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## **Open Innovation practices applied to Service Innovation**

A study of the Norwegian Service Sector

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## **Abstract**

Open Innovation (OI) has become one of the most predominant topics in innovation management. However, most literature has evolved around the effects and best practices for product manufacturers. Nevertheless, service industries represent 60-70 percent of GDP in most western countries. Therefore, this thesis is motivated by a desire to see how the practices of OI apply to this largely overlooked industry. The OI concept involves going beyond company borders to include external inflows as well as internal outflows, but also involves opening a company's business model to facilitate these flows. Firstly, the thesis examines the existing academic literature on the topic. Thereafter, it analyzes the theoretical fit between OI practices and service innovation, before studying whether OI practices are applicable to service innovation in the six Norwegian case studies.

The findings show that theoretically OI is a valuable concept in service innovation, due to the similarity of OI and service innovation practices. However, the empirical findings indicate that OI practices within five of the companies are limited to external inflows, whereas the sixth company that provides knowledge intensive services is limited to internal outflows. The discoveries indicate that the incentives for internal outflows are not obvious for management, and therefore this affects their likelihood of adapting an open business model. Investments in OI management skills are absent in all firms, resulting in the lack of acknowledgement towards the importance of having a holistic perspective on innovation efforts. This is important because open innovation will ultimately increase profit through alternative revenue streams. However, the study shows that the lack of tradable intellectual property might inhibit the outbound innovation processes in service firms. This emphasizes the importance of creating more heterogenic service experiences for customer's instead of standardized, which are easier to imitate. To excel in open innovation, companies need to find their point of differentiation, which will serve as their "protection mechanism". The thesis suggest that when a company has found their leverage point, they will no longer be characterized by their fear of sharing new ideas, risk aversion, change reluctance and dread of failure. The security of their leverage point will enable them to out-innovate their competitors. Due to the unexplored nature of the concept, the study appeals for future research in the field of open service innovation.

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*This thesis is dedicated to our parents*

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## **1.0 Introduction**

### **1.1 Study Background**

Today we have come to the point where we need to be innovative in the area of innovation itself, also known as “Innovating Innovation” (Chesbrough, 2006). Although the definition of *Innovation* is somewhat diffuse, most people have heard of the concept and know how important it is. They seem to agree that it includes not only the invention aspect of a new product or service, but also the commercialization of it (Chesbrough, 2006).

Despite the fact that the global economy finds itself in a recession, businesses are still talking about investing in innovation and much is written about it in publications such as the *Financial Times* and *Bloomberg BusinessWeek*. The fact is that the recession itself serves as one of many influencers for the increasing importance of innovation. In difficult times, firms need to adapt to survive in order to prevail amongst their competitors (Mahroum, 2008). Although innovation is very important in such times, it is now relevant in all circumstances, as the nature of the economy has changed. Due to globalization, deregulation, and commoditization companies are experiencing an increased pressure to improve efficiency and effectiveness (Moore, 2005). Organizations need more than just good products and services to survive; they require innovative processes and management that can drive down costs and improve productivity. Consumer expectations also drive the amount of innovation in the market. Customers are today accustomed to continuous improvements for both goods and services. Modern consumers are more informed and have more options, which essentially implies that customers will no longer accept mediocrity (Ross, 2009).

Darwinism poses the question; how can we innovate forever? Moore (2005) has made an attempt to answer this question. He claims that in order for evolution to evolve, it requires us to continually refresh our competitive advantage, sometimes in dribs and drabs (incremental innovation), sometimes in major cataclysms (radical innovation), but always with some part of companies’ business portfolio at risk and in play. Jacobsen (2004) claims that companies that are continuously evolving are more

successful than organizations that only focus on implementing minor adjustments. To innovate forever, in other words, is not an aspiration; it is a design specification. It is not a strategy; it is a requirement (Moore, 2005).

Michaelides (2007) had a very noteworthy way of thinking about innovation, he stated: “To innovate or not to innovate? That is *not* the question”. He explains that; “the focus should not be on why we innovate or whether we innovate, but much rather about what, when, where and how we innovate”. We know that companies are investing a lot of money in R&D; according to Battelle (2011) the forecast for global R&D spending for 2012 is predicted to increase 5.2% to \$1.4 Trillion. What companies have recently come to acknowledge though, is that continuously reinventing the “wheel” eventually will just results in bad economics. Additionally, studies are showing that most new ideas fail commercialization. While the amount of a company’s R&D spending ads to their patent portfolio, it is definitely not a promise of a high success rate. This notion and awareness has led to the concept “Open Innovation” (hereafter OI), firstly brought to life by Henry Chesbrough (2003a). He argues that companies should organize their innovation processes to become more open to external knowledge and ideas, as well as letting more of their internal ideas and knowledge flow to the outside, when they are not being used within the company (Chesbrough, 2003a). Innovation companies that have successfully adopted this model of OI are companies such as IBM, Procter and Gamble (P&G) and Intel.

When P&G in 2000 realized that their existing innovation models could not possibly support the growth mandate that the company was facing, their newly appointed CEO A.G. Lafley challenged the company to experiment with the new concept of OI; leveraging others (even competitors) innovation assets, products, intellectual property and people. Although the company went through massive changes, moving from the resistance against external innovations towards enthusiasm for inventions proudly found elsewhere, proved to be a successful strategy. The OI model worked and already in 2006 more than 35% of their new products had elements that originated from outside P&G (Huston and Sakkab, 2006).

It is getting increasingly harder for many companies to compete. Although it has always been known that innovation is challenging and characterized as risky business,



today companies face to a much larger degree the forces of commoditization, as manufacturing spreads around the world to lower-cost regions (Chesbrough, 2011b). Even though an OI model contributes to a faster and more cost effective way of bringing new products to the consumers, the companies still face the undeniable forces of commoditization and shortening product life cycles. This is creating the commodity trap, a dangerous phenomenon that pulls at even the most innovative and successful companies (Chesbrough, 2011b). Due to this alteration of the market, more and more companies and industries are beginning or trying to make a shift to services, as this is where our advanced economies increasingly are oriented around. Ultimately, innovating in services is seen as the escape route from the commodity trap and as a solution for growth, giving firms a significant competitive advantage (Chesbrough, 2011b). An often-mentioned example is Apple's iTunes store that offers a service through its many applications (apps), which for numerous consumers is the main reason for their purchase and loyalty to the iPhone.

Having seen multiple success stories, such as the World Wide Web, Linux, Wikipedia, and a number of other community-based offerings, the value of open collaborative innovation is now much better understood and accepted in businesses (Wladawsky-Berger, 2011). Today, as Chesbrough (2011) points out, services account for roughly 60-70 percent of economic activity in the top 40 world economies, and fully 80 percent in the United States (cited in Salam 2012). He further argues that fortunes of the advanced companies, and economies as a whole, will depend on how well they rethink services. This never ending innovation process is a 24/7 job for companies around the world, and much like the commodity businesses, the service industry now also needs to make an effort to improve their offerings. The companies that successfully manage OI processes are the ones most likely to maximize gains (Chesbrough, 2011b).

## **1.2 Rationales and Significance of the Study**

Traditionally, innovation studies have mainly focused on innovations in organizations on the micro level as well as the macro level through R&D and policies. On the micro level we can for instance see innovation measurements, such as General Electric's

(GE) recently published GE Global Innovation Barometer, where they measure the level of innovation and analyze perceptions around innovation challenges and the purpose of innovation (GE, 2011). There are also many other studies to be found on R&D spending, innovation strategies, new product development and OI. The greatest concentration for research until now has been about the manufacturing industry, despite that most of the growth is seen within the service sector. In contrast with a manufacturing company that delivers tangible goods that consumer use over time, the characteristics of services are identified as intangibility, heterogeneity, simultaneous production and consumption and perishability (Trott, 2008). One major difference is that a new service cannot be protected with patents; if the service is to a large degree standardized, competitors can copy the new service concept or development processes. Unfortunately, this can reduce the new open service innovation efforts (Trott, 2008). The seemingly lack of protection rights for sharing a service idea conflicts with the emerging methodology around practicing OI to succeed. Without any safeguard to hinder someone taking your idea from you and using it, companies may lack any incentives for openness in a community of other players.

This study will contribute to understanding the paradox of how service innovation can flourish through the thought leadership and methodology of OI. The innovation models today are, as mentioned, mostly on product- and manufacturing-based thinking, as well as service innovation for the manufacturing industry. However, we know less about service innovation in service industries and service innovation in knowledge intensive industries. Hence this thesis focuses on the two latter forms of service innovation.

The so-called “closed innovation model” has been the basis innovation model for many companies for a long time, meaning that the innovation process is entirely internal (Chesbrough, 2003a). The boundaries of companies open when they shift to a OI model, by letting external and internal ideas, technology and knowledge easily float in and out. Nevertheless, most studies have focused commonly on the benefits of a trade activity of intellectual property rights (IP) between companies. This study is important, as it will highlight the challenges of managing OI in the service industry.

In order for companies to survive, especially those operating in an increasing dynamic and digitalized environment, with knowledge being the most indispensable and important resource for innovation – they need to establish trust relations to aligned communities, networks, and stakeholders (Hafkesbrink, 2011). A service delivers an experience, but can also include technical components, and these components are often acquired from the external environment. This study looks deeply into the challenge of substantially integrating external firms into their surrounding communities. It goes into the context of understanding how using dedicated institutional arrangements to accomplish the embedding process works for service providers. An interesting finding in the 2011 GE report was that 75 percent of the respondents believe that the way companies will innovate in the 21<sup>st</sup> century is totally different than the way they have innovated in the past (GE, 2011). Therefore this thesis attempts to elaborate on how six service companies, in the Norwegian market, apply OI strategies into their attempt to create service innovation.

### **1.3 Personal Motivation**

Our motivation to explore this topic was a result of an unanswered question from many years of studying in the field of innovation. Despite valuable lectures and insight on the topic (OI) from University of California Berkeley, The Norwegian School of Economics and through the Norwegian Entrepreneurship Program we attended at Boston University, the theory and processes of OI were primarily only related to tangible goods with patents. If OI was discussed in connection to service innovation however, it was mostly connected to the fact that companies should start thinking of their goods as services in order to create competitive advantages. However, practicing open service innovation when you have patented goods in the picture provides a whole different “safety net” than for a company attempting open service innovation without any intellectual property. Therefore we pose the question as to which degree service providers have the incentives for outbound transfer (inside-out) of ideas and knowledge. If new ideas and knowledge cannot be protected by IP, what incentives do these companies have for “giving” away their ideas? Since the paradigm of OI both includes companies having inflows of ideas and knowledge (from the external environment), as well as outflows (internal ideas and knowledge to

the market), we question the suitability of the OI practices' application to the service sector.

#### **1.4 Research Problem Description**

As discussed above, the innovation process is becoming much more challenging, especially for the service industry. Despite the increasing importance of OI in innovation management, the service industries have to a large degree been neglected and given little attention to compared to the manufacturing industry. On the basis of this information, the purpose of this investigation is to find out:

##### ***How are Open Innovation practices applied to Service Innovation?***

In order to understand the problem statement from the authors' perspective, the definitions of the concepts Open Innovation and Service Innovation are provided below:

##### Open Innovation:

*“Open Innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology.” (Chesbrough, 2003a)*

##### Service Innovation:

*“A new or considerably changed service concept, client interaction channel, service delivery system or technological concept that individually, but most likely in combination, leads to one or more (re)new(ed) service functions that are new to the firm and do change the service/good offered on the market and do require structurally new technological, human or organizational capabilities of the service organization” (Van Ark, Inklaar and McGuckin, 2003).*

The following sub questions have been formulated in order to analyze the above research question.

1. How do the interviewees understand the concept of OI?
2. What types of openness are practiced in the firms?
3. What are the challenges and opportunities with having an open business model from the interviewees' perspective?

## **1.5 Structure of the Thesis**

Chapter One above in this thesis is organized with an introduction to the context and the problem, followed by an explanation of the rationales and significance of the study and our personal motivation for studying this topic. These sections provide the basis for the research question at hand, drawn together by the points in the landscape of the OI concept.

Chapter Two presents the underlying fundamental foundation for building up understanding of the problem, specifically by starting off with a definition of the different types of innovation that exist, before discussing the notion of innovation as a management phenomenon.

Once the key concepts of innovation are identified, the thesis then explains the shift from a “closed” to an “open” innovation model. Chapter Three will then discuss the types of openness that exist within the inbound and outbound processes of OI. This chapter is critical as it outlines the different ways one can practice OI, which will later be applied when looking at the case studies from the service sector.

In Chapter Four, the discussion includes the managerial implications involved in adopting an open business model. This chapter identifies the challenges, such as the Arrow Information Paradox and the Not-Invented-Here syndrome. After acknowledging the challenges derived from literature, the chapter follows with how openness affects organization design and networks, and lastly discusses OI leadership.

Chapter Five firstly takes a look at the characteristics of services and what we already know about service innovation. Then the chapter elaborates on the scarce research that exists in today's literature on open service innovation, although it is mainly focused on the servitization of manufacturing. However, some researchers have started to acknowledge the missing link between OI theory to service providers and some of these concerns will be presented. The chapter concludes with evaluations of the existing research and questions what is left unexamined.

Chapter Six firstly presents the conceptual model, which is a visualization of the research question; furthermore the chapter includes the research design and research strategy applied to collect data. Then, the following sub chapter introduces the sample selection of the six Norwegian Service Providers interviewed. The chapter also explains the process steps of the study, and methods for analyzing the data. Lastly, the chapter discusses ethics in research and data collection techniques, as well as a discussion about validity and reliability.

Chapter Seven firstly offers a theoretical review of the applicability of open innovation practices to service innovation, in order to balance out the discussion. Thereafter, the analysis chapter looks at the empirical finding from the interviews. The analysis uses the concepts in the conceptual model; inbound innovation, outbound innovation and open business model, as a structural base in order to identify OI practices in the companies studied.

The last Chapter, Chapter Eight, explains the conclusions drawn from the observations and analysis, as a synthesis of the major findings. Thereon the chapter discusses what implications these findings have for both managers and for the academic perspective. The chapter concludes with a presentation of the study's limitations and provides insight into our recommendations for future research.

## **2.0 Innovation Theory**

This chapter will provide insight to the importance of innovation in today's knowledge economy, as well as present the definition of innovation that this thesis

has chosen to use and what implications it has. Thereafter, it presents the four main types of innovations; product, process, marketing and organization, in order to understand the terms in relation to the different innovation management models presented later. The chapter concludes with a discussion around the models that exist for managing service innovation and identifies the limitations.

## **2.1 Innovation**

Innovation is widely acknowledged both as a source of sustainable competitive advantage and as a source of growth (Cobbenhagen, 2000). In other words, it is an essential activity for the long-term survival of an organization (Cho and Pucik, 2005; Lundvall 1992), or as Freeman (1982) put it "Not to innovate is to die". The literature does not provide a single confined definition of the term. Schumpeter is often identified as the first economist that put the importance of innovation on the agenda for scholars and business professionals. Schumpeter (1934, cited in Oslo Manual, 2005) defined innovation as novel combinations of knowledge, resources or equipment successfully applied to the market. He saw innovation as a social function carried out in the economic sphere for a commercial purpose, and thereby it is distinguished from inventions. The Business Dictionary (2012) defines it as "the process by which an idea or invention is translated into a good or service for which people will pay, or something that results from this process". Rogers (1998) definition, on the other hand, specifies that this process of introducing new ideas should increase the firms' performance. Although the definitions vary, there seems to be a consensus that innovations is a about novelty and commercialization. In this paper the OECD definition that is based on Schumpeter's earlier work will be applied.

*"An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations (Oslo Manual, 2005)"*

An innovation must contain some degree of novelty; it can be new to the firm, new to the market or new to the world. In summary, this means that an innovation (new or improved) has to be new to your enterprise, but it does not need to be new to your

sector or market (Mention, 2011). A distinction is often made between incremental and radical innovations. Incremental innovations exploit existing technology or are based on existing knowledge; typically incremental innovations evolve around cost or feature improvements in existing products or services, processes, marketing or business models, and improve competitiveness within current markets or industries. Radical innovations on the other hand make existing knowledge obsolete. The degree of novelty of the innovation makes such a dramatic change that it transforms existing markets or industries, or creates new ones (1000Ventures, 2011).

The definition also implies that the innovation has to be implemented into the market. The adaptation of an innovation is related to the attributes of an innovation such as; compatibility, trialability and observability (Tornatzky and Klein, 1982). The compatibility refers to the degree of perceived fit between the innovation and adaptor in terms of know-how, values and experience. Trialability discusses the possibility of experiencing and experimenting with the innovation before adaptation, since this has shown to be positively correlated to the adaptation rate (Fliegel, Kivlin, Sekohn, 1968; Rogers and Shoemaker, 1971, cited in Tornatzky and Klein, 1982). Observability refers to the fact that if the adaptation of other users and the benefits are possible for others to see, it will enhance the adaptation rate of the innovation (Rogers and Shoemaker, 1971, cited in Tornatzky and Klein, 1982).

Another implication of this definition is that the innovation must be characterized as having a relative advantage over the current offering; the advantage could however be related to economic benefits or social benefits (Rogers and Shoemaker, 1971, cited in Tornatzky and Klein, 1982). The different types of innovations will be discussed in the next section.

## **2.2 Types of Innovation**

### ***2.2.1 Product (Good and Service) Innovation***

The term product is used to cover both goods and services (Gallouj and Weinstein, 1997). A product innovation is defined as the introduction of a good or service that is



new or significantly improved with respect to its characteristics or intended usage. These improvements could be technical specifications, components, and materials, incorporated software, user friendliness or other functional characteristics (Oslo Manual, 2005). Product innovation is also referred to as the result of bringing to life a new way to solve the customer's problem, which both the customer and the company benefit from (Tucker, 2002). Nintendo Wii is an example of a product (good) innovation, they integrated an innovative controller technology into a prevalent gaming platform and changed the way people enjoy console games at home. Their idea of a hand-held device that translates kinetics into visual screen feedback was radically different in the market when implemented, and changed the meaning of what we mean when playing a video game.

### ***2.2.2 Process Innovation***

A process innovation is the implementation of a new or significantly improved production or delivery method (Oslo Manual, 2005; Orfila-Sintes and Mattson, 2009). Production method involves the techniques, equipment or software that is used to produce goods or services (Oslo Manual, 2005). Significant improvements in the method of delivery, meaning the logistics of allocating input in order to deliver final output are also classified as a process innovation (Oslo Manual, 2005). The company Groupon is an example of a process innovation. They offer a new way for how merchants attract business and a new way in how people purchase. Most people look for bargains and vendors need to get to their consumers, which is why Groupon's value proposition makes sense.

### ***2.2.3 Marketing Innovation***

A marketing innovation is the implementation of a new marketing method involving significant changes in the product design or packaging, product placement, product promotion or pricing (Oslo Manual, 2005). Although new marketing methods could be implemented for either an existing or a new good or service, the new marketing concept or strategy must represent a significant alteration from today's marketing

methods. In other words it has to differentiate itself from the previously employed methods if it is to be classified as a marketing innovation (Oslo Manual, 2005). The aim of such an innovation is to increase sales through better positioning, addressing customer needs, or opening up to new markets (Oslo Manual, 2005). The design aspect is integrated as a part of a marketing innovation; it incorporates significant alterations in the form and appearance of a product such as the packaging or flavors (Oslo Manual, 2005). Product placement refers to the introduction of new sales channels, while product promotion entails the use of a new concept for promotion. An example of the latter is the first time products were intentionally promoted through movies and television programs. Innovations in pricing are new pricing strategies that are used to market a firm's offering (Oslo Manual, 2005). Another, more recent example, is that while new media has evolved, so has the way companies market via new media. Today, many companies, both large and small, have started to focus their marketing efforts on collaborative websites including but not limited to social networking sites such as Facebook, Twitter, blogs, forums, and even YouTube.

