’ these systems, while allowing enough flexibility for growth and adaptation, are vital to understanding why some ventures succeed and others fail.

And for high-tech firms, the lessons from the dot-com crash are very important.

Sound financial management, thoughtful marketing and selling, appointment of suitable key staff and a good business model and overall strategy can never be substituted with the hype of new and interesting industries.

Solid overall business practice remains the foundation of a successful business.