Open Innovation Channels

A multiple case-study: How MNCs select their Open Innovation Channels and the reason for selecting them

Authors:
Anna G Sandberg & Ivar Ingelman Lind

Advisor:
Christine Holmström Lind
Abstract
In today's competitive business environment, MNCs need to extend their R&D and include external sources to explore and exploit knowledge; Open Innovation is used to meet this increased competitive environment. The aim of this thesis is to explore how MNCs act when they select their external collaboration channels; why MNCs select a specific channel of innovation and problems associated with the work. The conclusion of this thesis could help MNCs and their managers regarding the choice of Open Innovation channels. This thesis also studies different Open Innovation channels and when companies work with several channels together.

A qualitative multiple-case study was conducted to explore how seven MNCs act when they select which external channel to collaborate with to increase their innovation capacity. An MNCs’ Open Innovation channel selection process is formed by the innovation needed, the innovation needed tend to form which channel to collaborate with, for example the timeframe perspective; when MNCs are focusing on long-term development of products they collaborate with universities. Further, if an MNC wants to develop an already existing technique, they choose to collaborate with suppliers, as they are familiar with the product. All companies use their already existing network as a channel to gain external innovation and new ideas.

Keywords: Open Innovation, External collaboration, Open Innovation Channels, MNC
Acknowledgements
This master thesis has been conducted as a final project at Management of the International Business master program at Uppsala University in spring 2014. The authors would like to thank our supervisor Christine Holmström Lind for her guidance throughout the process, all companies participating as well as the members in the Open and User Innovation workshop group for the inspiration.

Uppsala, August 10 2014

Anna G Sandberg
Ivar Ingelman Lind
Table of Contents

1. Introduction 6
   1.1 Background 6
   1.2 Problem formulation and purpose 8
   1.3 Research question 10

2. Theoretical framework 11
   2.1 The Open Innovation Concept 11
      2.1.1 Problems associated with Open Innovation 13
      2.1.2 Open Innovation management 14
   2.2 Open Innovation Channels 14
      2.2.1 Customer as Innovators 15
      2.2.2 Supply-chain partners 16
      2.2.3 Competitors as innovators 16
      2.2.4 Universities and Students 17
      2.2.5 Intermediates and Crowdsourcing 18
   2.3 Theoretical summary 19

3. Methodology 20
   3.1 Research Purpose 20
   3.2 Research Approach 20
   3.3 Research Method 20
   3.4 Research Strategy 21
   3.5 Company selection 22
   3.6 Data Collection 23
   3.7 Data analysis 24
   3.8 Validity and Reliability 26
   3.9 Research limitations and quality of the study 26

4. Empirical study 27
   4.1 Company description 27
   4.2 The Open Innovation Concept 28
      4.2.1 Problems associated with Open Innovation 30
      4.2.2 Open Innovation management 31
   4.3 Open Innovation Channels 33

5. Analysis and discussion 37
   5.1 The Open Innovation Concept 37
      5.1.1 Problems associated with Open Innovation 39
      5.1.2 Open Innovation management 40
   5.2 Open Innovation Channels 42
   5.3 Summary analysis and discussion 48

6. Conclusion 49

7. Limitations and Further research 51

8. Reference 52

9. Appendix 56

Appendix I 56
Open Innovation

Channels

Acronyms

Research and Development - R&D
Multinational Corporations - MNC
Small-medium enterprises - SME
New product development - NPD
Fast Moving Consumer Goods - FMCG
1. Introduction
The aim of this chapter is to provide an understanding of the thesis’s purpose and its research question. Firstly, background information regarding Open Innovation will be presented. Secondly, a discussion of the main problems will be explained, followed by the aim as well as intended contribution to the existing literature. Finally, this thesis’s research questions will be presented.

1.1 Background
Nowadays, performing innovation inside an organization is not sufficient to stay competitive, firms need to extend their reach and look outside their boundaries and source for innovations externally (Trott, 2002). Open Innovation has been proposed as a paradigm change in the field of innovation management, as a way for firms to extend their search for innovations (Chesbrough, 2003). Open Innovation concept has been defined as:

“The use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation” (Chesbrough et al, 2006, p.1).

Traditionally, most Multinational Corporations (MNCs) developed new technologies from relatively “locked” innovation strategies, with no or limited interactions with the external environment (Ahlstrom, 2010; Wyld & Maurin, 2009). In the last decades there has been a change; firms are now complementing their internal knowledge with external technologies; for example, by the use of strategic alliances or in-licensing, which involves acquiring the right to apply external knowledge produced in an external environment (Beamish & Lupton, 2009; Cassiman & Veugelers, 2006; Teece, 1986). Further, comparable changes have been observed in the knowledge exploration process; companies across industries and regions began to commercialize on new external knowledge (Gassmann, 2006; Grindley & Teece, 1997). Further, it is known that today’s technologies have become so complex that even large MNCs cannot afford nor have the time to develop new products or services alone. Subsequently, vertical, horizontal and cross-industry research and development (R&D) partnerships are increasing to enhance value creation activities (Gassmann et al, 2009). Among international business scholars, MNC’s capabilities to leverage innovation are considered as a source of competitive advantage (Almeida, 1996; Bresman et al, 1999).
There has been a shift from physical resources to more intangible assets as the source of the firm’s competitive advantages; accordingly, there has been a shift in focus, to the MNC’s ability to integrate knowledge in the organization (Zander, 1999; Grant, 1996; Prahalad & Hamel, 1990). Therefore the success of the MNC is linked to their capacity to assimilate, generate and integrate knowledge (Bartlett & Ghoshal, 1999; Hedlund, 1994). Consequently, the significance of managing knowledge effectively is a supporting feature of the long-term success in an MNC (Bresman et al, 1999; Foss & Pedersen, 2002).

Considering innovation as a driver of change is not a new idea. Beginning with Karl Marx in the 19th century as a pioneer suggesting that innovation could be related to economic development (Trott, 2002). Further, scholars such as Schumpeter (1954) viewed disruptive innovation as stimuli of new products or innovation in markets, Penrose (1959) identified that long-term success of an MNC is dependent on its rate of innovation.

Since Open Innovation was coined by H. Chesbrough in 2003 the concept has been heavily discussed in the academia (Chesbrough 2003; Chiaroni et al, 2009; Gassman et al, 2009; Van de Vrande et al, 2009; Lichtenthaler, 2011). Chiaroni et al (2009) assume Open Innovation as a way of organizational evolution, and that innovations can be a way to achieve competitive advantages. According to Mckinsey Insights (2008) a large number of managers are focusing on the Open Innovation concept.

Additionally, H. Chesbroughs concept of Open Innovation has not been studied without critique; there is an on-going debate regarding whether or not Open Innovation is a novel phenomenon. Trott & Hartman (2009) refer to Open Innovation as “Old wine in new bottles” (Trott & Hartman, 2009, p.1). They rationalize Open Innovation and argue that R&D has been conducted externally for over 50 years. They accuse H. Chesbrough for simplifying and using a false dichotomy on Open Innovation (if it is not Open Innovation, it is closed), to present an already common way to work, and as such gaining large recognition.

Selected studies regarding Open Innovation has been done on mainly small-medium enterprises SMEs (Van de Vrande et al, 2009), Open Innovation’s applicability in low-tech and high-tech industries (Christiansen et al, 2005; Chiaroni et al, 2009; Ferrary, 2011; Mortara & Minshall, 2011), motives and initiatives (Helfat, 2006; Van de Vrande et al, 2009),
conceptual frameworks for Open Innovation (Lichtenthaler, 2011; Mortara & Minshall, 2011; Chaironi et al, 2009) critique of Open Innovation (Trott & Hartmann, 2009) and also some studies regarding MNCs (Chesbrough, 2003, 2006). Scholars have studied different aspects of Open Innovation separately, and there is a general opinion that Open Innovation concept needs to be studied further with qualitative methods to capture the dynamics of the Open Innovation concept (Mortara & Minshall, 2011; Helfat, 2006; Lichtenthaler, 2012).

1.2 Problem formulation and purpose

According to Trott & Hartmann (2009), H. Chesbrough´s concept of Open Innovation has been successful. They further argue that companies are showing increased interest in the field of innovation management; however, companies might face difficulties when applying Open Innovation. The authors of this thesis have identified a problem connected to the Open Innovation work which needs further exploration.

One main difficulty identified by Gassmann et al (2009) is the choice of external channels; the act hence brings forth difficulties; Gassmann et al (2009) explains and define that MNCs might face difficulties to find the correct Open Innovation partner for a collaboration purposes. The problem identified for this thesis constitutes in the fact that MNCs nowadays have a hard time to preform innovation inside an organization to stay competitive, firms need to collaborate with external channels to gain new innovations (Trott, 2002). The problem constitutes in the fact that MNCs nowadays have a large network including many different Open Innovation partners (Forsgren et al, 2005); hence it is difficult for an MNC to know when one specific partner is preferred (Bogers et al, 2010). This problem could be the case for any MNC working with Open Innovation, as they all are included in different settings and networks together with different collaboration partners (Gassmann et al, 2009 & Forsgren et al, 2005). Furthermore, the choice of Open Innovation partners is associated with problems itself; e.g. loss of control and diminishing of core competences are suggested to be problems related to MNCs working in the settings of Open Innovation (Gassmann et al, 2009).

The research gap identified for the thesis is an in-depth explanation of MNCs´ Open Innovation channel selection process. Bogers et al (2010) implicates further research in this area “An interesting question at the intersection of open innovation and users as innovators
is, when a producer is better off obtaining inventions or innovations from a user rather than from other external sources?” (Bogers et al, 2010 p. 870). This thesis focus is to explore how MNCs act according to the choice of external collaboration channels and problems associated with the work. The aim of this thesis is to explore Borgers et al’s statement further and include not just users or customers as innovators but also supply-chain partners, competitors, universities and students as well as intermediates and crowdsourcing platforms. The aim of this thesis is to explore how MNCs act when they select different external channels to collaborate and why they do so. The purpose is to explore how MNCs act and think regarding their choice of Open Innovation channels. The aim is that the conclusion of this thesis could help MNCs and their managers regarding the choice of Open Innovation channels. The authors aim to design a guideline that MNCs can follow for consultation regarding their choice of Open Innovation channels. The authors will interview MNCs’ managers to explore how they act and think regarding their choice of channels; to explore if there is a pattern regarding how MNCs select collaboration partners to gain innovations.

