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Title	Creating and capturing value in technology ventures - from market validation to business model development
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Publication Date	2015-04
Publication Information	Evers, Natasha, Cunningham, James, & Hoholm, Thomas. (2015). Creating and capturing value in technology ventures - from market validation to business model development. The European Financial Review, April - May, 42-47.
Publisher	The European Financial Review
Link to publisher's version	http://www.europeanfinancialreview.com
Item record	http://hdl.handle.net/10379/14652

Downloaded 2024-03-03T11:13:59Z

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The business validation phase can be a tough time for an entrepreneur, which is why it's important that they use any and all tools necessary to help them at this stage of their business development. In this article, Natasha Evers, James Cunningham and Thomas Hoholm outline the key principles from their new book, *Technology Entrepreneurship – Bringing Innovation to the Marketplace*, behind market validation and business model development for successfully creating, and capturing, value.

As the eurozone continues to have weak growth and EU Member States are implementing policy measures to stimulate sustainable economic growth, the importance of supporting innovation and entrepreneurship needs to be at the core of such responses. The implementation of a new EU Small and Medium-sized Enterprise (SME) policy instrument at a European level similar to the Small Business Innovation Research (SBIR) programme in the US is a welcome policy response to support technology entrepreneurship and new technology ventures. Supporting European technology entrepreneurship is critically important in contributing to the growth of Member States and the European Union as a whole.

At an EU policy level through the Innovation Union there is clear policy intent on getting universities, governments and industry working effectively to commercialise and innovate. Technology entrepreneurs are key actors and catalysts in developing and exploiting technologies in different domains. Technology entrepreneurs contribute to economic and knowledge wealth generation and the realisation of their ideas can benefit society. For example, companies like Skype, Viber and others enable people share and communicate easily.

Empirical studies on technology entrepreneurs have found they have a strong desire for achievement, enjoy being at the cutting edge of their technology domain, and that contextual factors influence their behaviour. Creating environment and innovation eco-systems systems is critical to support the development of technology entrepreneurs and to create a viable pipeline of new technology ventures. Technology entrepreneurs tend to be at the cutting edge of knowledge and in many instances the realisation of their business idea can change or disrupt market norms. The challenge for technology entrepreneurs is validating their idea in an effective way using models and supports within an ecosystem that will refine the idea into a scalable and sustainable business.

According to one of the leading business thinkers of our time, Peter Drucker, "There is only one valid definition of business purpose: to create a customer...Therefore, any business enterprise has two - and only two - basic functions: marketing and innovation".¹ Inventors need to develop their Intellectual Property (IP) into a viable, competitive and marketable offering. The development of successful marketing strategies to bring innovation to the mar-

ketplace represents a further challenge for entrepreneurial tech ventures. No matter how innovatively useful or ground breaking the technological invention or innovation, technological superiority is not a guarantee for success without someone to buy it.

Our book, *Technology Entrepreneurship – Bringing Innovation to the Marketplace* (Palgrave-Macmillan, 2014), identifies two critical processes entrepreneurs need to engage in fully to create and capture value. Firstly, the market validation process; secondly, developing their business for creating and capturing value. First we will focus on some key principles of the market validation process.

Market Validation: 'No Customer, No Business'

The Market Validation Process (MVP) is for high-tech ventures to ensure their product or service is entering a valid and sustainable market. Venture capitalists, business angels, corporate venture capitalists and entrepreneurs state that the process of market validation is a critical antecedent to commercial success and ultimately determines the survival of the venture. Market validation can be a systematic process of estimating demand and potential cash flows of a proposed innovation. The value proposition can be developed in close consultation with prospective customers to determine market acceptance, to estimate demand, to refine product or service attributes and to assess the product's value to both the customer and the business. The MVP helps assess the market worthiness of ideas that are based around incremental, radical or disruptive innovations.

MVPs to ensure the value proposition offered by the technology are entering a valid and sustainable market. The two core MVP activities, marketing ecosystem analysis and business concept testing, are not mutually exclusive and can be conducted simultaneously. The market validation process involves a comprehensive examination and analysis of the external environment the venture plans to operate in, and the venture's own resources and capabilities. The marketing ecosystem describes the complex internal and external environment, made up of all the elements and forces that can influence and affect a company's ability to develop and implement its market strategy successfully and sustain long-term relationships with its target customers. The 5C framework analytical tool (Customers, Company, Context, Competitors and Collaborators)² is useful for conducting a comprehensive analysis of the company and its market ecosystem in its entirety.

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Business concept testing is a process used to estimate the potential market demand and attractiveness of a particular idea or concept. Testing techniques rely on customer purchase intent scores, leveraging a wide array of diagnostic information such as product uniqueness, feasibility, desirability, advantages and disadvantages. There are a number of different business concept testing techniques based on the type and level of innovation. For example virtual prototype testing and crowdsourcing are just some of the techniques used by Dropbox to validate and modify their original product concept, and by Nokia for their applications.

