Fool them once, or fool them twice? The role of the business model in sustaining disruptive innovation

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Abstract

The concept of disruptive innovation has generated broad interest in the innovation and entrepreneurship literature and has become a widespread term management practices. While a vast array of received literature touches upon disruptive innovation from various managerial angles—ranging between early anticipation, change management, or theoretical explanations for the underlying phenomenon—the concept is mostly been treated as a one-off, one-time punctuated equilibrium. Specifically, while previous research may have extensively studied drivers and mechanisms required for firms to succeed in the development or adoption of disruptive innovations, little is known about how a successful firm can manage the transition from one fortunate disruptive innovation to another.

In this paper, we suggest a more long-term view on the management of disruptive innovation. By selecting a life cycle perspective of the firm, we introduce the concept of business model innovation as a moderating factor for explaining the sustainability of disruptive innovation. Building on prior work relating the business model to disruptive innovation, we theorize on the continuous cycle of exploring and exploiting business models as a precondition for the successful sustainment of disruptive innovation. Refining this theory through illustrating and iterating with the case of the movie service provider Netflix, we discuss and draw conclusions for theory and practice.

Keywords: disruptive innovation, business model innovation, life cycle of the firm

1. Introduction

Disruptive innovation (Christensen & Raynor, 2003) and business model innovation (Johnson, 2010) go hand in hand (Hwang & Christensen, 2008). An innovation can be disruptive with the right business model and a miserable disaster with the wrong one. For instance, in the early 2000's several digital music players were available on the market, such as products by Rio or Creative Labs, yet Apple succeeded in coupling the music player with an online music store to enable buying music directly out of the device. While the inferior, low-quality MP3 was available to all firms, the disruption of the music industry started once the right business model was set up. Chesbrough (2010) points out that new ideas and technologies are commercialized through their business models. Chesbrough also emphasizes that the same technology with two different business models can deliver different outcomes in terms of economic value. Against this background, while the need for establishing 'fit' between a disruptive technology, and a corresponding 'disruptive business model' seems evident, the way of getting there, that is, the design of an appropriate search process seems by far not sufficiently understood. Especially, whereas in the case of new venture creation, the search for the right business model may be part of the very opportunity recognition process, if considering instead the case of an already established firm (with an existing business model), managers are left alone in the dark.

A vast array of received literature touches upon disruptive innovation from various managerial angles, such as the early anticipation, change management, or theoretical explanations for the underlying phenomenon. However, the concept is mostly been viewed as a one-time event, having its roots in the punctuated equilibrium view of technological discontinuities—long periods of now or little change in technological performance, punctuated with sudden shocks (Romanelli & Tushman, 1994). Specifically, while previous research may have extensively studied drivers and mechanisms required for firms to succeed in the development or adoption of disruptive innovations, little is known about how a firm successfully capturing value of a disruptive innovation can make sure it can manage the transition to doing the same in the wake of the next disruption.

In this paper, we suggest a more long-term view on the management of disruptive innovation. We attempt to relate the concept of disruptive innovation to the one of business model innovation through proposing a new framework. In particular, by selecting a life cycle perspective of the firm, we introduce the concept of business model innovation as a moderating factor for explaining the sustainability of disruptive innovation. We draw on the learning argument for business model innovation and complement it with the life cycle-based perspective, consisting of explorative and exploitative phases (Sosna, Trevinyo-Rodriguez & Velamuri, 2010). Building on prior work relating the business model to disruptive innovation, we theorize on the continuous cycle of exploring and exploiting business models as a precondition for the successful sustainment of disruptive innovation. Illustrating these with the Netflix case, we discuss and draw conclusions for theory and practice.

The remainder of this paper is structured as follows. The next section briefly reviews the literature on disruptive innovation and business model innovation and introduces the business model innovation process framework. Section 3 defines the contribution and describes the method employed. Section 4 develops the proposed framework using the Netflix case. Section 5 discusses the issues such as challenges and barriers for business model innovation. Finally, Section 6 draws conclusions for scholars and managers.