#### ***2.2.4 Organizational Innovation***

An organizational innovation is defined as the implementation of a new organizational method in the firm's business practices, workplace organization or external relations (Oslo Manual, 2005). Organizational innovations are ultimately intended to increase the firm's performance. Typically this could be achieved through reduction of administrative, transactional costs or supply, enhance labor productivity through increased satisfaction among employees, or gaining access to knowledge (Sapprasert, 2008). Organizing the execution of work such as routines and procedures are considered to be a firm's business practice. An innovation within this area is the introduction of the intranet, which changed the way employees, shared knowledge within an organization. The workplace organization involves how the responsibilities are distributed, division of labor within and between firm activities, and decision-making as well as new concepts for structuring activities. External relations refer to the affiliation a firm has to other firms and institutions. Innovation in this area involves new ways of organizing these relations (Oslo Manual, 2005).

### **2.3 Innovation as a Management Phenomenon**

Innovation management is the governance and organization of innovation processes, and innovation processes describe the activities that are performed at each stage of the development of an innovation. (Ortt and van der Duin, 2008). Numerous studies demonstrate that systematic innovation management is a prerequisite for increasing value of companies, even independent of the company size (Europe INNOVA, 2011). A study conducted by Europe INNOVA in September 2010, revealed that innovation management has now become one of the elements which investors consider strongly when they are looking to achieve highest return on their investment (Europe INNOVA, 2011).

With the acknowledgement and notion of innovation as a central phenomenon to a firm's ability to create value in terms of market share, profitability, growth or market capitalization (Tidd, Bessant and Pavitt, 2005), the research on how to manage innovation has flourished. Managing in a dynamic market most definitely poses challenges such as how to sustain competitiveness in a globalized market with advancing technology, growing concern of sustainability and the rise of networking as a business model (Tidd, Bessant and Pavitt, 2005). Innovation is stated to be the core business competency of the 21st century in order to be able to survive in the global economy (Project Leaders International, 2011). Therefore many have tried to find a general method and provide a normative framework for how to successfully manage the innovation process (Ortt and van der Duin, 2008), but due to the highly complex nature of the innovation process (Trott, 2008) and contextual dependency (Tidd, Bessant and Pavitt, 2005), a best practice method that is valid for every firm is yet to be found.

Although the literature presents rather vivid amount of different conceptual models, they all generally share three broad phases; (1) Idea generation and selection, (2) idea realization and (3) idea commercialization (Sattler, 2010). Innovation management is ultimately about finding the most appropriate solution suited to the particular

circumstance in which the organization operates, through constantly managing the process (Tidd, Bessant and Pavitt, 2005).

Innovation management takes place in an internal and external environment (Ortt and van der Duin, 2008). The internal environment of an organization such as structure and strategy determines the company's approach to innovation, how it is organized and prioritization. The external environment, such as economics, politics and cultures also affects how innovation is managed (Ortt and van der Duin, 2008). The most successful innovative companies do not succeed merely by using one innovation approach more extensively or better, but by carefully selecting the right approach within a given context, taking both external and internal factors into consideration (Griffin, 1997).

### **3.0 Open Innovation Theory**

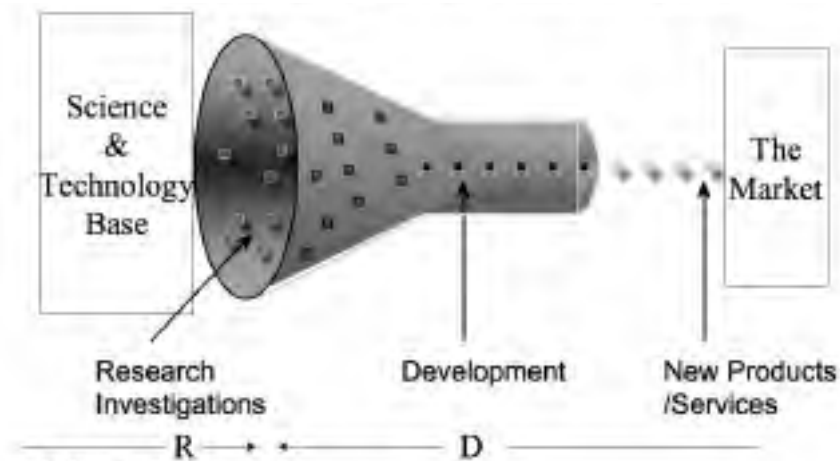
This chapter presents the essence of the OI theory, coined firstly by Dr. Henry Chesbrough. It firstly discusses how the old "closed" model of innovation worked and then describes how the "open" model differs. Thereon the chapter presents a discussion around the four different types of openness, and discusses their advantages and disadvantages.

#### **3.1 From a "Closed" to an "Open" Innovation Model**

As a result of knowledge being widely distributed, it is becoming clear to companies that they cannot rely entirely on their own research, and that the time has come to acquire inventions or intellectual property from other companies when it advances in the business model. According to Chesbrough (2003a), today the logic that supports an internally oriented, centralized approach to research and development (R&D) has become obsolete. He further assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their business (Chesbrough, 2011a).

Chesbrough (2011a) defines internally oriented companies as users of the closed innovation model. In a closed innovation model (Figure 3.1) a company's project works from their science and technology base to the market through internal R&D. As seen in the figure, this is a closed system with only one way in and one way out. An American company often used to exemplify this model is AT&T, which despite their numerous research achievements has a notoriously inward focused culture. To illustrate one of the disadvantages with this method one can look back at when AT&T pioneered the transistor. Although this was probably one of their most important inventions, it took ten years to include a transistor in their product shipments, since only AT&T scientist worked on it (Chesbrough, 2011a).

Figure 3.1: The Closed Innovation Paradigm (Chesbrough, 2011a).



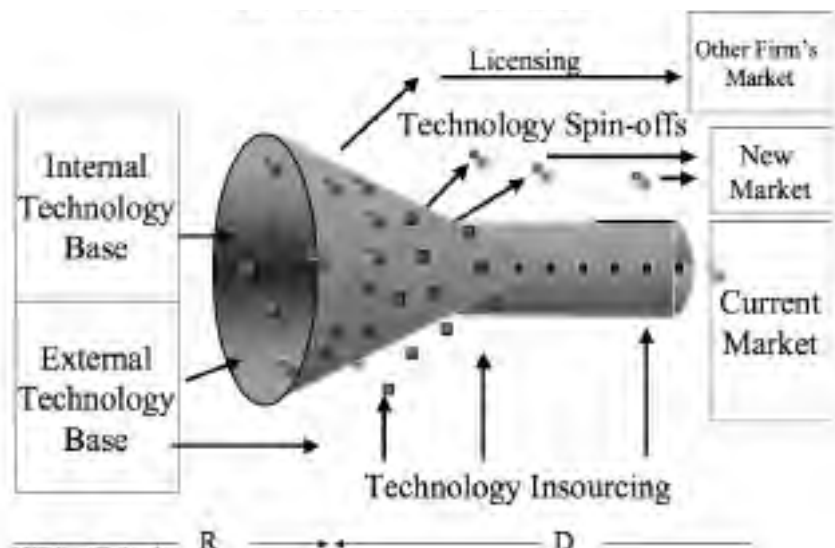
In the closed innovation model, the firms will invest heavily in R&D to create new products and services, even though they know they will have to deal with the “spillovers” as an unintended byproduct (Chesbrough, Vanhaverbeke and West, 2006). The “spillovers” are referred to as internally developed inventions that are not commercialized. Although the costs linked to these “spillovers” are not favorable, in the closed innovation model they are however seen as a necessary cost of doing R&D (Chesbrough, Vanhaverbeke and West, 2006).

Figure 3.2 (below) shows a representation of an OI model. The major difference from the closed model is that projects within a company now can be launched from either internal or external technology sources (Chesbrough, 2011a). At the same time, projects will go to the market in many different ways, for example by out-licensing or

through a spin-out venture company. If Henry Chesbrough, commonly known as the “father” of OI, would express the definition of OI in one single sentence it would be:

*“Open Innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough, Vanhaverbeke, and West, 2006)*

Figure 3.2: The OI Paradigm (Chesbrough, 2011a)



When companies start to treat their R&D department as an open system, understanding that valuable ideas can in fact come from outside the company as well as from inside, and respectively go to market from inside or outside the company, they will truly become sustainable innovative companies (Chesbrough, 2011a). Examples of companies that are at the forefront of acknowledging that OI practices is the source to revenue increase today are IBM, Intel, Philips, and P&G (Chesbrough, 2011a).

Although Chesbrough is known as the “father” of OI, it can hardly be considered as a radically new concept. There are traces in earlier academic research that are linked to the theory behind OI, such as “disintegrated innovation”, “modular innovation” (Brusoni, Prencipe, 2001), “distributed innovation” (Kogut, 2008; McKelvey, 1998), “dispersed innovation” (Becker, 2001), “collaborative innovation”, “absorptive capacity” (Cohen and Levinthal, 1990), “complementary assets” (Teece, 1986), and

the exploration versus exploitation discussion (March, 1991). All these concepts emphasize the practice of innovative activities not being privileged to one single company. The novelty of the concept OI is not to be found within the first component (inflows), since people have for a long time understood the importance of relying on external knowledge. Rather the novelty of OI is to be found in the second component (outflows), which contradicts traditional theory of knowledge and innovation as a core activity that should not be shared or sold (Mascarenhas et al, 1998, cited in Pénin, Hussler and Burger-Helmchen, 2011). According to Chesbrough (2003b) it is in fact this to-way openness, which is the “key to success”. Therefore it becomes necessary to clarify the definition of openness. Dahlander and Gann (2010) have gathered together the literature on OI. They have combined the bibliographic analysis on all papers on the topic in Thomson’s ISI Web of knowledge, with a systematic content analysis of the field to develop a deeper understanding of earlier work (Dahlander and Gann, 2010). As a result they present four types of OI; sourcing, acquiring, revealing and selling.

### 3.2 The Four Types of Openness

Dahlander and Gann’s (2010) review indicates two inbound processes; sourcing and acquiring, and two outbound processes; revealing and selling (Table 3.1). They explore how different papers define openness and how this is conceptualized in empirical investigations. They found that while authors discuss openness, it is often unclear exactly what type of openness they are referring to. According to Huizingh (2010) this model serves as a good starting point for empirical research to better understand the activities comprising each of the four strategies and their effectiveness for different organizations and in different contexts.

Table 3.1: The Structure of Dahlander and Gann’s (2010) forms of openness

	<b>Inbound Innovation</b>	<b>Outbound Innovation</b>
<b>Pecuniary</b>	Acquiring	Selling
<b>Non-pecuniary</b>	Sourcing	Revealing

Although researchers for many years have argued the benefits of an open approach, they have also started to realize that openness is not a binary classification of open versus closed (Chesbrough, 2003a, cited in Dahlander and Gann, 2010). Therefore openness needs to be placed on a continuum, ranging from closed to open. Chesbrough et al (2006) argues that some aspects of the innovation process are open and some might be closed, at different times during different stages. When companies learn to accept that openness is a continuum, then they will be able to advance a greater understanding of the benefits and costs of openness. To further understand the complexity of openness, the below section will go into detail on the four types.

### **3.2.1 Sourcing: Inbound Innovation – Non-Pecuniary**

*Sourcing* is the type of openness that “refers to how firms can use external sources of innovation” (Dahalnder and Gann, 2010). Chesbrough et al. (2006) states that many companies have started to skim the external environment to find contributions before they initiate their own internal R&D work. If solutions exist, which are freely revealed, the company can take use of them. Accounts of corporate R&D laboratories show that they are vehicles for absorbing external ideas and mechanisms to assess, internalize and make them fit with internal processes (Freeman, 1974, cited in Dahlander and Gann, 2010).

As presented earlier, the notion of searching for external knowledge itself is nothing new and has been done for years. The advantage of leveraging off discoveries of others has been an important element in the theory of OI. Laursen and Salter (2004) define openness as “the number of different sources of external knowledge that each firm draws upon in its innovation activities”. This implies that the larger the number of external sources of innovation, the more open the firm’s strategy will be. In their definition they are only focusing on inflows, and therefore it could be argued that they are contradicting Chesbrough’s point of openness needing to incorporate both inflows and outflows.

Nevertheless, the advantage of *sourcing* truly becomes visible when companies learn to create a synergy between their own processes and externally available ideas, in other words benefiting from new ideas in the market place in order to either create profitable new goods or services. According to Leiponen and Helfat’s study (in



press), a company is more likely to get innovation success at firm level if they have breadth in their innovation objectives (open-mind of paths to innovation), as well as breadth in their knowledge sources (open strategy of sourcing information), known as the parallel-path-strategy.

A disadvantage with *sourcing* is that companies might spend too much time on sourcing ideas and technologies. Ahuja and Katilja (2002) examined the global robotics industry in order to find out how companies search when creating new products. Organization learning research indicates that firms position themselves in a one-dimensional search space, which spans a spectrum from local to distant search. However, studies have found that firms' search efforts vary across two distinct dimensions: search depth and search scope, and that there is a curvilinear relationship between innovative performance and their search for new innovations (Ahuja and Katilja, 2002). Therefore it is critical to understand the limits and contingent effects on innovation, and that a company cannot rely too much on external sources of innovation.

### **3.2.2 Acquiring: Inbound Innovation – Pecuniary**

On the other hand *acquiring* is the type of openness that “refers to gaining input to the innovation process through the market place” (Dahlander and Gann, 2010). Following this reasoning, openness can be understood as how firms license-in and acquires expertise from outside (Dahlander and Gann, 2010).

Although the advantages of *acquiring* expertise, know-how and technology is similar to *sourcing*, it mainly differs in the nature that monetary exchange occurs in this inbound process. For example the process of acquiring IP from outside the firm is not a new concept, companies have for a while now perceived the purchase of externally developed IP to be more efficient and effective rather than reinventing it. One of the advantages is that according to Oxley (1999) licensing existing knowledge is characterized has having a hierarchical market relationship, which amongst other things implies that the involving companies build long-term relationships. Another advantage with acquiring ideas is the possibility of leveraging complementarities with partners, which can turn out to become a competitive advantage. According to Dahlander and Gann (2010) the process of assessing innovation opportunities and

internalizing external knowledge requires some expertise, this is also supported by Dreschler and Natter (2011). There are many external ideas in the market, therefore it is essential to have expertise to search, evaluate them and pick out the right ideas for the use of the specific company at the right time.

As with the other types of openness, *acquiring* also has its disadvantages. Since you build up such long-term relationships, it might become difficult to maintain a large number of ties with different partners (Ahuja, 2000, cited in Dahlander and Gann, 2010). An important aspect with *acquiring* knowledge, is the significance of not incorporating knowledge bases too close to what the firm already knows, because this obstructs with the great outcomes of external inputs (Dahlander and Gann, 2010). As posed Ahuja and Katila (2001) knowledge relatedness and innovation performance have a curvilinear relationship, meaning that too distant inputs will be hard to align, and too similar input will make it hard to come up with something novel.

### **3.2.3 Revealing: Outbound Innovation – Non-Pecuniary**

Dahlander and Gann (2010) define *revealing* as the type of openness that refers to “how internal resources are revealed to the external environment”. This approach deals especially with how firms reveal internal resources without immediate financial rewards, seeking indirect benefits to the focal firm.

The advantages of *revealing* is that sharing your designs and ideas between competitors is the ability to build upon each others’ work, which ultimately should result in a steady stream of incremental innovations (Allen 1983, cited in Dahlander and Gann, 2010). This has through multiple researches shown to be the case, not only in recent time. Allen (1983, cited in Dahlander and Gann, 2010) looked at the iron production industry in the 19<sup>th</sup> century England, whereas Nuvolari (2004, cited in Dahlander and Gann, 2010) did a detailed study of the Cornish mining district during the industrial revolution, and in both these cases innovation prospered as a result of *revealing* strategy.

There are several ways in which a company can capture profits generated by an innovation; usually firms adopt formal methods (patents, trademarks and copyright protection) as well as informal methods (lead times, first mover advantages, lock-ins),

and these different strategies are commonly referred to as appropriate regime strategies (Laursen and Salter, 2005). Laursen and Salter (2005) found in his study of UK manufacturing firms, which have utilized appropriate regime strategies, might become obsessed with secrecy and overly protective. This limits their opportunities to work with others, such as lead users, and also limits informally traded knowledge with suppliers, customers and competitors. Laursen and Salter (2006) categorizes this as the “Gollum effect”, locking yourself away from the rest of society in the vain pursuit of full protection. As Chesbrough suggests, you have to be willing to be open and *reveal* in order to capture the benefits the open innovation offers (Chesbrough, 2003b).

The disadvantages of *revealing* internal resources are that companies’ competitors may be better equipped with complimentary assets, stronger brand equity, better financial resources and production facilities (Laursen and Salter, 2005). This makes it a challenge to choose what internal resources to reveal to the external environment.

#### **3.2.4 Selling: Outbound Innovation – Pecuniary**

The openness type *selling* refers to “how firms commercialize their inventions and technologies through selling, or licensing out resources developed in other organizations” (Dahlander and Gann, 2010).

The advantages are, as mentioned earlier, the clear monetary benefits of selling or licensing out your idea. Many companies invest heavily in R&D and as a result they have excessive amounts of patents. A company rarely uses all their patents, and instead of storing them, they can leverage by selling or licensing them out. Research is showing that this is becoming more and more common in companies. Gassman and Enkel (2006) propose that shorter life cycles, industrial research and the rising costs of development, in addition to a lack of resources are motives that are changing companies’ innovation strategies towards a more open direction (Gassman and Enkel, 2006). They further argue that there are different ways in which firms adopt “inside-out” approaches to externalize internal knowledge and inventions to the market (Gassman and Enkel, 2006). P&G, who stands as a story of success stories often

brought to light in discussions on OI, has licensing agreements on many of its products. One of the most recognized ones being Mr. Clean (the household cleaner) introduced in the 1950s, and today through licensing the Mr. Clean trademark has expanded into a range of successful new products.

Although there are many success stories, there are also many obstacles that prevent companies from selling or licensing. One of the disadvantages is that companies might be reluctant to reveal information, because they are afraid it might result in losing the idea, without any form of compensation. This is known as the Arrow Information Paradox, which will be discussed later (Arrow, 1962, cited in Dahlander and Gann, 2010). This paradox is largely dissolved when companies are protected by IPR before sharing ideas and technologies. However not everything is easy to patent, and services as well as processes might have this obstacle.

Another obstacle for companies in relation to license out products is that it is very difficult to predict the expected value of a product (Chesbrough and Rosenbloom, 2002). For instance in cases like Adobe, the novel technology was ahead of its time, and therefore the value network had yet to emerge. Lichtentehaler (2009) discussed that while many companies experienced success with licensing, others experienced considerable managerial difficulties. This was because companies failed to realize that out-licensing strategies constituted such an important component of the corporate strategy, and therefore aligning out-licensing- and corporate strategies was needed to be successful (Lichtentehaler, 2009). The below Table (Table 3.2) provides and summarized overview of types of openness from Dahlander and Ganns (2010) research, with regards to the main focus and logic behind the degree of openness.

Table 3.2: Comparison of four different types of openness (Dahlander and Gann, 2010)

	<b>Outbound innovation</b>	<b>Outbound Innovation</b>	<b>Inbound Innovation</b>	<b>Inbound Innovation</b>
	<b>Revealing</b>	<b>Selling</b>	<b>Sourcing</b>	<b>Acquiring</b>
<b>Logic of exchange</b>	Non-pecuniary – indirect benefits	Pecuniary – money involved in exchange	Non-pecuniary – indirect benefits	Pecuniary- moned involved in exchange
<b>Focus</b>	Revealing internal resources to the external environment	Out-licensing or selling products in the market place	Sourcing external ideas and knowledge from suppliers, customers, competitors, consultants, universities, public research organizations	Acquiring inventions and input to the innovative process through informal and formal relationships
<b>Advantages and disadvantages shaping extent of openness</b>				
<b>Advantages driving openness</b>	Marshal resources and support	Commercialize products that are "on the shelf"	Access to a wide arraw of ideas and knowledge	Gaining access to resources and knowledge of partners
	Gaining legitimacy from external environment	Outside partners may be better equipped to commercialize inventions to the mutual interest of both organizations	Discovering radical and new solutions to solving problems	Leveraging complementarities with partners
	Foster incremental and cumulative innovation			
<b>Disadvantages driving closeness</b>	Difficult to capture the benefits that accrues	Over-commitment to own product and technologies make it difficult to out-license	Many sources create an attention problem	Difficult to maintain a large number of ties with different partners
	Internal resources can leak to competitors		Difficult to choose and combine between too many alternatives	Risk of outsourcing critical dimensions of the firms business

## **4.0 Understanding the Open Business Model**

This chapter will firstly explain the concept of open business models; subsequently the challenges with having an open business model will be presented. By implementing an open business model it is important to understand how this has implications on a firms' organizational design, which is then later described.