The purpose is to seek new insights in how MNCs act when selecting external collaboration parties to gain new innovations. Different Open Innovation channels have been studied before (Sloane, 2011; Thomke & Von Hippel, 2002; Gassmann et al, 2009; Tidd et al, 2005; Perkmann & Walsh, 2007), however, the channels have been studied separately and studies including intermediates and crowdsourcing are limited. The authors of this thesis see a demand for a better understanding concerning the choice of Open Innovation channels and by exploring different channels together this thesis has a high relevance; due to the fact that the aim is to explore how MNCs act and think regarding their choice of Open Innovation channels. The authors expect to contribute with a guideline which will make it easier for MNCs to select their Open Innovation channels and thesis is supposed to address Gassmann et al’s (2009) problem presented above. The conclusion could make it easier for MNCs to find the correct Open Innovation partner and therefor the conclusion of this thesis could lower the difficulties and problems identified by Gassmann et al (2009).

The thesis addresses all MNCs and their managers and hopes to broaden their knowledge in the field of Open Innovation channels and help them regarding how to act and think when selecting their Open Innovation channels to gain innovation; the authors wish to benefit all MNCs and their managers in their Open Innovation work. For example the authors hope to
clarify; when and why is it preferable to collaborate with universities, customers or suppliers to gain innovation? This thesis contribution is directed to explore Bogers et al’s (2010) research gap identified above.

1.3 Research question
Considering relevant issues and fulfilling the aim and purpose of this thesis, the main research question is:

- How do MNCs act when selecting different Open Innovation channels, and why?
2. Theoretical framework
This chapter will provide the thesis’s theoretical framework. The authors aim to explore how MNCs select different collaboration parties/channels and why they act in a particular way; hence, theories covering the traditional Open Innovation concept including its incentives and problems will be explained as well as theories covering Open Innovation management. Secondly, the chapter will follow the outline of this thesis’s aim; the theoretical section will be narrowed down covering different Open Innovation channels. Finally, the theoretical framework will be summarized in a picture. The outline is presented in the picture below.

2.1 The Open Innovation Concept
Scholars have observed that companies’ innovation processes are moving from closed to open (Chesbrough, 2003; van de Vrande et al, 2009). This includes a change in mind-set in how collaboration parties work together (Lakhani, 2008). Chesbrough’s (2003) Open Innovation concept explains the inter-organizational relationship as a way to extend the company’s internal knowledge bases (Grant & Baden-Fuller, 2004), and interacts with external environment sources to explore and exploit knowledge (Chesbrough, 2003; van de Vrande et al, 2009). It is a way to advance its technology (Chesbrough, 2003); an approach to systematically perform knowledge exploration, retention and exploitation (Lichtenthaler, 2011).
The Open Innovation process is visualized in figure 1 (Chesbrough, 2003), it explains that valuable research projects can arrive from inside or outside the boundaries’ of the company and resulting in developments at a new or current market.

![Figure 1- The Open Innovation process (Chesbrough, 2003)](image)

MNCs can open up their innovation process through two core processes: outside-in and inside-out. The innovation flow referred to as outside-in (or inbound process) comes from the external environment into the company, the aim is to explore knowledge and technology gained from sources outside the company’s boundaries (Lichtenthaler, 2011). The other side of the innovation flow is inside-out innovation (or outbound process), it refers to innovations built inside the company’s boundaries, and aimed to exploit company knowledge and technology by commercializing innovations (Ibid). Gassmann et al (2009) presents a different view of the innovation process. The coupled process includes co-creation with complementary associates, collaborating through cooperation. Crucial for this process is to create a give and take (win-win) scenario. Companies working with a coupled process combine the outside-in process (to achieve external knowledge) with the inside-out process (to leverage ideas to the market) (Ibid).

As aforementioned, Trott & Hartmann (2009) rationalize Open Innovation and argue that R&D has been conducted externally for over 50 years. They further argue that competitive
environments already have forced companies to leave the “closed innovation” focus. The environmental changes have created the foundation for the Open Innovation concept.

Further, foundations for working with Open Innovation are its positive effects. In light of the proposed paradigm change, external knowledge and technology encourages managers to open up the process of innovation, as one key success factor for a competitive advantage can be based on external peoples’ knowledge or discoveries (Chiaroni et al, 2009; Gassmann 2006; Chesbrough, 2006). In general, Open Innovation is used in order to reduce costs in terms of benefiting from external resources and saving time (Chesbrough, 2003); the motivation for working with Open Innovation differs between different firms. Minshall & Morata (2011) argue that an increased competitive environment is the main reason why firms decrease internal R&D and instead look for external, less costly options. Furthermore, common incentive for the use of Open Innovation is when a firm needs to meet difficult innovation targets and can benefit from external competencies in order to achieve higher efficiency (Gassmann et al, 2009). The Open Innovation processes attract companies in different ways (Ibid). Further, the scholars suggest that Open Innovation is used to strengthen existing pipelines and decrease risks associated with innovations (Gassmann et al, 2009). Open Innovation is a path to reduce time-to-market when developing products (Ibid). Chesbrough (2003) elaborates that Open Innovation could improve development productivity. Further, Open Innovation is a way to include customers early in the development process (Chesbrough & Prencipe, 2008). Consequently, Bogers et al (2010) suggest that Open Innovation is a way to increase the accuracy for market research and customer targeting. Finally, Open Innovation could be used to meet the demand of the market more efficiently (Baldwin et al, 2006).

2.1.1 Problems associated with Open Innovation
Organizations are often characterized by employee’s attitudes; Lichtenhaler (2011) argues that these attributes may create substantial barriers to an effective implementation of the Open Innovation process. Strategic decisions are made by the company’s employees and therefore influenced by their underlying attributes; the company’s Open Innovation capabilities can be formed and influenced by the employee’s individual attributes. These attitudes could result in barriers that would harm how companies develop organizational capabilities (Ibid). Lichtenhaler (2011) explains that companies often fail in how they implement the Open Innovation concept because of individual attitudes.
Problems associated with the Open Innovation concept are several, according to Gassmann et al (2009) associated problems are, loss of company knowledge and “not invented here” attitudes among the employees. Further, the scholars argue that Open Innovation may inflict higher complexity in the organization and as such increase coordination costs.

2.1.2 Open Innovation management
The aim of this thesis is to investigate how MNCs select their collaboration channels; managers are highly involved in this process. Therefore, theories according management of Open Innovation concept are added, and will be described below.

Sloane (2011) argues that companies should attempt to create a tailored Open Innovation collaboration aligned with the company’s policies, culture and as well the specific business unit, and not force an adoption of a specific Open Innovation channel.

Further, if innovation is to be seen not as a single event, but as a series of events, the innovation needs to be described as a process (Trott, 2002). Tidd et al (2005) supports this argument and explain that innovation is a process, and therefore should it be managed as a one. Tidd & Bodley (2002) argues that the process of designing and organizing new ideas and converting them into action is in line with innovation management. Innovation is not only a way to enter new markets or opportunities; it can also be a path to be successful in mature markets (Tidd et al, 2005). The real challenge here is not the invention itself, the essential in innovation management is making the ideas and innovations work, both technical and commercial, the essential part is how to work with the process. The successful innovation management cases focus on creating routines and improving these efficiently. Accordingly, organizations try to observe and recognize effective routines, either in-house, or from an external source (Ibid). According to Gassmann et al (2009) another factor associated with a successful Open Innovation process is that companies should facilitate the mobility of managers who have a high interest in the field and have a great experience in the Open Innovation concept.

2.2 Open Innovation Channels
Innovation demands collaborative arrangements to be effective. Consequently, vertical, horizontal and cross-industry innovation partnerships and alliances are increasing to enhance value creation activities. As a result of the collaboration’s advantages MNCs are moving from
Closed Innovation attitudes to an Open Innovation mind-sets (Gassmann et al, 2009). Companies’ ability to generate new combinations to existing knowledge and to exploit the unexplored potential of knowledge and innovation is crucial (Grant, 1996). Sloane (2011) presents different Open Innovation channels that companies could work with to transfer the Open innovation concept into practice, the authors of this thesis use Slone’s (2011) definitions for the different channels, presented below. The scholar argues that companies should attempt to create a tailored Open Innovation programme aligned with the company’s policies, culture and as well the specific business unit, and not force an adoption of a specific Open Innovation programme (Sloane, 2011). However, the scholar do not include the important question which explains how MNCs act and think when selecting different Open Innovation channels, therefor the authors of this thesis will explore this further with the use of the theory presented below.

Organizations progressively rely on external Open Innovation sources through their inter-organizational networks (Perkmann & Walsh, 2007). Companies uses their external business network to gain tacit knowledge, the external network provides the company with specific competitive advantages (Forsgren et al, 2005) and innovation is a source to competitive advantages (Tidd et al, 2005). An MNC has a unique company business network, including different partnerships (Forsgren et al, 2005). The largest source of Open Innovation channels is customers, suppliers and competitors (Gassmann et al, 2009) all included as external business actors in the company’s network (Forsgren et al, 2005). A well-coordinated external relationship is a mechanism, which influences the knowledge development positively; it is a vehicle for internal knowledge development (Forsgren et al, 2005).

