Towards a Theory of Entrepreneurial Innovation Value
‘Understanding Commercialisation in Entrepreneurial SMEs - A Case Example’

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Introduction

- **Small to medium enterprises** comprise the majority of all businesses across most economies (OEDC 2010).
- Little is known about the way small firms **manage innovation** (Mazzarol et al. 2014).
- **Commercialisation is the final stage of an innovation management process** (Adams, Bessant & Phelps).
- This paper **explores the process of commercialisation** within small entrepreneurial firms using a single case study.

Path to Commercialisation

Inputs
- People
- Physical & financial resources
- Tools

Knowledge Management
- Idea generation
- Knowledge repository
- leadership

Innovation Strategy
- Strategic orientation
- Leadership

Organisation & Culture
- Culture
- Structure

Portfolio Management
- Risk/return balance
- Optimisation tool use

Project Management
- Project efficiency tools
- Communications
- Collaboration

Commercialisation
- Market research
- Market testing
- Marketing & Sales

The most challenging but least understood element

Source: Adams, Bessant & Phelps (2006)

The Research Study

‘**Exemplar’ case** of how to undertake the process of commercialisation.

Case was tracked throughout its lifecycle by the research team.

The process involved diagnosing the firm’s management perception of the value it was creating in the innovation and how the firm was managing the innovation.

Key units of analysis are the way in which future returns to investment in an innovation were assessed by the firm’s management team.

A particular unit of analysis was the **concept of RENT** (Alvarez & Barney 2004).

Research Questions

- What is the process followed by small innovator firms in determining the 'anticipated ' or entrepreneurial rent from an innovation prior to commercialisation?
- How do small innovator firms assess market conditions and what impact does this have on their determination of 'residual' or 'quasi-rents' from an innovation prior to commercialisation?
- How are the internal resources and competencies for the commercialisation of an innovation assessed by small innovator firms, and what influence does this have on their determination of 'appropriable' rent from an innovation?
- What role do isolating mechanisms play in determining the development options available to small innovator firms seeking to commercialise an innovation?
- How can tools such as 'Lean Start-up' and 'Lean Canvas" assist innovator firms to assess the value of an innovation and the potential rent return when engaged in the process of commercialisation?

The concept of RENT

Rent: a **profit** linked to an **abnormal** **competitive situation** (assets or market monopoly) in favour of an actor over a long period of time.

Rent and innovation: Innovation allows the creation of a **competitive advantage**, generating a **potential rate of profit that is greater than the norm.**

Economic Rent: The residual left for the fixed resources of a firm after the variable resources have been paid amounts equal to their alternative costs; or the proportion of earnings in excess of the minimum amount needed to enter a particular industry.