2. Literature review

2.1 Disruptive innovation

Originally introduced with the seminal work of Christensen (1997), the notion of a ‘disruptive technology’ serves to explain a certain type of technology, which is inferior and low-performing initially, but becomes better and better over time, ultimately favorable to any other alternative. Particularly, in contrast to the classic theories around discontinuous technologies, with one s-curve outperforming another one, the notion of disruptive technology takes into account the difference between low-market and up-market segments, with different demand curves in terms of technological performance. While, initially, a technology may struggle to fulfill the demands of the low-market segment, its performance may over time evolve to fulfill both low-market and high-market segments, thereby disrupting established market leaders in traditionally highly profitable segments.

Later, Christensen & Raynor (2003) broadened the term to ‘disruptive innovation’, referring to advances in services and business models to hold disruptive characteristics. Since then, be it disruptive technology or disruptive innovation, the concept rapidly gained popularity among scholars and managers as well as in business press (Wessel & Christensen, 2012; Dyer et al., 2009; Christensen & Ruggles, 2007).

Whereas the patterns of disruptive innovation can be traced across industries and businesses, recent studies focus on what makes an innovation disruptive and how to manage disruption. For instance, Raynor (2011) suggests that disruptive innovations arise from technological and business model advantages. Markides and Oyon (2010) propose developing dual business models in the same market as an effective strategy to fend off against disruptive business models. Wessel and Christensen (2012) encourage analyzing the strengths of the disruptor’s business model as well as the one of the disruptee. Interestingly, business models and disruptive innovation are becoming more and more closely tied and business models are increasingly used to understand, analyze or explain the disruptive innovation notion.

2.2 Business models and business model innovation

The business model concept has become popular and received increasing interest in management literature (e.g., Amit & Zott, 2001; Johnson, Christensen & Kagermann, 2008; Baden-Fuller & Morgan, 2010). Despite existing differences in perceptions and disputes around the definition of the very concept, there is a growing consensus that business models explain how value is created and delivered in firms (Chesbrough, 2010; Teece, 2010; Zott, Amit, & Massa, 2011). In this paper, we build on the definition of Johnson et al. (2008), which simplifies the business model as consisting of four elements of creating and delivering value: customer value proposition, profit formula, key resources and key processes.

While business models are understood to classify businesses, serve as units of analysis for scientific enquiry and act as recipes for managers (Baden-Fuller & Morgan, 2010), they are moreover increasingly being regarded as a source of innovation. For instance, Teece (2010) claims that technological innovation often requires a business model innovation to capture value and furthermore emphasizes the role of discovery, learning and adaptation. Similarly, McGrath (2010) discusses the importance of a discovery-driven approach for business models stressing the experimentation and learning argument. Furthermore, Sosna et al. (2010) show evidence for business model innovation and propose a new framework drawing on the organizational learning literature.

3. Contribution and method

Inspired by these recent ideas on business model innovation, we develop and propose a new framework building on the work of Sosna et al. (2010). Our model aims to explain the life cycle of managing innovation in the firm using a business model innovation point of view, and in particular, incorporating the dynamic perspective and trial-and-error learning arguments for business models. The model is developed through theoretical synthesis.

Additionally, following the suggestions of Siggelkow (2007), we employ the method of case study in order to both illustrate our model in an empirical setting, as well as to refine the model through iteration between theory and observation (Eisenhardt, 1987). For this purpose, we chose the case of the movie service-providing firm Netflix. The company, in this regard, represents a precious case in several terms: (1) Initially, as an entrant firm, Netflix disrupted established players such as Blockbuster, the largest incumbent of the videotape rental industry. Yet, as a result of Netflix' tremendous success, the company has become an incumbent itself. (2) Netflix successfully exploited a business model innovation, until the DVD rental service became—in turn—disrupted. (3) Netflix embarked towards sustaining its service through searching for ways to exploit the next disruptive technology, that is, video streaming, by continuing to innovate its business model.

We used several sources for data collection including Netflix' SEC filings, press articles, teaching cases published by Harvard Business School or within the Harvard Business Publishing domain, company reports (e.g. McKinsey, 2012) and academic papers written on the particular case (e.g. Teece, 2010, Markides & Oyon, 2010). Also, we developed a teaching case on the same topic, which was tested, discussed and iterated with graduate students in the US and Europe. Using this method, our purpose is not to inductively uncover antecedents of the business model innovation process using the case setting, but rather to illustrate, iterate and enrich the proposed framework with the prototypical example of Netflix' history.