2.2.1 Customer as Innovators
MNCs can collaborate with its customers to gain new innovations. The customer partner channel focuses on the outside-in process flow of knowledge (Sloane, 2011). MNCs use a small or a large group of customers as an external innovation partner; the compensation is usually non-cash incentives (Ibid). Further, MNCs collaborating with customers have adopted an absorbing approach (Sloane, 2011). Companies provide their customers with tools to develop and design home made products ranging from new innovation; the user-friendly tools are designed to help the MNC to manage the Open innovation concept (Thomke & Von Hippel, 2002). According to Thomke & Von Hippel (2002), users constitute and new approach in the development of new custom products where the consumer can design, build
and also test the innovation and thus provide a feedback-loop (their own trial and error experience) in the development and innovation approach. Further they suggest that for a company to be successful in customer-innovation, the firm need to develop user-friendly tool kits for its customers, increase the flexibility of the production, carefully select the customers to use the tools, evolve the tools continually and at last, adapt the business practice according the new way of using customers as innovators (Ibid).

2.2.2 Supply-chain partners
Another channel to reach new innovations is suppliers, supply-chain collaboration is when companies include suppliers and incentivize them to join as an external innovation partner (Sloane, 2011). In line with the customer channel, companies working with an outside-in Open Innovation processes flow as the corporation’s main Open Innovation method, strive to integrate external knowledge gained from suppliers (Gassmann et al, 2009).

Tidd et al (2005) emphasize that collaboration with suppliers is a vertical relationship and the primary motive is to reduce costs. Further advantages of using suppliers as innovators are to reduce risk and lead-time (Ibid). Potential disadvantages and transaction costs of the supply-chain channel are search costs and reduced quality (Tidd et al, 2005). Further, the scholars argue that MNCs collaborate with suppliers according to develop non-core activities. Innovation relationships with suppliers are usually arm’s-length agreements and associated with short-term solutions; however, the partnership is long-term (Tidd et al, 2005). The supply-chain channel focuses on long-term relationships where suppliers contribute with a significant involvement in developing new innovations and products and reduce time to market (Ibid).

2.2.3 Competitors as innovators
Tidd et al (2005) highlight that innovation collaboration with competitors is a horizontal relationship; explained as companies collaborate with competitors to gain sources of new technologies or market know-how. Companies cope with competitors to gain access to new innovations (Ibid). Nearly all new innovations demand a type of collaborative arrangements. Companies can learn through alliances and develop new technologies through collaboration with competitors. Tidd et al (2005) identified leakages of information as a significant problem connected to collaborating with competitors.
2.2.4 Universities and Students
The generic benefits of universities, associated with educating graduates and gaining scientific knowledge, have traditionally been recognized as a significant source of innovations (Cohen et al, 2002; Mansfield, 1991; Pavitt, 1991; Salter & Martin, 2001). However, the Open Innovation concept discusses that it is the actual relationship including knowledge transfer among universities and companies, compared to the generic links explained above, that plays a significant role in creating innovations (Perkmann & Walsh, 2007). Sloane (2011) defines universities and students as an Open Innovation channel; campus program focuses on the inbound process flow. Universities and other types of research institutions do not take the ideas to the market by themselves, in most cases universities are satisfied to have real world cases, the incentive to use universities as an Open Innovation channel is that the compensation rate is low (Sloane, 2011).

Perkmann & Walsh (2007) distinguish between different types of collaborations between companies and universities. Firstly, one type of collaboration including a high level of relational involvement; including conditions where teams and individuals from both universities and companies collaborate according to a specific project to achieve a common output. Secondly, collaboration involving low relational involvements; including, patenting, usage of a scientific publication or transferring of intellectual property is another type of partnership. Finally, collaboration associated with intermediate relational involvement, explained as individuals with a high level of mobility, individuals moving between universities and companies. In the Open Innovation concept it is the collaboration with a high level of relational involvement that is important as it facilitates interpersonal exchange and builds a long-term interorganizational relationship (Perkmann & Walsh, 2007). Knowledge generated from university is not narrowed down to incremental inventions or radical innovations; it generates knowledge relevant to a long-term perspective (Ibid).

There are various incentives for collaborating with universities. Scholars argue that companies’ motives for appealing in an university-company collaboration is to gain generic benefits; such as get contact with students, acquiring insights on new and emerging technologies as well as improving the companies’ knowledge (Perkmann & Walsh, 2007). However, it is argued that gaining generic benefits and generate innovation outcomes is only one part of the collaboration between universities and companies. It is discussed that a
majority of the collaborations are subsidized by public institutes or funds, to lower the participation cost for the companies (Perkmann and Walsh, 2007). However, the scholars emphasize that overall evidence for this pattern is vague and subject to further research.

2.2.5 Intermediates and Crowdsourcing
Within the outside-in process flow the Open Innovation users have shown an increased awareness of the importance of intermediaries and crowdsourcing as an Open Innovation channel (Gassmann et al, 2009). One factor associated with a successful Open Innovation process is to have access to different intermediaries (Gassmann et al, 2009). Innocentive, NineSigma, and yet2.com are examples of innovation intermediates (a network including; researchers, scholars, companies, entrepreneurs and people), connecting companies with specific problems or needs with externals who can submit solutions, in reward with some incentives. Companies use intermediates if they need help to resolve problems in a situation that guarantees anonymity (Lakhani, 2008).

By outsourcing the act of a job traditionally designated of a person or agent, to a largest undefined group of people in an open sense, crowdsourcing is used. Using this model can create a large source of ideas or concepts for a company to work with (Sloane, 2011). Crowdsourcing is the act companies do when they take an employment traditionally performed by an in-house employee and outsource it to a large undefined group of people as an open call (Ibid). Using crowdsourcing as a channel is a new way of interacting with customers (Howe, 2008).
2.3 Theoretical summary

In summary, theory explains different problems associated with the Open Innovation concept, as well as different Open Innovation channels that companies can collaborate with to increase its innovation capacity; the different factors of what constitutes Open Innovation work and what channels are used for the work are summarized in the figure below. All are important factors to understand how MNCs work with the Open Innovation concept and how they chose and work with different sources for knowledge and innovation.

As a framework for this thesis, the foundation will be on three pillars to understand how MNCs work with Open Innovation, the theoretical framework is the foundation to understand how MNC act when choosing collaborative options to drive their innovations forward. It will be constituted on the problems associated to Open Innovation, channels that an MNC can use to explore an Open Innovative landscape, and lastly, how Innovation management is seen as a part of Open Innovation. Below is the authors’ illustration of the foundations of the thesis.

![Figure 2- Theoretical summary (Authors own)](image-url)
3. Methodology
This chapter discusses the methods used in this thesis. This will be done through a description of the chosen research design; the chapter’s purpose is to guide the reader through the research process. The authors’ working process will be described as well as its alignment with the thesis’s research question.

3.1 Research Purpose
The purpose of the thesis is to explore how MNCs act and think regarding their choice of Open Innovation channels. Existing literature distinguishes between exploratory, descriptive and explanatory research (Saunders et al, 2009). An exploratory purpose is suitable for this thesis as the goal is to seek new insights on how MNCs work with the Open Innovation concept. By studying different Open Innovation channels together the authors’ purpose was to assess the phenomena of Open Innovation in a new light. Therefore the formulated research question and the aim of this thesis have an exploratory purpose (Saunders et al, 2009). The thesis contributes to existing literature in its research field with a greater understanding on how MNCs act and think regarding their choice of Open Innovation channels.

3.2 Research Approach
An abductive approach is selected to explore how MNCs work with Open Innovation and how MNCs act and think regarding their choice of Open Innovation channels. The authors began their study by deducting relevant theories according to the field of study. However, the Open Innovation concept could be seen throughout a dynamic viewpoint; it is a work in progress; Open Innovation is not a one-way solution, and some solutions might suite different companies differently (Trott & Hartmann, 2009). This study is grounded in an abductive approach where the gathered data and the theoretical setting applied for understanding is put against each other to benefit from both induction and deduction; the data were interpreted in the light of the selected theory and vice versa (Alvesson & Sköldberg, 1994).

3.3 Research Method
Bryman & Bell (2011) distinguish between two approaches for shaping the research strategy, quantitative and qualitative research method. It is an inherent difference between the two
methods by nature, therefore it is important for any researcher to understand the differences and nature of both when conducting a study. There is a general opinion that Open Innovation concept needs to be studied further with qualitative methods to capture the dynamics of the concept (Morata & Minshall, 2011). Qualitative studies are by nature more explorative where researchers use words to generate and construct theory based on observations, descriptions and interviews, a qualitative research method is in line with the thesis’s purpose as the authors aim to observe and study how MNCs act and think regarding their choice of Open Innovation channels in its natural setting (Bryman & Bell, 2011). Lundahl & Skärvad (2009) suggests that in a qualitative research design, the process is more in focus than the actual results, as it involves people and their views and perceptions of events and accomplishments. According to Creswell (2007) a qualitative research is activity locating the observers in a chosen environment.

This thesis builds on the notion that there is a lack and need for qualitative studies to understand the nature and complexity of the Open Innovation concept (Motara & Minshall, 2011). The strength of the qualitative method is that it gives a deeper understanding of the nature of the observed phenomena and accordingly new implications and findings can be drawn (Yin, 2009). By using a qualitative method, the thesis is an in-depth study; the authors strive to build a better understanding of how MNCs act and think regarding their choice of Open Innovation channels.

3.4 Research Strategy

The research strategy chosen for this thesis is a multiple case study; the strategy helped the authors to answer the thesis’s research question (Saunders et al, 2009). The choice of strategy is guided to answer how MNCs act and think regarding their choice of Open Innovation channels. This thesis aims to explore different Open Innovation channels together, and try to capture the dynamics of the concept. According to Yin (2009) the purpose of the designed strategy is to avoid situations where there is a misfit between the collected data and the research question. Therefore a multiple case study is appropriate as the authors wish to achieve a rich understanding of the context of Open Innovation and its channels. Further, case studies are preferred to increase the understanding of the Open Innovation channels’ concept in practice and context (Huizingh, 2011). The use of strategy is suited to explain the ambiguous links and connections (Yin, 2009) of the phenomena of the Open Innovation
concept. By using a case design, the study can according to Yin (2009) describe, explain, illustrate and enlighten the researched phenomena, which is aligned with the thesis’s purpose to create an Open Innovation guideline.