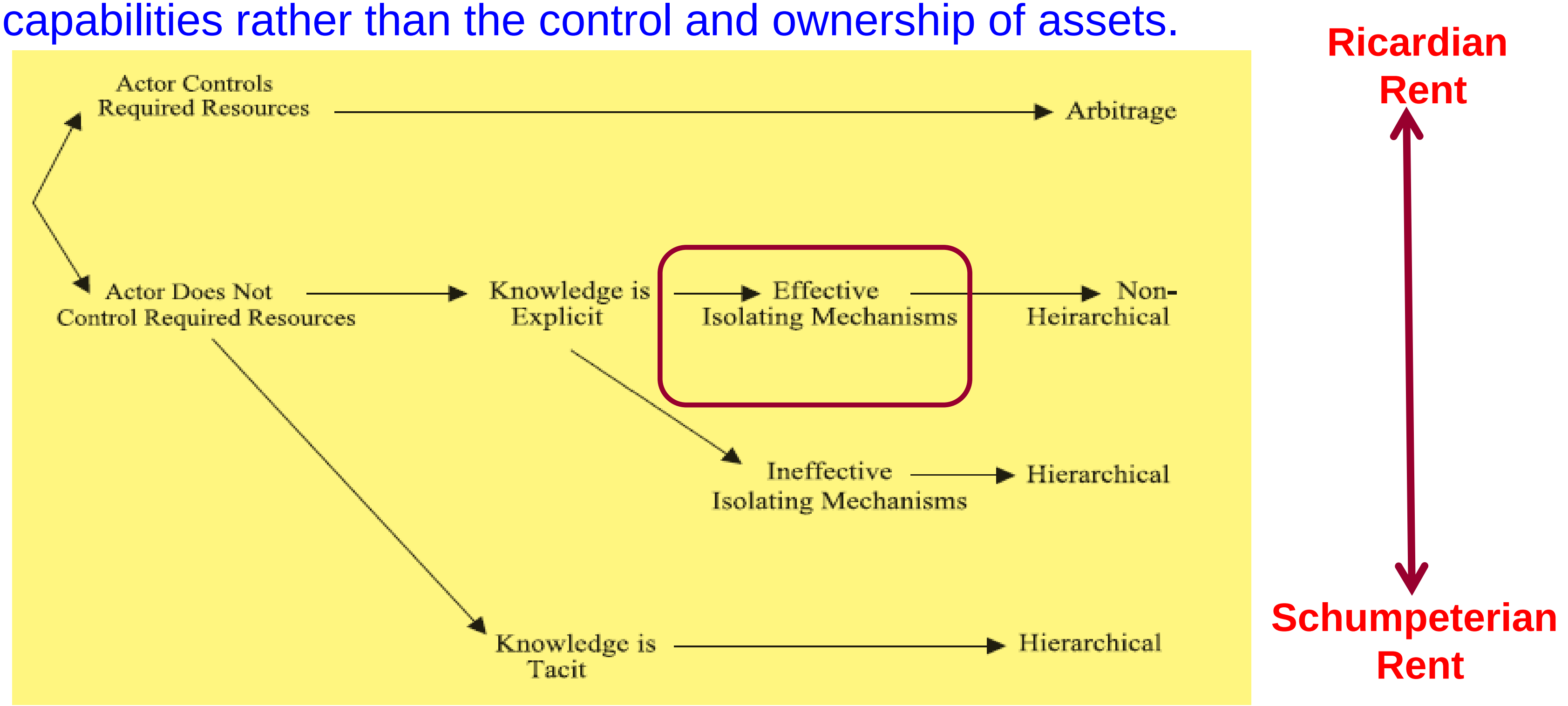
Innovation Rent: The returns that arise from the existence, discovery and successful commercial exploitation of entrepreneurial opportunities, that are in excess of the opportunity costs of all resources used.

Sources: Hang Do, Mazzarol, Volery & Reboud (2014))