### **4.1 Open Business Model**

Chesbrough (2007) underlines the significance of a business model and argues that it is pointless to consider the value of an idea or a technology itself, the important aspects to look at is rather the business model. Because, it is in this framework the value of an idea or a technology is transformed into economic value. A business model is the very core of a company; it has two major functions; value creation and value capture (Chesbrough, 2007). Value creation is the value generated throughout the various series of activities in a value chain, including the focal firm, its suppliers, customers and distribution partners (Chesbrough, 2006). Value capture however is about establishing a unique resource, asset or position within the series of activities, where the firm then can enjoy a competitive advantage (Chesbrough, 2006).

The company itself has traditionally performed these series of activities, but in the last decades there has been a trend shifting towards what Chesbrough refers to as "division of innovation labor". An open business model utilizes such division of labor by organizing the value creation as a system, where one party develops a novel idea, but instead of bringing the idea to the market themselves, they cooperate or sell the idea to another party (Chesbrough, 2006). This creates a market for know-how and intellectual property. In order for a company to be able to tap into the intermediate markets for ideas and innovation, the business model needs be organized in a way that allows the company to benefit from such contributions (Chesbrough, 2006). Chesbrough (2006) argues that it is not enough to search externally for new ideas or to license out your own ideas, a company must in fact innovate their business models by opening up to both inflows and outflows of knowledge, ideas and technology.

The business environment is being exposed to the rising cost of technology development and shortened product life cycles, which means that the cost is increasing and the revenue streams are shortened (Chesbrough, 2006). This is interesting, because opening the business model serves as the solution, as it is confronting both the cost and revenue issues faced by firms today. By leveraging off external R&D sources and ideas, the innovation process becomes cheaper and shortened. It even increases the possibility of broadening the market for innovations. Since the firm is not restrained by serving the market directly themselves, they can benefit from an increased revenue stream generated through licensing, joint ventures, and so forth (Chesbrough, 2006). Unfortunately, there are multiple challenges faced by companies in altering to an open business model. The most commonly known are the Arrow Information Paradox and the Not-invented-here (NIH) syndrome.

#### **4.1.1 Arrow Information Paradox**

As argued, Chesbrough's research on open business models has to a large degree been focusing on the trade market of legally protected intellectual property (IP). The Arrow Information Paradox (named after Kenneth Arrow) discusses the challenges firms face when managing IP, relating to how open the company should be and to whom (Asllani and Lari, 2011). When a company has someone interested in purchasing their technology, they will want to know in detail how the product works in order to understand its capabilities. However, after sharing this information, the potential buyer has gained exact knowledge of the product specifications without the company receiving any form of compensation. Hence, companies tend to be reluctant of giving away too much information (Asllani and Lari, 2011).

Chesbrough (2006) exemplifies the Arrow Information Paradox scenario with a case of a software start-up company named GO. They needed to attract outside firms to support the technology they had developed. GO had created a pen-based personal computer operating system and contacted Microsoft to initiate cooperation where Microsoft would develop the software platform for their PenPoint invention. In order to get them on board they revealed extensive amounts of information, a mistake that ended up being fatal for GO. Microsoft launched an own pen system six months later.

With small amounts of resources and IP protection, GO had to surrender. Software copyrights are only limited to actual code and not for the overall concept. Chesbrough (2006) claims that this all boils down to the business model of the company, and the lessons learned from the GO case are that the business model must be connected to the innovation process, and you must maintain leverage while being open.

#### **4.1.2 Not-Invented-Here (NIH) Syndrome**

Another reason as to why companies might be reluctant to open their businesses, can be because they feel they are harvesting the best ideas and technologies, and do not find it necessary to source knowledge elsewhere. In order to apply OI, companies must understand that the transfer of knowledge, ideas and technology must not only be supported by the business model, but it also needs to be integrated as a part of the company culture. One of the barriers towards this integration is what has come to be known as the “not invented here (NIH) syndrome” (Trott, 2008). The NIH syndrome refers to the unwillingness to adopt an idea or a product because of its external origin.

The NIH syndrome was defined by Katz and Allen (1982, cited in Trott, 2008) as “*the tendency of a project group or stable composition to believe that it possesses the monopoly of knowledge in its field, leading it to reject new ideas from outsiders to the likely detriment of its performance*”. This means that due to the social, corporate or institutional culture of a company, they might avoid and ignore to include new solutions, technologies or knowledge invented elsewhere. Their opinion is that since they have not thought of it themselves, it cannot be sufficiently good. Ever since the phenomenon of NIH syndrome was brought to light, it has been put on the management agenda. Most firms have started to acknowledge that innovation is much more of an interactive process, which includes the firm and the external environment of the company. Rather than thinking of a company as a closed entity with the best people in their field, some have started to recognize that there are others in the market with valuable knowledge and ideas (Mention, 2011).



## 4.2 Organizational Design and Networks

With the acknowledgement that firms need to interact with the external environment by creating ties between the innovating firm and other entities, one must also recognize how this needs to be reflected in the organizational design (Vanhaverbeke, 2006). Many consider cooperation as a stimulus to innovation that gives certain benefits such as economies of scale and scope, reducing uncertainty, access to new markets or complementary knowledge (Becker and Peters, 1998; Hagedoorn, 1993; Miotti and Sachwald, 2003 cited in Menton, 2011). These networks are an inherent part of an organization's institutional environment and according to Simard and West (2006) there exists a distinction of ways companies can be connected; they differ between deep and wide ties, as well as informal versus formal ties.

Deep ties allow companies to exploit existing knowledge and technologies that other firms possess, while wide ties offer firms opportunities to explore new technologies (Simard and West, 2006). Formal ties are set by formal contracts about how two parties should collaborate, but this kind of structure also implicitly creates room for informal networks between different parties involved (Simard and West, 2006), which in turn might result in new formal contracts.

Inter-organizational relations and networks are implicitly present in the OI framework (Chesbrough, 2004). These value networks are according to Chesbrough and Rosenbloom (2002) a function of the business model. To be able to build upon the broad pool of knowledge located outside firm boundaries, the firm must organize and lead the entire value network to support innovation (Christensen and Rosenbloom, 1995 cited in Chesbrough, Vanhaverbeke and West, 2006).

Powell (1990) identified the 'Network Organization' form as a viable solution in organizing inter-organizational ties (cited in Chesbrough, Vanhaverbeke and West, 2006). In this 'Network Organization' form, both the identity and reputation of an organization is emphasized. The norm of reciprocity and interdependence between network members is also strongly enforced (Chesbrough, Vanhaverbeke and West, 2006). The OI concept presents a value creation strategy in terms of identifying

external knowledge in order to incorporate it into the firm, or seeking external paths to markets for its existing innovations (Simard and West, 2006). This process could be facilitated through network ties, either they are deep, wide, formal or informal. These ties provide access to complementary skills, scale benefits and a broader knowledge, which has proven to have a positive effect on innovativeness (Baum et al, 2000 cited in Chesbrough, Vanhaverbeke and West, 2006). Being involved in multiple ties allows for different types of knowledge to be transferred (Chesbrough, Vanhaverbeke and West, 2006). That being said, more ties do not necessarily automatically lead to more innovation (Simard and West, 2006). Recognizing the role that different networks play in an organization and its innovation processes, is crucial to understanding how these network need to be managed (Vanhaverbeke, 2006). The following section provides an overview of some challenges managers face in managing these networks and the sharing aspect of OI.

### **4.3 Open Innovation Management**

According to Simard and West (2006) it is important to determine the ties that best support the innovation strategy of the firm, the interaction effects and how to maintain and improve the overall network portfolio. A challenge in this regard is how to measure the effects these networks have on innovation and the value of knowledge flowing into the company compared to the knowledge outflows (Simard and West, 2006). Another issue is the challenges in enabling others to use internally generated ideas. One response to this issue is the emergence of innovation intermediates (Chesbrough, 2006). The aim of innovation intermediaries is to either help innovators use external ideas more rapidly or help innovators find more markets where their own ideas can be used by others to mutual benefit (Chesbrough, 2006). These companies provide the bridging, brokering, and knowledge transfer necessary to bring together different organizations and knowledge needed to create successful innovation (Chesbrough, 2006). For instance, a company named InnoCentive provides an online exchange portal (a marketplace for technology transfers). These types of companies serve as one solution to the Arrow Information Paradox of not wanting full disclosure, because the portal functions as a monitoring link. Although, these types of intermediaries are quite new, one can question how the intermediaries will be able to

develop the trust and reputation necessary to convince buyers and sellers to confide in them (Chesbrough, 2006).

#### **4.3.1 Knowledge -sharing**

A knowledge-based organization needs all of its employees to share a culture that promotes the virtues of knowledge acquisition and sharing. Knowledge sharing becomes especially important in consideration to OI, because in order for knowledge inflows and outflows to take place this has to be integrated into the core of the organization. Managing knowledge sharing is one of the OI management skills that is considered to be the main driver for successful collaborative innovation (Bogers, 2011b). In the rise of the knowledge-economy (and especially considering the role of networks and services) knowledge has become an overwhelmingly important resource, which needs to be managed correctly to leverage most out of it.

According to Nonaka (1994, cited in Bogers 2011a) different types of knowledge vary in their transferability. Explicit knowledge is communicated easily to other people and organizations, whereas tacit knowledge (including skills, know-how, and contextual knowledge) is transferred directly from one individual to another and is typically a time-consuming and pricey process (Bogers, 2011a). Fortunately though, knowledge is subject to economies of scale and scope, implying that the initial creation is more costly than the subsequent.

Despite the recognition of the value that collaborative innovation offers, both in terms of economic welfare and corporate competitive advantage obtained, how to effectively manage sharing in the OI process is still not fully understood (Enkel, Gassmann and Chesbrough, 2009). What we do know, is that in order to be successful in OI organizations will need to share valuable knowledge, while they at the same time, keep the need to protect that same knowledge against unwanted spillovers (Grindly and Teece, 1997; Gulati and Singh, 1998; Murray and O'Mahony, 2007; Simcoe, 2006; cited in Bogers, 2011a). Therefore, it would be necessary to develop a systematic framework of knowledge to govern the organizations, and design new solutions in order to manage relationships among different actors, and to capitalize on tangible and intangible resources (EURAM, 2011).

#### **4.3.1.1 Open Innovation Paradox**

The OI paradox is what arises when companies are simultaneously trying to share and protect their knowledge in the alliance with other firms (Bogers, 2011b). Bogers (2011b) developed two main strategies for coping with the tension, between knowledge sharing and protection, in such a coupled OI process. Firstly, ‘open knowledge exchange strategy’ (knowledge exchange based on the security of patents or strong trust relationships, openly sharing knowledge), and secondly, ‘layered collaboration scheme’ with inner and outer members (sharing extensively with the inner members, but not all the details to the outer members). The option of licensing is also revisited in Bogers’ (2011b) study as a governance mechanism which is a much more concrete way to implement such a coping strategy. However the study takes little consideration to the characteristics of different types of knowledge and the relationship among the collaborating partners. This questions the suitability of being able to ‘protect’ at all during while knowledge sharing.

### **5.0 Open Service Innovation theory**

This chapter attempts to shed light on the missing data that exists in the field of open service innovation. Firstly, this chapter discusses what is known about the characteristics of services and what is known about service innovation. Then the chapter discusses the different innovation models and how they can be applied to service innovation. Thereafter the chapter focuses on the notion of open service innovation today, opening up the service innovation process. Theory and research is very scarce in this field and most researchers have focused on the servitization of manufactured goods. However, some researchers have started to acknowledge the missing link between OI theory to service providers and some of these concerns will be presented. The chapter concludes with evaluations of the existing research and questions what is left unexamined.

## 5.1 Service Innovation

Pedersen and Nysveen (in press) argue that the differences in features between goods and services make innovation in services much more challenging. In order to better understand these challenges in managing service innovation and further on open service innovation, one must firstly look at the characteristics of services. Services are distinguished from products by their intangibility, simultaneity, heterogeneity and perishability (Levitt, 1981). The intangibility aspect of services has certain implications; it makes them harder to systematically test (Pedersen and Nysveen, 2010), but it also makes them easier to modify than tangible products (Trott, 2008), allowing for quick reactions to changes in customer needs and preferences (Ojasalo, 2008). In addition, the aspect of intangibility makes services easy to copy by competitors, as they are not patentable such as goods (De Brantini, 1991). The fact that services cannot be displayed or communicated in the same manner as goods, makes it more difficult to gain a "shared understanding" of a new service concept (Zeithaml, Parasuraman, and Berry 1985; Tatikonda and Zeithaml, 2002).

Services are typically produced and consumed simultaneously. The perceived quality varies also due to the simultaneity of services, as both the staff and the consumers play an important role (Kotler and Keller, 2006). The degree of variation often depends on the degree of standardization of the service and the amount of technology applied at the customer interface (Johne and Storey, 1998). Very often, the service provider becomes a part of a service offering. For instance, a taxi driver being present is essential to provide the service and the customer must also be physically present. Since all individuals are authentic human beings, every taxi ride will be authentic as well, as it will be perceived differently from one person to another. This involves the heterogeneity characteristic of services, describing the difficulty to ensure consistency due to its 'live' production and interaction between different consumers and service providers (Mansharamani, 2005).

The last characteristic is the perishability of services, meaning that they cannot be saved, stored, or resold (Kotler and Keller, 2006). This perishable characteristic of services creates an inability to regulate supply with the changes in demand, which

also poses many quality management problems. Service quality level tends to deteriorate during peak hours in restaurants, banks, transportation and so on, but at the same time it may remain inactive for periods of time. This results in unique managerial challenge regarding pricing and it complicates capacity planning as well (Mansharamani, 2005).

All of the above factors contribute to the idea that service innovations are less relied upon the traditional sources of innovation such as R&D, and more relied on sources such as consumers and competitors (Pedersen and Methlie, 2005). The close interaction with customers is often seen as the essence of a service offering, but ultimately it is making the new service development process more complex. With services, the suppliers must in addition to the service offering itself; closely consider the nature of the interaction with customers in their new service development process (Johne and Storey, 1998).

Although the characteristics of services serve as a challenging aspect in service innovation management, the fact that there exist several types of service innovations also complicates the matter. The most commonly used typologies of service innovation is presented by Den Hertog (2000) and divides the concept into four different types; 1) service concepts, which refers to a service that is new in a particular market or a new business proposition, combining elements of services that exist individually or as part of other services in a configuration, 2) client interface, the way that services are delivered and role that consumers play in the creation of value, 3) service delivery systems, explained as innovations in the service back-office system, so this dimension relates to the structure of the service provider itself, 4) Technology, which refers to service innovations that are enabled by technology (den Hertog, 2000).

These four typologies of service innovation have been taken even further in Den Hertog, Van der Aa and de Jong`s conceptualized service innovation framework (2010), where they have added two more dimensions for where service innovations can flourish. In addition to the previous mentioned service innovations, they acknowledge that service innovations can also take place in 5) new revenue models and 6) when new business partners join forces. The fifth dimension related to new

revenue models, could be exemplified by the transition of IBM as a manufacturer to a service solution provider. IBM has in fact gone from making money by selling goods to now generating most of its revenue from the services they provide. The sixth dimension, new business partners, refers to an innovation that occurs as a result of two or more actors that jointly co-produce a service innovation. This is a coalition of providers, both parties involved in the value chain and actors in the wider value network, creating and appropriating value through a combination of service functions (Den Hertog, Van der Aa and de Jongs, 2010). Businesses going together and creating an innovation is often linked to the concept of OI. (Chesbrough, 2003a; Gawer and Cusumano, 2002; Huston and Sakkab, 2006; Jacobides et al., 2006; Tee and Gawer, 2009).

### **5.1.1 Managing Service Innovation**

Although there exists literature on innovation management, the concept of managing service innovation has not gained the same amount of attention (Menor et al., 2002; Smith and Fischbacker, 2005; Stevens and Dimitriadis, 2005; Veflen Olsen and Sallis, 2006). According to Chesbrough (2011) companies know much more about innovating new products, new processes and new technologies, and far less about how to innovate in services. Yet, service innovation has been identified as the next frontier of innovation, since services represent a growing proportion of the world economy. Ettlé and Rosenthal (2011) claim the neglect of focus on service innovation management could be due to the less formalized process of it. The service innovation process is seen as more ad-hoc, less linear and less coordinated and more based upon a trial and error process (Pedersen and Nysveen, 2010; Trott, 2008). At the same time, it has been argued that the establishment of a formal New Service Development (NSD) process is the most critical success factor in new service innovation, ranking before the nature of the service, product market characteristics and project synergies (Cooper et al, 1994; De Brantini, 2001).

Most researches have acknowledged that the process of developing a new service is different than the process of developing new goods. Based on this, the NSD process derived from the idea behind the New Product Development (NPD) process (Fitzsimmons and Fitzsimmons, 1999). The traditional NPD process is not able to

capture the significance of the customer and the dynamic process of creating services (Trott, 2008). The NSD process is the overall process of developing new service offerings from idea generation to market launch (Cooper et al., 1994). There have been some attempts by researchers to develop models to describe this process.

Recognizing that literature concerning new service development is scarce at best; Scheuing and Johnson's (1989) propose a systematic model for NSD. Although their model is based on the extensive body of literature dealing with NPD, it has however also taken into account the unique conditions prevailing in service industries. Their model consists of a 15-step sequence of activities, which can be grouped into four main categories; direction, design, testing and introduction (exhibit 1). This is a well-recognized model, but due to its sequential nature, it poses clear limitations. Each stage needs be completed before moving to the next, which means the activities cannot be parallelized; this fact makes it very time consuming and the market opportunity identified initially may not even exist when it is commercialized.

