Paper to be presented at the DRUID Academy 2013

on

DRUID Academy 2013
at Comwell Rebild Bakker, Rebild/Aalborg

Business model innovation and organizational inertia: costly signals, capabilities and users

Magnus Holmén
Chalmers University of Technology
Technology Management and Economics
magnus.holmen@chalmers.se

Sara Fallahi
Chalmers University of Technology
Technology Management and Economics
sara.fallahi@chalmers.se

Abstract

Sara Fallahi
Department of Technology Management and Economics, Chalmers University of Technology, Gothenburg, Sweden
Year of Enrolment: 2012
Expected final date: 2016-12-31
Email: sara.fallahi@chalmers.se

Albeit business model innovation is a relatively recent phenomenon in the literature, there are ample explanations of why business models are difficult and slow to change within existing organizations. Kaplan and Henderson (2005) argue that both incentives or relational contracts and capabilities create an organizational lock-in. However, this does not explain why firms at times can change their business model within the existing organization. To do this, the paper analyses the implementation of a new business model as an interaction among changes in customers? views or behavior and the firm?s capabilities and incentives. The interaction is understood from a signaling perspective in the sense that over time, the firm alters the way it reliably signals to users and internally, and users alter the way they reliably signal to the firm and to other (potential) users. By drawing on a longitudinal case study, the implementation of the new business model is understood as a co-evolution of motivations/incentives and capabilities that orchestrate a change by means of signals. The paper discusses the general implications of the explanation.
Keywords: business model innovation, signals, capabilities, relational contracts, lead users, early adopters
Jelcodes:M10,-

Business model innovation and organizational inertia: costly signals, capabilities and users

Holmén, M.* and Fallahi, S.

magnus.holmen@chalmers.se / sara.fallahi@chalmers.se

* Corresponding author

Abstract

Albeit business model innovation is a relatively recent phenomenon in the literature, there are ample explanations of why business models are difficult and slow to change within existing organizations. Kaplan and Henderson (2005) argue that both incentives or relational contracts and capabilities create an organizational lock-in. However, this does not explain why firms at times can change their business model within the existing organization. To do this, the paper analyses the implementation of a new business model as an interaction among changes in customers' views or behavior and the firm's capabilities and incentives. The interaction is understood from a signaling perspective in the sense that over time, the firm alters the way it reliably signals to users and internally, and users alter the way they reliably signal to the firm and to other (potential) users. By drawing on a longitudinal case study, the implementation of the new business model is understood as a co-evolution of motivations/incentives and capabilities that orchestrate a change by means of signals. The paper discusses the general implications of the explanation.

Keywords: business model innovation, signals, capabilities, relational contracts, lead users, early adopters

1. INTRODUCTION

This paper aims to explain why firms can innovate their business model by overcoming their organizational inertia. Concepts such as incentives, routines, lock-in, culture, capabilities, network structure or framing has advanced greatly in being able to explain why it is difficult and time-consuming, and at times even impossible to change organizations. The resource dependency theory argues that surviving firms are characterized with a fit to the environment (Pfeffer and Salancik, 1978) but managers to a large extent are powerless to change their organizations. This means that a major contextual change implies that some entrants are more likely to become market leaders as they can enter having a better fit to the new environment than the incumbents because the incumbents will fail to renew themselves. Evolutionary or capability oriented papers argue that survivors are the ones that create routines and capabilities that serve customers. The very creation of routines lead to local search meaning it becomes difficult for the firms to radically reorient their work and thus leads to organizational inertia. The organizational economics literature on the other hand, finds that organizational change should be relatively straightforward if the incentives are aligned with the firm's context. For incumbents however, incentive systems are embedded within informal relational contracts where employees based on experience expect certain behavior to be rewarded, which explains why behavioral change is difficult (Kaplan and Henderson, 2005).

None of the explanations are sufficient to explain why organizational change is difficult because incentives and cognition co-evolve so that organizational capabilities or routines are as much about building knowledge of "what should be rewarded" or relational contracts as they are about "what should be done" or capabilities (Kaplan and Henderson, 2005). Relational contracts, i.e. informal agreements on expected behaviors, deals with how managers as well as staff frame and understand various problems whereas what should be done deals with both the understanding and the capability to perform certain tasks. This paper argues that this logic adheres to the specific case of business model innovation, which means that to change the business model, the capabilities and the incentives or relational contracts need to change in unison.

Business model innovation is rather recently studied phenomenon (Chesbrough and Rosenbloom, 2002) focusing on how and why firms profit by changing their business logic "recipes", maps or stories (Morris et al, 2005). A business model can be viewed as a novelty for the firm in terms of the interdependent activities that spans the firm's boundaries. This means business model innovation may include novelties in terms of activities performed for the focal firm that lie outside its boundaries by partners, suppliers or customers. This allows the focal firm to rely on the resources and capabilities of the third parties and harness external ideas and technologies. In some instances entire key activity, such as product development, is shifted outside the firm (Zott and Amit, 2010). Thus, business model innovation can include novelties for how the firm approaches customers, how its goods are distributed, how the revenue model is designed and so on (Amit and Zott, 2001; Chesbrough & Rosenbloom, 2002; Magretta, 2002; Markides & Charitou, 2004).

Recently business model innovation studies has begun to explore the relation to opportunities, entrepreneurial action and competitive advantage but little is known why firms at times can change their business models and the relation among different typesthese changes (Morris et al , 2005) and the sequence and the logic underlying such changes. However, there are many explanations in the literature that potentially can explain why firms would be able to innovate and re-align their organizations to the new offers, including economic incentives, evolutionary experimentation, entrepreneurship oriented explanations, and leadership style or organizational behavior oriented explanations (Magretta, 2002). While they all have an important story to tell, they fail to capture the nature of the evolutionary sequence of the creation and implementation of business model innovation because they do not address the nature of the interaction of the firm with its users, and within the firm itself. For example, explanations such as external shocks or crises may provide partial answers why firms are motivated to change their business models but fails to deal with the interaction among the different parts or functions of the firm and their varying expectations together with the opinions and actions of factual and potential users and customers. Moreover, business model innovation is not all about new type of business model; rather it could create a new way of organizing the firm, i.e. implementing the business model. While many studies attempt to bring explanations or frameworks for how a successful business model can be created they fail to explain how such a model can successfully be implemented (Osterwalder et al, 2005).