3.5 Company selection
Lundahl & Skärvad (2009) emphasise that a multiple case study should include companies that together describe different abstracts of change, in other words several situations should be emphasised and if feasible, have a spectrum over several industries. The authors strived to follow the advice presented above; however, there has been a limited access regarding the subjects. The company selection is a mix of preferred and realistic nature.

Since the thesis’s purpose is to study how MNCs act and think regarding their choice of Open Innovation channels, the first step in the company selection process was to search for information about suitable companies working with the Open Innovation concept drawn from Internet sources, using search engines. Secondly, to ensure the quality of the paper the authors formed a company selection guideline with a number of requirements explained below:

- A Multinational corporation
- Working with external sources/channels for innovation
- Acting in dispersed industries
- Possible to provide managers with the correct knowledge of the topic

The company selection search resulted in 72 potential MNCs. Further, the authors contacted all potential companies; however, a majority of the companies did not have the time or possibilities to participate. The authors faced difficulties according to access, the companies saw innovation as a sensitive issue and accordingly some companies decided not to participate. Finally, the company selection process involved seven case companies (presented below) from different industries. As innovation was observed as a sensitive field to study; the authors choose to present the companies in an anonymous way to maximize the probability that the respondents provide the correct information.
3.6 Data Collection

The participating MNCs were chosen through a target selection process; proposed by Bryman & Bell (2011) and Saunders et al (2009). The method allows the authors to choose the studied objects according to their perceived relevance. Hence, the respondents were selected according to their knowledge of the studied field (Open Innovation and external collaborations). Twelve respondents (presented in the table below) in seven MNCs agreed to participate in the study; only managers and employees with the adequate knowledge and involvement were asked to participate.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Title</th>
<th>Have been working with Open Innovation for X years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Open Innovation Manager</td>
<td>3 years</td>
</tr>
<tr>
<td>2</td>
<td>Vice President R&amp;D</td>
<td>4 years</td>
</tr>
<tr>
<td>3</td>
<td>Senior Director Technology &amp; Open Innovation</td>
<td>10 years</td>
</tr>
<tr>
<td>4</td>
<td>Director Technology &amp; Open Innovation</td>
<td>8 years</td>
</tr>
<tr>
<td>5</td>
<td>Open Innovation Manager</td>
<td>2.5 years</td>
</tr>
<tr>
<td>6</td>
<td>New Business Development manager</td>
<td>1 year</td>
</tr>
<tr>
<td>7</td>
<td>New Business Development manager</td>
<td>1 year</td>
</tr>
<tr>
<td>8</td>
<td>Strategic R&amp;D manager</td>
<td>2 years</td>
</tr>
<tr>
<td>9</td>
<td>R&amp;D manager</td>
<td>2 years</td>
</tr>
<tr>
<td>10</td>
<td>R&amp;D manager</td>
<td>4 years</td>
</tr>
<tr>
<td>11</td>
<td>Open Innovation manager</td>
<td>4 years</td>
</tr>
<tr>
<td>12</td>
<td>President R&amp;D Nordic</td>
<td>3 years</td>
</tr>
</tbody>
</table>

(Respondents interviewed from 2014-04-01 to 2014-05-15)

Saunders et al (2009) argues that a method for selecting respondents should be created in the beginning of the study. It could be argued that adding more respondents to the study would have been preferable; however, the respondents selected were chosen due to their knowledge in the field; after reviewing their position by correspondence and after such consideration, acknowledge them as a suitable source of information regarding the thesis subject. By adding more respondents would not have provided the authors with a broader knowledge base. The authors conducted twelve semi-structured interviews; semi-structured interviews were suitable according to the thesis’s exploratory purpose (Saunders et al, 2009); to better
understand the nature of the Open Innovation concept and problems regarding the working concept. The authors formed a semi-structured interview guide (Appendix I). The interviews had a time length of approximately 45 minutes to ensure specific areas of depth (Bryman & Bell, 2011). To be able to reach the respondents, the interviews were needed to be done by telephone, the authors are aware that intangible knowledge might be lost when not performing face-to-face interviews; however after evaluating the possible respondents, it was chosen as the best option.

3.7 Data analysis
The collected data were audio-recorded and transcribed. The work was time consuming; however, it made the authors aware of what the respondents said and exactly what they meant (Saunders et al, 2009). Interviews gave the authors a deeper in-sight of the area of Open Innovation (Bryman & Bell, 2011). After transcribing the collected data the authors conducted a summary of the key points emerging from the interviews. The summaries helped the authors to identify relationships, which established the validity of this thesis (Saunders et al, 2009). Firstly, the collected data is presented in the empirical chapter of this thesis. Secondly, the empirical findings are compared and analysed based on theories, and presented in the analysis chapter. A study can be designed and constructed in many ways. In this thesis the authors aim is to empirically explore how MNCs act and think when they collaborate with different Open Innovation channels. The interview questions are based on the thesis’s theoretical framework. The aim is to capture empirically how MNCs act in this process; how MNCs select different Open Innovation channels and why they do so. Therefore the theoretical framework begins with a broad explanation covering the Open Innovation field as a whole. The authors wanted to understand how the MNCs worked with the Open Innovation concept and problems connected to the work; therefore the first part in the theory section covers what the concept is and how to work and manage it and the first interview questions cover how companies work with Open Innovation in general. Finally, the theoretical section will be narrowed down covering different Open Innovation channels so that the authors are able to answer the research question; explore how MNCs select their collaboration parties and why they act in this way. The research and interview question was operationalized (presented in the table below). Finally, the collected data was analysed in different steps in order to enhance reliability.
## Operationalizing

<table>
<thead>
<tr>
<th>Topic</th>
<th>Theory</th>
<th>Interview questions</th>
</tr>
</thead>
</table>
| **The Open Innovation concept/process:**   | Chesbrough, 2003; van de Vrander et al, 2009; Lakhani, 2008; Grant & Baden-Fuller, 2004; Lichtenthaler, 2011; Gassmann et al, 2009; Trott & Hartmann, 2009; Chiaroni et al, 2009; Gassmann 2006; Chesbrough, 2006; Minshall & Morata, 2011; Chesbrough & Prencipe, 2008; Bogers et al, 2010; Baldwin et al, 2006; Tidd et al, 2005; Gassmann et al, 2009 | Can you describe the company’s Open Innovation process?  
Who take the initiatives for the new innovations?  
- Externally or internally?  
Are you an open organization?  
What factors are important for an MNC who wants to adopt the Open Innovation concept?  
Why did the company start working with Open Innovation?  
What are your incentives to use Open Innovation?  
Has your work with Open Innovation been successful, if possible, please exemplify  
New products or New Solutions?  
Have you had any problems connected to your Open Innovation work? |
| Incentives for Open Innovation             |                                                                        |                                                                                                                                                      |
| Problems associated with the Open Innovation Concept |                                                                        |                                                                                                                                                      |
| Open Innovation management                 |                                                                        |                                                                                                                                                      |
| **Open Innovation Channels:**              | Slone, 2011; Perkmann & Walsh, 2007; Forsgren et al, 2005; Tidd et al, 2005; Gassmann et al, 2009; Thomke & Von Hippel, 2002; Cohen et al, 2002; Mansfield 1991; Pavitt 1991; Salter and Martin 2001; Perkmann & Walsh, 2007; Lakhani, 2008; Howe, 2008 | From where do you get your external innovation?  
How do you choose who you collaborate with?  
How do you act to do this?  
How do you judge and value which source of collaborations that is the best for your company?  
What criteria do you have when selecting?  
How do you proceed when collecting the new innovation?  
Do you use any specific tools?  
- Please exemplify  
What channels do you use?  
Who is involved in the process?  
Do you use several channels at the same time?  
How do you choose whom to collaborate with?  
Do you use different channels for different types of innovations (New innovations or development of existing innovations)?  
Do you adopt the choice of channels to the type for innovation you need?  
Do you adapt the channels for different types of department for which the innovation will be used?  
How did you adopt from a close to an open organization, which was your first collaboration partner?  
How do you work to integrate the external innovations in your organization?  
According to you, how should a company act to achieve a successful Open Innovation collaboration?  
- What activates is most important?  
- What partners are the most essential to collaborate with and why? |
3.8 Validity and Reliability

The authors ensured validity by reviewing and correcting of the empirical data. By using a multiple case study as evidence this thesis will construct validity (Bryman & Bell, 2011). Yin (2009) explains reliability as whether the same case can be repeated with the same results. The authors formed a semi-structured interview guide to increase the reliability of the thesis. Researchers who want to perform the same study may use this interview guide again. Further, records were kept and notes taken during all interviews; by saving all documents the reliability of the study increases.

3.9 Research limitations and quality of the study

The quality of a study can be assessed by the degree of validity and reliability. Validity tests if the study's conclusion is correct and the degree of reliability concerns if the study can be repeated (Bryman & Bell, 2011). The authors faced access difficulties due to the fact that innovation is a sensitive field to study. Further, it is important to pay attention to the overall quality of the study and be aware of any biases that can occur in the information received from respondents that will lower internal validity. Biases in consideration were; potential personal opinions of the respondents, the possibility for subjective answers, limitations of a qualitative study, and also the lack of depth in the interview questions. Furthermore, as the research strategy chosen for this thesis was a multiple case studies it might have been appropriate to have more respondents representing each MNC. However, the selected respondents were the one most suited for the interview as they were holding the right knowledge about the MNC’s Open Innovation work. The respondents who accepted to participate proved to be highly knowledgeable regarding the topic of this investigation.

Furthermore, the authors had an intention to complement the conducted interviews with a web-based survey in order to get a deeper understanding regarding how MNCs select their Open Innovation channels. The intention was to send the survey to all employees at the MNC; however, none of the selected case companies endorsed the authors to conduct this type of survey for different reasons. For example, companies tend to be hesitant when it comes to addressing their employees with too many questionnaires, and additionally, innovation can be a matter of strict confidentiality. However, this was not a major problem for the authors, as the respondents delivered information needed to cope with the thesis’s research question.
4. Empirical study
The following chapter will give an interpretation of the empirical findings resulting from the conducted interviews. The chapter will be divided and presented in different sections based on relevant theoretical aspects. The empirical chapter will follow the same outline as the theoretical framework. The empirical findings are summarized after each section. All companies will be anonymous; however the reader can find a brief company description below.