4. A life-cycle view on sustaining disruptive innovation

As Figure 1 illustrates, our framework suggests that firms begin to operate with the exploration phase to find the right business model to fulfill a certain job. Once the right business model is discovered trough trial-and-error, firms can start refining the business model in the exploitation phase. In such a phase, firms can start optimizing key resources, improving profit formula and ultimately strengthening the customer value proposition. The refinement activity continues until firms face a disruption, as a threat or an opportunity. Without any action firms would eventually fail, unless they chose to reinitiate the cycle by entering the first phase. This would imply to start changing the operating business model or to search a new one through trial-and-error, which in turn would represent a necessary precondition to survive in the presence of the disruption.

Insert Figure 1 about here

Specifically, we intend to extend the framework of Sosna et al. (2010) on three levels:

(i) We define the initiation of the business model innovation process by the identification of “the job to be done”. Christensen and Raynor (2003) explain the notion of the job to be done as the desired utility by the customers. Every product or service serves to a job and customers are interested in the utility gained by solving job rather than the product or service itself. In this regard, every firm starts to deliver a product or a service to realize a certain job in the interest of the customers.

(ii) We denote the termination of the business model innovation process with the event of a disruption emerging, representing either a threat or and opportunity (Johnson 2010). Firms will refine their business model until they face disruption.

(iii) Finally, we conceptualize the learning model as an iterative cycle. Firms facing a disruption can either fail to capture it through leaving its business model unchanged, or start searching for another business model for reaping the opportunities, and fending off from the threats. Therefore, we claim that sustaining disruptive innovation, that is, managing through cycles of disruptions, is possible when firms implement a continuous business model innovation process.

4.1 Case Netflix

Netflix was founded in 1997 to offer online DVD movie rentals. As opposed to retail video rental, Netflix provided an online store and a subscription-based membership. In 2002, the IPO took place and ten years after, the stock price had increased more than 450%. Today, it is the largest movie rental subscription service in United States with more than 30 million users. In 2012, the company is expected to generate revenues of over $3 billion.

The following three sub-sections illustrate the business model innovation process Netflix has undergone. Netflix’ search for the right business model started in 1997 and lasted up to 2000 when its customer value proposition was finalized. From 2000 to 2007, the company refined its business model and enjoyed high growth, international expansion and soaring stock prices. In 2007, Netflix announced its new video streaming service providing it in the same subscription package with the DVD rentals. This started another round of search and exploration for the right business model for streaming—the next disruptive technology in video rentals.

4.2 Phase 1: Exploration – Initial business model design and pivoting (1997-2000)

In 1997, when Reed Hastings and Marc Randolph co-founded Netflix, it began as an online platform for movie lovers and provided home delivery DVD movie rentals through the U.S. postal service. The target customers were early adopters of DVD players. The profit formula was similar to the ones of their competitors: charging for each rental including the potential late fee. However, the rapid adoption and availability of DVDs in rental and retail stores started to weaken Netflix's customer value proposition rather quickly. Netflix' customers had to wait longer to receive the DVD than retail customers by paying the same fee.

Therefore, in 1999, Netflix launched the prepaid subscription service, first offering four movies at a time and later changed it to unlimited rentals. This allowed customers to always have a movie at home. While this has strengthened the customer value proposition, it created new challenges for the business model. The demand for new release movies was high and movie acquisition was costly, particularly for blockbuster movies. This required shifting the revenues from blockbuster movies to lesser known ones.

To solve this problem, Netflix launched a personalized movie recommendation system in 2000. The system used Netflix members' ratings to propose movies, which were available in inventory. This enabled Netflix to control the demand towards blockbuster movies and at the same time to provide added value to customers. Indeed, the feedback from the customers was positive. At the same time, the customer value proposition "always a movie at home" became a threat for retail video rentals.