In order to introduce a more effective, efficient and faster process than the above mentioned, Cooper (2001) presented the stage-gate model. He says that the innovation of a new product (good or service) begins with an idea and ends with the successful launch, but with the stage-gate model it divides the effort into distinct stages separated by management decision gates (gatekeeping). Cooper (2001) says that the steps between idea and launch can be viewed as a dynamic process, and cross functional teams must successfully complete a prescribed set of related cross-functional activities in each stage prior to obtaining management approval in order to proceed to the next stage in the development process. Although this process is not as linear as the above, it still remains semi-linear and might result in dropping potentially successful products by failing to pass a particular gate (Trott, 2008). This model also implies relatively static relationships between a firm and its customers. Most activities are done within the firm and although this may work for NPD, it does not take into account the ad-hoc fashion way services are developed (de Jong et al, 2003). Gustafson and Johnson (2003) adapted the stage-gate process to new service development and created a model where they showed a much closer relationship between the service provider and customer. They also added new parallel gates between the idea and selection phase, where they argued that cultural fit,

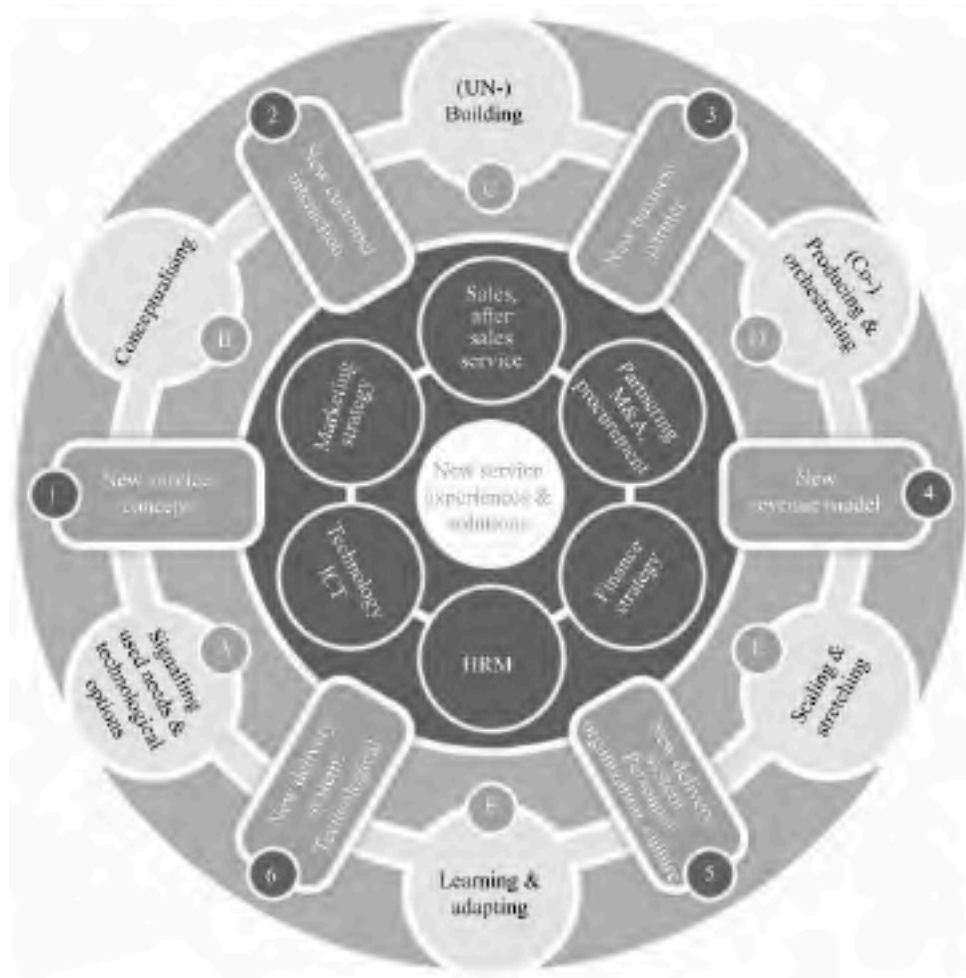


organizational fit, in addition to strategy fit should be key criteria when determining whether an idea goes to the next phase. This is because new services, unlike products, require change in culture and organization (Susman, Warren and Ding, 2006). Despite the modifications to Cooper's original stage-gate concept, there is still no mention of a continuous discourse and interaction between the supplier and consumer in Gustafson and Johnson's model (2003), and members of the supply chain are not included (Susman, Warren and Ding, 2006).

In NPD, formalized processes have proven to be critical in leading to better products (Griffin, 1997). Therefore it has been desirable to develop such a formalized process for NSD as well. Den Hertog, Van Der Aa and de Jong (2010) introduced a model, which was intended to fill this desire. It is a model, which focuses on the learning aspect of NSD. Sundbo (1997) also stresses the organizational aspect of new service development, arguing that for innovations to occur tacit knowledge has to be dispersed throughout the organization. Another reason to note the importance of the organizational aspect is the requirement of developing the appropriate nature of interaction with customers (Johnes and Storey, 1998). In fact both the service provision and the new service development process are inseparable from the organization itself (Dolfsma, 2004).

Den Hertog, Van Der Aa and de Jong's model (2010) identifies six dynamic capabilities for managing service innovation (Figure 5.1); signaling user needs and technological options, conceptualizing, (un)-bundling, (co)-producing and orchestrating, scaling and stretching, learning and adapting.

Figure 5.1: Capabilities for managing Service Innovation



The first capability is *signaling user needs and technological options*. Most service innovations are answers to a perceived unmet need of actual or potential customers, or translating a technological option into a service proposition. Therefore it is essential for innovators to be able to see these trends and translate the signals so they can respond with an offering that would be valued by these consumers (Den Hertog, Van Dera Aa and de Jong, 2010).

The ability to scan the market and monitor consumers and competitors is a capability that is seen as precedent, before the next capability *conceptualization* becomes relevant (Wang and Ahmed, 2007). Conceptualization is about transforming a rough idea for a new service into a viable service offering that is understood by colleagues, external partners and recognized by clients as a useful and valuable new service offer. The conceptualization is not only about detailing and visualizing the offering, it is also about how the new service offer relates to firm strategy, target audience, intensity

and forms of customer interaction, organization of the delivery system, partners needed, pricing and revenue model to be used etc. (Hertog, Van Der Aa and de Jong, 2010).

The third capability is the ability to *bundling and un-bundling*. New service offerings are often configurations of existing elements supplied in new contexts (van der Aa and Elfring, 2002). They could either be combined in a new way, or even stripped down and made even simpler (Normann, 2002). The capability of bundling and un-bundling these service item configurations is therefore a requisite (Hertog, Van Dera Aa and de Jong, 2010).

The ability to *(Co)-produce and orchestrate* is also important in service innovation. Managing service innovation in between and across firm boundaries and being able to engage in a network is by many becoming more widely acknowledged as a necessary capability (Russanen, 2009). Due to the configuration of a service often consisting of several service elements that have to work conjointly to fulfill a consumer need, the core service provider has to co-design and co-produce a service innovation with other suppliers and manage the accompanying alliance. Customers will often be involved in these alliances, co-producing and co-designing service innovations (Sanden 2007).

The fifth capability is *scaling and stretching*. It is hard to standardize services due to the intangibility and the human component, but customers expect that what they receive should be somewhat similar through the various channels of the service providers. They associate the brand name with a certain service formula, which means that scaling a new service concept requires the service formula to be diffused firm wide (Hertog, Van Dera Aa and de Jong, 2010). If the firm has managed to build a successful brand name, it could be stretched to other service offerings (Hertog, Van Dera Aa and de Jong, 2010).

Last but not least den Hertog et al (2010) propose the ability to *learn and adapt* from previous experiences is key to successfully managing the service innovation process. Ambrosini et al. (2009, cited in Hertog, Aaa and Jong, 2010) pinpoints reflecting on current service innovation management practices and how to improve these is key for identifying areas for improvements.

These six capabilities presented by Hertog, Van Dera Aa and de Jong (2010) address some, but not all, of the major management deficiencies in the service innovation process identified by Dörner, Gassmann and Gebauer (2011). These deficiencies include failure to protect services, a lack of clear organizational anchoring, unsystematic innovation process, inadequate customer involvement, and insufficient elimination of bad service ideas. A framework that is adequate for all settings is yet to be conceptualized, but with services ranging from knowledge intensive services to almost commodity like services such as fast food restaurants, it is noticeably hard to find a one-fit-all management process for service innovation.

## **5.2. Managing Open Service Innovation**

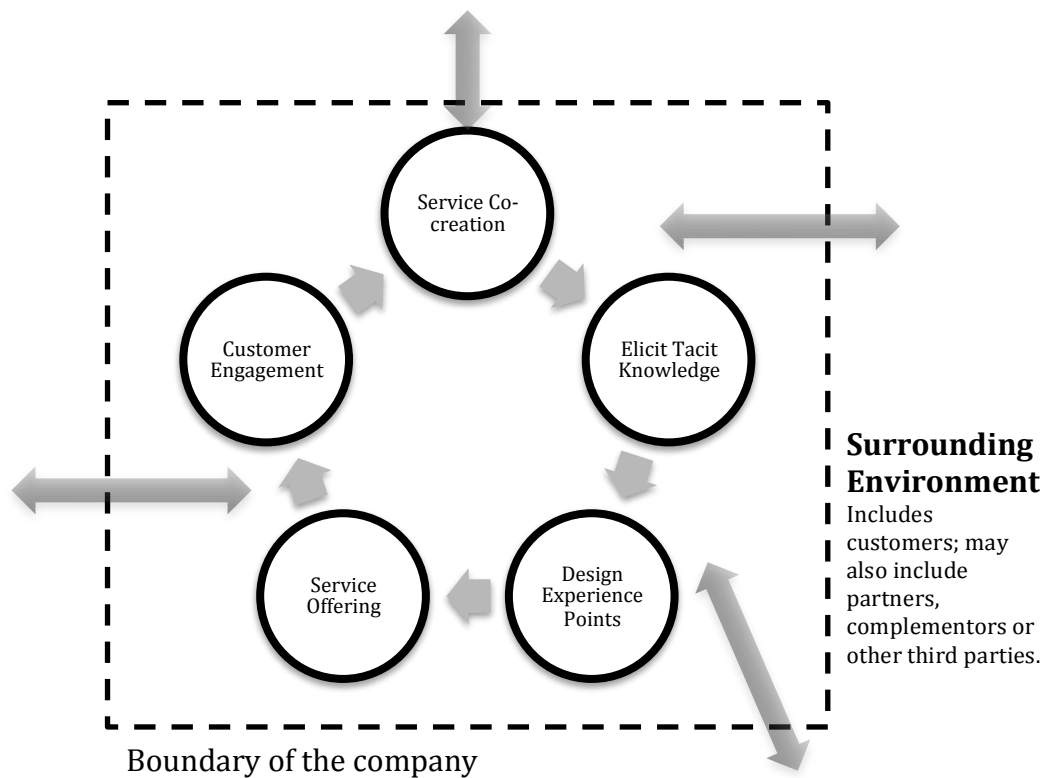
Given the distinct difference between a service and a good in terms of a service being intangible, simultaneous, heterogenic and perishable (Lewitt, 1981), it is also likely to believe that there are differences between the two in the adoption of OI as well. Gassmann (2006) found that industries characterized by globalization, technology intensity, technology fusion, new business models and knowledge leveraging were more expected to absorb and practice OI. Considering that many of these characteristics are more relevant for goods manufacturers than for service providers, it indicates that OI will be stronger in manufacturing industries.

Since there has been great success with OI, we need to understand the impact as to how exactly OI applies to service innovation. Chesbrough (2011b) has acknowledged the importance of open service innovation, and argues that the two main benefits that opening your service innovation efforts can bring forward are economies of scope and economies of scale. He uses an example from Amazon to show how economies of scope can be obtained. Amazon decided to allow third party merchants to use its own tools in order to create Amazon web pages. Firstly, in the consumer perspective this creates a constant shopping experience for users and makes Amazon.com a more attractive Internet destination for shopping many items. It also increases “share of wallet” for Amazon, with no merchandising risk (Chesbrough, 2011b). In terms of economies of scales, Amazon is able to convert fixed server farms to variable costs

for customers by opening and hosting other companies' website, which results in lower costs for Amazon (Chesbrough, 2011b).

Although Chesbrough brings to light the importance of open service innovation, he mostly argues that manufacturers of goods should start to think of their goods as services in order to evolve and be sustainable. However, the situation for companies such as IBM is very different than for many other service providers. IBM has a strong brand name, it is also a large worldwide enterprise, and although most of its revenue is made through services, they still have "protection" through their products such as computer systems, servers, mainframes and software. Chesbrough's argument is based on the late Harvard professor's example "customers do not want a drill; they want the holes that the drill will make", meaning that ultimately product or not, the customer is always buying a utility (Chesbrough, 2011a). His argument has a very valid point, and product manufacturer should in fact start thinking about their businesses as a service business. However, in his discussions he fails to include how smaller companies without any forms of product and/or IP protection can leverage of opening (inbound as well as outbound) their innovation processes. Although his suggested strategy is very important in order for companies to not fall into the commodity trap, the guidelines fail to provide insight for the incentives for outflows of knowledge and ideas. It is believed that companies, who offer services as an additional feature to a product (which might have IP protection), have different leverage points when sharing than those who only offer the service part. The benefits of inflows (for example customer co-creation) are very appealing, since the customer experience is what defines your success. As illustrated in the below model (figure 5.2), co-creation can happen in multiple steps (grey arrows) throughout the iterative process. A question left unanswered though, is how does a non-product oriented company foster service innovation? What are their incentives for sharing (unprotected) ideas and knowledge with others? One thing is working closely with customers to develop new solutions (inbound), but in order for a company to utilize the OI concept there has to be an outbound process as well (Chesbrough, 2011a). The next section provides an overview of the different degrees of openness that have been identified.

Figure 5.2: The service value web (Chesbrough, 2011a)



### 5.3 The Degree of Openness

A firm's degree of openness in innovation represents the different levels of a firm's openness (ranging from closed to a high degree of openness). The degree of openness is operationalized as the weighted sum of the number of different kinds of collaborations used by partners in innovation, whereas the weights reflect the importance of the ideas that come from the respective partner (Laursen and Salter, 2006). Drechsler and Natter (2011) investigated the drivers for openness and found that the factors preventing firms from being open are a lack of market and technological knowledge (knowledge gaps), ineffective intellectual property (IP) protection mechanisms, and competitor threats such as market entries and imitation. On the other hand, when Drechsler and Natter (2011) looked at what increased the degree of openness, they found that the need for financial funding in innovation and the effectiveness of a firm's IP protection mechanisms to be most important.

This poses the questions as to whether service providers can possibly have a high degree of openness, considering that they do not possess the opportunity to protect

their service offerings like goods. The possibility of imitation could be argued to be “easier” in services in comparison to goods as well. Drechsler and Natter’s (2011) findings in terms of important factors for increasing the degree of openness, serves as an interesting discovery when considering the application of openness in the service sector.

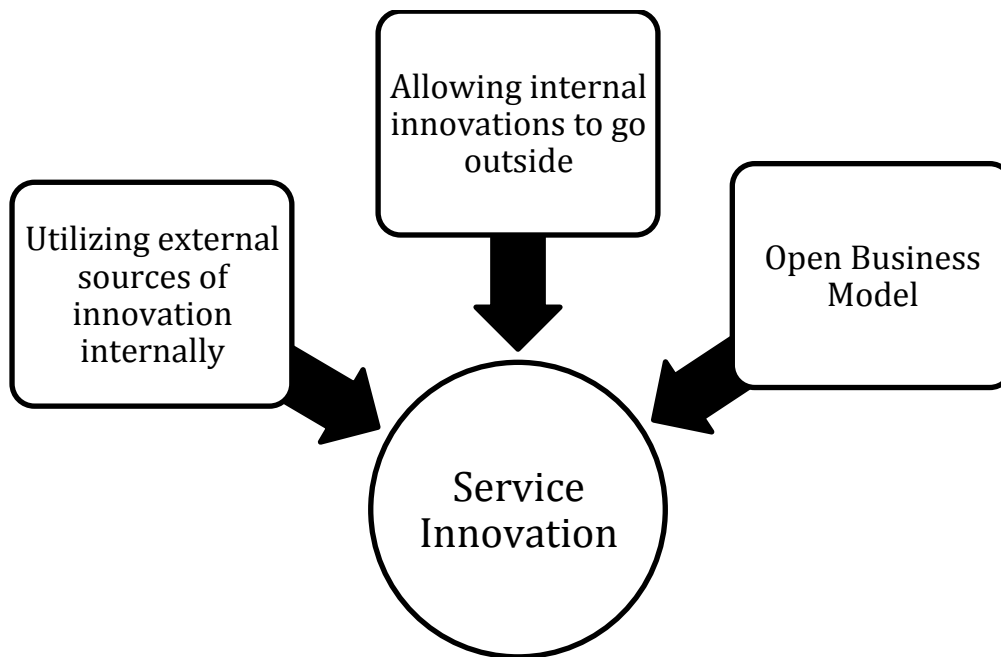
## **6.0 Methodology**

The first section of this chapter presents the conceptual framework for the thesis, whereas the next two sections of this chapter offer the research design and research strategy applied to collect data. The next sections will describe the methods used to collect and analyze the collected data. The last section will identify and discuss the ethical considerations and limitations.

### **6.1 Conceptual Model**

The model is a visualization of the research question: “How are OI practices applied to Service Innovation?” Based on the combined research presented above, as well as Dr. Henry Chesbrough’s (2011a) thoughts on what is essential in successful OI, we have constructed a conceptual model. The model shows the three variables: 1) utilizing external sources of innovation internally, 2) allowing internal innovations to go outside, and 3) having an open business model, which is what tells companies what to look for outside (to bring in), and what to release. In order to assess if these OI practices are transferable and appropriate to achieving openness in service innovation, we will analyze the practices of six different service providers.

Figure 6.1: Conceptual Framework; Open Innovation practices applied to service innovation?



## 6.2 Research Design

This research aims to discover how the OI can be applied to service innovation. Literature and research on this topic is still in its infancy, which justifies an explorative approach. The nature of the research question requires a close understanding of innovation in the service sector, which means that the research methodology had to be designed accordingly. The research design is the framework, which is guiding the investigation process; the plan for how we will collect, analyze and interpret the data (Saunders, Lewis and Thornhill, 2009). When exploring a topic where existing knowledge does not allow for testing of hypothesis and the aim of the research is to thoroughly investigate a few units, the qualitative method is the most appropriate method (McBurney and White, 2010). The strength of conducting qualitative research is the flexibility it allows. The design allows the researchers to follow up on unexpected ideas during research and explore these (Conger, 1998). Another advantage of qualitative research was the ability to provide complex textual descriptions of how the companies applied the OI concept into their innovation processes. The next section will provide an overview of the research strategy.



### **6.3 Research Strategy: Case Study**

The aim of the study is to understand a specific organizational reality and occurring phenomena from the perspective of those involved by examining it in natural context (Jonker and Pennink, 2010). A case study is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real life context especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 2009). A case study is the most appropriate methodology when a “how” question is being asked about a contemporary set of events over which the investigator has little or no control (Yin, 2009). The research question poses the question; “how” are OI practices applied to service innovation? The implementation of Induct (The OI Community Software) as a working tool to enhance the innovation process in an organization fits the description of a contemporary event where the investigator has little control. It is a process that is planned and initiated by the management in the organization; the investigator is only observing and analyzing the process from an external position. The purpose of the research is to study the role of openness in fostering service innovation in companies. Yin (2003, Cited in Saunders, Lewis and Thornhill, 2009) argues for the use of multiple cases in order to be able to establish whether the findings from one cases is to be found in other cases as well.

#### **6.3.1 Selection Criteria**

For qualitative case studies in an explorative stage the selection is rather purposive than random (Saunders, Lewis and Thornhill, 2009). This enabled us to select cases that were informative and are presumed to best meet the objectives and answer the research question (Neuman, 2005, cited in Saunders, Lewis and Thornhill, 2009). In order to answer the research question, service providers that were presumed to have an OI practices had to be identified. Induct is a web based software system (Software as a service, SAAS) that is designed to support and drive OI. The solution offers custom design, management and measurement of the innovation process (Induct, 2012). The purpose is to take ideas from their very initial conception all the way through into the market place. The idea portfolio is customized to be aligned with the specific company’s innovation strategy, so that the ideas can be ranked according to area of focus, strategy, innovation type and area of responsibility. Integrated in the

solution is a recognition, reward and compensation model. Being able to track the origin of an idea could be effective as an incentive for employees to participate in the open community. Induct is not only meant as a management tool to monitor the innovation process, it also offers endless possibilities for collaboration. The idea is to create an innovation community with increased levels of communication, collaboration and knowledge and technology flows, both internally and externally, embracing the OI ideology. The solution is designed as a reflection of the OI theory (Sunde, 2011). It was assumed that companies implementing this tool are engaged in “opening up” their innovation processes. Induct was purposively chosen as a selection platform due this fact. Since the service sector in Norway consist of both a public sector and a private sector, and these sectors differ in a lot of aspects both sectors were included. In order to gain a wide range of perspectives it was desirable to include companies offering different types of services. Based on these criteria companies were invited by a representative from Induct to participate in this research as interviewees. In total, six cases were selected; three companies in the public sector and three from the private sector. The representatives from each of the companies had a position closely interrelated to the innovation efforts within the company.

### **6.3.2 Cases**

This section will provide a brief introduction to each of the selected cases.