4.1 Company description

**Company: A**
The company is active in manufacturing of industrial parts and machines in the fields of hydraulics, pneumatics, electronics and mechanics. With its HQ based in Germany, the company employees 550 people in Sweden and in total 38,000 worldwide. The company is active in over 80 markets and has a yearly turnover of 54 Billion SEK.

**Company: B**
A Swedish consumer goods company manufacturing pulp and paper. With its HQ based in Stockholm they employ 36,000 people worldwide and the company has a turnover of 85 Billion SEK. Their main products are personal care products, tissue, solid-products and biofuel.

**Company: C**
A Swedish pulp and paper company, with the main products as newsprint, magazine paper, paperboard, furniture and construction. The company employees 3700 people with its HQ in Stockholm and with a yearly turnover of 17, 4 Billion SEK. Their main market is the European Union which makes up for 86 % of the revenue.

**Company: D**
Swedish aerospace and Defence Company with its HQ in Stockholm, the company manufactures and sells radar systems, military aircrafts as well as different military systems. The company has a turnover of 24 Billion last year and employs almost 14,000 people. The company is active in 10 markets in the world.
Company: E
A Swedish construction and civil engineering company with a turnover in 2013 of 46 Billion SEK. They employ 15,000 people and have active business in 3 countries and sub-businesses in more than 10 countries. Their HQ is based in Sweden. Their main business areas are construction, infrastructure development and real estate development.

Company: F
A Swedish manufacturing company, producing windows and doors, they have business and production in 11 markets around the whole world and had a turnover of 5 Billion SEK. The company employs almost 3000 people and has its HQ in Sweden.

Company: G
A Danish manufacturer of construction toys with HQ in Denmark, the company employees almost 12,000 people and are active in over 130 markets around the world. They had a turnover of 32 Billion SEK.

4.2 The Open Innovation Concept
All MNCs emphasizes that they work according to the concept of Open Innovation at some degree. The empirical findings are unanimous in one important area; they all state that Open Innovation is not a new way of working. Furthermore, they all highlight that they have been working with exploration, retention and exploitation of external knowledge before Open Innovation became a buzzword. “We have worked with ideas of Open Innovation for many years, without labelling it as such” (Company B). Further, when working with Open Innovation, Company A, B, D and E states that it is important to facilitate a win-win situation between the involved parties. “Open Innovation is a process of mutual gains” (Company D).

The empirical findings show different incentives for working with Open Innovation. In the case of company B and D, Open Innovation is used to strengthen innovation capacity as they operate in highly competitive industries; industries demanding a high level of innovation capacity. In this light they acknowledge the potential that Open Innovation can contribute with. One main incentive for Open Innovation is that all MNCs hope to achieve a higher level of innovation capacity. They view it as a complement to the existing internal R&D pipeline.
Further, they discuss that the market they act in demands a high level of competencies and technologies that they themselves cannot develop internally; therefore, they see a need for Open Innovation. Furthermore, incentives for company B, C and D to start working with Open Innovation is also, to tap into new knowledge, products, technologies and markets.

By adopting the Open Innovation concept, the outcomes for company A, B, C, E, G and F has been both developments of new products, as well as improving existing products. Company D is acting in a highly complex industry, therefore they states that it is hard for them to use Open Innovation to launch new products. However, they have used Open Innovation for incremental developments of their already existing products and innovation pipelines. As a result of the collaborations, six out of seven case companies have successfully launched products to the market, both of radical and incremental nature. Company F explicitly states that the main incentive to use Open Innovation is to develop radical innovations. According to them, incremental developments are better off to be done in-house (Ibid). By the use of Open Innovation Company B, F, C and G have increased their product portfolio. However, for all MNCs it is more common with incremental developments. Moreover, company B, D, E and F collaborate with external Open Innovation channels to shorten the time to market perspective. The empirical findings show that all MNCs use Open Innovation to develop new products; these new products are always in line with the companies’ core business.

For company G, Open Innovation is also considered a brand-building tool, as well as a way to keep a close dialogue with their lead users. Their central aspect of Open Innovation is that everybody, both external and internal, can contribute to develop the company, and that it should benefit both parties (Company G). Furthermore, company G uses Open Innovation projects to gain rapid feedback from its customers. Company G aim to create a give and take scenario, with the purpose to build loyal customers.

Further, company D and E states that collaboration with universities sometimes is an outcome of institutional directions, directions that force the company to work with universities to receive funding. Company D states: “Institutions claims that we as an MNC collaborate with universities and entrepreneurs and if we collaborate the institution will provide with financial incentives”. Further, Company A, D, E and F explain that Open Innovation is a springboard to recruit new talents after collaborating with universities.
Company C and D emphasizes that collaborations exist to support SMEs, to increase the MNC’s goodwill; however the overall evidence for this pattern is vague. Further, Open Innovation is a way for company E to achieve efficiency when developing new products. Finally, company G’s main driver is an identification that “99% of the people do not work for us, but we need to work them”.

To summarize the empirical findings, a higher level of innovation capacity is the main incentive for working with Open Innovation; however, working with external collaborations to gain new knowledge is not a new way of working. All MNCs state that it is more common to develop incremental improvements when working with Open Innovation.

### 4.2.1 Problems associated with Open Innovation

The respondents present different problems associated with their Open Innovation work. According to company B, C and G, attempting to adopt a successful Open Innovation concept is depended on having an open mind-set. However, the majority of the respondents explain that such mind-set is difficult to create and it is a difficult journey that takes long time to establish. Further, company B states that; “Central when working in such setting is not to forget that you work and interact with people and they sometimes have a hidden agenda”. Furthermore, they states that; “People experience that the internal innovation and competences are more valuable than those invented somewhere else” (Company B). This is explained as an issue for company B, E, F and G; their employees see the internal competencies as superior to external sources.

Company B, C, D and G explain that ad-hoc initiatives are difficult to evaluate and internalize. Those innovations steaming from an ad-hoc source are problematic to match with the correct department. Furthermore, six out of seven case companies underline that it is more difficult to internalize innovations linked with their core business, company B state that; “Innovations and ideas regarding our core-business and where we have great knowledge are hard to meet and integrate”. The empirical findings show that it is more difficult to find value from working with Open Innovation in the areas where the MNC has its core competencies. Further, company C states that radical innovation sometimes can be hard to internalize or implement due to its complexity and radical innovations tend not to be in line with the company’s values. A common problem associated with the MNCs Open Innovation work is
how to anchor the new innovation inside the organization. Company B explains that it is
difficult to anchor an innovation inside a department if the department who is intended to own
the innovation is excluded from the open innovation work, and do not actively participate in
the open innovation project. Further, lack of situation analysis creates uncertainty about
already existing solutions; according to Company C; “We don’t want to reinvent the wheel”.

Furthermore, company E emphasize that they faced problems associated with their
organizational structure, (complex hierarchical structure) with many different divisions; it
makes implementation of Open Innovation mind-set harder to manage.

According to company A, D and G, Open Innovation problems are often related to lack of
communication between the collaborative parties, resulting in non-fulfilled expectations.
Other problems associated with communication are contracts and confidentiality agreements,
which generate problems when dealing with innovation and ownership, and this is connected
to lack of communication (Company A, C & D).

To summarize the problems associated with the Open Innovation work, it is essential to create
an Open Innovation mind-set to achieve success; however, it is a difficult journey that takes
long time to create. Furthermore, the some MNCs explain that problems occur when the
employees see the internal competencies as superior to external sources. Finally, the MNCs
emphasize that they are facing difficulties related to internalization and communication.

4.2.2 Open Innovation management
The empirical findings indicate that the MNCs have changed their organization from closed to
open in different ways. Accordingly, company C’s change from a closed to an open organization
indicated that the organization needed new ways to explore new business opportunities. The
directions according the change came from the top-management and where communicated to the
organization. Company B explains that it is important that the organization creates an Open
Innovation concept that is suitable to the organization’s structure, culture and vision.

In all cases the work with Open Innovation has been a long journey; “the organizational
change from a closed to an open attitude has been long” (Company B). Furthermore, none of
the case companies states that they are working with a fully open innovation concept.
Company A explains that Open Innovation is an on-going process, and that it is important to keep up the work with different Open Innovation processes “It’s important do not let the work die out”. Company A, B, D, E, F and G has chosen not to have a designated a specific Open Innovation department only working with Open Innovation; instead all employees are encouraged to search for external innovations and different Open Innovation channels. Further, company C has chosen to centralize the department working with the Open Innovation channels, the department’s purpose is to search and develop new products, and act as a filter for incoming innovations. Company A, C and F stresses the importance of personal interest and engagement in the Open Innovation channels, especially at the top-management level. “It is important to create champions that are really turned on by Open Innovation” (Company F).

Company B, C and F is working with determined routines, guidelines and processes, for how to collaborate with external channels and internalize external innovations. When collaborating with intermediates, Company B and G explains that they have implemented different routines for how to collaborate. Company C has developed a strategic outline for how to select and collaborate with Open Innovation channels; the respondents explain that they systemize all incoming ideas from any channel; they conduct a screening process to evaluate the value of the idea and to ensure strategic fit. Company D emphasizes that the most important factor for a successful collaboration is to create clear and efficient goals. Company B explains that integration of Open Innovation projects is easier to manage when the project includes a mutual goal with the external channel. “When we have a common goal, there is a common value and the partner has been chosen for the specific need, this makes integration smoother” (Ibid). As mentioned before company G and B explain that they have implemented systemized routines explaining how they select their Open Innovation channels. However, company E and D do not have systemized routines for how to collaborate with different Open Innovation channels; their work followed a more ad-hoc approach.