One way to explain the creation and implementation of a firm’s business model innovation is to draw on signal theory (Stiglitz, 2002) in terms of how different actors (signalers) convince the receivers of the signals. Signals have been studied in the contexts of information economics, evolutionary biology and psychology, and marketing (Spence, 1973; Stiglitz, 1975; Zahavi, 1975; Gerstner, 1985; Herbig and Milewicz, 1994; 1996; Maynard Smith and Harper, 1995; Miller, 2009). In a formal or informal market, an innovation and subsequent transactions are characterized by information asymmetry. When customers lack the information of the supplier, they infer the quality of the firm's goods based on the firm's signals consisting of overt resources or activities. As most signals can be imitated by firms of lower quality, the signals that are reliable for receiving customers are the ones that are costly and thus difficult to send (Spence, 1973, Kirmani and Rao, 2000).

The purpose of the paper is to show that a modified version of the signaling theory can explain the creation and implementation of business model innovation. The paper analyzes a multinational corporation active in manufacturing and selling hygiene products. To differentiate its offers from competitors, the firm added services and new product packages that complement the original product offers, which changed its business model.

The paper is structured in the following way. Section 2 reviews the literature on business models and signals and Section 3 presents the method. Section 4 and 5 analyses the case and discusses the general implications while Section 6 presents the conclusions.

2. LITERATURE REVIEW

2.1 Business models as a means of creating and capturing value

Over time firms need to change their business models to cope with new technologies and innovation on the one hand, and to satisfy the changing expectations of customers on the other hand (Pynnönen et al, 2012). Business model innovation is linked to the business model, which has received substantial attention from academics since the mid-1990s (see e.g. Slywotzky, 1996; Slywotzky and Morrison, 1998; Amit and Zott, 2001; Chesbrough and Rosenbloom, 2002; Magretta, 2002; Markides and Charitou, 2004; Morris et al., 2005; Markides, 2006). There is no general definition for what a business model is and at times the diversity among existing definitions creates substantive confusion in terminology. Different literature use the terms business model, strategy, revenue model, economic model, etc. interchangeably and refer to business model as architecture, design, plan, method, paradigm, pattern, etc. (Morris et al, 2005). Most definitions on business models define them from an economic, operational and strategic perspective which include the firm's offerings, the activities undertaken to produce them and the way the firm captures value (Chesbrough and Rosenbloom, 2002).

Teece (2010) employs the notion of business models in relation to creating, deliver and capture value while Chesbrough and Rosenbloom (2002) deal with the role of business model as a means of capturing value from technological innovations in which the business model connects the technological potential to the economic feasibility. To do this, firms offer products or services that are embedded in a system of activities and relationships that comprise their firms' business models. Some studies have pointed to the boundary-spanning nature of business models by emphasizing the need to consider activities performed for the focal firm by external actors, including partners, suppliers or customers. This allows the reliance of the focal firm on the resources and capabilities of the third parties outside its boundaries and harness external ideas and technologies through open business models. In some instances entire key activity, such as product development, are shifted outside the firm. The activity system perspective introduced by Zott and Amit (2010) characterizes business models as a system of interdependent activities that spans the boundaries of the firm which allows the firm to create value and to appropriate a share of that value for itself. Firms attempt to improve their innovation capacity by use of external knowledge for capturing value from their innovations which requires new organizational practices (Foss et al, 2011).

However, one problem that arises is that many firms do not know what the customers perceive valuable and what their preferences are. Lack of understanding of customer values would end in huge investments for developing a product or service with no users. Customer value must be included in the firm's strategy and business model and one way to deal with that, is by generating loyalty and lock-in among customers with a superior value proposition (Brodie et al, 2009). What the firm needs is to develop a customer-driven business model by integrating customers into R&D and innovation processes (Thomke and von Hippel, 2002). For creating such a business model the firm needs to acquire or create certain capabilities and processes.

2.2. Signaling and receiver perception of value

Signals convey messages concerning the quality, value or competitive intentions of a signaler's offer, such as a firm's products or services that may be difficult or impossible for a receiver to directly or explicitly observe or obtain within a reasonable time and resource frame. Signaling is a theory for describing the behavior of two parties, by understanding how the signaler and the receiver resolve information asymmetries about the unobservable quality of the offer (Connelly et al, 2011). By signaling firms can demonstrate their ability and motivation to produce and deliver a product or service that will provide value for the customer. For example, Spence (1973) explains that education function as a signal in the labor market where a prospective employer can screen an applicant's relative ability to perform well despite lacking the information about the applicant's quality.

The quality of a signal refers to the underlying, unobservable ability of the signaler to satisfy the needs and demands of the receiver which depends on two key concepts: a) signal observability, meaning the extent to which receivers of the signal are able to notice it, and b) signal cost. If signals ensure that the sender is motivated and confident about its ability and motivation to deliver a high quality product or service a prospective customer may perceive that it is more likely that the firm's offers will be better than the alternatives (Herbig and Milewicz, 1996). However, even if the signaler does not have the underlying quality associated with the signal, it may be motivated to cheat by false signaling since most signals entail a low cost for the signaler. Therefore, efficacious signals need to be perceived as reliable by the receiver (Connelly et al, 2011) According to signaling literature, it is the high costs of or difficulty involved in signaling that assures the value and reliability of the signal to the customer and makes the signal hard to imitate (HIS) for competitors (e.g. Spence, 1973; Riley, 2001). As a consequence, if the costs of the signal in terms of time, difficulty and use of resources, goes down, then the value of the signal is also reduced.

The creation of HIS therefore includes significant features such as observable expenditure of resources, time spent and care taken to demonstrate the firm's ability and willingness to "waste" resources, which might differentiate its signals from those of imitators or competitors (Miller, 2009). In business, the cost or handicap does not need to arise at the moment of signaling; it might have been incurred in the past. In particular, repeated sequences of actions (routines), such as repeated firm and customer interactions, are ways used by signalers (firms) to demonstrate proficiency. Such activities signal future good performance because they show the firm has performed similar tasks successfully in the past, which makes it sensible to regard the firm to be able and motivated to undertake similar activities in the future. It is obviously difficult for competitors to imitate these signals at least in the short run since dedicated work is technically challenging and necessarily involves time before a competitor performs repeated tasks. This view is in line with evolutionary theorizing that explains that meticulous recursive practice in technological development or scientific progress (Vincenti, 1990; Constant, 2000) leads to more reliable knowledge or capabilities (Campbell, 1974; Constant, 2000).