Types of RENT

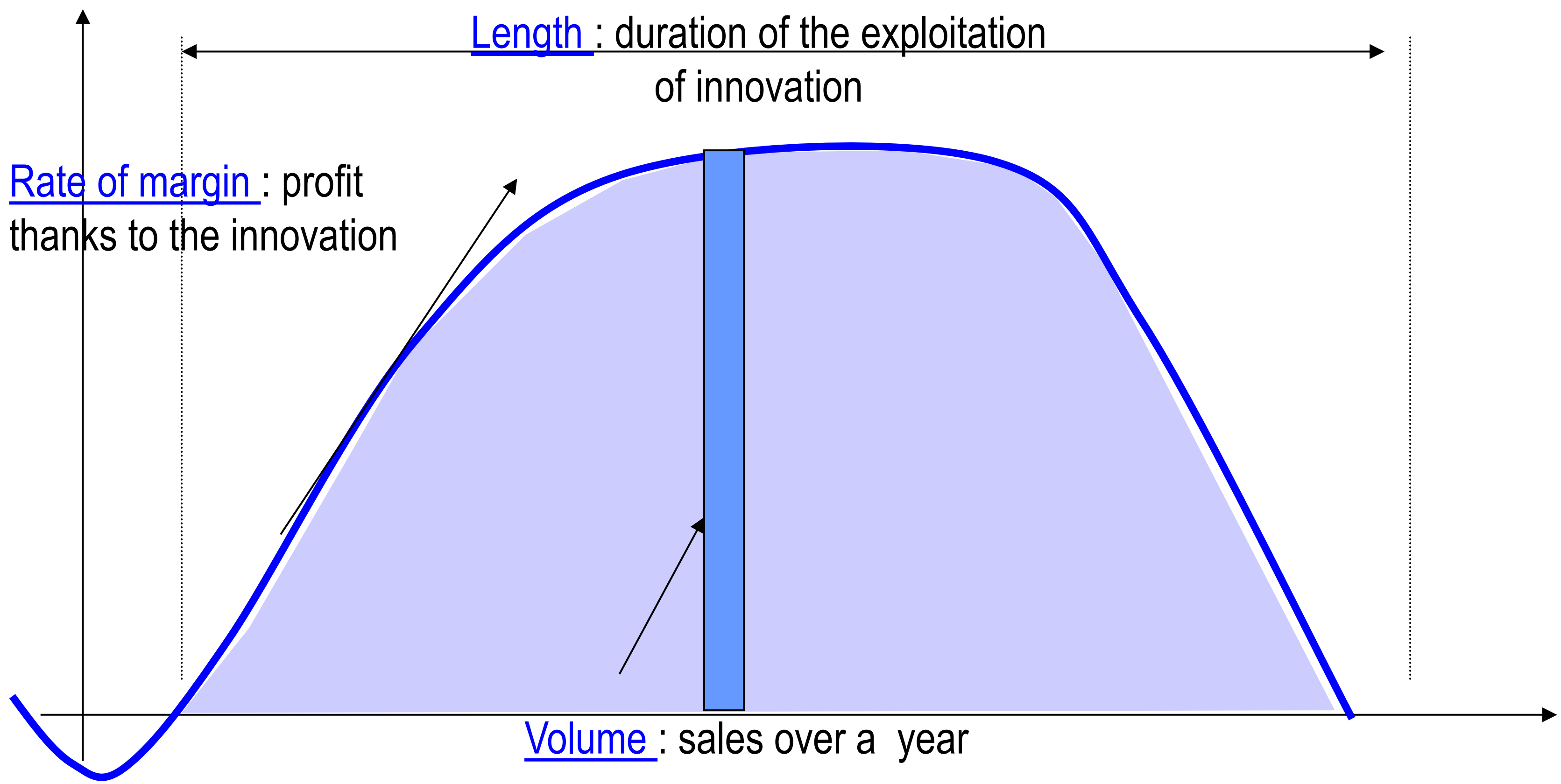
Ricardian Rent: a rent derived from a bundle of tangible and intangible assets over which the firm has ownership and control.

Schumpeterian Rent: a rent derived from a firm's ability to develop unique capabilities rather than the control and ownership of assets.



Sources: Hang Do, Mazzarol, Volery & Reboud (2014); Hang Do (2014); Avarez & Barney (2004)

Components of the RENT



Amount of Rent = Volume x Rate x Length

Source: Santi and Reboud 2003

1. Shrimp

	– –	++
volume		
rate		
length		

2. Champion

	– –	++
volume		
rate		
length		

3. Gadget

	– –	++
volume		
rate		
length		

4. Joker

	– –	++
volume		
rate		
length		

5. Flash in the pan A

	– –	++
volume		
rate		
length		

6. Oasis A

	– –	++
volume		
rate		
length		

7. Flash in the pan B

	– –	++
volume		
rate		
length		

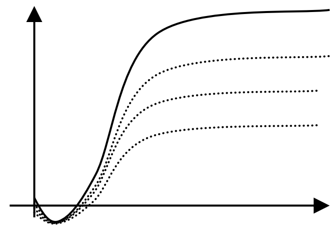
8. Oasis B

	– –	++
volume		
rate		
length		

Source: Mazzarol and Reboud 2011

Progressive Erosion of RENT

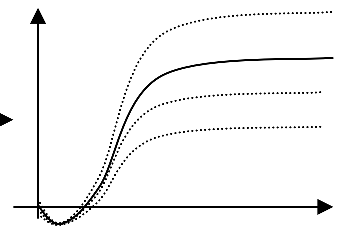
Kind of innovation



"Entrepreneurial Rent"
(created under conditions of uncertainty)