Company B, C and F have included Open Innovation as a part of the company strategy; they have a spoken agreement that Open Innovation initiatives and their how they select and work with external channels should be a part of the general innovation strategy of the firm. Company A, D and E have no spoken alignment between corporate strategy and how to select collaboration parties. Company G focus is to align the Open Innovation channels with the
company’s strategy, thus achieving strategic fit, the company acts in an innovation friendly industry “Our company mission does fit the Open Innovation, as we want to build and inspire, and this is aligned with an open mind-set towards innovation” (Company G). Furthermore, company E stresses the importance of having a clear strategy and tactics on how to work with Open Innovation channels.

In general, company B explains that collaboration with Open Innovation channels is not an “apply the same to all” concept, they elaborate; “You have to look at your firm, what is the situation analysis, and then ask, why do you want to do this?” For company E, there is a great focus to implement a shared vision between the parties and the employees internally, and make all the managers involved in the Open Innovation process.

To summarize all MNCs explain the Open Innovation work as an on-going process. In all cases the work with Open Innovation has been a long probe and learn journey. The majority of the MNCs have chosen not to designate a specific Open Innovation department only working with Open Innovation. However, all MNCs have created a supportive stab to contribute with help according to the Open Innovation work. Finally, the MNCs are either working with Open Innovation systemized or ad-hoc.

### 4.3 Open Innovation Channels

One empirical findings show that all companies use their already existing network as a channel to gain external innovation and new ideas.

<table>
<thead>
<tr>
<th>Channels Identified During the Empirical Study</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities and Students</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Suppliers</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediates</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customers</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crowdsourcing</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Competitors</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 3- Summary Channels, empirical findings (Authors own)*
All companies started to collaborate with Open Innovation channels differently. Company B started their work with Open Innovation 10 years ago, as they realized that there are more ways to interact with external channels than the traditional way of working with suppliers; this was the tipping point towards an Open Innovation mind-set. According to all MNCs Open Innovation is an on-going process. Further, company A explains the importance to keep the process alive and running. “It is something that we do every day in the organization” (Company A). Comparable to company B, company G has a similar journey towards Open Innovation; openness towards external innovations has been an established action for a long time. Company G’s first step into Open Innovation was a close collaboration development project with a well-known American tech-university, the collaboration started in the 80’s; they had a clear project vision and a common goal to develop a new product, this was the starting point for company G.

The empirical findings show that all MNCs collaborate with different Open Innovation channels in relation to their specific setting. Accordingly, company B explains that they tailor the choice of channels according to the specific innovation or need. They explain that as they works with FMCG, developing of already existing products are more common than developing radical innovations. Further, company B, C and D collaborate with customers when developing products with a short time to market perspective or when radical innovations are needed.

Choosing long-term partnerships for development projects, company A and B select suppliers as their main partner. However, company A also includes universities as long-term partners. When company D and A selects its channels, they always start searching within their already existing network. They try to create an alignment between the channels and the time perspective of the innovation. Further, if company A wants to develop an already existing technique, they choose to collaborate with suppliers, as they are familiar with the product or the technique. Company F states that there are less problems associated when working with existing suppliers as innovators, as the long-term relationship already exist. On the other hand, when working with universities, the initial trust is low (Company F). When focusing on long-term development of products suited for the next generation, company A, B, C, D and E collaborate with universities. Furthermore, all MNCs explain that best results are produced in
Open Innovation

Channels

a long-term relationship; however, if the aim is to create fast results, short-term relationships are favoured by company G and B.

Furthermore, company B uses *intermediates* when facing a problem that is internally recognized, since these *intermediates* may hold an existing solution to the issue at hand. The MNCs explain the work with intermediated as a new way to collaborate with external innovators. Further, when working with *suppliers*, company B choose to work with strategic important partners. Company B, D and F chooses their source of innovation according to a view of strategic fit. They evaluate the potential value that the other party can offer; the goal is to achieve a win-win situation with the other partner where the wanted competencies are hold.

Company E explains that, a majority of the innovations and developments are by nature large and complex; therefore, it is imperative that the industry collaborates to find a common solution. “*For example, to develop new industry-wide standards this is common for all actors in the given industry*” (Company E).

Company G co-creates with *customers* for a faster short-term process, whilst their work with *universities* is similar to the other MNCs, they tends to have a long-term focus. Their main incentive for working with Open Innovation is to reach a large amount of innovators. Therefore, they tend to use *crowdsourcing* activities to achieve the desired scale. The company have developed a user-specific web-site that allows customers to be a part of the innovation process, “*the web-site is used as a tool, where customers are able to post their own ideas and thoughts about the products*” (Company G). They explain that the incentive for the crowd participate is to be a part of the process of developing and launching new products.

At company B they try to match the innovation channel with the responding department. The department who “owns” the problem, looks towards it nearest business network to find a collaborative option, this is the first step company B use to match appropriate channel to the correct problem. Company B tries to match the department or brand to the most suitable innovation channel.
Company B, D, E, F and G explain the work with Open Innovation as a probe and learn journey, as the Open Innovation work has grown, the journey includes a change to an Open Innovation mind-set, firstly companies collaborate with channels included in their nearest network (Ibid). “You have to fail before you succeed” (Company D). Company B explains that collaboration sources can develop from all parts of the organization, in other words, internal needs for external innovation capacity can spring from any part, people or departments in the organization. Company G emphasizes that it is important to build on the strengths the company have, the key is to let everyone know about the Open Innovation. “In regards to innovation connected to the company’s suppliers, there are different functions at the company, who manage the communication and collaboration with our external sources” (Company B). In company B, the people involved in an Open Innovation project are the ones responsible for the processes and its associated problems; they “own” the project; therefore, the variation of the participants in the Open Innovation work is large; this is similar to how company G work with the Open Innovation concept.

To summarize how the MNCs select its Open Innovation channels, the innovation needed tend to form which channel to collaborate with, for example the timeframe perspective. All companies use their already existing network as a channel to gain external innovation and new ideas. The overall findings explain that MNCs gain best results in long-term relationships.
5. Analysis and discussion

The analysis and discussion of the thesis will be presented and conducted according to the same outline as the theoretical framework. All findings will be summarized in the end of this section; it will follow the same pattern as the chapters presented above.

5.1 The Open Innovation Concept

Theory explains that companies innovation processes are moving from closed to open (Chesbrough, 2003; Chesbrough et al, 2006, van de Vrande et al, 2009, Lichtenthaler 2011), this is sustained by all MNCs, as they interact outside the boundaries of the firm to explore and exploit knowledge. However, all MNCs work with the process in different ways. It could be discussed that the differences are associated to how the companies work with their traditional innovation; as such Open Innovation is not a one-way solution to adopt. As the findings are unanimous, Open Innovation is according to the empirical findings not a new way of working. The empirical findings clarify that Open Innovation work has been conducted for many years (external collaborations) without labelling of the processes. This is in line with Trott & Hartmann’s (2009) suggestion that Open Innovation is merely a new definition for an existing way of working. Suggested by Company F, Open Innovation has become a buzzword for how to manage this innovation processes. To confront this statement, the authors have observed difficulties related to the concept of Open Innovation as such. The MNCs work in different degrees in regards to Open Innovation. It could be discussed that Open Innovation is a generalizing term of an old way of working. A finding that occurs for the authors is, in line with theory, that Open Innovation is more of a concept and a way of working, rather than theoretical framework for generating external ideas. Therefore, there is difficult for the MNCs to observe differences between traditional way of working with external sources and working with Open Innovation.

When observing aspects regarding the flow of innovation (outside-in and inside-out) the authors identified similarities among the MNCs. All studied MNCs are working with outside-in Open Innovation flow; the MNCs are enriching its knowledge base and increase the company’s innovativeness through integration with their external network. This process is comparable to the innovation flow presented by Lichtenthaler (2011). However, company A, B, D and E states that it is important to facilitate a win-win situation between the involved
parties. This is in line with Gassmann et al.’s (2009) coupled process flow. This is also in line with how company G work with Open Innovation; for them Open Innovation is considered a way to keep a close dialogue with their lead users. Their central aspect of Open Innovation is that everybody, both external and internal, can contribute to the development of the company, and benefit both parties. The reasons for this could be argued as following; it is likely that working with external sources could be beneficial for both parties when the outcome of the innovation, the result, is visualised for both. For example, the MNC sees that their innovation capacity will increase and the customer see that they can contribute to develop the end product.

The analysis show a pattern among all studied MNCs; as they all work with an out-side-in process flow. It could be discussed that this patterns is due to that all studied companies are MNCs and not SMEs. According to the author of this thesis, the development of capabilities in an MNC and product development follow this subsequent reasoning. MNCs have a better understanding of their needs and greater finical possibilities to capitalize on external innovation comparable to SMEs, therefore out-side-in process is more commonly used.

As a result of these flows, among all MNCs, the most common incentive was to improve the innovation capacity in the organization and develop radical and incremental products. Company F explicitly states that the main incentive to use Open Innovation is to develop radical innovations, company B, C, F and G states that they have increased their product portfolio. However, for all MNCs it is more common with incremental developments. The companies do not exclude the internal R&D, instead they use Open Innovation as a mean to strengthen the innovation pipeline, connected to Gassmann et al’s (2009) main driver for Open Innovation. The authors of this thesis emphasizes that the findings could be due to that radical innovations entails more than just the innovation itself; it is harder to implement, needs more support and radical innovations are not as common as incremental developments in general. The empirical findings show that three out of seven case-companies use Open Innovation initiatives to target new markets and tap in to technologies and explore knowledge; this is in line with Chesbrough et al (2006), Gassmann (2006) and Chiaroni et al (2009).

In line with the theory mentioned above, involvement of customers early in the development process is found in Company G, they use Open Innovation to gain rapid feedback from
customers as proposed by Chesbrough & Prencipe (2008). This argument is also found at company C, who uses Open Innovation to increase their accuracy for market insights discussed by Bogers et al (2010). Further, according to company B, D, E and F Open Innovation is used to shorten time to market. This is comparable to Gassmann et al (2009) and Baldwin et al (2010) they emphasizes that Open Innovation is way to reduce time to market and meet the demands more efficiently.