Signal observability means that the effectiveness of signals depends on the receiver's ability to interpret them, which in turn is dependent on the social meaning and interpretation of the signals, the prior knowledge and experience of the receivers, and the number of signals received (Herbig and Milewicz, 1994; Khaire and Wadhwani, 2010). This means that receivers may interpret signals differently (Spence, 1973) and as customers learn signal's value changes for the transmitting firm.

2.2.1 Capabilities

Capabilities provide firm with specific advantages (Black & Boal, 1994). According to the capability view the firm consists of systemic interactions among resources, which allow the firm to perform different activities effectively (Kogut & Zander, 1992; Nahapiet & Ghoshal, 1998). Firm capabilities are based on individually distributed knowledge which is recombined and integrated by routines. Firm routines are collective and typically change in a path-dependent manner may change intentionally or unintentionally.

An organization is coordinated by it routines, economizes labour and cognitive work, reduces uncertainty and creates stability, and is a repository for firm's knowledge. Many scholars have emphasized that routines can and do affect organizational change (Nelson and Winter, 1982; Teece and Pisano, 1994; Grant, 1996; Teece et al, 1997). New product and service development literature stress that customer interaction and customer interaction routines are crucial to create knowledge of customer needs. In contrast, the capability literature primarily has a firm-centric view, largely ignoring the role of customers. This is unfortunate as the ability of a firm to create and capture value is determined not just by the core capabilities necessary to undertake productive activities but also by the ancillary or indirect capabilities the firm requires to interact with its customers, suppliers and other external actors (Langlois and Robertson, 1995; Loasby, 1998). To illustrate, effective problem formulation is a crucial capability for innovation. If effective and non-trivial problem formulation for the customers is created by the firm during pre-sales, this ability becomes a HIS where the customer is convinced the firm can deliver on its promises, which shows that capabilities can be sources for HIS.

By drawing on the signal literature, the following can be inferred concerning the role of capabilities as HIS sources: First, the literature states that capabilities of the firm evolve only gradually over time. The set of capabilities within the firm at any moment are influenced by past choices. Therefore, a firm's activities, including signaling impose a boundary on what the firm's internal repertoire is likely to be in the future. The leverage of capabilities mainly occurs across time, by repetition, in which the execution of activities within the firm becomes highly effective. Leverage may also occur within related and coherent diversification in which capabilities can be redeployed within similar activities (Helfat & Raubitschek, 2000). From the perspective of this paper, repetitive, time consuming, meticulous and sometimes wasteful activities that create more reliable knowledge or capabilities are important because they may create the capabilities that are sources of HIS.

Second, as firm capabilities are organizationally embedded, they are locally dependent and cannot rapidly be imitated or diffuse outside the special context in which they have evolved. Thus, if customers perceive or infer that a firm has a certain ability or track record; it is likely that firms will possess that ability differentially, making it a source of HIS. However, this interpretation will critically depend on the time, knowledge and motivation of the customer to comprehend the signal and whether or not the signal is honest.

2.2.2. User involvement in innovation processes

The literature suggests that ways to orchestrate radical changes include customer development or engaging customers and more specifically lead users in the innovation process (Magnusson et al, 2003; Morrison et al, 2004; Bogers et al, 2010; Blank and Dorf, 2012).

Therefore from the theoretical point of view, engaging customers and more specifically lead users in the innovation process contributes to successful innovation (Magnusson et al, 2003; Morrison et al, 2004; Bogers et al, 2011). This is why lead users, as a source of innovative ideas and as the early adopters to the innovation, becomes important for contributing to successful business model innovation process. The main focus deals with the interaction process between users and companies, where the importance of knowledge integration between these two roles or inside the organization in order to transfer the right knowledge to different sections of the company becomes essentially important.

Processes such as concept development in which the company tries to use inputs from customers from the early stages of innovation have been designed to decrease the cost and wastefulness of new product and service development (Alam and Perry, 2002). By use of signaling theory (Herbig and Milewicz, 1996; Riley, 2001) (i.e. direct or indirect messages by which the company influences the behavior of its customers and vice verca) it is explaned why investing in early activities would pay off during or after the launch of innovation. The importance of lead users as a source for novel ideas has been introduced by von Hippel (1986) and later has been used by famous companies such as 3M and HILTI during their New Product Development processes (Luthje and Herstatt, 2004). On the other hand theories on customer interaction during innovation processes, and more specifically during service innovations could be found in articles such as Gruner and Homburg (2000) or Alam (2006).

The innovation management literature is challenging the traditional new product and service development models in which the company is solely creating and selecting the new product or service ideas. Specifically, the customer-centric and the market-orientated views draw on the fact that customer-involvement in the development process or observing customers in real action facilitate proactive learning about customers and understanding and anticipating their latent needs (Alam and Perry, 2002; Matthing et al, 2004). In these paradigms customers are portrayed as active by creating ideas for new product/ service or selecting their preferred design to be produced (Fuchs and Schreier, 2011). This implies firms need to become more customer-oriented by engaging customers in the innovation process (Gruner and Homburg, 2000; Alam and Perry, 2002).

Users are widely acknowledged as a valuable source of creative ideas and knowledge especially in in fuzzy front-end of innovation processes (Buur and Matthews, 2008). The correlation between market orientation and the innovation performance is mediated by the ability to innovate which in turn depends on the extent of customer involvement. This brings a key challenge for companies in terms of how to identify users who are capable of generating truly innovative and valuable ideas for new innovation (Matthing et al, 2004)

According to the customer active paradigm the first step in being innovative is to create ideas and develop product or service prototype. This is often done by firms interacting with users or by lead users, a minority of users are actively searching for solutions to their problems (Bogers et al., 2010; Morrison et al., 2004). Lead users have greater needs and discern them ahead of the majority of users but with needs relevant for a future market (von Hippel, 1978). Empirical studies show interaction with customers having lead user characteristics has positive impact on product and service success (Gruner and Homburg, 2000).