Potential Rent may be generated by the innovation

Insertion of the innovation into the environment

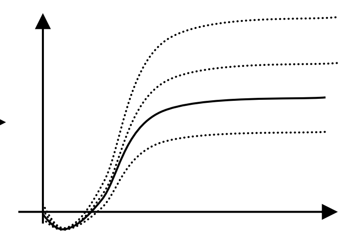


"Quasi Rent"
(created under conditions of risk)

Residual Rent, progressively eroded when inserted:

- into a business
- in the competitive game
- and taking in account the competencies and resources of innovator

Insertion into the business and taking account of strengths and weaknesses of the innovator



"Ricardian Rent" OR "sChumpeterian Rent"

Appropriable Rent, possibly caught by the innovator

Source: Santi & Reboud (2003); Alvarez (2006); Hang-Do, Mazzarol, Volery & Reboud (2014)

Process and general model

Explicative Variables

1 – Innovation and its characteristics

Kind, size and characteristics of the innovation and their effects on the rent:
- Its volume
- Its rate of profit
- Its length

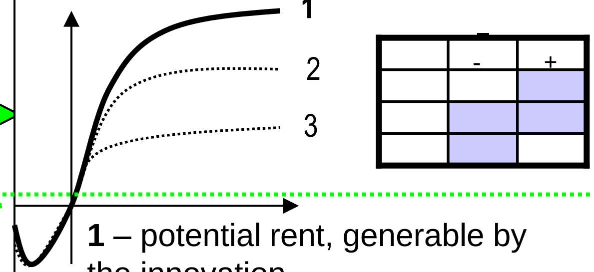
2 – Insertion of innovation in its environment

Analysis of risks and effects of abrasion on the rent of:
- Demand – customers (volume effect) 2.1
- The value chain (rate of profit effect) 2.2
- Substitutes (length effect) 2.3
- Complementing actors (global effect) 2.4
- Regulation / lobbying 2.5

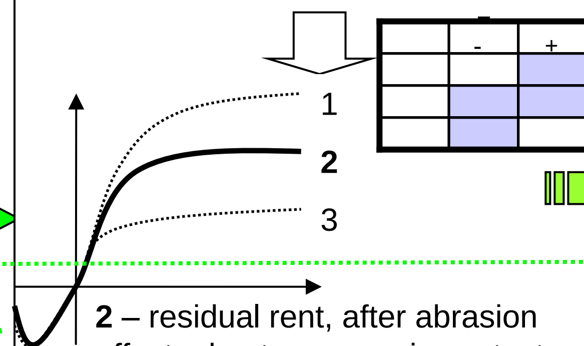
3 – Insertion of innovation in a business

Analysis of risks and effects of abrasion on the rent of:
- Competitive situation 3.2
- Reaction of competitors 3.3
- Competitive situation of innovator 3.4

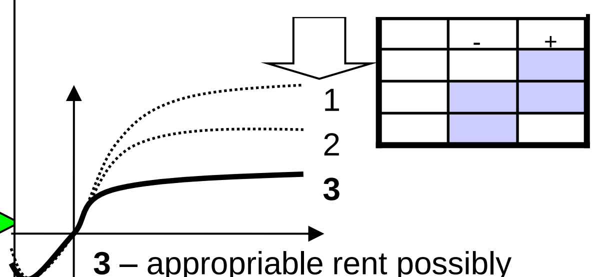
Intermediates Variables : rent and configuration of rent