In the case of company B and D, the competitive environment in their industries forces them to look for external innovations. Mortara & Minshall (2011) argues that an increasingly competitive environment is the main reasons why firms collaborate with external channels. Theory suggests that Open Innovation is used in order to reduce cost and risk associated with innovation (Chesbrough, 2003); this however, is not highlighted in the empirical findings as a direct link for Open Innovation. It could be argued that Open Innovation sometimes could be a way to gain subsidized research and will therefor lower the MNC´s R&D costs. Further, it could be discussed that Open Innovation is an indirect way to cut innovation costs. Also, it could be debated that other ways for the company to indirect lower their innovation costs is to innovate together with a supplier, they share the cost associated with the project, as well as being mutual beneficent.

5.1.1 Problems associated with Open Innovation

Open Innovation does not occur without implications and problems for the MNC. Lichtenthaler (2011) suggests that the attitudes of the employees will bring forth barriers making Open Innovation more difficult to implement. Empirical findings imply that; often a failed Open Innovation concept is due to the individuals´ opinions and underlying agendas in the organization. Empirical findings in company B, E, F and G are in line with Lichtenthaler’s (2011) notion in this area. However, the findings are not surprising, internal attitudes are common in MNCs, as they have their already existing routines and people in general could be unfamiliar to change. Common barriers in the empirical section suggest that internal competences are perceived as better than external knowledge (Not-invented-here) Chesbrough (2003).

With collaboration there is always the risk of loss of knowledge, company A, C and D emphasizes the importance of contracting and confidentially agreements when dealing with
Open Innovation; this is in line with Gassmann et al (2009). Companies highlighting are companies working in an industry of a more complex nature, and as such have a tendency to focus on security. It could be discussed that companies who did not pinpoint this issue as important are working with more consumer focused goods. Further, it could be discussed that this disagreements a more common in a business-to-business setting. Problems regarding the increased coordination cost are discussed by Gassmann et al (2009), however, this is not found in the empirical study. The reason for this could be that all MNCs are in the beginning of their Open Innovation journey and therefor; increased coordination costs has not been realized.

Working with external sources will bring complexity in to the Open Innovation process. Company B, C, D and G find increased complexity with ad-hoc projects, company C see complexity with radical innovation as these can be hard to internalize; this is in line with Gassmann et al (2009). Further, company B, C, D and G explains the same pattern for ad-hoc initiatives. The reason could be that ad-hoc innovations are difficult to fit in to the strategy, organizational settings and the company’s values. However, six out of seven case companies underline that it is more difficult to internalize innovations linked with their core business, this imbalance occur between Open Innovations and the MNC’s already existing routines (Gassmann et al, 2009). The reason for this could be that companies tend to have strong routines for their core-business and the employee might not see the value that the innovation could bring. Further, the companies argue that it is difficult to anchor an innovation inside a department if the department who is intended to own the innovation is excluded from the open innovation work, and do not actively participate in the open innovation project. Therefore imbalance between Open Innovation initiatives and the routines of the MNC can occur. This could be connected to the not-invented-here syndrome; to include the department who is supposed to work with the innovation the syndrome could be decreased.

5.1.2 Open Innovation management
All MNCs in the empirical findings started to collaborate with external channels in line with their company conditions, market situation and context specificity. It is comparable to Slone (2011) who argues that companies should tailor their Open Innovation program and choice of channels so that it suits the companies’ setting. Furthermore, company B, C, and G underlines that for achieving a successful Open Innovation collaboration, it is fundamental to create an open
mind-set. Only company B and C’s top management promoted the need for an Open Innovation collaboration, as they needed new ways to develop their business. Nevertheless, support from top-management is essential according to company B and E.

The MNCs differ in how they manage the collaboration process; company B, C and G have a designated stab managing Open Innovation; the other companies have an indirect department responsible for managing external collaborations. These departments are consequently responsible for providing best practice, education, information and feedback regarding the collaboration process. Furthermore, company C, D, F and G have a communicated agreement that Open Innovation initiatives should be a part of the general innovation strategy. The Open Innovation collaboration is an on-going process (company A and B), and it is important to keep up the work with different Open Innovation collaborations at the same time, this action is explained by Tidd et al (2005). All companies have implemented a supportive stab with the mission to consolidate and drive the Open Innovation collaboration in the right direction; they play an important part in the selection process. Company A, C and F stresses the importance of having managers with a high personal interest and engagement in the collaboration, aligned with Gassmann et al’s (2009) theory. It could be discussed that the reason for this is that the companies who have managers with a high personal interest depend on this managers to drive their Open innovation work forward, this is more common for companies working with an ad-hoc approach towards Open Innovation collaborations, without them their Open Innovation collaborations would be halted. The other companies do not state that they are in need of this high personal interest and involvement, it could be discussed that the reason for this is that these companies have a more spoken and structured way to work with Open Innovation.

Further it could be discussed that the most successful innovation management cases are focusing on creating routines and improving them efficiently, it is important that the success is visible and communicated broadly. As mentioned before the empirical findings show that routines and practices are implemented and communicated, however, this is not shown in all MNCs. Once again, the authors see a connection between the companies and how they work with Open Innovation. Companies working with Open Innovation continuously have implemented routines and structures to facilitate the work with Open Innovation. However, companies working with Open Innovation occasionally tend to have less structured routines for how to work with Open
Innovation. However, they are facing more difficulties when internalizing Open Innovation initiatives, and struggle more to benefit from the innovations as a result of lack in routines.

It could be discussed that company B, C, F and G who have developed and implemented routines for how to collaborate with intermediates, competitors and suppliers are the ones who have developed their Open Innovation work to a higher level, they are the same ones who have a vision for their Open Innovation work, their managers have routines for how to select their collaboration parties which makes the work more standardized. Further, they are not in the beginning of their Open Innovation journey; they have already created specific routines for when and how to use crowdsourcing as a channel, which according to the authors of this thesis shows a great degree of openness, and they actively implement and manage different types of collaborations.

5.2 Open Innovation Channels

All MNCs work in line with the traditional business network theory proposed by Forsgren et al (2005), as they use their existing network as a channel to gain external innovations and new ideas. In light of Gassmann et al’s (2009) study on the most common Open Innovation channels are customers, suppliers and competitors; the empirical findings in this thesis do not display the same results. The empirical findings show that universities are the most commonly used source, followed by the use of suppliers. Another interesting finding that opposes Gassmann et al’s (2009) findings is the use of Intermediates is more common in the thesis empirical finding. The discussion for this pattern will follow under the different channels, furthermore, all of the channels proposed by Sloane (2011) were found.

Customers (B, D, F, G)

Four of the companies use customers to gain external knowledge, explained by Thomke & Von Hippel (2002) and Sloane (2011). Company G is the only company creating user-friendly tools presented at their website allowing the customers to contribute and develop products with a short time to market perspective as well as radical innovations; this is in line with the theory above. They keep a close dialogue with their lead users to get rapid feedback and mutual benefits, as well as building customer loyalty. It could be discussed that one reason why this specific companies are highly active in collaborating with customers could be that customer feedback is very important, and their customer’s opinion is very important for them.
For company B, D and F, their customers are central to increase and improve the development of new products, they provide feedback and trial and error loops for the companies; the MNCs let the customers improve their ideas, this feature is explained by Thomke & Von Hippel (2002) as a successful way to use customers as innovators.

It could be discussed that the reason why company G is the only company creating user-specific tools to gain new knowledge from its customers, could be due to its products’ low complexity, and they are highly dependent on their customers as they sell their product directly to them.

 Suppliers (A, B, C, D, E, F)  
In theory collaboration with suppliers is seen as a common Open Innovation channel. The empirical result shows that all MNCs, except one, collaborate with their suppliers. When analysing the empirical findings it is shown that MNCs use suppliers to develop already existing products, they try to match the supplier with innovation pipelines that are familiar to both parties. If company A wants to develop already existing techniques, they choose to collaborate with suppliers, as they are familiar with the product or technique.

In theory it is explained that collaboration with suppliers occurs to develop non-core activities (Tidd et al, 2005). As mentioned above only one company excluded suppliers as a suitable Open Innovation channel, it could be discussed that the reason is connected to that their main incentives for using Open Innovation is to develop their core-business and therefore, in line with theory, suppliers is not suited. It could be discussed that company’s incentives for Open Innovation is due to the specific industry where they operate. Companies developing more complex products collaborate in a larger extent with suppliers.

In regards to theory, long-term collaboration and relationships are presented as a main reason to work with your suppliers, as it can be an incentive to reduce cost, lead-time and risk. When company A and B observes the need for long-term relationships to gain new knowledge, it is often based on the nature of the innovation, in this case, an incremental development of existing products; suppliers are the main channel to collaborate with. The empirical findings show no direct link that the use of suppliers is associated with a reduced cost, risk or lead-
time. The main incentive for using suppliers, as an Open Innovation channel is to generate new ideas. It could be discussed that the analysis drawn above is due to the fact that the concept of Open Innovation is recently applied in all case companies. Consequently, it could be discussed if the incentives have not yet become apparent or measured by the companies. As they are in the beginning of their Open Innovation journey, other aspects could be seen as more important, for example long-term relationships to access new knowledge.

**Competitors (C, D, E)**
Companies C, D and E works with competitors to develop industry innovations or standards, their work are compared to Tidd et al’s (2005) theory, this because they all act in industries that by nature is large and complex, the complexity forces the companies to collaborate.

Theory explains that companies collaborate with competitors to learn and develop; this is found in the empirical study. Further, one common problem explained it the theory is the leakage of information between competitors when collaboration around a common project; however, this is not found in the empirical study. It could be discussed that the reason that theory and empirical findings are not in line, could be due to that all case companies emphasizes on a win-win situation when collaborating. The empirical findings show a common result that mutual benefits are the most important aspects when managing Open Innovation. Further, the authors assumes that in a competitive setting, agreements and confidentially contracts are taken for granted, therefore the problem is not mentioned in the empirical study.