The marketing literature indicates that having pro-active users can be a HIS, in that their activities and motivation signal to other users the relevance of the products or services (Miller 2009). This type of HIS arises out of conspicuous reputation, which refers to the statements or views expressed by others than the firm. The interaction with customers can transform the users from ‘being out there’ to being active continuously signaling to other potential customers post innovation. This means users that took part in the early phase become a part of the firm’s resources (Priem, 2007) and as such they can be a source of HIS.

3. METHOD

The paper is based on a longitudinal study of the implementation of a new business model TENA Services at Svenska Cellulosa Aktiebolaget (SCA), a Swedish multinational corporation working with three different business areas; Personal Care, Tissue, and Forest Products . The case is focused on hygiene products and narrates the period of time since 2004 when the firm began to radically change its business model of TENA from selling products to selling bundles of products and services. For implementing such a change the firm required new activities, capabilities and resources that would be convincing for customers and staff.

To ensure construct and internal validity, the data was collected from workshops, open interviews with three company managers and semi-structured retrospective interviews with project members. One of the authors was responsible for setting up and moderating service innovation workshops between 2008 and 2010 for analyzing the problem structure and proposing solutions for the implementation of the new business model in more than twenty European nations. The aim of the workshops was to answer how to implement the new service-oriented business model by identifying and solving the most important problems within the European markets from the perspective of the employees with relevant functions (engineers, sales, managers, human resource management, and marketing). Each nation was represented by 5-7 individuals. The workshops began by formulating the question in line with "What is the main problem for implementation of the business model for business unit X?" The participants wrote down their answer to the question individually in silence, and each participant wrote 3-5 statements, which needed to fulfill the criteria of observability in that they had witnessed or taken part of events, processes and outcomes and specificity to remove contention, assumptions and guile from the problem analysis. Each statement was scrutinized and reformulated until it was understood by the entire group. The workshop participants grouped the individual statements into larger problem structures and later related the different problem clusters in terms of their dependencies based on a perceived cause and effect logic. If problem cluster A affects problem cluster B, the interpretation is that problem cluster A is a cause of problem cluster B. The final aspect of the workshop was to assess innovation–related problem clusters in terms of importance (impact) and difficulty of resolution by voting. The procedure led to identification of the two most important problems where potential solutions were identified and assessed.

The study was abductive in the sense that understanding of the implementation of the business model was the basis for ongoing conversations with company managers. During one conversation with one senior manager, a preliminary sequence of the business model change was outlined by the authors. This model was portrayed as consisting of a sequence of different types of innovation. This initial logic was theorized by drawing on the signal, lead user and capability literature leading to a new explanation of why one change enabled another. To verify the results, the results from the workshops were investigated, where it was found that the identified and related problems were found to be in relation to incentives and capabilities. The explanation was tested by creating a specific set of semi-structured and structured follow-up questions to verify the logic and to remove the most plausible rival explanation concerning the explanation.

The data analysis differentiated signals from hard to imitate signals by means of having open conversation and interviews concerning who did what and when. This was followed up by asking about to what extent different activities were thought of as more important by interviewees. However, there is a grey zone in terms of how to classify different signals, where personal judgment cannot be avoided.

4. ANALYSIS

For many years, Personal Care (PC), a business unit of SCA, was a world leader in hygiene products by diapers and feminine toward the elderly market. However, their profit margins were decreasing as their technological lead was deteriorating, which led to a decreased ability to differentiate their products compared to low-cost competitors. A top manager believed that the problem was that customers would not discern or care about the relative advantages of their products anymore as the competitors' products were of sufficient quality; consequently he thought PC needed to change its strategy away from selling high margin products. As a consequence PC in 2004 set up a workshop where a small group consisting of the manager, two employees, and an external consultant began to identify alternative ways of doing business. During the workshop, two opportunities were identified, where the idea was to "add services" to the product offers. After more preliminary investigations at another workshop, the idea to sell services toward nursing homes was identified as the most promising approach. One of the main reasons was that PC believed that they would be able to draw on and strengthen their relation with existing customers. In part, this decision was influenced by PC's prior history of selling hygiene services when they were an independent firm in the 1970s and early 1980s (i.e. Mölnlycke). After the acquisition, PC focused on selling products and discarded services.

To explore the identified opportunity of selling services again, PC started to develop a set of service concepts by visiting nursing homes and setting up internal workshops. Nursing homes are populated by elderly patients, often suffering from incontinence, mobility issues and a range of other diseases including dementia. This means that the staff either has to spend much time dealing with hygiene problems or ignore the patients for long periods, which leads to high consequence costs because of skin diseases. From the perspective of a nursing home's management the problem is the low level of education and wages for the staff, leading to a high degree of staff turnover.[1] This means that the nursing home's manager faced the problem of a great need to educate and motivate the staff but this is costly and difficult for single homes to do. The opportunity that SCA identified was to orchestrate better hygiene care at the nursing homes, by standardizing and better communicating hygiene behavior. This was a valuable opportunity in the sense that the cost for nursing homes to buy hardware (hygiene products) was less than 10% of the consequence costs if the patients ran into skin related diseases following poor hygiene.

To target the nursing homes, PC internally created a process consisting of three service phases denoted Plan, Coach and Monitor described in Figure 4.1.