#### **6.3.2.1 Posten Norge**

Posten Norge is the national postal service provider in Norway, owned by the Norwegian Ministry of Transport and Communications. Posten`s business operations are regulated by a license, but are also expected to develop and supply competitive solutions to meet the needs of existing and new customers individually and as a whole. Posten Norge meets the markets with two brands, Posten and Bring. Posten covers services to private customers, the post office network and daily postal distribution to the entire Norwegian population. Posten holds a monopoly on distribution of mail (letters under 50 g). Bring is aimed at business customers within mail and logistics in the Nordic area. The Group has more than 1 400 points of sale in Norway in the form of post offices and Post in Shops, and employs approximately 20 000 employees (Posten, 2012).

### **6.3.2.2 Norsk Tipping**

Norsk Tipping AS is the national lottery company in Norway. The company offers a wide range of lottery, sports and instant games in the Norwegian market. Norsk Tipping is owned by the Norwegian government and administered by Norwegian Ministry of Culture and Church Affairs and employs approximately 340 employees. Norsk Tipping's obligation is to contribute to stable and long term financing of good causes that are beneficial to society within culture and sports, and at the same time act as the government's instrument to ensure that games are played within controlled and socially responsible limits. Norsk Tipping's assignment requires a balance between the considerations of possible social implications against the need to secure stable revenue (Norsk Tipping, 2012)

### **6.3.2.3 Berg-Hansen AS**

Berg-Hansen is a travel agency, offering travel solutions for both the business travel segment and leisure segment. Their products in the business segment include business travel, meetings, seminars, conferences, and company tours. Their leisure travel services involve everything from charter tours to custom dream vacations. Aircontactgruppen AS owns the company, and is a privately owned holding company with interests in tourism, airfreight, marine, IT and biotechnology. Berg-Hansen is represented with over 30 offices in Norway and employs approximately 490 employees.

### **6.3.2.4 Faedrelandsvennen**

Faedrelandsvennen is the leading media house in southern region of Norway. Its principal business activities comprise of the publication of the morning newspaper Faedrelandsvennen that is published six days a week, and the online newspaper fvn.no. Faedrelandsvennen have approximately 116 000 daily readers. The company employs approximately 235 employees. It is a subsidiary of the Schibsted Corporation, an international media group with approximately 7,400 employees (Faedrelandsvennen, 2012).

### **6.3.2.5 Brand Management Group**

Brand Management Group is a network-based organization that aims to utilize competence from different disciplines in order to create innovative solutions. Brand Management group currently employs five people and has established cooperation with a number of companies from different disciplines. They offer consultancy services within innovation management, brand management and customer acquisition and retention management. Brand Management Group has worked with many leading companies in the Norwegian service sector such as Telenor, Finn.no, and Gjensidige (Brand Management Group, 2012)

### **6.3.2.6 Ibestad**

Ibestad is one out of 430 Municipalities in Norway. Municipalities are the atomic unit of local government in Norway and are responsible for primary education (until 10th grade), outpatient health services, senior citizen services, unemployment and other social services, zoning, economic development, and municipal roads. The population of Ibestad is approximately 1500. The municipality has a budget of 110 million and employs around 220 employees (Ibestad, 2012)

## **6.4 Data collection**

How the data is collected is usually determined to a degree by the chosen research design. We chose to collect primary data through interview methodology, which is claimed to be one of the strongest methodical tools in qualitative research projects (McCracken, 1988, cited in Saunders, Lewis and Thornhill, 2009). It gives the interviewer an opportunity to probe or ask follow up questions (Saunders, Lewis and Thornhill, 2009).

As a result of shortening life cycles and constantly evolving customer expectations, new competitors and falling barriers, companies are now required to be incrementally innovating regularly, and considering disruptive innovation activities for service and experiences at least once a year (Phillips, 2012). Although the study focuses on

incremental, disruptive and radical innovations within the six cases, it was limited to a three-year frame. Today, innovation activities are no longer occasional initiatives, so relying on innovation implemented 10 years ago becomes unsupportive, in discovering current activities and initiatives of OI practices within the cases.

#### **6.4.1 Semi-structured Interview**

Semi-structured interviews are conducted with a fairly open framework, which allows for focused, conversational, two-way communication (Longhurst, 2009). A semi-structured interview is often described as a professional conversation; interviewers define the subject and follow up on the interviewee's responses with critical questions (Kvale, 1997). A semi-structured interview covers a list of topics and questions that is prepared beforehand as an interview guide. This interview style allows the interview guide to vary for each interview, so that if there is something that is particularly interesting to only one of the organizations this could be further explored (Saunders, Lewis and Thornhill, 2009). The interview guide works as a framework, and the answers to these questions sometime serve as the basis to dig further into a topic. Using an interview guide facilitated the interview process since the interview stayed on the relevant topic and was more or less the same for all the interviews, but as mentioned it still allowed the flexibility to dig further into some areas that were found interesting. The aim of the interviews conducted was to get to know their perspective on how OI practices work in their firms for service innovation.

The interviews were conducted through Skype communication due to geographical challenges. The interview was also taped, with acceptance from the interviewee, so that the interview could be reviewed, transcribed and analyzed afterwards. Questions that arose in this phase were followed up by e-mail correspondence. The advantages and challenges associated with this method will be addressed in the credibility section.

## **6.5 Data Management and Analysis**

There are several ways that one could analyze the qualitative data material collected, but the first step is to transcribe the interviews into a written format. After transcribing the interviews we produced a summary of the key points that emerged during the process, as suggested by Saunders, Lewis and Thornhill (2009). Both the statements and its context were summarized. In order to build an understanding based on the data collected we adopted Strauss and Corbin (2008, Cited in Saunders, Lewis and Thornhill, 2009) analysis procedures. The disaggregation of data is referred to as open coding. The data was disaggregated in to conceptual units and labeled. The categorization of data indicated the central themes and issues; inflows and outflows, customer involvement, protection, fear and so forth. The next stage of the process was axial coding. In this stage the goal was to look for relationships between the different categories of data set in the previous stage, for example we found a relationship between lack of protections and fear. The essence was to explore the phenomenon of OI in the context of service innovation, what is the relationship and what are the outcomes. In the next phase, the selective coding, the principal category that pinpointed the focus in the further investigation was determined.

## **6.6 Ethical Considerations**

Ethics in relation to research is about being morally responsible in the way we behave, and how we clarify the research topic, design the research and gain access, collect, store, analyze and write up the material (Saunders, Lewis, and Thornhill, 2009).

A concern that many organizations have is about sensitive information and confidentially. We were granted approval from the formal Research Ethics Committee to conduct the research. This was assumed to establish a certain confidence among the participating companies that information they shared as well as the anonymity of the interviewee is was treated within the frames of ethical data management.

It was important that the organization and the individuals that were enquired to participate in the research perceive the work we are conducting as valuable in order for them to be willing to let us gain access and devote time to the project. Gaining the formal access granted from the management was only the first step. Those who are the gate keepers for access were not be the same people that are actively participating, which means that we also needed to gain acceptance by the actual participants in order for them to give us access to their knowledge (Robson, 2002, Cited in Saunders, Lewis and Thornhill, 2009). The credibility and perceptions about the possessed competence of the researchers, is also important. If the interviewees find these aspects to be convincing, they were more likely to share their information and knowledge.

We made sure that the participants were aware of their rights as interviewees, that the nature of the participation is voluntary and that they have the right to withdraw partially or completely at any point of the process.

## **6.7 Credibility**

Credibility of the research refers to the reliability and the validity of the research findings. These concepts will be discussed in the following sections.

### **6.7.1 Reliability**

Reliability is concerned with whether the data collection techniques and the analysis used would provide the same findings if applied another time or by another researcher. Whether another researcher would have revealed the same findings is especially an important issue to address in qualitative research due to the lack of standardization (Saunders, Lewis and Thornhill, 2009). Using a non-standardized research method means that the research reflects reality at the time they were collected and that the research method is not repeatable.

The issue of reliability is closely connected to bias. Interviewer bias is when the tone, comments, non-verbal behavior affects the interviewees' responses (McBurney and White, 2010). When interviewing it is important to not impose own beliefs or frame of reference to the interviewee, therefore the way in which the question is articulated

has been considered (Saunders, Lewis and Thornhill, 2009). Closely related to this issue is how the interviewer interprets the answers provided by the interviewee, so reliability also addresses the issue of transparency in the interpretations of the raw material (McBurney and White, 2010). Other typical situations that could create bias is if we were unable to establish credibility as researchers, as previously mentioned this could have led the respondents to limit the information that they are willing to share (Saunders, Lewis and Thornhill, 2009). Another type of bias is the interviewee bias, which could be related to the respondents' perception of the interviewing process or us.

Typical threats to reliability in terms of interviewee bias are connected to how the timing of the interview could affect the answers of the interviewee. If the interviewee has a time constraint and wants to spend rather limited time on the project they may withhold information. Our sampling process reduces this threat since it is based on voluntariness. The participants could although have been subjected to answering what they thought was the expected answer or they could have tried to project their company or their work in a best possible way, especially since their position within the company is so closely linked to the topic investigated. Another issue could be that they chose not to reveal and discuss information because it could lead to probing questions that would intrude on sensitive information that they do not wish to share or are not empowered to share, and only provide part of the whole picture (Saunders, Lewis and Thornhill, 2009).

In order to reduce the impact of bias we took certain precautions. To increase our credibility we prepared by obtaining thorough knowledge about the topic, the organization and the participants we were interviewing. We also provided the respondents with proper information about the research and what our aim was, so that they knew what the information was going to be used for and which allowed them to prepare themselves. The interviews started off with a proper introduction of us in order to establish trust and credibility



### **6.7.2 Validity**

Validity is addressing whether or not the findings are about what they appear to be about, that we are able to understand and derive meaning from the interviewee responses (McBurney and White, 2010). The internal validity in qualitative interviews are not subjected to major concern as the semi structured interview style allows flexibility in terms of clarifying the questions and the meanings of the responses could be probed. The topics are also being discussed from a variety of angles (Saunders, Lewis and Thornhill, 2009). One issue that we needed to reflect upon was that the interviews were conducted in Norwegian, as it is easier for the respondents to express themselves in their mother tongue. When transcribing, we had to be careful that their responses did not derive another meaning when translated into English. The external validity, which refers to the extent to which the findings are generalizable, is questionable. The experiences and understandings of the situation for one person may differ to another person in the same organization and with a small number of cases the findings may not be applicable to all or even similar companies. The purpose though of the research is not to generalize the findings, but it is an attempt to grasp thought on the practice of OI in the service sector.

## **7.0 Analysis and Discussion**

Firstly, this chapter attempts to answer the research question based on a review of the theoretical fit of OI practices applied to service innovation theory. Thereafter, the chapter goes on to evaluate the six Norwegian service providers. Initially, a terminological clarification on how the interviewees understand the central concepts of innovation and OI is provided. The remaining part of this chapter is divided into three main sections, where the topics reflect the variables in the conceptual model. The first section will look into the two types of inbound flows; namely sourcing and acquiring. The next section discusses the outbound flows; revealing and selling. The aim of these two sections is to identify and discuss what types of openness the Norwegian service providers have applied in their innovation processes. The following section analyzes the firms' business model and management skills for practicing OI. In this subsequent section, challenges and opportunities that the service providers face when opening their business model is discussed.

## **7.1 Theoretical Fit of OI Practices applied to Service Innovation Theory**

Before entering in to analysis and discussion of the six Norwegian service providers' practices of OI, it is relevant to analyze the fit between OI practices and service innovation from a theoretical perspective as well.

### **7.1.1 Service Characteristics**

As presented in the service innovation chapter, services distinguish themselves from products by their intangibility, simultaneity, heterogeneity, and perishability (Levitt, 1981).

When considering the factor of OI in the *intangibility* aspect, there are both advantages and disadvantages. A clear advantage is that companies can continuously alter their service innovation as a co-creation process with stakeholders, minimizing the need for major investments in updating prototypes as with products. However, Chesbrough often stresses the transaction of IP between companies as a major element in OI, but due to the intangibility aspect of services IP is not often an option. The intangibility aspect, however, can sometimes be misleading if you differ between physical and non-physical acts. A non-physical act such as consulting is truly intangible, but physical acts to customers' bodies (passenger transport, lodging) involve experiences that are highly tangible, and physical acts to customers' owned objects (freight transport, repair/maintenance) physically transform possession in tangible ways (Lovelock and Gummesson, 2004). In summary, the intangibility aspect implies that companies will have to have intensive communication with people involved in innovation, since you cannot feel or touch a prototype. If you are able to create that shared understanding, then the company will be in best situation to bring forward innovations.

The *simultaneity* aspect of services is more or less a prerequisite within the OI paradigm. The OI concept involves integrating customers in the innovation process, not only within the ideation phase but also within other phases as well. Clearly, in

account to inbound innovation this aspect of OI is already an integrated part of services. However, it also implies the importance of closely involving the back office with the front office, so everyone understands the process of the service offering. Due to the simultaneous production and consumption, the back office needs to see what happens in the delivery of a service to then be better equipped to realize improvements.

Services are often characterized as being heterogenic, due to the fact that a service has such a “live” production and because the interaction between different customers and service providers vary. In theory this heterogenic nature ensures that services are hard to imitate, as it depends largely on the client’s perspective of quality. In respect to the heterogenic nature of a service, there would theoretically not be a hinder for companies in revealing their internal resources. Furthermore, personalization of a service offering would then further contribute in increasing their heterogeneous nature, thereby ensuring customer loyalty. However, if the service offering is not that closely related to the producer, it is questionable whether the service offering itself can become easier to imitate, since its characteristics are less heterogenic and more standardized. This aspect sheds light on the fact that different types of service offerings within different markets, are perhaps likely to reveal in different degrees. Companies who are afraid that competitors easily could imitate their offerings should perhaps reconsider what value they are providing to their customers, since the worst trap they could fall in is that their service offering becomes “commoditized”.

The last characteristic of a service is that it is perishable, meaning that services cannot be stored. This implies that when labor is not used at maximum capacity the service provider is losing opportunities. Therefore, service capability estimation and planning are key aspects for service management. In the aspect of OI, this suggests several things. For instance, if all employees are focused on delivering the service offering, in order to take the most advantage out of the employees’ time, many managers forget to involve the open innovation practices as an imbedded part of all employees’ duties. It is often stated that one of the major flaws among managers is that they have not set off time to implement activities that will increase their innovation efforts. Whereas, manufacturers often have a team and major investments lined up for R&D as an integrated part of their business, because the patents filed can be stored and both sold

or licensed out. Despite this fact, one could argue that if service provider managers truly integrate the employees in an open innovation effort, this perishability aspect will then not affect the OI practices.

### **7.1.2 Service Innovation**

The three different ways to look at services will have a large impact as to how the service innovation process works, either you are looking at service innovation as innovations in service industries, service innovation as innovation in knowledge intensive services or service innovation in goods producing industries. Since the two latter types of service innovation have been discussed to a larger degree by academics, this thesis focuses on service innovations in service industries.

Research as studied above in the theory section suggests that service innovation processes differ from other forms of innovation, seeming that they are more informal and are considered to be more of a trial and error process. However, this consequentially leads to some challenges as well, because the procedure for managing and controlling open innovation processes becomes much more a web of parallel activities, blurring the boundaries between search and implementation.

In the theory section the study identified a model by Den Hertog, Van der Aa and de Jong (2010), which presented six capabilities that are required in service innovation. The first capability is *signaling user needs and technological options*, the ability to spot trends, read user signals and translate the signals into a valuable service offering. This capability is also highly relevant in the sourcing activity for inbound innovation. The ability to *conceptualize* a service offering is also a required capability in OI practices, and becomes especially relevant in outbound innovation, being able to make your proposition understandable for others. *(Un)-bundling* refers to the ability to configure offerings by building on an already existing offering or strip down an offering to simplify it. In OI, the benefit of revealing is that you see a short-term and/or long-term advantage from it. A typical advantage in regards to revealing is to build up on each other's work, which makes the capability of (un)-bundling essential for OI. *(Co)-producing and orchestrating* capabilities touches upon the very core

capability in OI, as it is essential in order to manage both inflows and outflows. OI practices also includes collaborations in form of joint ventures, this requires the ability to *scale and stretch*. OI also requires an internal environment that is able to *learn and adapt*. Overall, as summarized in table (7.1) theoretically this study found open innovation practices to be similar to the capabilities needed for service innovation, and therefore should be a suitable fit.

Table 7.1 Service Innovation capabilities in regard to OI

<b>Service innovation capabilities</b>	<b>Open Innovation practices</b>
<b>Signaling user needs and technological options</b>	<b>Yes</b>
<b>Conceptualizing</b>	<b>Yes</b>
<b>(Un)-bundling</b>	<b>Yes</b>
<b>(Co)-producing and orchestrating</b>	<b>Yes</b>
<b>Scaling and stretching,</b>	<b>Yes</b>
<b>Learning and adapting</b>	<b>Yes</b>

### 7.1.3 Summary of Findings

From looking at the theory it is recognized that both the characteristics of services as well as the capabilities needed for service innovation, indicate that both inbound and outbound service innovations are not only possible for services, but is necessary in order to stay alive in today's market. However, the theory does to a degree, as with the case analysis, indicate that there are situations where outbound innovation is more difficult than inbound innovation. For companies with standardized services, which are average performers, they might be reluctant to share their ideas. However, with the proven success of open innovation practices, such companies should acknowledge the necessity of thinking in a much more holistic view of the possibilities in order to out-innovate its competitors.

## 7.2 Terminology Clarification

For the sake of simplicity, the company's name will often be used synonymously for the interviewee, but it is essential to keep in mind that the perspective of the company is only from the interviewees subjective comprehension. It is also important to

acknowledge that the individuals whom participated as representatives for the companies have a position that is highly related to the innovation process in the firm. The empirical findings suggest that the interviewees understand innovation differently, and since the term innovation is a fundamental part in the concept of OI, it also becomes relevant to reflect on how the term innovation is defined. A table (7.2) that summarizes the definition and their understanding of innovation and OI is provided below:

Table 7.2 OI concept understanding

<b>Company/Sector</b>	<b>Innovation</b>	<b>OI</b>
<b>Posten /Postal Service</b>	“Innovation is something entirely new that is implemented into the market, or is an improvement for a organizations working practice, structure and/or process.”	“OI is about opening and systemizing the innovation processes by creating platforms for collaboration that enable all stakeholders to contribute to a positive development for the focal company.”
<b>Norsk Tipping/ Lottery</b>	“An innovation is something new that is commercialized in the market”	“OI is the utilization of networks in different steps of the innovation process.”
<b>Berg-Hansen/ Travel Agency</b>	“Innovation is the ability to change and to think in a new direction”	“OI is about letting those who want contribute, and be heard”
<b>Faerelandsvennen / Newspaper (Both paper format and online)</b>	“Innovation is the realization of good ideas. It relates to new goods, business models and services that are adapted to the customers’ needs. It is also about continuously improving core-, and support activities in the value chain, by developing new competencies, and using new technologies.	“OI is about gaining input in terms of knowledge and ideas from other external entities.”
<b>Brand Management Group/ Consulting</b>	“Innovation is everything from incremental improvements to radical new products, services or processes, which are implemented into the market”	OI is about mature leadership; it is the recognition of the fact that in order to live, grow and retain a sustainable competitive advantage, they have to acquire inspiration and ideas externally. It is about genuinely believing that it is smarter/better to share than to protect everything. In other words it is the about the realization that not all the smart people work for you.

<b>Ibestad/Municipality</b>	<p>“An innovation is the commercialization of a new or improved good, service, process, or working practice in an organization. Innovations can also be if you take a product, process or working practice from one sphere and transfer it to another sphere where this has never been done before”</p>	<p>OI is more than just involving people outside of the firms boundaries; it is also about establishing a contact point to other entities that are not necessarily a part of your obvious value chain. In OI businesses should reveal/sell ideas that you are not going to use yourself. Additionally it involves buying already developed ideas.</p>
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The table illustrates that there is a general consensus that innovation is a new or improved product (good or service), process or business practice and that has to be implemented into a market in order for it to be an innovation. Marketing innovations was the only innovation type that was not mentioned by any of the respondents, but however is included as part of the definition in the Oslo Manual. It is noteworthy that innovation within marketing seems to not have top of mind awareness within the different companies' innovation departments, since this could be valuable innovation area for all types of service providers trying to gain customers' attention. The understanding of the OI concept however differed to a larger extent. Most recognized the inbound component of OI, the establishment of networks, and acquiring/sourcing externally to exhilarate innovation. Only two of the interviewees touched upon the outbound process of OI; revealing and/or selling internally generated ideas and service concepts to external entities in the creation of outbound innovation.