1 – potential rent, generable by the innovation

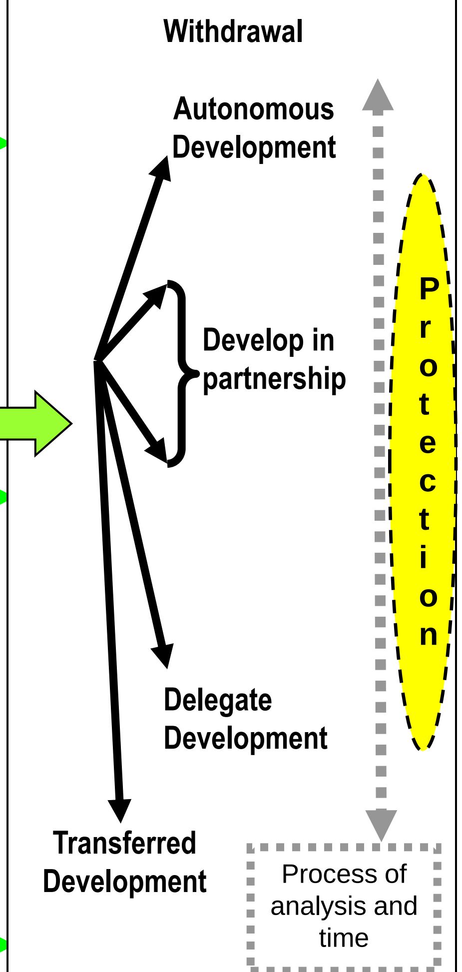


2 – residual rent, after abrasion effects due to economic context



3 – appropriable rent possibly caught by the innovator

Dependant Variables : Development and protection strategies (4)



Source: Santi & Reboud (2003

Theories of Commercialisation

Our review of the literature suggests there are **few recent theories of commercialisation** and particularly as they relate to SMEs.

An **examination of 1300 peer reviewed papers** published between 2006 and 2014 that contained the words ‘commercialisation ‘ and ‘SMEs’ was undertaken.

Only 25 (1.9%) dealt specifically with the commercialisation process in SMEs and **only five papers had undertaken research that involved direct surveys or case studies of SMEs engaged in the commercialisation process**.(Kim et al. 2011; Conceicao et al. 2012; Youtie et al. 2012; Knockaert et al. 2013; Hemert et al. 2013)

The emerging theory

Alvarez and Barney (2004; 2005) put forward conceptual foundations RBV for the development of theories relating to the entrepreneurial firm and the generation of economic rents.

The Rent Model put forward by Santi et al.(2003) and further developed by Mazzarol and Reboud (2006; 2011; 2014) puts forward a way of assessing the value that can be secured from an innovation.