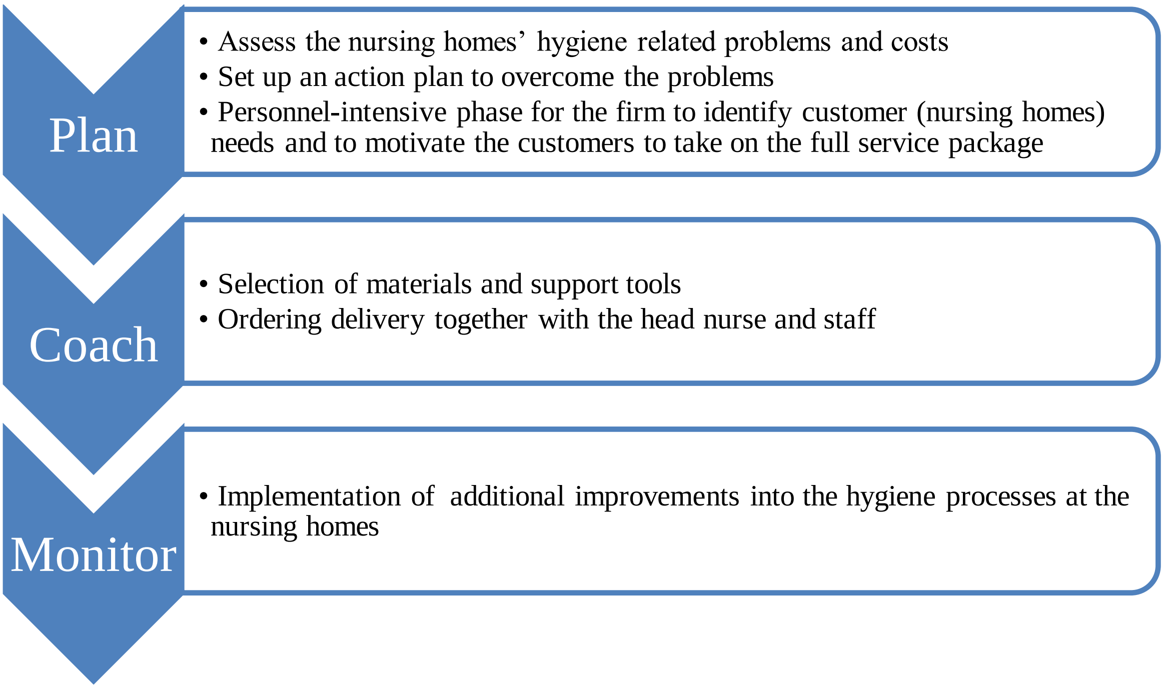

Figure 4.1 The service process

[1] This is generally true, despite great differences among nursing homes across markets because of national differences in regulations, ownership and eco-systems. In certain markets, such as Great Britain 50% of the staff leave within two years.

Many nursing homes were visited during the development of the Plan, Coach and Monitor service concepts. Typically these visits consisted of having a couple of PC staff meeting the nursing home's manager and the staff to investigate customer problems, routines and patient care processes. During these visits to the nursing homes, the customers' views of what PC could deliver changed from just thinking of PC as a company that sold hygiene products over the counter to a company of sellers who could be a discussion partner for hygiene problems. The participating sales force became enthusiastic over the new service concepts because they realized that they could use the new service oriented approach as a great way to differentiate their offers, see Table 4.1. Thus, together with the other participants, including the originators of the service concepts, they told the PC management that the new concepts should be launched. This strong signal from the sales force was something the internal team, responsible for launching the new offer, was unable to do as they were both a small team and also "kidnapped" by the project and thus they were viewed as less trustworthy by the rest of the organization.

Thus, service development commenced by creating new supporting tools such as road maps to roll out the Plan, Coach and Monitor services. To increase the market diffusion, PC involved selected nursing homes to act as reference cases for other prospective customers. Over time, across Europe there were an increasing number of nursing homes that had participated in the services who both were acted as showcases.

Table 4.1 Signal sequences*

Signaler	**Receiver: the firm**	**Receiver: customers**
(Parts of) firm	*Sales force signaled "we can differentiate" internally* Discovered valuable sub-problem that must be able to interact with customers (=capabilities and resources) (Internal service concept development team)	Sales force deliver and demonstrate usefulness at pre-study Use of nurses in the field (Marketing material)
Customers	Interested customers convinced sales force of relevance of the new concept (Internal service concept development team)	Capture attention and activate potential customers (Pilot studies; written evidence; success cases from other nations)

* Hard to imitate signals are written in italics. Imitable signals are written in normal fonts.

Nonetheless, PC ran into two major difficulties following the launch. First, PC had a problem to profit from their services as the revenue model was based on product sales following the

Plan phase. As the Plan phase was personnel intensive, without any obligation (freemium) for the firm to only buy PC's products. As a consequence this meant the sales needed to spend much time educating customers without bringing in extra sales at least in the short run. To make matters worse, much of their customer interaction proved to be a poor idea, either because the management did not buy into the need of the services or that the hygiene problem at the nursing home was not that dramatic. The alternative cost for the firm was very high as the sales force and other staff was locked into customer interaction which could not become profitable while ignoring other potential customers. To circumvent the problem, Pre-Plan was added as the first phase to make sure the firm could screen for financially more viable customers.

The second problem was that professional services warrant the ability to provide customer solutions or interact with customers to formulate valuable problems, evaluating, selecting and setting up ways of solving them. It soon became clear to PC that their sales force that stood for the bulk of customer interaction lacked critical competencies for understanding the managers and the staff at the nursing homes. In part to find out why the implementation of the service concepts was so difficult the company rolled out a set of workshops covering the entire European market over several years. As the issues varied from one country to another, the different markets were dealt with independently. The workshops were organized to deal with three aspects of the implementation of the new business model. The staff should be educated and be provided with good ideas on how to deal with various problems concerning the service concepts, problems with the implementation of the business model should be identified and ways to solve the most critical should be identified and evaluated to enforce action.

Three main insights that emerged from the workshops was that much of the staff found it difficult to interact with the nursing homes; the business of negotiating the sales of a certain amount of standardized hygiene products to a specific price differed enormously to understanding the customer's needs and particular problems. Whereas some of the field staff, including the sales force was trained as nurses, much of the staff had a heterogeneous background having no training in hygiene issues and skin care. This made it difficult for them to approach the nursing homes, on the right managerial level and talk to nurses and the assistant nurses involved in the hygiene activities in a convincing manner.

The problem of understanding the new service logic compared to the dominant product logic was widespread, not just among the sales force but also among many managers. One regional manager said: “it didn’t happen because I never believed in it. And if I didn’t my staff didn’t either.” A particular concern dealt with the measures, including return on investment (ROI) as the performance of the managers was evaluated not in terms of creating long term contracts or shifting the organization around but to keep margins and turnover high. At the same time, they a separate workshop for managers only noted that the difficulty of setting relevant measures for following up the performance of the staff was a big obstacle. They argued that their staff would not perform because the way of assessing them was not aligned with the new service logic. This was also found to be a main issue for the sales force, they wanted to have targets to act towards that allowed them to be rewarded for making a sales rather than setting up a large, costly and time consuming project.