These two findings are not surprising considering the extensive literature and focus on innovation in the last decades and the relatively novelty of the OI concept in literature. The following two sections will identify the types of openness that is practiced in the companies and also attempt to offer explanations as to why a firm chooses to practice a certain type of openness.

### 7.3 Inbound Flows

This section will use empirical findings to identify which type(s) of inbound openness the service companies have. Firstly, the non-pecuniary flow; sourcing will be

examined. Thereafter, it will be identified whether the companies have utilized the pecuniary inbound flow; acquiring. The findings from these two sections will then be summarized in the latter part of this section.

### **7.3.1 Sourcing: Inbound Innovation – Non-Pecuniary**

Sourcing refers to the use of external sources for innovation (Dahlander and Gann, 2010). It is a non-pecuniary type of inflow, meaning that the company utilizes ideas, knowledge or technology that is not paid for in their innovation process.

This is a type of openness that all of the companies that participated in the study were fairly familiar with. All of the respondents said that they scanned the market in order to identify customer needs, knowledge, technology and/or processes that they could utilize in their innovation processes. Although sourcing was identified as a common practice, very few had a formalized process for it. There was only one interviewee, who mentioned that this activity was incorporated as a part of regular routine. During the sourcing process they looked at what competitors and other companies were doing, not only in Norway, but also in other parts of the world. Posten's latest innovation Digipost actually occurred as a result of an external sourcing process. Digipost is a digital mail solution that is secured in a manner that allows for electronic delivery of letters that traditionally have been sent in paper format, due to containment of sensitive health, insurance, bank- related information. Additionally, Digipost offers a way of archiving mail in a secure cryptic solution and is equipped with a feature that enables archiving of receipts as well; if something is purchased with a card that is registered in Digipost, the receipt is automatically sent to the Digipost archive.

The idea came from looking at other postal companies in Europe, which have a similar system. The concept was then modified internally through focus groups and brainstorming sessions in order to fit it to the Norwegian market. Posten then organized a coding competition where they invited people with competencies within programming to develop codes for new innovative features that they could incorporate in to the Digipost solution. This contest created a lot of input. The best solutions were awarded a monetary prize, which implies that there was a two-way



transaction, and therefore a pecuniary inflow. However, the prize was not given in exchange for the rights connected to the developed code. This phenomenon is often referred to as crowd-sourcing which is defined as “the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call” (Howe 2008, cited in Schenk and Guittard, 2009). After the radical innovation, Digipost, was commercialized, Posten established an online portal where they encouraged consumers to give feedback, as well provide suggestions for improvements or new features.

In the case of Berg-Hansen, the latest innovation was an app solution that enabled their customers to organize and change their travel itineraries, in an easy and convenient manner. This innovation derived after scanning the market for customer needs. By utilizing an idea that already existed in the market they were able to create an incremental innovation. The interviewee from Berg-Hansen also emphasized the importance of sourcing from companies in other industries and claimed that they learned more from looking at these companies rather than their competitors.

Norsk Tipping also sourced externally for input. Sourcing was even claimed to be one of their most important ways to obtain new ideas to bring to the market. Most of their innovations came from ideas they had discovered externally in the gaming/gambling industry. They claimed that customers sometimes served as a mediator for new suggested ways to improve, since they were exposed to the usage of online gambling.

Faerelandsvennen, which is a subsidiary in the Schibsted Corporation, often use the network of other companies within the corporation as a source of inbound transfers to their innovation process. Whether these companies can be considered as external entities is however questioned. Although each of the companies has their own core activity, the support activities in the value chain, such as IT, consumer service and accounting is shared between these sister companies. The external environment is understood as factors that exist outside of a firm’s boundary, which the company has no control of. The surrounding environment typically consists of competitors, customers, and social and political factors. Since Faerelandsvennen and its sister

companies are under the managerial control of Schibsted, it can be argued that these companies are not considered as the external environment.

Ibestad, the municipality, initiated a sourcing process where they looked at other municipalities beyond international borders. Although the intention was to utilize this knowledge in an internal innovation process, the knowledge retrieved from this process has not been commercialized in the market yet. Research has traditionally found that utilizing inbound flows reduces time to market. However this seems not to be the case in a municipality such as Ibestad, as the innovation process in a municipality is very bureaucratic and time consuming.

Brand Management group's core business is to provide knowledge intensive services to other companies. They have a multidisciplinary established network that they are connected to in an ad-hoc format. They utilize this network to source knowledge and ideas in order to deliver the best services to their clients. An interesting aspect of this type of service provider (consultant) is the constant inflow of knowledge that they are being exposed to, from both networks and the cooperation with their clients. The nature of the business leads them to interact with a wide range of businesses in different sectors, which means that they could pick up ideas and knowledge as a seed for inbound innovation. However, this has not been the focus for the company, their only focus is the delivery of ideas and knowledge to clients in creating outbound innovation.

All the interviewees seemed to agree that customers are their most valuable source of innovation, but what largely differed was the amount of interaction the different types of service providers had with them. Berg-Hansen received so much input from customers that at times they found it challenging to manage all the input. The interviewee in this case emphasized the importance of giving feedback to the people who contribute, so that they felt like their suggestions were taken seriously. On the other range of the scale, there was Ibestad, whose customers are the inhabitants and potentially the tourists visiting. They struggled with gaining insights from their customers. This topic will be further elaborated upon the section about incentives (chpt 7.4.2.3)

Although some had more formalized procedures for sourcing than others, and some organizations were more active than others, it seems like sourcing was important contribution to all of companies' innovation process. The importance and advantages of sourcing was also heavily acknowledged.

### **7.3.2 Acquiring: Inbound Innovation - Pecuniary**

Acquiring is the second form of inbound flow. It is a process that is initiated in order to gain input to the innovation process through the market place, but it differs from sourcing because money is involved (Dahlander and Gann, 2010).

Norsk Tipping usually acquires their gaming concepts from a network of suppliers. The lottery game Keno is a typical example; it was a concept they had seen to be successful in Sweden. Based on this knowledge, which was provided through their connection to Svenska Spel, Norsk Tipping acquired Keno from a supplier and implemented it into the Norwegian market. It is interesting to note that even though the suppliers do not have any form for protection and that there exists multiple similar 'Keno suppliers', they are still able to sell their concept. This is due to the complexity involved in constructing such a service offering. It is more cost efficient for Norsk Tipping to acquire these games and just alter their "packaging" in a way that suits their market, instead of constructing the game from scratch. Norsk Tipping also pointed out that since it is a state-owned enterprise the organization experienced that bureaucracy characterized their innovation processes. There are many different parties involved in the decision-making, which results in very time consuming innovation activity. An example brought up in this regard was an application to be granted the rights to move into to the online gambling market, which was submitted in October 2011 (8 months), still had not received approval. The amount of time it takes limits their ability of being "first-movers" in the market. Implicitly it directs them towards acquisitions as a main source of innovation. However, only using competitors as a source of innovation can hinder a company from radical innovations, since the basis of their innovation efforts is somewhat close to an imitation strategy.

Berg-Hansen utilized two types of inflows in the development of their innovative app solution. First they sourced after ideas, when they found the solution they decided to acquire the technological component through an external source. As mentioned earlier, Posten initiated a competition to source innovative features to integrate into the Digipost solution. It is argued that the contest itself is non-pecuniary; however, the process that followed the competition was a typical acquisition. Posten had in a formal statement granted that the contestant owned the rights to what they produced during the contest, but if the contribution were good, Posten would consider offering a collaboration agreement, which would provide the contestant with compensation.

There are to date no identified acquiring processes within the Brand Management Group. In reflection, this could be a result of several factors, the most prevalent being the nature of the consultancy industry. Consultancy's business model is based on selling knowledge intensive services, and unfortunately for small companies such as this one, their focus does not necessarily rely on the purchase of others ideas. Ibestad was the other organization among the cases that had not used acquiring as a source of innovation. This could possibly be explained by the restricted financial situation of such a small municipality that Ibestad is, or it could be due to limited sourcing processes that lead them to discover opportunities that are suitable for them. There were not discovered any acquiring processes in the case of Faedrelandsvennen either. Being part of such a huge corporation as Schibsted however, gives Faedrelandsvennen access to a large pool of diversified resources within the boundaries of the firm.

In summary, there was empirical evidence of acquisition among Posten, Norsk Tipping, and Berg-Hansen, While Brand Management Group, Ibestad and Faedrelandsvennen did not have this type of openness. It is interesting to discover that there seems to be clear tendency that prevail in all the companies' acquisition process. All the above-mentioned service innovations that have occurred are a result of an inbound acquisition of a technological component. In order to have an incentive to pay for a service offering idea, the idea or a component of the service offering has either be protected in some way or it has to be more cost efficient to acquire it than to develop it internally.

### **7.3.3 Summary of Findings**

Overall, all the companies engaged in some form of inbound flow. This is congruent with Sandulli (2010) findings, which found a positive correlation between service innovation and inbound innovation. The use of external sources as a way of innovating and thereby achieving competitive advantages has become widely acknowledged (Heider, 2011). Since services are often highly complex; product-, process-, social-, and system-innovations are often combined; the integration of external knowledge is fundamental to enable the knowledge-intensive development (Stucki, 2009). According to descriptive statistics, service companies are more likely than manufacturing companies to search for external knowledge and to engage in formal collaborations than manufacturing companies (Bascavusoglu-Moreau, Mina and Hughes (2012). An interesting aspect is how the acquiring process in all the cases involved a technological component in the service innovation. This is although consistent with research in this area; the more complex the innovation, and the higher the degree of technology intensity, the more likely that firms will seek external knowledge (Bayona, Garcia-Marco & Huerta, 2001; Piga & Vivarelli, 2004; Tether, 2002 cited in Bascavusoglu-Moreau, Mina and Hughes 2012).

## **7.4 Outbound Flows**

This section will look into the two types of outbound flows and identify whether revealing and/or selling is a part of the studied companies' innovation strategies. The first section discusses the non-pecuniary outbound flow; revealing, while the second part looks at the pecuniary outbound flow; selling. The findings discovered while looking at the outbound flows will be summarized at the end.

### **7.4.1 Reveling: Outbound Innovation – Non-Pecuniary**

Reveling is an outbound process; it refers to how internal resources are revealed to the external environment (Dahlander and Gann, 2010) without retrieving pecuniary compensation in exchange for the revealing.

This type of flow is less evident in all of the firms. None of the interviewees explicitly talked about this type of flow. When they were probed, it came to light that most of them shared information to external entities. For example, Norsk Tipping participate in several different networks. One of the network ties together state-owned gaming companies in Sweden, Denmark and Finland. Within this network information about their gaming strategies is freely revealed. Another network they are participating in ties together large multinational companies in different sectors. In this network, information shared is not directly related to their services and strategies, but rather controlled flow of information related to best practices and processes. In addition they are a part of a network that ties together companies within gaming, ICT and social media. Similarly, in this network, information directly related to their gaming strategies is not revealed. Henkel (2006) argues that firms practice selective revealing to minimize competitive loss.

Brand Management Group is organized as a network-organization and naturally is then tied to several other entities and within this network information is revealed. Posten is tied to a network that connected several other service providers operating in different sectors. This network is established on the base of their connection to the research institute at the Norwegian School of Economics. Faedrelandsvennen, which is a part of the Schibsted Corporation, reveal information within the boundaries of the corporation. However considering that it is the same corporation, and as previously discussed, it does not classifies as the external environment. However, the Schibsted group is so large and covers so many different media entities, so there is probability of great sources of innovation within the Schibsted group. The Schibsted group however practices revealing through multiple channels.

Generally, it seemed like most of the companies were a part of some kind of network that aimed to share knowledge within the boundaries of the network. It is however noteworthy that revealing only seems to occur within a non-threatening environment, where the parties involved cannot in any way touch each other's market shares. Revealing is about letting go of internally generated ideas, technologies and/or knowledge that could be utilized in the innovation process in another entity. A topic that was brought up by three of the interviewees was the fear of leaking their "business secrets" and "valuable ideas". If internal resources are revealed, it creates

room for competitors who are better equipped with complimentary assets to become first mover to the market (Laursen and Salter 2005). However, both Ibestad and Brand Management Group claimed the belief that you cannot share your idea because somebody will steal it is simply a myth. It is further stated that the assumption of your idea being unique is seldom true and if you share your idea, the idea will be seen from several different perspectives and thereby it has the opportunity to become much bigger than what it would have been if you just kept it to yourself. Those that freely reveal are often motivated to do so by expectations of benefitting from it indirectly, for example by being able to build upon the work already conducted (Allen 1983, Cited in Dahlander and Gann, 2010) or if it is complementary to your service offering.

A study conducted by Baldwin and von Hippel (2009) shows that innovators generally reveal freely for two economically rational reasons; 1) if it is in practice difficult to effectively protect innovations via secrecy or intellectual property rights, and 2) if significant private benefits often accrue to innovators if innovations are freely revealed. In a qualitative and quantitative study of firm-developed innovations using embedded Linux, Henkel (2006) illustrates that firms are more likely to reveal if external support is needed. The more support is needed, the more is revealed. Smaller firms with less internal resources thus reveal more. A small consultancy company, such as Brand Management Group, does not have the advantage of leveraging off high brand equity, and therefore often reveal (in form of publications etc.) their knowledge in order to attain customers.

Overall, it seems like the companies in the study consider revealing as a long-term strategy, since they cannot necessarily see ways to reap immediate gains of revealing. For Ibestad this was considered as one of the major obstacles to revealing, since they lacked capacity and resources, their focus was mainly directed towards activities that had visible positive effect on financial or social gains. It is stated that in order to be successful in OI, organizations will need to share valuable knowledge, while protecting that same knowledge against unwanted spillovers. Clearly, the questions then remains; what internal resources to reveal and to whom, but also relevant is; why. It is evident that in order for the companies to reveal, the companies have to see some kind of benefit that they would retrieve from revealing internal resources. This

leads us to the question; what are the possible benefits that these companies could achieve through revealing? If an idea is revealed, it opens up an opportunity to retrieve feedback on the idea, which again would improve the idea before commercializing a new service offering. The intangibility of a service offering however allows a company to offer the service in a market, and then review it to see if any alterations need to be done. It is easier to change the configurations of a service offering with a more immediate effect than with a good. At the same time, if the new service offering is commercialized into a market in a too early phase, it could have incurable implications for the company's reputation. If there is an error on a product, that product could be retracted from the market, which probably would hurt the product, but not necessarily the company as much. With a service, the offering itself and the company are intertwined to a much higher degree. This means that if there is something substantially wrong with a service offering, it would immediately affect the company's reputation as well. This could be argued to be especially valid for small and medium sized companies with limited resources, as a failure in an innovation project could compromise the future of the entire firm. Thus, they might be more readily to share this uncertainty by revealing their ideas to then gain input. However, if in fact, revealing an idea would lead other companies to take advantage of that idea, one has to question if there are limitations as to whom you can reveal ideas and knowledge to. However, as mentioned above, Norsk Tipping, Faedrelandsvennen and Brand Management group claimed that they share valuable information within their networks, which implies that companies are willing to share within the frames of a trusting relationship, even without intellectual property rights.

#### **7.4.2 Selling: Outbound Innovation – Pecuniary**

Selling refers to how firms commercialize their inventions and technologies through selling and/or licensing out their developed resources, to other organizations (Dahlander and Gann, 2010). Instead of “storing” ideas, knowledge and technologies on a “shelf” where they have no economic value, a firm can utilize an external path to market by selling it to another entity (Chesbrough, 2003b), and thereby generate profits from externalizing their internal knowledge (Gassman and Enkel, 2006).



Consultancy companies, such as Brand Management Group, externalize their internal knowledge by selling it to other companies, who might be able to utilize that knowledge to innovate. Except from this, there was no evidence that selling occurred in the cases that were studied. It was found that the companies acquired technological component, but the companies claimed to not have anything to sell, because they did not take part in any technological developments. In the scenario with Digipost, where they sourced several ideas and codes for features, not all of the ideas were suitable for what Posten wanted to accomplish. However the idea itself might be valuable for someone else. What happens to all the ideas that Posten said no to? Some spillover ideas can have economic value in other ways than just solving that one specific problem. Although Posten in this case did not have ownership of the ideas, they could have gained something by serving as an intermediary between the developer and another entity.

In fact, all the ideas that these companies retrieve from customers and employees, which do not fit with the business model and the company's overall strategy, could have an economic value for another organization or be the start of a spin-off. Some ideas might be suitable for a joint venture or put in to life so that it could be licensed out, generating alternative revenue streams. Other ideas could merely need some minor improvements in order to be perceived as more relevant for the core business, which implies the importance of managing feedback to all ideas. However, in the pursuit of gaining economic value through spillover ideas, the companies are faced with the issues of how much to reveal in the pursuit of for instance a joint venture. Many companies recognized the limitations of the arrow information paradox that would arise when trying to sell. They questioned whether the lack of protection for these ideas, would just result in the partner company just taking that idea for themselves.

### **7.4.3 Summary of Findings**

The findings assert that companies needs to have perceived benefits that they could retrieve in order to reveal internally generated ideas and knowledge. The establishment of trusting relationships appears to be a prerequisite for revealing,

especially if there is no form of protection in terms of intellectual property. There was no concrete evidence of any selling process in the cases; with the exception of Brand Management Group. Due to the nature of this business, selling is an inhabitant part of the business. Even though selling was not practiced in most cases, there are unexplored opportunities with this type of outbound flow that could generate alternative revenue streams. This fact has been proven by multiple OI studies.

## **7.5 Open Business Model**

This chapter looks into the business models of the companies to explore if their models are constructed in a manner that allows them to benefit from both outflows and inflows. Looking into the organizational design; the internal environment and external environment will be examined. Subsequently, how the business model is managed towards openness is explored. In this context the organizational culture, knowledge-sharing practices and the lack of IP management will be considered.

### **7.5.1 Organizational Design**

Through collaborative arrangements firms can reduce technological uncertainty, share costs, access complementary assets, enter new markets, or achieve economies of scale and scope along or across value chains (Ahuja, 2000; Cassiman and Veugelers, 2002; Faria et al., 2010; Miotti and Schwald, 2003 cited in Bascavusoglu-Moreau, Mina and Hughes, 2012). However, to capture these advantages, the organization has to be designed in a way that allows for both inflows and outflows. There has to be put in place mechanisms to create and to capture the benefits of these both flows. This section will look into how the companies have designed their organization internally to facilitate innovation and more newly OI, and how the organizations' external ties are organized.

#### **7.5.1.1 Internal Environment**

In all the cases, small initiatives to design the organization in a manner that aimed to facilitate openness have been commenced. Firstly, the physical work environment in

all the organizations was to some extent organized in an open office landscape, in order to reflect openness. Posten claimed that a lot of the innovations that takes place internally happen as a result of interaction between people, the open layout provides an environment for exchanging ideas and information within the organization. This is a common phenomenon within all the organizations that were studied. Interestingly though, when asked about the working environment within the organization, the general response among all of them was that they could only answer on the behalf of their own department. This implies that the openness, which was hoped for with an open layout, was only valid within the different departments of the organization. This implies that specifically for larger companies, the initiatives for creating openness has to extend beyond just physical restructuring.

