Chapter 30
Leveraging Business Model Innovation in the International Space Industry

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ABSTRACT

This chapter provides insights on the dynamics of the space industry, which, despite its remarkable potential, tends to remain an under-studied sector within the field of business studies. By drawing on our existing work on the space industry, this chapter investigates the leveraging of innovative business models in the industry utilizing three case studies. The findings demonstrate that all three companies (Virgin Galactic, Mars One, and Unilever with the Axe/Lynx Apollo campaign) have extensively relied on business model innovation by leveraging specific design elements: content, structure, and governance. The findings highlight that business model innovation is an imperative to operate successfully in the space industry. Furthermore, a wide variety of private actors appear to be particularly resourceful in adopting novel business models that address the involvement of non-space actors and rely on non-space revenues.

1. INTRODUCTION

During times of economic downturn, firms often make substantial efforts to innovate their processes and products to achieve revenue growth and to maintain or to improve their profit margins. Innovations to improve processes and products are, however, often expensive and time-consuming. They require considerable investments ranging from research & development (R&D) to specialized resources, new assets, and often entire new business units. Even so, future returns on the up-front investments are always uncertain. Nonetheless, innovation is particularly important during times of economic downturn. When faced with declining revenues and severe pressure on profit margins, many firms resort to drastic cost-cutting to survive. As part of these broad cost-cutting measures, many investments in product and

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process innovation and into market expansion can be significantly reduced or even eliminated. This is often accompanied by labour-cutting measures to improve organizational efficiency by reducing labour costs. While such cost-cutting efforts are often necessary and understandable as they can put firms on a more solid economic footing, they often cause considerable anxiety among employees, thereby reducing employee motivation, commitment, and productivity, and may even hinder the long-term competitiveness of some firms.

Within this context, Zott and Amit (2007, 2010) suggest there is a way for managers to innovate in their existing markets with their existing products by utilizing their existing resources and capabilities. Firms can extract more value from their firms' existing resources, without having to make significant investments in plant, property, and equipment or in R&D. In other words, firms can do more with the resources and capabilities they have by simply designing a new, or modifying the firm's, extant activity system – a process to which Zott and Amit refer to as *business model innovation*. The Zott and Amit framework (2010) can provide many invaluable insights into the most innovative business models that currently proliferate in the space industry as the result of the decrease in military and government spending and the idiosyncratic boom of its commercial sector. In particular, this type of industrial setting is particularly interesting for several reasons.

First, fully reaping the benefits of future space innovations should be a concern for society at large (OECD, 2011). A growing number of nations now express interest in space for strategic as well as for commercial reasons. While their efforts can help to foster the development of new applications, they can also lead to overcrowding in key segments by thus heightening the overall competitive pressure in the industry. Second, although space technology has many potential uses, it has proved very difficult to develop financially viable applications. In particular, the transition from publicly funded activities to applications relying largely on private resources has been hindered by a deep-seated culture of risk aversion (Space Foundation, 2013). Third, as the range of commercial applications increases and as ever more countries become active in space, there is a growing need, at both national and international levels, for an institutional and regulatory environment that fully considers the sector's expanding commercial component and that fully supports its growth.

This situation is leading a number of countries that are already active in space to reassess their overall space strategy. Many are facing difficult choices in terms of the overall level of effort that should be devoted to space activities, how that effort should be allocated, and the role that the private sector might play. Overall, these developments have led firms in the industry to fundamentally change the ways they "do business,"; in particular, the ways they organize and conduct exchanges and activities across the firm and the industry with customers, vendors, partners, and other stakeholders (Brennan & Vecchi, 2011). In this very dynamic context, it becomes an imperative for managers in the industry to introduce innovative business models by utilizing their existing resources and capabilities. As such, the space industry provides a valuable opportunity to conduct further research on business model innovation (Zott & Amit, 2010) and the most innovative business models within the industry.

By drawing on our existing work on the space industry (Vecchi & Brennan, 2010; Brennan & Vecchi, 2011) this chapter investigates the most innovative business models utilizing three case studies in six sections. The second section outlines the main features characterising the space industry. The third section provides a review of the extant literature on business model innovation and introduces the theoretical framework adopted for this research. The fourth section outlines the methodology, and the fifth section presents the three case studies. The final section provides the conclusion, the managerial implications stemming from the findings, and directions for further research.