Following the workshops, there were a lot of initiatives to improve the diffusion of the services. The exact approaches varied across the European nations, but common initiatives included setting up dedicated training for the staff, rethinking the profile of the staff, and creating a set of new resources to support the staff interacting with the nursing homes, including standardized diagnostic hygiene tests, cost-benefit evaluation tools etc.

TS has not been an overwhelming success. Arguably for two reasons: not exactly strong increasing returns to adoption here were users signal to users. Also, the value capture logic is still based on the product logic and not the service logic, which limits or makes it harder to turnover an organization because the incentives are slightly off (e.g. precisely what was demonstrated in the German market).

5. DISCUSSION

The business model innovation of SCA consisted of a new combination of existing and new activities. More precisely, the business model innovation warranted a new combination of different types of innovations. To understand the nature of business model innovation we need to recall that for the SCA the BMI was executed by four major types of innovations; a) product[2], b) market position, c) paradigm, d) a combination of process and product innovations. We will now explain why they were created from a signaling, relational contract and capability perspective, see Table 5.1.

---

[2] The concept “product innovation” includes service innovations and not just physical goods whereas product concept includes physical goods only.

Table 5.1 Hard-to-imitate signal sequences

<table>
<tr><th>Signaler</th><th>Receiver: the firm</th><th>Receiver: customers</th></tr>
<tr><td>(Parts of) firm</td><td>c) Paradigm innovation
The sales force convinced managers that the service offer had potential
d) Process and product innovation
Sales force and managers identified valuable sub-problem that must be able to interact with customers (=capabilities and resources) efficiently
Creation of (new) incentives within the organization – but failure to diffuse</td><td>a) Product innovation: changed problem framing and creation of routines and capabilities
Sales force deliver and demonstrate usefulness at pre-study
Use of nurses in the field</td></tr>
<tr><td>Customers</td><td>b) Position innovation
Interested customers convinced sales force of relevance of the new concept
Creation of (new) incentives or relational contracts within the organization</td><td>Cognitive framing: understanding a problem differently
Capture attention and activate potential customers</td></tr>
</table>

The creation of the product innovation can be understood as combination of a valuable problem formulation and the creation of capabilities within small field teams. The initiation of the entire process was one manager's framing of an upcoming problem; the inability to compete with rising low cost competitors based on superior product quality only. The initial workshops made it plausible that customers' problems existed that new services could solve and thus the company decided to launch the services. In addition, during the work to create new service concepts, the involved people identified and developed important skill sets relating to interacting with customers. In part this was done by the work of the service concept development team who also begun the meticulous work to create supporting resources and routines, and in part this was done by bringing in a few persons with experience from service oriented work with nursing homes. This work meant that the product innovation, i.e. the launch of the service concept by visiting customers, was successful in the sense that it convinced nursing homes to undertake the entire service offer.

The skills of the teams interacting with the customers convinced the customers that it was worthwhile to spend time and energy with the company in order to improve the financial situation of the nursing homes by cutting consequence costs, the wellbeing of the patients and the nursing homes' staff. This led to a position innovation where the customers began to view the company's offer differently as a consequence of the customer – company service interaction. The proficiency of the interaction during the early phases convinced customers the offer was genuine; the capability to interact with the customer constituted a hard to imitate signal during the early phases of the service interaction. However, as the amount of customers who participated is limited the impact of the position innovation was limited as well as such a change in view does not readily travel from one nursing home to another.

As much of the staff visiting the nursing homes consisted of sellers, they became convinced of the viability of the service concepts as the customers were interested in knowing more about hygiene and changing their activities. The voice of the customers may be the most powerful costly signal, and as this was linked to a position innovation, the sales force that the opportunity to shift over to services more forcefully. As the sales force is the key staff to diffuse the services, their argument that the service concepts were incredibly powerful but that much was still missing in terms of supporting tools and processes sent a hard to imitate signal to the organization that is the new business model was worthwhile but also needed much further investment. This in turn led to initiation of investments into improved processes.

However, many managers either did not understand or believe in the new service concept. The financial logic did not make sense where the return on investment was both uncertain and would be slow to emerge as the creation of customer relations was costly and difficult in the short run. Without a full commitment from the top management support, many managers were unsure of whether to implement the model. In addition, they saw that much of their sales force was unwilling or unable to interact to sell services, in part because they lacked the skills. Matters were made worse in that supporting tools and routines were not in place. As a consequence, the services were not prioritized in many of the markets by managers. At the same time much of the sales force, lacked the skills to interact with customers rather than making sales on product markets. Just as important however, was the fact that many of them lacked the mental frame to understand the nature of services, and the type of activities that it entailed. In addition, there was not any ways of assessing their progress in a way, and as managers did not prioritize the services compared to products. A main issue was that the services were a cost to the organization as the customers did not pay for it. Instead the services in practice were used as an extended marketing force. As the revenue and the associated assessments of the sales force were linked to the product model, the incentive to change was very low.[3]

Despite support centrally to the organization the diffusion was slow. One particular issue was that there was not just one business model in the company. In part this can be understood of the reflection of the particularities of institutions, local eco-systems and idiosyncratic, country specific business models. This means that even if the business model is similar in all countries, in reality this holds only true on a very abstract level as the definition of the customer, revenue models, and activities and resources vary greatly among nations. In part this is a Not-Invented-Here syndrome where different parts of the organization prefer to use their own ideas. However, this phenomenon was more related to the views of customers than the organization itself where the staff was used to discussing with staff from other nations.

The logic outlined above is in line with the basic argument of Kaplan and Henderson (2005) that to change business models, the relational contracts and the firm's capabilities need to co-evolve. At the same time, relational contracts and capabilities function as both barriers and drivers of business model changes. This paper argues that the particular nature of whether these drivers or barriers depend on in what ways they are able to send hard to imitate signals. The ability of any signal to be a HIS depends who the signaler is and who the receiver is. As it is clear from the case, there are several instances where the signaler was able to send HIS. The main ones included the initial sales team interacting with customers, sending HIS to the customers that a new approach was under way. This became a HIS as the teams were prepared and in many instances experienced and was willing to spend much time researching the particularities of the nursing homes looking for better solutions. In turn, the interest and the enthusiasm of customers send a HIS to the participating sales force.