4.3 Phase 2: Exploitation – Optimization of the functioning business model (2000-2007)

While customers were enjoying unlimited watching and discovering of new movies based on the recommendation system, Netflix started taking operational measures to optimize its key processes. For instance, Netflix partnered with U.S. Postal Service to provide overnight service and rapidly expanded the regional distribution centers.

Additionally, catalog and smaller titles have been receiving increasing frequency of rentals. To supply the lower-profile and independent movies, Netflix developed special distribution channels and improved its delivery of the customer value proposition. Ultimately, Netflix made it easier for customers to leave—and to come back—through allowing more flexibility to cancel membership.

4.4 Phase 3: Exploration – Managing disruption (2007-today)

In 2007, Netflix introduced online video streaming. Streaming technology was introduced in the early 1990s and improved almost jointly with the development of the Internet bandwidth. Whereas many observers initially might not have seen video streaming as a serious technology for the distribution of full-length, high quality movies to a mass market, the rapid evolution of Internet bandwidth, and video compression technologies changed the technological limits. In mid 2000, the quality of streaming was similar to the quality of DVD in terms of video resolution (see Figure 2). Netflix had the vision that the DVD-by-mail service will fade away and be gradually substituted by video streaming, which was following the patterns of a potential disruptive technology in video rentals.

Insert Figure 2 about here

When introduced, the streaming option was included within the same membership package, that is, within the same fee. This meant that customers could continue renting movies through the DVDs postal delivery service, but they could now additionally instantly watch them on their personal computers if the movie was available in streaming. This new subscription required a huge shift in terms of key resources. Netflix had to invest significantly into IT structures and partnerships to deliver the same content as reliably and efficiently as through the DVD channel.

Indeed, in the following years, Netflix started partnering with other consumer electronic firms to expand the availability of streaming on different platforms. For instance in 2008, Netflix streaming was available on Microsoft's Xbox 360, Blu-ray disc players, TV set-top boxes and the Apple Mac computer, in 2009 on Sony's PlayStation 3 and Internet connected TVs, in 2010 on the Apple iPad, iPhone and iPod Touch, the Nintendo Wii, and other Internet-connected devices. The new partnerships were not only channels to new customers but also served to strengthen the Netflix brand. In 2010, an average U.S. family had ten Netflix-compatible devices at home.

Then, year 2011 turned out fateful for Netflix. In the summer of 2011, Netflix announced the separation of its DVD rental and video streaming service introducing new pricing for each service. The proposed new business model was that the company would continue the streaming under the "Netflix" brand, whereas DVD rental would from now on be operated by its new sister company "Qwikster". What Netflix did not take into account was the detrimental effect this decision had on the customer value proposition. For example, many older movies were not available at streaming but were complemented by the DVD rental. The separation of the coupled services meant that a customer would have been required to have two subscriptions to keep the same customer value proposition—however paying 60% more than before.

Customers were unhappy with the result. Over 80,000 comments were posted on Facebook and Twitter damaging Netflix' reputation heavily. Following this, Netflix announced to drop Qwikster and to continue the DVD rental service under the Netflix brand. Yet, the cost for introducing Qwikster was high. About 800,000 customers canceled their membership in the third quarter of 2011. Stock prices fell from $300 to below $70 in the last quarter of 2011. On the other hand, Netflix was right with the vision that the once disruptive DVD-by-mail service would fade away and be gradually replaced with video streaming. As expected, the number of DVD subscriptions reduced significantly after the break-up from close to 14 million to roughly 9 million in less than a year, while the numbers for streaming continued to grow (see Figure 3).

Insert Figure 3 about here
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5. Discussion: challenges of managing disruptive innovation and cost of business model innovation

Taken together, Netflix has been through three stages of innovating the business model: (1) exploration and experimentation with different business models, (2) exploitation of the functioning business model and (3) once again, back to experimentation to find the right new business model.

When reflecting our model with the case, the business model innovation can be regarded as a the continuous learning process, which encapsulates all single changes conducted in the business model, until the new business model with the right 'fit' is found. Initially, we made the assumption that every time one of the four components of the business model (Johnson et al., 2008) had a significant change, it would count as a change in the business model. Against this background, overall business model innovation is a process rather than a single event. In other words, this implies that business model innovation happens through a series of elementary business model changes and is continuous.