As previously established, all of the companies that participated in this study have implemented the OI software Induct. Induct has the ability to integrate the whole value chain, which can include other organizations and customers to be a part of their OI community. Yet, in five out of the six cases, Induct is only utilized as a tool internally to facilitate openness within the organization. In Posten, OI was seen as the opening and systematization of the innovation processes, by creating platforms for collaboration that enabled all stakeholders to contribute to a positive development for the focal company. They claimed that implementing Induct was a step in the direction of systemizing this process, but merely starting out with the employees. The usage of Induct for most of the companies is parallel to the well-known “idea-box”. It is used as tool for collecting ideas, but compared to the “idea-box” it provides the companies the advancement of being able to give feedback and evaluate ideas in plenum within the software.

However, implementing Induct and expecting people in the organization to participate by providing ideas, feedback and evaluations to other people’s ideas, is not an automatic reaction that happens without integrating such behavior into the organizational culture. When Norsk Tipping first launched Induct internally, they were met with a lot of resistance. People felt overwhelmed and felt this was just an extra workload. Posten mentioned that they experienced that certain individuals were highly active in both contributing with ideas and commenting on other employee’s suggestions, but this behavior was rather set apart from the general behavior that

prevailed in the rest of the organization. Posten recognized that some people might log in to the system to get an overview of what is happening, but they are not producing, while others are not engaging at all. These issues will be further elaborated upon in the culture section (chpt 7.4.2.1) in relation to managing the open business model.

#### **7.5.1.2 External Environment**

It is evident that all of the studied organizations have taken a step towards a more open environment, in the sense that they have tried to open up the innovation process for all the employees and put in place mechanisms (Induct) for capturing value creation from internal resources. Discovering that their external environment is not yet a part of this process makes it interesting to look at how the relationships with external parties are organized.

Even though Induct is designed in a manner that allows for collaboration beyond firm-boundaries, Ibestad was the only one who had taken advantage of this ability. However, an essential part of opening up is in fact to communicate that you are open and engaging in participation and this requires organizational support, which did not exist in Ibestad. In the case of Faedrelandsvennen it is important to remark that their solution integrates several sister companies. Even though sister companies are considered as a part of the internal environment rather than the external environment, each of the companies have their own innovation processes as well as being part of a shared innovation approach. Gaining access to the other entities' innovation process naturally creates extended opportunities for input to their own process.

Nevertheless, in all the cases, there was an expressed desire to open the system to both customers and other organizations. Berg-Hansen has planned to open their processes to both customers and suppliers, but at the moment they do not have the infrastructure to support such a degree of openness. Opening the innovation flows (inbound) requires capacity to provide contributors with feedback.

Ibestad pinpointed that Norwegian businesses are not particularly “good” at interacting in the way that that OI requires. The interviewee identifies the lack of an open business model that fits with OI as the main reason for why they and many other companies are not practicing true OI. He also claimed that the Norwegian business culture is not congruent with OI either; typically, in Norwegian companies, management tends to believe that keeping everything within the company boundaries will generate the most profits, in contrast to the business culture in for example USA, where the aim is to acquire the best strategic partner that can help generate the most profit. With this mindset, it could be questioned whether the business landscape is prepared enough for embracing OI. Whether this phenomenon (OI) is linked to the cultural norms and characteristics of a country is however beyond the scope of this study. The interviewee from Brand Management Group stated that while engaging with his clients he had noticed a common trait of management not being mature enough when it came to OI management. He said that they talk about it, but they do not practice what they preach.

Norsk Tipping is, as mentioned earlier, participating in several networks. Through the ‘Norwegian Community of Digital Creativity’ they established wide ties. This was a network for companies within sector of gaming, ICT and social media. These ties allow them to explore new technologies; one of their latest inbound innovations that occurred as a result of collaboration, with a company called Eyeball Interaction, was an animated e-learning course for customers to better understand their games.

Faerelandsvennen has established deep ties with the other media houses within the Schibsted Corporation, which allows them to tap into knowledge and technologies that these other media houses possess, it is nevertheless a natural process considering the formal tie that Schibsted establishes. Both in the case of Norsk Tipping and Faerelandsvennen the deep ties and wide ties were established with companies that are not operating in the same market.

Brand Management group is a network organization, meaning that they develop informal ties to other entities in order to leverage external knowledge that is needed in a customer specific context. According to Manceau, Moatti, Fabbri, Kaltenbach and Bagger-hansen (2011) building deep relationships with a large number of partners is

on the verge of impossible, therefore, companies practicing OI have to find the right balance between breadth and depth for partnerships. It is a choice between reaching out to the largest group of partners versus deepening the collaboration with a limited group of them. However, some companies, such as Posten have established network within a specific topic, and in this case it was environmental sustainability and diversity. This engagement reflects more towards the company's corporate social responsibility (CSR) efforts, then innovation efforts. Ibestad, on the other hand, did not have any established networks that were being utilized for the purpose of inflows and outflows of knowledge and ideas.

Even though in the majority of cases some kind of network with external parties is established, there seemed to be no mechanisms that were put in place in order to systematically capture value that was created in these networks. The value capturing process was more or less ad-hoc. Nor did the companies focus on the value creation that could be created through outbound flows and external paths to markets. All of the organizations expressed that they initially planned to open the Induct system, and their ambition is to open Induct to external parties as a part of their OI strategy. Despite this, none of them actually have any concrete plans for when, for whom and how this should be done. The main reason that prevailed was that they did not have the infrastructure, nor has management dedicated resources towards such a development. Changing the business model to an open business model requires substantial investments and dedication in form of structuring, skill development, tools and governance. To date, the companies have not shown a commitment in changing their business model as whole to become fully open. Consequently, there are rather limited investments being made in the development of managerial skills for managing an open business model.

### **7.5.2 Managing an Open Business Model**

Managing innovation in the service sector, requires dynamic capabilities; signaling user needs and technological options, conceptualizing, (un)-bundling, (co)-producing and orchestrating, scaling and stretching, learning and adapting. However, managing an open business model that exhilarates service innovation adds another dimension;

managing inflows and outflows. Although co-producing and orchestrating are recognized as a necessary capability in service innovation, it does not take into account the challenge of creating and determining the ties that best support the innovation strategy of the firm, both in terms of inbound and outbound innovation, nor does it take into account the interaction effects and how to maintain and improve the overall network portfolio (Simard and West, 2006). These elements are highly relevant in managing in an open business model.

From Brand Management Groups perspective, the OI concept was defined as “mature leadership; it is the recognition of the fact that in order to live, grow and retain a sustainable competitive advantage, they have to acquire inspiration and ideas externally, from customers, competitors, and others. It is about genuinely believing that it is smarter/better to share than to protect everything. In other words, it is about the realization that not all the smart people work you”. This definition is coherent with the theory of OI, and implies that OI starts with a cognitive process at the management level. Ibestad also highlighted the importance of management capabilities in relation to OI. From the interviewee’s perspective, the lack of sufficient competencies was one of the main challenges that Ibestad was facing in regard to practicing OI. If you are going to get any chance of innovations, you will need a greatly diversified portfolio of competencies in order to innovate, since innovation is a multidisciplinary phenomenon. However, if you do not possess these capabilities and want to broaden the input for innovation, one must learn the ability to manage inflows and outflows in order to exhilarate the innovation process. The latter skill however, has through literature and studies proven to be the more purposive strategy in today’s economy.

The case of Norsk Tipping, illustrated the importance of trust as a requisite for free inbound and outbound flows. The ability to establish trust is an essential part of managing inter-organizational relationships; as it is the basis of the relationship, especially in regards to situations where there are no IP rights. Trust is based on shared values and norms that are considered significant by the involved parties. Norsk Tipping exemplified this point. They share the common understanding with the other national lottery companies in the Nordic countries, about the threat from the online gaming industry; this creates a sense of “us against them” attitude. This common

understanding of working towards the same goal, as well as the fact that they operate in different markets, provides them with the trust needed to share sensitive information. Over time the degree of trust may change, although it starts out limited, it builds up over time through exchange of resources (Hertz, 1992, cited in Manceau et al, 2011).

Considering the essential role of the establishments of partnership, and how time-consuming this process is, raises the question of whether firms should do this by themselves. Lee et al. (2010, cited in Huizingh, 2011) propose an intermediated network model, where the intermediary organizes the network and builds trust between network members. This has also been proposed as a solution to the arrow information paradox. The challenge with OI that was identified by several of the interviewees was the fear of leaking their “business secrets” and their “valuable ideas”

Ibestad brought to light a valid aspect in terms of managing OI. Although it is a requisite that management has sufficient capabilities to drive OI, it is also essential that management empower the employees to drive innovation. This requires establishment of a culture that wants to take part in the responsibility in the innovation process, as well as embracing external resources to enhance this process.

#### **7.5.2.1 Organizational Culture**

As previously discussed, the internal environment needs to be designed to support OI. Shifting a company’s “not invented here” attitude, to enthusiasm for those “proudly found elsewhere” is anything but straightforward. This kind of culture conversion is however crucial for OI. OI management is therefore also about change management. People need to embrace the OI culture and enhance their absorptive capacities, which also need the implemented processes. The not-invented-here syndrome seemed generally not to be an issue in the organizations studied. All the organizations have either sourced or acquired knowledge, ideas or technologies in their innovation processes. The idea of utilizing external resources seemed to be embraced by most of



the organizations. With that being said, other issues that are culturally related are identified.

In the case of Ibestad, the lack of sufficient capabilities in the “management group” (the elected representatives) cultivated a resistance towards OI among the leadership itself, and with the lack of willingness among those with decision making authority, those people encouraging and endorsing OI will merely remain a sub culture within the organization. At times, the management deliberately chose to work against initiatives that this sub-culture tried to put into effect. Without the management’s support, neither an open business model nor a culture that facilitates OI will be created.

Posten brought to light another identified issue. Employees displayed a certain degree of uncertainty avoidance. They were hesitant about putting in raw ideas that were not formulated in a well thought through manner and thoroughly analyzed. In this case the management addressed the challenge. Posten tried to cultivate an OI culture by devoting time in each team-meeting for a brainstorming session in order to encourage and educate the employees of the use of Induct, and how to get passed the fear of putting in raw ideas.

In Norsk Tipping, the initial implementation of Induct met a lot of resistance among employees. They did not quite understand what their roles were and perceived this new concept as something they were just ordered to do. The process of putting an idea in to the system and driving it forward was perceived as time consuming and additional work. The system did not get off to a good start, but this is being addressed and Norsk Tipping is in the phase of planning a re-launch of the system.

There seemed to be a general tendency in all the cases towards a top-down approach in relation to the implementation of Induct. Alongside the implementation the employees were given instructions how to use the system and what to do with it. There was little evidence of a holistic approach towards creating an OI culture. It seems to be a somewhat fragmented approach. Instead of preparing and integrating the concept into the culture, the challenge that arises, if identified, is responded to after they occur. Conversely, even though knowledge sharing was an issue identified

as an area that needed improvements, and despite the essential role of knowledge sharing in OI, this remained an unaddressed issue by management

#### **7.5.2.2 Knowledge –sharing**

Management of knowledge sharing is a capability considered to be the main driver for successful collaborative innovation (Bogers, 2011). Sundbo (1997) puts especially emphasis on the dispersion of tacit knowledge in relation to innovation. Diffusion of such knowledge is not an easy managerial task, but in regards to OI it becomes a prerequisite.

As mentioned, in all the cases, knowledge sharing was identified as an area that was in need for improvement. All of the interviewees validated the importance of knowledge sharing, and some mentioned procedures and systems that were put in place to promote knowledge sharing. To some degree, these systems are able to disperse explicit knowledge in the organization, but fail to capture and distribute tacit knowledge. The other dimension of knowledge sharing is the absorptive capability. Dispersing knowledge and absorbing knowledge is a coupled process, meaning that both capabilities are necessary for knowledge sharing. An inability to share knowledge within the boundaries of an organization is consequently destined to affect the ability to share knowledge outside of the organization.

There was actually a general consensus among all the interviewees that knowledge sharing did not get enough attention from management, as there were obvious rooms for improvements. There were no managerial mechanisms in place for the purpose of promoting knowledge sharing. However, within each of the organizations there were certain individuals that were drivers for knowledge sharing. They seemed to voluntarily distribute their knowledge as a respond to an intrinsic motivation. However, this diffusion of knowledge still occurred in informal settings, typically lunch room conversations, and subsequently then in deep tie relations.

### **7.5.2.3 Incentives**

Another aspect that needs to be taken into consideration in the management of an open business model is incentives. Since OI requires the participation from several parties, the motivation and incentives for participation needs to be explored.

Ibestad opened the system for everyone immediately. It was implemented with the assumption that everyone in the community wanted to contribute and participate in the innovation process. At the very beginning, the buzz that was created around what is known as Idestad (combining Idea and Ibestad), engaged some people enough to provide input to the system. However, their engagement soon evaporated. The assumption that everyone had a desire to change and improve turned out to not be entirely true. As mentioned previously, not even the management was incentivized; this was explained partly by a lack of sufficient competencies, but also it could be explained by power loss. If the elected representatives were to empower both the community and employees to participate in the innovation process, they would have to share their power. In a small municipality such as Ibestad, there is a limited supply of jobs and therefore a natural response is to hold on to what you have. These factors combined are apparent to inflict with the managements incentive to practicing OI. Without the approval and attention among the management, it is not put on the agenda either. Ibestad also highlights other explanations for what seemingly was lack of incentives among the population. A relatively high share of the population in Ibestad is elderly, and thus may not be as comfortable with technology and thereby excludes individuals that want to contribute, a factor that might be prevalent in other companies with less technology savvy employees. Another aspect of incentives is that if you start offering rewards for contributions, in the form of prizes, the engagement is likely to stop when the “payment” for engagement stops. The challenge then is to them motivate people in a way that creates intrinsic motivation.

Norsk Tipping also expressed that their goal with implementing Induct was to collect internal ideas and drive them forward, a very process oriented perspective. However, this implementation was met with resistance among the employees. They saw it as extra work and did not quite understand the system. Posten also discovered that there was a need for incentivizing the employees and that the recognition system with

symbolic stars and points, already integrated in the solution is not enough. In all three cases mentioned; Ibestad, Norsk Tipping and Posten, it is assumed by management that the employees automatically have an intrinsic motivation to contribute.

Faeredlandsvennen did put in place a prize along with the implementation of Induct. The prize was rather symbolic, as the person contributing with the most ideas would be awarded the title “the quarterly innovator”, but they still experienced a satisfying level of participation. Berg-Hansen on the other hand had a onetime campaign in the implementation phase, where ideas within a specific topic, namely social responsibility, were encouraged. The employees were also encouraged to vote for the best ideas, where the 20 ideas that gained the most votes got a prize. In the end all the employees got 100 kroner that they could give towards the idea of their choice. After this initial phase, the system was opened for all ideas. They have not taken advantage of the recognition system integrated in Induct, but established their own “prize”, and additionally included acknowledgements of employee with great ideas on the companies intranet. They have experienced such a large level of participation that they have not yet seen the need to implement any other forms for incentives.

Summing up, we saw that the three first companies that had not implemented any form of incentive systems, did not reap off the benefits of internally developed ideas, such as those who did incentivize.

#### **7.5.2.4 IP Management**

According to von Hippel and von Krogh (2006) free revealing can often be the best practical route for innovators to increase profit from their innovations. Innovators may choose to freely reveal information instead of holding it secret or licensing it. The reasons why people are willing to freely reveal something, can be because they know that the probability that someone else know the same information is highly likely, but it can also be because they do not have anything to lose with revealing that information. However, freely revealing is not necessary the most common practice within new technologies, here IP plays a major role. When companies see that profits could be gained on an idea, they will usually adopt legal protections, either because

they want to keep it out of competitors' hands, or because they intend to sell/license it. However, for service offerings the possibility of IP protection is not that straightforward. Unless the service offering is compounded by a technological core, which can be protected, the service provider will need to use other mechanisms to protect its ideas and potential innovations. All firms using OI need to deal with the necessity to protect its intellectual capital, and this goes for services as well (Henkel, 2006).

Even though software sometimes is a vital ingredient in the service offering and the code can be protected through copyright, the code could easily be modified to work around the copyright. The example of GO and Microsoft that is discussed earlier, clearly illustrates a situation where there is a need to protect intellectual property. This is confirmed by Drechsler and Natter's (2011) research, which concluded that IP mechanisms were one of the main drivers for openness. The arrow information paradox becomes especially relevant for companies that are vulnerable in terms of restricted resources. As Heinkel (2006) illustrated, companies in such situations tend to reveal more due to their need of external support, conversely the GO example clearly highlights the importance for companies in vulnerable situation to protect their IP. For larger companies on the other hand, the situation could be somewhat different. There are certain benefits that usually accompany being a larger corporation such as brand name, financial-, and human resources and distribution networks. These attributes can compensate for the lack of IP.

As discovered in the previous sections, except from the consultancy company, none of the companies used external paths to market by selling their ideas and knowledge in order to facilitate another company's innovation process. IP management being a major part of outbound innovation in the OI concept seems to affect the possibilities for possible outbound innovations within services. Selling intangible service ideas becomes thus a challenge due to the lack of protection. Therefore, the arrow information paradox would clearly be present, because a buyer wants to know what they are paying for before they pay, and if too much is revealed, then they would not be willing to pay for something that is now already in their possession.

If companies were to sell ideas, they would have to learn how to maintain certain leverage points that are appealing enough for others to be willing to pay. Intermediaries could also serve as a possible solution. The key role of the intermediaries is to connect, transform, translate, and consequently support the fragility of knowledge (Nonaka and Takeuchi 1995, cited in Dienner and Piller, 2010). In other words these intermediaries would service as the “middleman” in the knowledge transfer, being able to claim origin of an idea and acknowledge who has viewed that idea.

### **7.5.3 Summary of Findings**

The results show that the all the companies lack a fully open business model. It seems that the internal environments in the organizations are not equipped to handle the implementation of inflows and outflows into their business model yet. The reason is that management has not taken necessary steps towards a dedicated change and the mechanisms and resources that this change involves. A business model that enables and promotes inflows and outflows is a key element for OI. A change program directed toward a cultural change needs to be put in place, knowledge sharing has to be facilitated and mechanisms that address the lack of IP possibilities should be addressed, in order to find their leverage point. The establishment of trust in connection to external relations seems to be an essential ingredient. This is a time consuming process, which brings to light the dilemma between deep ties and wide ties, and not the least the question of with whom. Involving intermediaries is a viable answer that is offered in order to address these issues. This solution would also address the arrow information paradox, which seems to exist among the surveyed respondents.

## 8.0 Conclusion

OI is a new way of thinking of innovation for companies, it is about creating new inbound as well as outbound flows of knowledge to leverage the companies' innovation capabilities. To date, most literature on best practices and OI processes have been limited to the cases of early adapters of the paradigm, such as the often-mentioned example P&G. These early adapters have been large multinational organizations involved in product manufacturing. For such companies, the incentives for sharing/selling (outbound) and acquiring (inbound) new innovations are connected with 'immediate' and obvious monetary gain, and involve a much clearer process. Thus making it much more comprehensible for managers to see the benefits and implement the necessary strategies. These large companies have their own R&D department, which internally develops new products protected by patents. With the OI model, they start selling or licensing out the "unused" (spillover) patents, and suddenly they are making money on what was previously just "left on the shelf". In addition, when these companies start skimming the consumer market for new demands/needs, they would simultaneously also investigate if there were any obtainable patents/products that already existed in market that would solve the consumers' need. If there exists a product in the market, they would then buy it and incorporate it into their house of brands, as opposed to developing the solution in-house. However, due to research being predominantly focused on large manufacturing organizations in trying to understand the OI paradigm, this thesis attempts to answer the research questions:

*How are Open Innovation practices applied to Service Innovation?*

This questions is not only interesting in understanding OI practices in service innovation in service industries, but also because it offers an opportunity to identify areas within the service sector which needs attention in the application of OI practices. For instance, major studies have focused on the trade of IP (out-licensing, in-licensing, selling or acquiring), but it is not possible to patent a service, which then poses some questions.