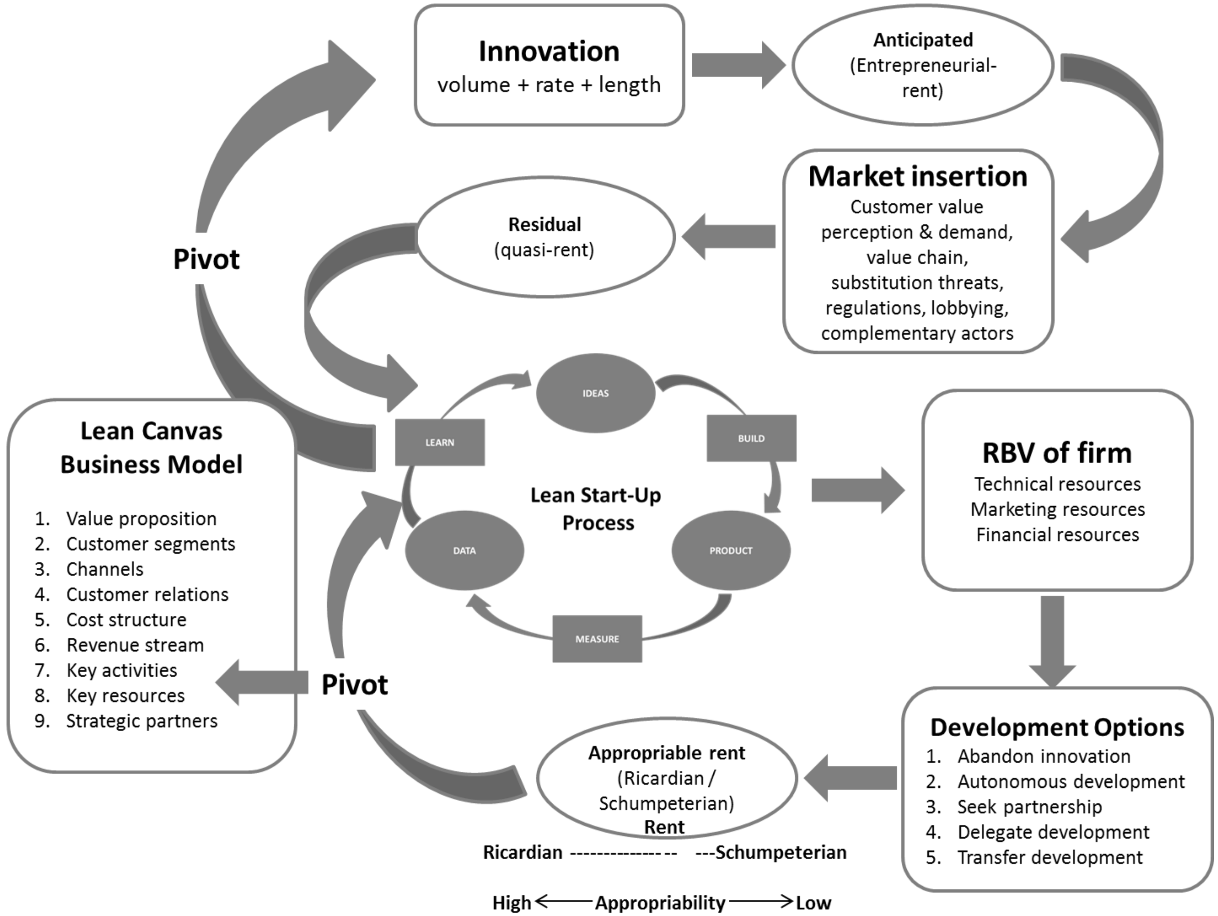
The current study utilises the theoretical foundations of RBV , RENT and NPD and builds on the recent concepts of ‘Lean Start-Up’ to evolve the research to a concept of model of entrepreneurial innovation value.

Conceptual model of commercialisation and entrepreneurial innovation value

The model draws together the current theories and concepts and overlays the Lean Start-up model which provides integration between the NPD process and the business model design to create a minimum viable product (MVP).

It offers a framework for understanding the process by which small entrepreneurial firms may commercialise an innovation and the inherent value creation of the innovation.

Towards a theory of entrepreneurial innovation value



Methodology and Case Analysis

Methodology for the study was a single case study that was undertaken as a pilot within what is a larger and longer term research project.

Garson (2013) recommends that a case be selected that can best represent the main units of analysis that form the overall focus of the research study.

This pilot case study firm is Scanalyse a ‘spin-out’ company established to commercialise technology developed at a university research centre in spatial science.

Scanalyse the case

The company developed an initial product 'Millmapper' in 2004 with a core staffing of 3 and commenced the commercialisation process..

The core technology was to apply terrestrial laser scanners to industrial machinery to monitor wear and performance in high value high cost assets.

By 2006 the company had 5 fulltime employees and one part time with annual turnover of $400,000.