Why did Netflix fail miserably when innovating the business model? Christensen et al. (2009) point out that disruptive innovations have usually three enablers: a simplifying technology, a new value network and a business model innovation. While the technological enablers and alternative value networks are available to many firms, a few can actually do the business model innovation right. Especially for incumbent firms, business model innovation is challenging because managers take decisions on short-term profits and changing the business model requires reorganizing the value network of the firm. Reorganizing the value network leads the firm to a new competition environment, which in turn demands the firm's strategy to adapt or change. Despite the long-term benefits, business model innovation can be costly, is risky, to some extent too venturous for incumbent firms to initiate and surrounded with barriers (Chesbrough, 2010). Perhaps the right question is: how is it possible that Netflix survived the disruption and is still operating? As we illustrated in this paper, the key to sustaining disruptive innovation, that is, managing the transition from one disruptive innovation, to another one, is through a continuous iteration of the entire business model innovation process.

6. Conclusion

The discussions around the business model concept gained speed especially after the adoption of e-commerce and alternative businesses to summarize the essential features of a business (e.g., Amit & Zott, 2001). While the academic value of business models is still debated by several scholars, its significance in capturing value from a disruptive innovation has been widely discussed. Yet, in this context, disruptive innovations had been primarily treated as one-off events, offering little advice on how to manage through multiple cycles of disruption.

In this paper, we have suggested a more long-term view on the management of disruptive innovation. By selecting a life cycle perspective of the firm, we applied the concept of business model innovation through conceptualizing it as a moderating factor for explaining the sustainability of disruptive innovation.

Early studies emphasized the dynamic perspective and the learning argument for business models and business model innovation. In this paper, we design the business model innovation as a life cycle of the firm, which starts with the "job to be done", entering into the exploration phase. It is then followed by the exploitation phase, once the functioning business model is discovered, and becomes reinitiated when a disruption arises. We theorize on the continuous cycle of exploring and exploiting business models as a precondition for the successful sustainment of disruptive innovation. Throughout this cycle, or the business model innovation process, disruptive innovation acts as a threat or an opportunity, which triggers the firm to experiment and innovate their business model to survive. Yet, while the trigger per se may still be regarded as one type of punctuated equilibrium, we argue that through adopting a more long-term perspective, and directing managerial thinking towards a cycle of continuous exploration and exploitation of the business model, companies may be better positioned against remaining a 'one hit wonder'—but instead, being able to continuously create and capture value out of existing and upcoming disruptive technologies.

With this framework we attempt to develop a better understanding of the life cycle of the managing disruptions in the firm and seek to contribute to the literatures of the business model as well as to the dynamics of innovation.

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8. Figures

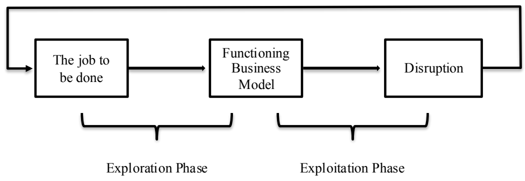

Figure 1 Life cycle of the firm as a business model innovation process

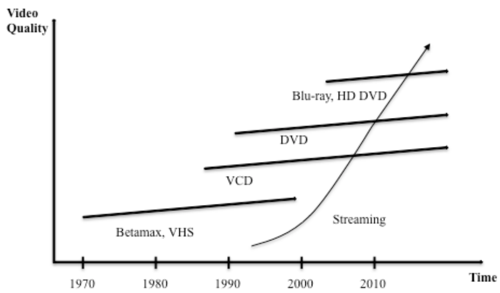

Figure 2 The Progress of Streaming Technology

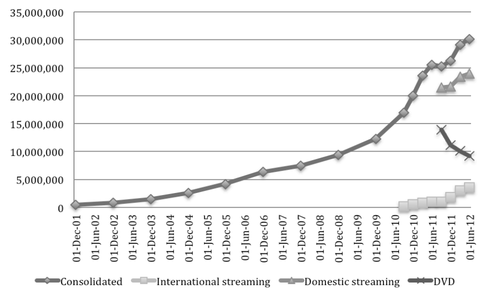

Figure 3 Total number of subscriptions