The Business Model: Creating and Capturing Value

Many recent studies have shown that the writing of business plans alone is insufficient for dealing with the level of uncertainty that is normally found in a new venture. In technology environments we often see business plans with very convincing technology and product descriptions, but with little sign of how it will create value for customers and owners, how to adapt to the existing business landscape, and how to organise the business in order to capture economic value in order to profit from it. This insight has led to the development of more iterative tools to support entrepreneurs in their on going processes of developing a new firm and commercialising innovations. Business modelling is one such tool.

Osterwalder defines a business model as a mode that “allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams”.³ An advantage with business modelling is its integration with the entrepreneurial process: the “final” business model is an outcome of an iterative process of developing and testing different business models, often in small scale (low-cost, low risk, make it work, and then scale-up).

Building on Osterwalder’s business model canvas in our book, we have developed the Business model platform depicting the components and its dynamics. In summary, there are eight components divided into three core pillars for creating and sustaining the competitive advantage of the venture. The first pillar addresses how to create value and how to capture value (revenue model, meaning how the venture will earn income and profits). The second pillar theme is bringing the technology to the market place through customers, channels, product scope and activities. What technological attributes the company wants to sell, and the market segment it wants to reach, is based on an assumption of value, that its offer will create a certain kind of value for this kind of customer (value proposition). Value networks, human talent and unique resources are identified as the final pillar of the business model.



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– PETER DRUCKER



The model enables flexibility to explore the multitude of possible configurations to formulate what is feasible and workable in the specific business activity. Although it may be easy to identify the logic underpinning the components of the business model, entrepreneurs and relevant stakeholders must adhere to three key principles for successful business model development and management, as follows:

1. The relationships between the components in the model are more important than the content of each of the components.

2. The practice of business modelling is not intended to become another static "form" to fill out. Rather it should be used as a dynamic tool to aid exploration and learning in practice. As the start-up firm matures, stabilises their products, and finds customers, the business model can be used for achieving a holistic view of the business, and for more systematic testing.

3. Business models will be used to analyse and understand both the opportunities and the limitations for the firm. Most management models, whether in strategy,

marketing or entrepreneurship, tend to have a bias towards over-optimism, so use this opportunity to consider strengths and weaknesses.

The most important aspect of such a visual representation of the business model is to show how each factor is dependent on the other factors, and that change in one factor is likely to produce new opportunities and/or restrictions for the other factors. This complex interplay between value creation and value capture as well as between resourcing

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and marketing requires experimentation. Business models will be in the form of visual tools and depict the core components, their interaction, the surrounding factors and the tool will be used to configure and when appropriate re-configure according to the dynamic in which the sector operates.

Interactive Hub Innovation - The Hackney Area in London


As mentioned, entrepreneurial processes are often uncertain, complex and controversial, and there are particularly two emerging trends we think are promising. Firstly, a shift in method is happening. The traditional planning school in business studies has come short of helping out with managing the entrepreneurship process. Instead, a range of methods and tools for systematic learning and networking are now being developed and used. In particular, methods for iterative learning-in-action based on research (such as Sarasvathy's studies of successful serial entrepreneurs) and practice (such as Ries' "lean start-up" methodology) have been embraced by technology



THE 'SILICON ROUNDABOUT'

The 'Silicon Roundabout', near Old Street, has been so named because it is home to a number of technology companies and entrepreneurs. London, UK

entrepreneurs and venture capitalists the like. Secondly, the entrepreneurial eco-system is expanding through private initiatives and innovative solutions in ways policy makers and institutional actors need to understand better, relate to, and support. "Interactive innovation" is no longer just an academic buzzword, it is put into practice on a daily basis through the explosive global growth of co-working spaces, accelerators, crowdfunding and crowdsourcing services. Hackney, in London, is but one of many sites where technology entrepreneurship is blooming, based on a mix of such private initiatives and public policy based facilitation. Evidently, this leads to a flourishing technology scene, which together with cultural entrepreneurs and artists have contributed significantly to revitalise a deprived area. Big technology corporations like Google and Cisco, as well as leading academic institutions like University College London, are already searching for ways to tap into these communities, exemplified by their investment in co-working places for entrepreneurs in the Hackney area.

Finally, based on our experience of working and collaborating with technology entrepreneurs and what we have outlined in our book, we see a need for further models and tools to support technology entrepreneurs in the business validation phase. Business plans should only be undertaken after this phase as technology entrepreneurs are action orientated and doing a business plan up front can skew the market validation process. Supporting technology entrepreneurship through policies and support agencies need to recognise that it takes significant time and effort to build local, regional and national innovation systems that really support technology entrepreneurs from ideation to validation through to the global market place. We argue there is a need for more co-development of supports by technology entrepreneurs and start support agencies. Not doing this means we are lessening the competitiveness of the European economy and means that citizens of EU Member States don't have access to technology that can enhance their working personal and community lives. 

About the Authors



Natasha Evers is College lecturer in Marketing at the National University of Ireland, Galway. She holds a PhD and M.Econ.Sc. Degrees from University College Dublin. Her expertise lies in International Marketing, entrepreneurship and commercialisation of innovation and scientific output in private and public research organisations. She is co-author of published book *Technology Entrepreneurship – Bringing Innovation to the Marketplace*, (Palgrave MacMillan, 2014).



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