However, the latter was a mixed blessing in that it was a HIS that the customers wanted the services, but at the same time this HIS only affected a minority of the sales force and did not spread to much of the rest of the organization, including the non-participating sellers, as there was not any price tag attached to the services. Arguably, this "hybrid model" is a major explanation for the relatively slow uptake of the services in the organization, at least if different countries are compared where some nations were much more successful than others.

[3] Anecdotal evidence points to a major difference in the sales force depending on their background. Nurses were much more comfortable and happy with the service than other sellers with a different background. We argue that this can be understood in that they better understood the clients and much more readily could engage in conversation with the nursing home managers as they grasped their activities better.

In this way the case illustrates that HIS can and do cause changes in business models but that the precise nature of these changes cannot be understood just from a signaling perspective as the signals are not. However, we argue that to explain the changes in business models, it is not enough to focus on the co-evolution of relational contracts and routines as the co-evolution is mitigated by signals sent among different parties. In addition, we suggest that in line with much of the customer-centric literature, the implementation of new business models cannot be fully understood without considering the role and the impact of customers.

6. CONCLUSION

By drawing on a case study, this paper has explained why firms overcome organizational inertia to implement business model innovation from a signaling perspective. We use signals to explain the co-evolution of relational contracts and capabilities that orchestrate a business model innovation by drawing on the conceptualization of organizational inertia consisting of a co-dependence of relational contracts and capabilities (Kaplan and Henderson 2005; Gibbon and Henderson 2012). The creation and the implementation of a business model innovation were explained as consisting of a combination of hard to imitate signals sent from and to the entire firm, specific functions within the firm, and customers. Thus, each of these interchangeably acted as signalers and receivers.

However, whereas all parties signal all the time, hard to imitate signals were found not to be sent randomly but followed a particular sequence. That is connected to the creation and implementation of a business model innovation sequence in the following way. When a firm creates a product or service innovation, customers change their view of the nature of the offer from the firm. In line with the resource dependency theory, nothing is more important than the source of the firm’s resources; in this case the money of the customers. Thus, the position innovation acted as a hard to imitate signal for the sales force which motivated them sales force to ask for resources from the managers to continue to implement the business model. This meant that the sales force sent a hard to imitate signal to the management of the firm that new resources were needed.

However, hard to imitate signals from one part of the firm does not need to alter relational contracts nor does it mean that a full orchestration of a business model turnover becomes viable. In our explanation, for a change to continue, managers must change their problem framing, combined with work to change the formal and informal measures of performance to convince the entire staff to change their behavior. One explanation for the difficulty of changing the problem framing of managers is that their performance measures is related to short term incentives rather than long term effects. In addition, if there is a capability misfit with the new business model, such as interacting with customers, the staff will be less motivated and may refrain from learning and changing their behavior. In this way, our study reinforced the claims of Kaplan and Henderson (2005) that relational contracts and capabilities need to co-evolve for organizations to radically change.

The study suffers from some limitations in that the model is based on one case only, which means that the generalizability of the explanation is limited to the context of large established firms selling to organizations. Further research is thus warranted, to verify and modify the results. We argue that a particular limitation relates to the generalizability of the sequences of signals in relation to: who signals to whom, what they signal, in which order and by what means. The business model innovation presented in Section 4 consists of a new combination of the four types of product, position, paradigm and process innovation. This is a richer set of novelties than many business model innovations, implying that the sequence changes will differ depending on the nature of the novelties of the firm.

How useful is HIS as an explanation for business model innovation? The case indicates that HIS do explain changes in understanding and action among different types of actors within the firm, as well as among some customers. We suggest the HIS approach is a general explanation for business model innovation, as well as other social and economic changes. However, as an explanation, while the HIS concept is general, in the particular instances it may not be very powerful as it fails to discriminate for why a particular HIS affects a specific individual or group but not others. Thus, to be generally useful, the HIS explanation needs to be combined with other concepts and explanations.

A potential theoretical problem is that the paper uses the same concepts, relational contracts and capabilities, for explaining why business model innovation is feasible as for explaining why it is hard. However, we argue that this is not tautological reasoning as these two concepts are mediated by the signaling over time.

REFERENCES

Alam, I. 2006. Removing the fuzziness from the fuzzy front-end of service innovations through customer interactions. Industrial Marketing Management, 35: 468-480

Alam, I., & Perry, C. 2002. A customer-oriented new service development process. Journal of Services Marketing, 16 (6): 515-534.

Amit, R. and Zott, C. 2001. Value Creation in E-Business. Strategic Management Journal, 22: 493-520.

Black, J. & Boal, K. 1994. Strategic Resources: Traits, Configurations, and Paths to Sustainable Competitive Advantage. Strategic Management Journal, 15: 131–48.

Blank, S., and Dorf, B. 2012. *The Startup Owner's Manual.* California: K&S Ranch.

Bogers, M., Afuah, A., & Bastian, B. 2010. Users as Innovators: A Review, Critique, and Future Research Directions. Journal of Management, 36 (4): 857-875.

Brodie, R., Whittome, J., and Brush, G. 2009. Investigating the service brand: A customer value perspective. Journal of Business Research, 62: 345–355.

Buur, J. and Matthews, B. 2008. Participatory Innovation. International Journal of Innovation Management, 12: 255–273

Campbell, D. 1974. Evolutionary epistemology. In P. Schilpp, The philosophy of Krl Popper: 413-463. LaSalle, IL: Open Court Press.

Chesbrough, H. and Rosenbloom, R. 2002. The role of business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. Industrial and Corporate Change, 11(3): 529-555.

Connelly, B.L., Certo, S.T., Ireland, R.D., and Reutzel, C.R. 2011. Signaling Theory: A Review and Assessment. Journal of Management. 37(1): 39-67.

Constant, E. 2000. Recursive practice and the evolution of technological knowledge. In J. Ziman, Technological innovation as an evolutionary process: 219-233. New York: Cambridge University Press.

Foss, N. , Laursen, K. and Pedersen, T. 2011. Linking Customer Interaction and Innovation: The Mediating Role of New Organizational Practices. Organization Science. 22(4): 980-999

Fuchs, C. & Schreier, M. 2011. Customer Empowerment in New Product Development. Journal of Product Innovation Management, 28:17-32.

Gerstner, E. 1985. Do higher prices signal higher quality? Journal of Marketing Research, 22: 209-215.