## **8.1 Conclusion of OI applied to Service Innovation in Theory**

The theory on services provides insight into how services differ in that they are intangible, heterogenic, have simultaneous production and consumption, and are perishable. The literature review on the fit between OI practices and the required capabilities in managing service innovation discussed in the analysis, proved to have a convincing suitability. The theory suggests that OI, involving both inflows and outflows, should not be limited in its usage in regards to service innovation. However, one aspect that served to be critical in this discussion was the degree of standardization of services. Although, in theory, services are heterogenic, this characteristic might sometimes be misleading, since the human component is not as prominent for many types of services. When companies lack the heterogenic aspect of a service, they also miss out on the benefit this characteristic possesses. The heterogeneity aspect distinctly separates one service from another – resulting in a leverage point for companies, as apposed to the leverage point that an IPR might have for products.

## **8.2 Conclusion of Empirical Findings**

This study provides insight as to what OI practices these six service providers focus on in opening their service innovation process. Through semi-structured in-depth interviews with six Norwegian service providers, whom have shown interest in OI and implemented an ‘OI Management Software’, we have gained insight into OI practices within the Norwegian service sector.

This study utilized three sub questions in order to analyze the above research question in regard to the six case studies:

1. How do the interviewees understand the concept of OI?
2. What types of openness are practiced in the firms?
3. What are the challenges and opportunities with having an open business model from the interviewees’ perspective?

The results of the sub questions are summarized in Table 8.1



Table 8.1: Answers to the sub questions

	Posten	Norsk Tipping	Berg-Hansen	Faerelandsvennen	Brand Management Group	Ibestad
The Concept of OI is understood	NO	NO	NO	NO	YES	YES
Type of openness in the firm	INBOUND	INBOUND	INBOUND	INBOUND	OUTBOUND	INBOUND
Open Business Model	NO	NO	NO	NO	NO	NO

### 8.2.1 How do the Interviewees Understand the Concept of Open Innovation?

The first results of the study reveals that the majority of the respondents limit their definition and understanding of the OI concept to consist of sourcing and acquiring external input, but most respondents fail to mention the outbound aspects involved in the successful OI paradigm.

### 8.2.2 What Types of Openness are practiced in the Firms?

The empirical findings from the six Norwegian service providers indicate that five out of six companies are limiting their open innovation efforts to the usage of external inflows, mostly in regard to customers' input. This draws a clear link back to the fact that most of the companies limited their definition of OI to only include inbound innovation. The companies' focus is on leveraging off of inbound innovation. The sixth firm differs because it operates in the knowledge intensive service sector and is limited to internal outflows, but this is however mostly due to the nature of their business.

The tendency of service providers currently limiting their OI efforts to only involve inbound flows of ideas and knowledge was widespread among the companies. However, as many of the companies indicated, this was just a 'step in the right

direction' towards more openness. We argue however that it is not novel practice to include consumers as a source in the development of service innovation, since ultimately your success as a service provider depends on the value you deliver to your customers. Companies have for a long time understood the importance of including the consumers' ideas in their innovation processes, both in the production and consumption steps. Nonetheless, OI is much more focused on the ability to integrate the customers with the company in a much more collaborative way, in order to truly develop innovation. The case studies show that even though the companies are limiting themselves to inbound openness, the degree of openness has increased in recent years. In some cases, the companies were able to truly integrate the customers with the company. However, this step-by-step process indicates that OI innovation practices are being implemented as a sequential process in the companies.

The prevalent sources of external ideas are amongst the customers; however external professionals and other companies were mentioned as contributors as well. Some of the companies have started to create networks with the intent to gain increased external knowledge, the networks that were mentioned were for instance higher education institutions, but also consultancy companies. Acquiring external technology was a common factor amongst them all in different degrees; all the companies had for instance acquired and implemented the 'OI Management Software', some companies had additionally bought external developed technologies.

Throughout the interviews it became very clear though, that for many of the companies the major focus was, to a large degree, limited to internal idea collection amongst the employees. The 'OI Management Software' was in all cases only being utilized as an internal idea box, despite that this software program has the capabilities of being opened up to as many people as the company desires. The internal idea generation process at the companies is extensive; people discuss and rank the ideas prior to needing approval from management. There were no developed strategies for promoting a corporate culture that encouraged all ideas; this was reflected in the fact that many of the companies had difficulties with encouraging employees to explore new innovative ideas. The implementation of the 'idea box' software followed by orders and instructions was a typical top-down approach. This will not have impact unless the structure and culture is aligned to support an innovative environment that

will promote radical and challenging thinking among the employees. The ‘idea box’ provides the opportunity for everyone (no matter their professional position) to be heard, but many are missing the incentives for why the employees should want to be heard. The managers need to develop a clear strategy so that the employees are able to grasp the understanding of the concept, and also to understand what is expected from them. Before an internal innovative culture such as this is nurtured, one cannot start promoting an OI environment. As multiple previous studies have shown, in OI the company needs to take their ability to approach innovation, and then adjust that approach to a more holistic level.

This study also shows that the largest companies are those whom have come the farthest in starting to prioritize the development of true collaborative innovation projects with customers, although these are steps in the right direction, they are limiting their external input to regional and national customers. It could be argued that externally sourced input from other places might provide novel insight, and perhaps be a source for a potential competitive advantage.

### **8.2.3 What are the Challenges and Opportunities with having an Open Business Model from the interviewees’ perspective?**

The importance of an open business model is understood amongst the companies, but limits to the understanding of how to create and capture value from inbound flows. However, with that in mind many of the companies are struggling with managing this aspect to its fullest potential, and therefore have not focused on redirecting to an open business model which includes the management of inflows and outflows.

The pattern displaying the absence of outbound innovation among the service industry was due to the shortage of incentives for having outflows. The most prevailing reasons for why internal outflows were not an obvious focus area for management, in the same degree as with inbound innovation, was that they saw more benefits of focusing on inbound innovation rather than outbound. This was mostly due to the significance of customer involvement in services. Some of the companies also indicated that their services had become standardized, and that they were afraid to reveal because their competitors could easily “steal their idea”.

Another challenge with an open business model is the skillset required to manage it, the investments in OI management skills were lacking in all firms, although some companies had implemented service innovation management skills (which automatically includes sourcing customers for ideas and knowledge), they have not acquired (or at least chosen to take use of) skillsets required to manage an open business model. Having a holistic view of the innovation process, and taking into account new forms of value creation outside the company's borders is a skillset needed to thrive in today's economy. OI practices will ultimately increase profits through additional alternative revenue streams.

Another aspect with adopting an OI model is the requirement of firstly being able to manage the internally developed innovation efforts. Most of the companies are focusing either on input from customers or input from employees, hence the implementation of the "idea box" software. The tendency among the companies is simply viewing OI practices as a beneficiary strategy to exploit sources to new ideas and/or technology, but not integrating it. This study also shows that trying to define a common understanding amongst the different service providers in terms OI practices proves to be difficult, it is too broad to just say service sector.

The results demonstrate that different types of service providers (physical or non-physical aspect) are open in different ways and in different degrees. The consultancy company focuses on selling their knowledge and ideas to other companies, in the anticipation that their knowledge might lead to outbound innovation in other firms. All the other companies are focusing on acquiring and sourcing as types of inbound openness, and there is a trend that none of the service providers are selling or licensing out any ideas or knowledge (except for the consultant company). Although some of the companies are actively engaged in networks and 'revealing', none of these networks have so far resulted in any outbound innovations.

The current study found that none of the companies had taken use of more advanced OI practices, where for instance joint ventures and spin-offs are examples of typically employed strategies. A couple of the companies indicated this was mostly due to their financial limitations, since such practices would require substantial investments. Others indicated that they lacked the managerial capabilities and times to transact such practices.

### 8.3 Implications of the Conclusions

The current study is one of the first explorations of OI practices in service innovation. Our results indicate that not only is OI a process the firms prefer to implement sequentially, but the study also found there were clear benefits in opening up to source and acquire external ideas in the pursuit of inbound innovation. However, the benefits of being transparent and opening up for revealing did not seem to result in any outbound innovation, one could argue that was due to a strict selection criteria as to what should be shared.

This thesis attempts to better understand the challenges these service providers face and if they have managed to adopt the theoretical concept of OI. It seemed that the usage of a leverage point is missing in the ability to truly reveal and to sell, for products the major leverage point is IPR, considering strategies such as licensing or selling. However, a leverage point can also be an established distribution network or production facilities. The companies in the study, as well as other service providers, need to find their leverage point. Although services are often not protected by IPR, there are many others way to obtain a leverage, so that others will want to work with you rather than against you. These types of leverage points are first found in the heterogenic experience aspect of services. Here, one can leverage off customers preferring your offer due to the liking of that specific experience. However, for the more standardized services, other leverage points need to be realized, ranging from a strong brand name, being an innovation champion, providing a superior customer benefit, affordability to perhaps adopting continuous strategic innovation. No matter what leverage point a company has, it has to be identified, because this leverage point serves as the “protection mechanism” and will argue in favor of people wanting to license off your ideas or enter into partnerships and/or joint ventures.

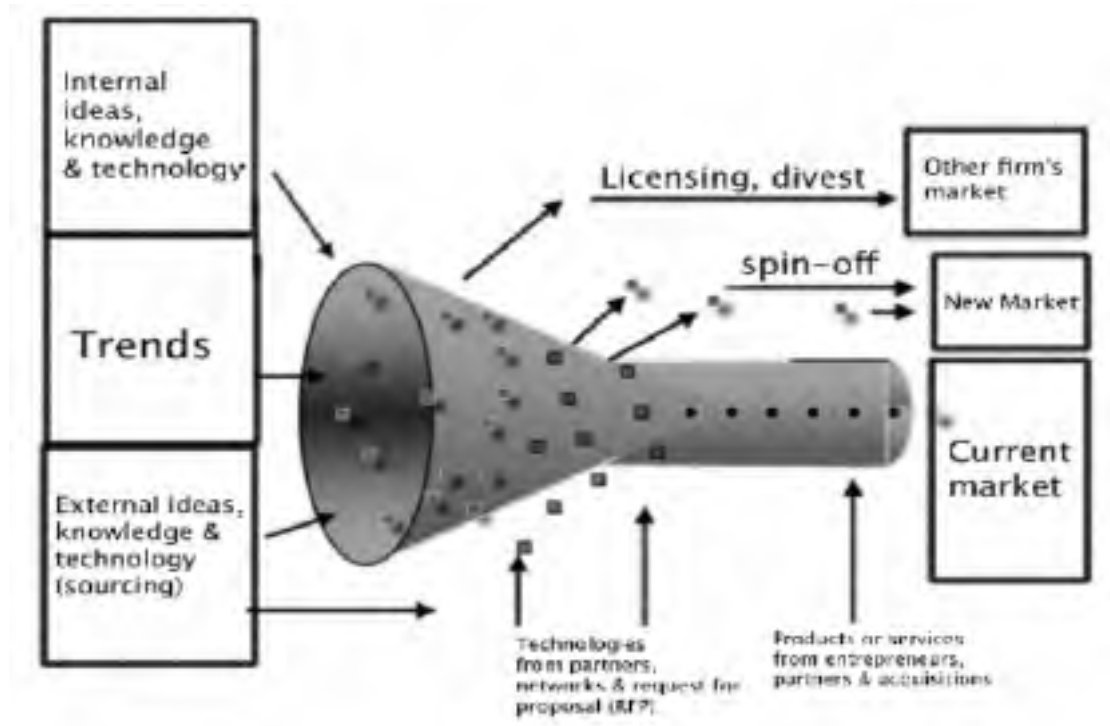
Once the leverage point is identified it needs to be fostered into the corporate culture, and thereafter create a “style of corporate behavior that is comfortable with, even aggressive about, new ideas, change, risk and failure” (O’Reilly, 1997). This is important because companies that create a culture for innovation within and beyond company borders will start to see a steady stream of incremental innovations. Additionally, when OI practitioners start understanding what types of innovations that will increase revenue and use their leverage points, they are not only able to increase

their bottom line, but are also able to position their company for sustainable growth.

An initial course of action the companies in this case study could take is to start the act of spotting value in new ideas, which is in accordance to OI best practices. An unfortunate tendency was that none of the companies had approaches for taking advantage and perhaps commercializing spillover ideas. Whether it was internally generated ideas or ideas that came through a public contest, there seemed to be no strategy for exploiting the spillover ideas. OI practices would suggest a strategy towards developing the capability to realize the value underlying in these ideas. Instead of saying no to an idea that perhaps did not fit your need at the moment, one could say; “no, that idea is not suitable for us, but let me show you who might be interested”, or maybe say; “that idea is good, but not fully developed. Come back when you have done x, y, z”. It is important to understand the need to treat all your sources for ideas courteously, and not only the one that has right idea there and then. This is a strategy that needs to be strongly linked into the core business model. Companies should not neglect the possibility of taking advantage of the spillover ideas.

In summary, this thesis contributes to the understanding of OI practices in service innovation. In reflection of the empirical findings it seems service providers do not see the possibilities of outbound innovation within their industry. The below Figure 8.1 provides a service prospective of the Chesbrough’s OI funnel, it incorporates elements such as “ideas and knowledge”, since these are critical elements in the service innovation process. It also adds an initial “trend” search, as this was one of the key elements which all companies practiced and found useful in the generation of incremental innovations. Additionally, it divides the inflows into several elements such as technologies from partners and networks and/or products or services gained by entrepreneurs, partners or even through acquisitions. Hopefully, the derived findings from this thesis, as well as the below funnel encourages companies’ understanding of the possible applicability of OI practices in the service sector, and perhaps the understanding of the importance of prioritizing the steps needed to get the organization to adopt an open business model. This is when a service provider company will go from merely delivering customers’ needs, to delivering breakthrough services.

Figure 8.1 Open Innovation Funnel for Service Innovation



## 8.1 Limitations

Due to an assumption about continuous innovation, the study has only taken into consideration OI activities that have occurred within a defined time frame of three years. Therefore, OI activities, which have taken place prior to three years ago, have not been included in this study.

The study is based on qualitative data from only six representative companies and one respondent from each of these companies. Gaining insights based on only one subjective perspective can also expose the study to over-reporting and under-reporting a company's innovation effort. The findings are therefore not generalizable.

The open innovation paradigm consist of a rather vivid amount of practices, but in order to make it more comprehensible, the study has narrowed down the scope of practices to look at the dimensions that are prevailing in all open innovation research, namely; inbound and outbound innovation and open business models. This poses a challenge in regard to validating the OI practices' relevance for service innovation.

The goal of this scientific research was to answer questions about the adaptability of OI practices in service innovation, and to contribute to the pyramid of knowledge for understanding open service innovation. However, sometimes, like in this thesis, the study is in such a novel phase that it merely just raises more questions. Due to the novelty of the open service innovation concept, it becomes very difficult to firmly support findings without the support of any external quantitative studies.

## **8.2 Future Research**

Due to the novelty of the topic, the varieties of future research are endless. Specifically, it would be very interesting to do a quantitative study on the Norwegian service sector to determine if the lack of outbound innovation is a common shortage among service providers in general.

It would be especially interesting to develop a deeper understanding of the leverage points that companies should build and or leverage of in their innovation processes. More specifically, how companies should manage these leverage points in relation to outbound innovation.

Our study did not clearly indicate the impact national culture possibly had on the likelihood of starting cooperative relationships and also the degree of internalization of innovation. This was mostly due to the fact that it was outside our scope, but would be interesting to see whether and perhaps how national culture influences OI.

A very important future research would be to study the role of an open service innovation practitioner, which would include how to do it and when to do it. It would also be wise to try to understand how one would measure and monitor projects as well as relationships. Metrics for determining OI today are to a large degree measured by IP trade. Other managerial impacted studies could take form in the understanding of decision-making processes when trying to rank idea portfolios, and trying to understand what ideas to take use of, when and how.

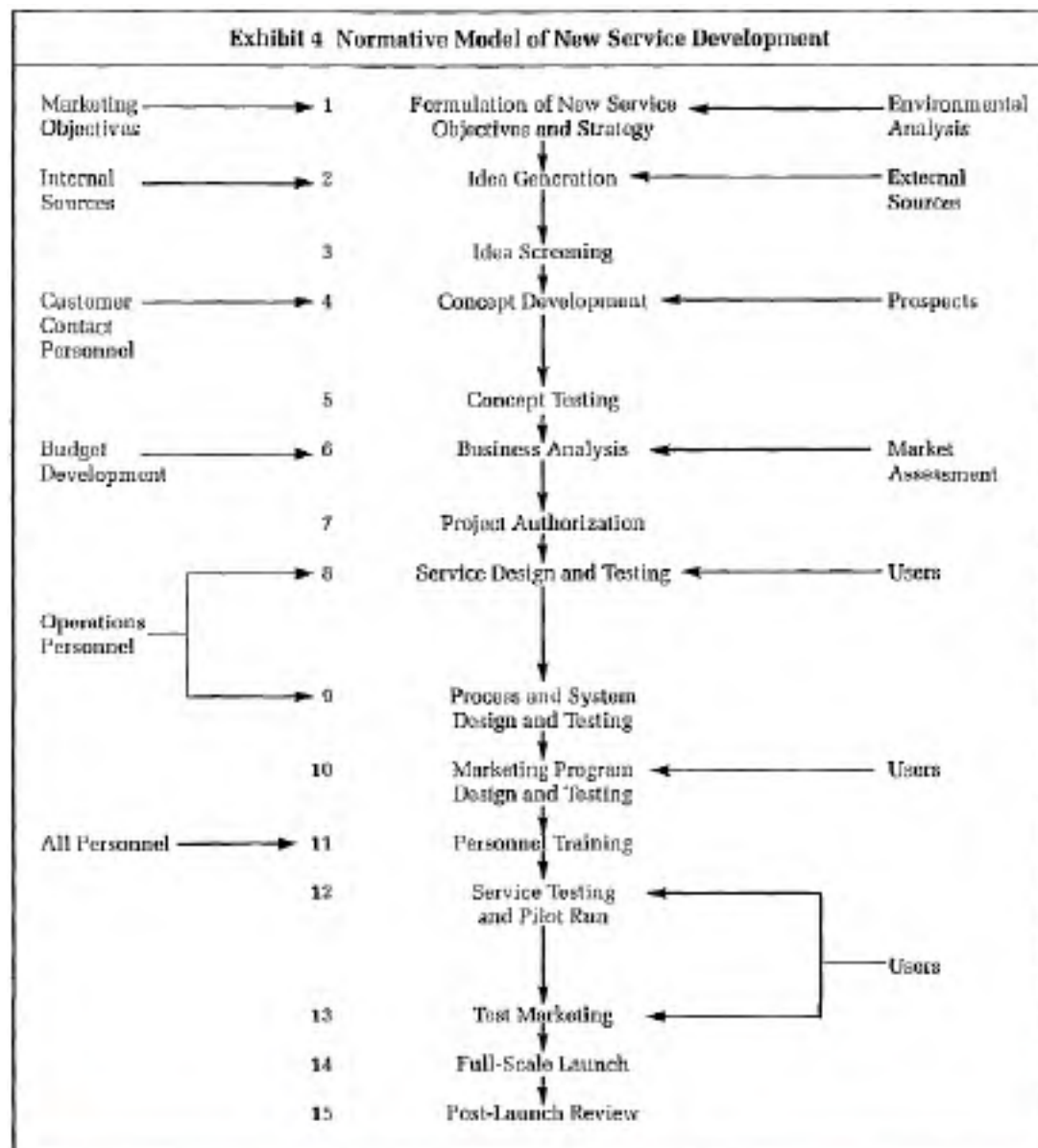


One of the problems that were prevalent among the companies was the lack of incentives for idea generation amongst outsiders as well as amongst the employees. Trying to understand what incentive mechanisms that can be employed in order for idea generation to blossom would be fruitful. It would also be rewarding for companies if large statistical offices would direct more efforts in their innovation surveys to include the Open Innovation practices, beyond the current limited focus of R&D and innovation investments of enterprises.

Considering that none of the companies had made fundamental changes in the business model, it seems that we lack research on integrated theories in order to appeal for this change in the service sector. We know how important innovating in services is and how it has not only led to increased revenue, but also to more satisfied consumers in a service-led economy like Norway. Therefore trying to truly understand OI in service innovation will hopefully bring new growth and more jobs to our economy.

# Exhibits

## Exhibit 1



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