The company grew very quickly to over 30 employees with company turnover exceeding $4.5 million by 2012

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scanalyse

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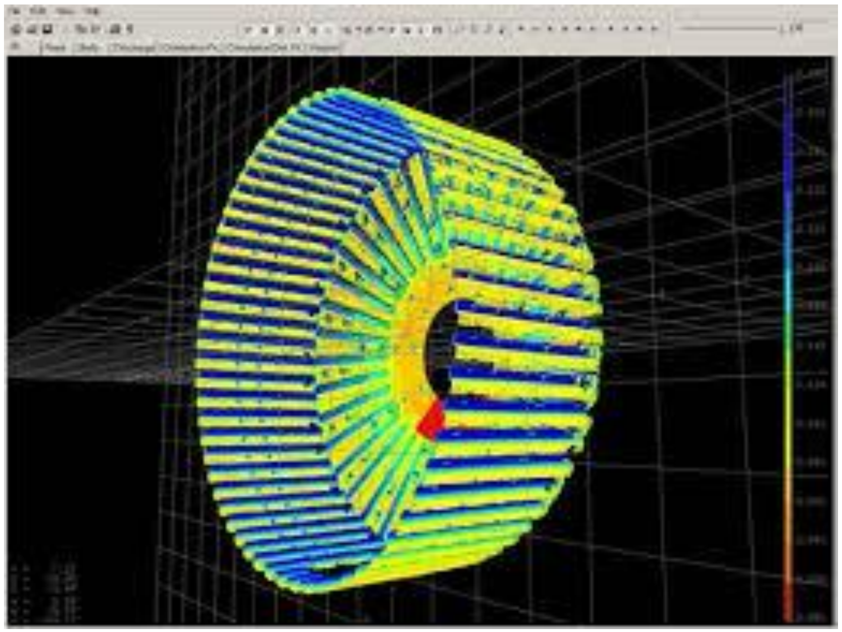

Data Collection process

The research was undertaken as a longitudinal case study commencing in 2006 with the first interview of the CEO.

It followed in 2012 with a second interview when the firm had grown significantly and was poised for a trade sale.

A key part of the data collection process was the use of a diagnostic assessment questionaire that examined the firms management team's perceptions of the 'anticipated' or 'entrepreneurial' rent that might be generated from the innovation.

Data Analysis

The data collected from the two interviews comprised the quantitative information from the two diagnostic surveys and qualitative data from the interview transcripts and other documentation collected from the company.

The data were examined using NVIVO software with coding guided by the research questions and the conceptual framework (Miles et al. 2014).

The coding drew on the raw data which included explanations, opinions and field notes. Those items that had similar were grouped as one code.

Discussion 1

The results of the pilot study tend to reflect the expectations of the conceptual model.

Over period 2004- 2006 the company began the process of making the product ‘market ready, through interfacing with prospective customers, lodged patents, created branding and undertook market research.

The value of the company was evaluated against criteria of product status – a champion. The company rated highly on all four indexes of the questionaire.

The launch of the product onto the market on trials saw the company go through an iterative process testing the product’s specification.

Discussion 2

Period 2007 – 2009 saw the product commence sales with ‘early innovators’.

The product was modified to reflect market requirements and demonstrated a ‘residual’ rent value at this point for the company.

In 2011 the company saw a need to strengthen its financial base and again modify (pivot) its product offering with the company’s products entering mainstream global markets delivering an ‘appropriable’ rent by 2012.

This resulted in the acquisition of the company by an international industry competitor.

Conclusion

The five research questions give reinforcement to the conceptual model in terms of the way Scanalyse operated over the period prior to acquisition.

Under RQ 1 anticipated value was assessed with its first prototype products in 2004.

Under RQ 2 the company assessed market conditions and in fact refined their view on market size and profitability delivering a residual rent.

RQ3 saw the company reach out and enter global markets delivering an appropriable rent by 2012.

Conclusion 2

RQ4 saw the company put in place global patents and branding to isolate their products from direct competitive forces.

RQ5 demonstrated that Lean Start-up and associated tools played a strong role in perfecting the product and service offering to the market. The capacity to fine tune a product to the needs of the market over a short space of time is of critical importance.

Overall the ability of Scanalyse to successfully secure an ‘appropriable rent’ was seen to reflect the ability of the firm to sustain operation over the eight years of operations.

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Questions