Gibbons, R. and Henderson, R. 2012. Relational Contracts and Organizational Capabilities. Organization Science, 23(5): 1350-1364.

Grant, R. 1996. Toward a knowledge-based theory of the firm. Strategic Management Journal, 17:109-128.

Gruner, K. & Homburg, C. 2000. Does Customer Interaction Enhance New Product Success? Journal of Business Research, 49: 1-14.

Helfat, C. & Raubitschek, R. 2000. Product Sequencing: Co-evolution of Knowledge, Capabilities, and Products. Strategic Management Journal, 21, 961–79.

Herbig, P., & Milewicz, J. 1994. Market Signals in Service Industries: Implications for Strategic Decision Making and Profitability. Journal of Service Marketing , 8(2): 19-35.

Herbig, P., & Milewicz, J. 1996. Market Signaling: A review. Management Decision, 34: 35-45.

Kaplan, S., and Henderson, R. 2005. Inertia and Incentives: Bridging Organizational Economics and Organizational Theory. Organization Science, 16: 509-521.

Khaire, M., & Wadhwani, R. 2010. Changing Landscapes: The Construction of Meaning and Value in a New Market Category. Modern Indian Art. Academy of Management Journal, 53 (6): 1281–1304.

Kirmani, A., & Rao, A. 2000. No Pain, No Gain: A Critical Review of the Literature on Signaling Unobservable Product Quality. Journal of Marketing, 64: 66–79.

Kogut, B., & Zander, U. 1992. Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. Organization Science, 3 (3), Focused Issue: Management of Technology (Aug.,1992): 383-39.

Langlois, R. & Robertson.P. 1995. Firms Markets and Economic Change: A Dynamic Theory of Business Institutions. Routledge, London.

Loasby, B. 1998. The organisation of capabilities. Journal of Economic Behavior & Organization. 35:139-160.

Luthje, C., and Herstatt, C. 2004. The Lead User method: an outline of empirical findings and issues for future research. R&D Management, 34(5), 553-568.

Magnusson, P., Matthing, J., & Kristensson, P. 2003. Managing User Involvement in Service Innovation: Experiments with Innovating End Users. Journal of Service Research, 6 (2): 111-124.

Magretta, J. 2002.Why Business Models Matter. Harvard Business Review. 80(5): 86-92.

Makides, C. 2006. Disruptive Innovation: In Need of Better Theory. The Journal of Product Innovation Management, 23:19-25.

Markides, C., and Charitou, C.2004. Competing with Dual Business Models: A Contingency Approach. The Academy of Management Executive, 18 (3): pp.22-36.

Matthing, J., Sandén B., and Edvardsson, B.2004. New service development: learning from and with customers. International Journal of Service Industry Management, 15(5): 479-498.

Maynard Smith, J., & Harper, D. 1995. Animal Signals - Models and Terminology. Journal of Theoretical Biology , 177: 305 – 311.

Miller, G. 2009. SPENT Sex, Evolution, and Consumer Behavior. New York: VIKING.

Morris, M., Schindehutte, M. and Allen, J. 2005. The entrepreneur’s business model: toward a unified perspective. Journal of Business Research, 58: 726-735.

Morrison, P., Roberts, J., & Midgley, D. 2004. The Nature of Lead Users and Measurement of Leading Edge Status. Research Policy, 33: 351-362.

Nahapiet, J. & Ghoshal, S. 1998. Social Capital, Intellectual Capital and the Organizational Advantage. Academy of Management Review, 23:242–66.

Nelson, R. and Winter, S. 1982. An Evolutionary Theory of Economic Change. Cambridge, MA: Harvard University Press.

Osterwalder, A., Pigneur, Y. and Tucci, C. L. 2005. Clarifying Business Models: Origins, Present, and Future of the Concept. Communication of the Asspciation for Information Systems, 15: 1-40.

Pfeffer, J. and G. Salancik. 1978. The External Control of Organizations. New York: Harper & Row.

Priem, R. .2007. A consumer perspective on value creation. Academy of Management Review, 32: 219–235.

Pynnönen, M., Hallikas, J., and Ritala, P. 2012. International journal of Innovation Management, 16(4): 1250022 (18 pages)

Riley, J. 2001. Silver Signals: Twenty-Five Years of Screening and Signaling. Journal of Economic Literature, 39 (2): 432-478.

Slywotzky, A.J. 1996. Value Migration. Boston: Harvard Business School Press.

Slywotzky, A. and Morrison, D.J. 1998. The Profit Zone: How Strategic Business Design Will Lead *You to Tomorrow's Profits*. John Wiley & Sons: Chichester.

Spence,M. 1973. Job Market Signaling. The Quarterly Journal of Economics, 87 (3): 355-374.

Stiglitz, J. 2002. Information and the Change in the Paradigm in Economics. The American Economic Review, 92(3): 460-501

Stiglitz, J. 1975. The Theory of "Screening", Education, and the Distribution of Income. The American Economic Review, 65 (3): 283-300.

Teece, D. 2010. Business Models, Business Strategy and Innovation. Long Range Planning, 43: 172-194.

Teece DJ, Pisano G, Shuen A. 1997. Dynamic capabilities and strategic management. Strategic Management Journal,18(7): 509–533.

Teece, D. and Pisano. G. 1994. The Dynamic Capabilites of Firms: An Introduction. Industrial and Corporate Change, 3(3): 537- 556.

Thomke, S., and von Hippel, E. 2002. Customers as innovators: A new way to create value. Harvard Business Review, 80(4): 74–81.

Vincenti, W.G. 1990. What Engineers Know and How They Know It: Analytical Studies from Aeronautical History. Baltomore MD: John Hopkins University Press

von Hippel, E. 1986. Lead Users: A Source of Novel Product Concepts. Management Science, 32 (7): 791-805.

von Hippel, E. 1978. Successful Industrial Products from Customer Ideas, Presentation of a New Customer- Active Paradigm with Evidence and Implication. Journal of Marketing, 42:39-49.

Zahavi, A. 1975. Mate selection: A selection for a handicap he Handicap Principle. Journal of theoretival Biology, 53: 205-214.

Zott, C. and Amit, R.2010. Business Model Design: An Activity System Perspective. Long Range Planning.43: 216–226.