

# Business Model Renewal for Manufacturing Firms and Emerging Technologies



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## INTRODUCTION

Manufacturing firms may choose to pursue growth opportunities through the development and commercialisation of new or emerging technologies. Emerging technologies are defined as “science-based innovations that have the potential to create a new industry or transform an existing one” (Day et al, 2000, p2). The challenges that high technology firms’ face when looking to enter emerging markets is well recognised in the literature (Day et al, 2000). This has been the driver behind this study which looks at high technologies firms who have identified an emerging sector and asks “What must firms do?” The focus is on the realignment of the enterprise and its competitive basis through the development of unique capabilities (Ambrosini & Bowman, 2009) and business models.

Mobile networking refers to wireless protocols which provide wireless connectivity between devices, for example, a laptop maybe connected wirelessly to a printer via radio using the Bluetooth standard. Mobile networking encompasses a variety of technological approaches in terms of wireless encoding, data communication and networking protocols. The challenge for high technology firms seeking to enter this market is that their current organisational architecture (or business model) which has enabled success in their current markets may be a limitation for entering this emerging market. Further, in many sectors there can be uncertainty for firms with established solutions over which potential emerging technology is likely to succeed (Srinivasan, 2008).

This chapter reports on the results of a research project concerning business model renewal within high technology firms. This study was made when mobile networking was at the early stage of its lifecycle (De Coster, 2010) and is now updated with recent trends. This research takes a strategic approach and examines the business model development of high technology firms when entering emerging markets which are highly uncertain markets. The objective is to develop a theoretical framework for business model renewal based on a study which examines the organisational, management and strategic changes made by high technology firms entering an emerging sector.

## BACKGROUND

Previous research into business models has been shown to be fragmented and inconsistent (George & Bock, 2011; Zott, Amit & Massa, 2011). However, many of the published papers do focus on similar components within their discussions that typically address the ‘scope’ and ‘architecture’ of a firm such that the organisation can create a value proposition and organise its resources and processes to deliver products and services (Osterwalder, Pigneur & Tucci, 2005; Richardson, 2008; Zott, Amit & Massa, 2011). With the market changes that are occurring in today’s Information Age firms can find themselves in a situation where they are outside of their existing expertise and product base. This requires them to

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alter their organisation in order to provide products and services to the new market i.e. it requires Enterprise Realignment involving regenerative dynamic capabilities (Ambrosini, Bowman & Collier, 2009; Eisenhardt & Martin, 2000). This recognises that firms often seek to utilise their legacy which gave them credibility in the market by various means including sector expertise (Davenport, Campbell-Hunt & Solomon, 2003) as shown in Figure 1.

One example from the field research of the influence of legacy on Enterprise Realignment is given by a company that was originally a technology manufacturer of high performance audio and video products requiring broadcast quality. The firm's legacy expertise has influenced their product development of Bluetooth firmware modules which are based around advanced DSPs (digital signal processors), that is derived from their technological capabilities developed in the broadcast field. In addition, their Bluetooth enabled handheld mobile devices and auxiliary devices utilises their core product capabilities of miniaturisation and ergonomically designed plastics.

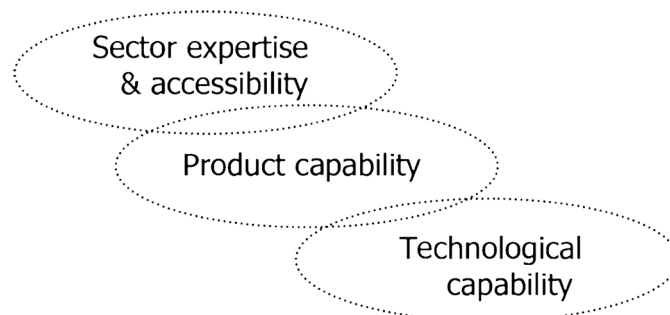
The ability to renew competences in order to achieve congruence with the changing business environment is referred to as dynamic capabilities (Fahy, 2000; Easterby-Smith, Lyles & Peteraf, 2009). These dynamic capabilities are the engine which enables a firm to achieve new and innovative forms of competitive advantage (Eisenhardt & Martin, 2000). Dynamic capabilities are argued to be a key part of the rationale underpinning strategic management according to Teece, Pisano and Shuen (1997). They argue that a firm's focus should be on developing the firm's capabilities – not its products.

The focus here is on the changes made by high technology firms to enter emerging markets which are highly uncertain (Tidd & Bodley, 2002), in terms of the end product, the end user task and application. Technological uncertainty is recognised in the research literature (Veryzer, 1998), as one of the four dimensions of radical innovation - the others being technical inexperience, business inexperience and technology cost (McDermott & Connor, 2002). The strategic orientation of the firm in highly uncertain markets requires three areas of focus: customer; competitors and technological (Gatignon & Xuereb, 1997). The theoretical framework for business model renewal introduced in the next section will examine how high technology firms approach this.

## **THE LEVELS OF THE ENTERPRISE REALIGNMENT FRAMEWORK**

The framework presented here is focused on innovation strategies and the associated enterprise realignment for managing technology and innovation and comprises a synthesis of literature drawn from the fields of strategic management, entrepreneurship and innovation management. The approach taken is to evaluate a firm's competitive performance in the mobile networking sector on the three aspects of:

*Figure 1. Enterprise realignment: The aspects of legacy*



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