**Universities and students (A, B, C, D, E, F, G)**
The empirical findings shows that all companies have been working with projects and partnerships connected to universities for a long time. Cohen et al (2002), Mansfield (1991), Pavitt, (1991) and Salter & Martin (2001) argue that collaborating with universities is not a new way of working. The incentives for using universities tend to be the long-term perspective that the universities can provide for the companies.

Company A, B, C, D, E and G elaborates that the universities can be a source of “next generation” products in line with Perkmann & Walsh´s (2007) findings. Further, Sloane (2011) proposes that one reason for collaborating with universities is that there is a low
compensation rate and therefore an indirect connection to lower R&D costs. However, in the empirical study lower costs is not mentioned as an incentive for choosing universities as a collaboration source. The collaborations are instead focused on building long-term partnerships. It could be debated that the reason that low compensation rate not is represented during the interviews is because the companies see other incentives as more important; such as idea generation connected to develop innovations suited for the next generation. However, the companies have other financial incentives for collaborating with universities. Two of the MNCs use universities as a source to receive financial funding from institutions; this subsidizing aspect is discussed by Perkmann & Walsh (2007). The overall evidence of this thesis is in line with the theoretical aspects. It could be discussed that the companies who work with Open Innovation to receive financial funding do not look upon the idea generation as the main incentive. They collaborate with universities to lower their R&D cost and Open Innovation is an outcome and not an initiative. Companies who collaborate with universities to receive financial funding are the ones who have not aligned an Open Innovation strategy with the company's strategy. They work with Open Innovation on a more ad-hoc approach.

Theory explains different levels of relational involvement; all MNCs in the empirical study work with high relational involvement, as they operate in teams combining universities and companies to reach a common output. Further, the use of universities may also be a path to recruiting according to company G; this follows the theory explaining generic benefits as an incentive. Theory presented by Perkmann & Walsh (2007) emphasizes that Open Innovation is connected with high relational involvement. According to this, all companies work with Open Innovation, as they facilitate inter-organizational relationships in their work. It could be argued that the reason high relational involvement is found in the empirical study is that there is a great focus on building long-term relationships with mutual benefits, and not focusing on cutting costs.

*Intermediates (B, C, D, E, F) and Crowdsourcing (B, G)*

It is identified that all case companies work with an outside-in process flow. Gassmann et al (2009) emphasize an increased awareness of the importance of innovation intermediaries and crowdsourcing, as a channel for Open Innovation for companies working with the outside-in process flow. However, all companies do not collaborate with intermediates or crowdsourcing companies.
It could be discussed that intermediates are used as an Open Innovation channel for different reasons; in the empirical study, a majority of the respondents replied that the use of such channels are a common way to reach outside the firms boundaries, backed up by both Slone (2011) and Gassmann et al (2009). The companies suggested that intermediates are a pathway to solutions for internally recognized problems. Further, the channel could be used to expose the problem to a large crowd, and reach suitable people or organizations to collaborate with. As mentioned above, one interesting analysis is that the empirical findings oppose Gassmann et al´s (2009) theory; the use of Intermediates is more common in this thesis empirical findings. It could be argued that the supply of intermediates is greater now than before, furthermore, it could be argued that intermediates is already an integrated partner in their external business network.

Several companies have stressed the importance of confidentially agreements and contracting as a major issue in the Open Innovation process; linked with Lakhani´s (2008) statement that intermediates are a way to guarantee anonymity. It could be argued that companies collaborating with intermediates are companies working with more complex products, depending on a high level of knowledge, and therefore, agreements are important to protect their knowledge.

Sloane (2011) and Howe´s (2008) arguments for the use of crowdsourcing are found in the empirical study, several of the case-companies views crowdsourcing as the “most” open way of Open Innovation. However it is hard to find any generalizing conclusions for when crowdsourcing is the most suitable channel for Open Innovation. Indications have been found that crowdsourcing is used for less complex product, and for more end-user focused products. It could be discussed that intermediates and crowdsourcing are used as an indirect way to cut cost as they reach a large crowd. In an Open Innovation process, crowdsourcing is not the first activity that companies conducts to reach external innovation; the empirical findings show that the companies are unfamiliar with how to use crowdsourcing, it could be argued that companies started to work with crowdsourcing after they have worked with Open Innovation initiatives for a while. For example, company G states that they have worked with external innovation sources for over thirty years and they have clear routines for how to work with
Open Innovation. Further, they are the only company who have developed a web-based platform for the use of crowdsourcing.

To summarize, when asking questions regarding the choice of channels, the empirical findings show that the companies tend to tailor their choice of channel according to the specific need of the firm. It is in line with Sloane (2011) suggestion for managing the Open Innovation concept. The background for the different choices is due to the specific innovation needed, complexity of the product and industry, time-frame perspective and the people involved in the process. It is shown that universities have a long-term future perspective; further, it is analysed that companies striving to create innovations suitable for the next generation uses universities as the main source. When defining the innovation needed, either radical nature or an incremental development, the empirical findings prove that Open Innovation is used to manage different types of innovations. However, this thesis shows evidence for both types of innovations. Nonetheless companies operating in an industry with complex products use Open Innovation to develop existing products. The analysis implicates on the importance of building long-term relationships with the external channels. The empirical findings indicate that all companies use Open Innovation to develop their core-business.
## 5.3 Summary analysis and discussion

<table>
<thead>
<tr>
<th>Channel</th>
<th>Type of product/techniques or solutions</th>
<th>Type of industry</th>
<th>Timeframe</th>
<th>Compensation rate</th>
<th>Type of partnership</th>
<th>Incentives</th>
</tr>
</thead>
</table>
| Universities & students| For the next generation                 | Long-term perspective | Long time | Low cost          | Long term           | Idea generation connected to develop innovations suited for the next generation  
|                        |                                         |                  |           |                   |                     | Source to receive financial funding from institutions                      
|                        |                                         |                  |           |                   |                     | Generic benefits                                                           |
| Suppliers              | To develop already existing product or techniques Incremental development of existing products | Companies developing more complex products | Long time | Mutual gain and lower cost | Long term           | To develop non-core activities                                               
|                        |                                         |                  |           |                   |                     | To generate new ideas                                                       |
| Intermediates          | Pathway to solutions for internally recognized problems | Companies working with more complex products, depending on a high level of knowledge |          |                   |                     | Easy to reach outside the firms boundaries                                  
|                        |                                         |                  |           |                   |                     | To expose the problem to a large crowd                                      
|                        |                                         |                  |           |                   |                     | Way to guarantee anonymity                                                  
|                        |                                         |                  |           |                   |                     | Cut cost                                                                   |
| Crowdsourcing          | Less complex product End-user focused products |                              |          |                   |                     | Cut cost                                                                   |
| Customers              | Develop products with a short time to market perspective as well as radical innovations | Products’ low complexity, and they are highly dependent on their customers as they sell their product directly to them | Low      |                   |                     | To get rapid feedback and mutual benefits, as well as building customer loyalty |
| Competitors            | To develop industry innovations or standards | Large and complex industries |          |                   |                     | Collaborate to gain new ideas and learn from each other                     |
6. Conclusion
Firstly, this chapter will present and summarize the findings. The conclusion will answer the research questions. The chapter will also discuss limitations and present suggestions for further research.

The aim of this thesis was to explore how MNCs act when they are selecting external channels to collaborate with to obtain innovations. The purpose was to explore how MNCs act and think regarding their choice of Open Innovation channels. The conclusion’s purpose will help MNCs and their managers regarding the choice of Open Innovation channels. The authors have designed a guideline that MNCs can follow for consultation regarding their choice of Open Innovation channels. The authors have identified a pattern that explains how MNCs act and think regarding their choice of channels. Finally, the thesis provides managers with a guideline that will facilitate their Open Innovation collaboration selection process.

By the use of different collaborative options, Open Innovation is a way to enhance value creating activities, strengthen the companies’ innovation capacity, and develop radical and incremental innovations.

To conclude and preset how MNCs act when selecting different Open Innovation channels and why they act in this particular way; the authors have identified a pattern; a majority of the MNCs work with their already external business network to increase their innovation capacity. They tailor their choice of channel according to the specific need of the MNC. The choice is dependent on the complexity of the product, industry, time-frame perspective, demand of the innovation and the people involved. Some of the MNCs have formed an Open Innovation group working with the Open Innovation channel selection process. They have implemented a common mind-set for how to work with Open Innovation. Further, these MNCs have created a direct supportive stab to manage the Open Innovation work and cope with problems associated with the channel selection process. Those MNCs have a clear Open Innovation strategy and routines allowing employees to take Open Innovation actions which are included in the selection process. The supportive stab’s purpose is to facilitate the selection process and help the employees in the channel selection process.
The authors have identified different patterns explaining how the MNCs select their Open Innovation channels; the patterns are summarized in the guiding table *Open Innovation Channel Selection Process* (OICSP) presented below. Firstly, the MNCs tend to focus on the innovation needed; they see a demand for a new innovation and secondly they select a suitable channel. MNCs working with complex products collaborate with *suppliers* to develop already existing products. MNCs collaborate with *universities* to create innovations or products suitable for the next generation. MNCs select to collaborate with *competitors* when they want to develop industry innovations or standards. MNCs select to collaborate with *customers* when they want to develop products with a short time to market perspective as well as radical innovations. MNCs create user-friendly tools to gain customer feedback and to include the customers in their product development process. *Intermediates* are selected to solve internally recognized problems; it is a pathway to the solution. MNCs working with more complex products select to collaborate with intermediates as they can protect the MNCs’ knowledge. *Crowdsourcing* is used to develop end-user focused products as the crowd can provide a better understanding of the demand of the market.

<table>
<thead>
<tr>
<th>Channels</th>
<th>Innovation needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers</td>
<td>• To develop complex products or techniques</td>
</tr>
<tr>
<td>Universities and Students</td>
<td>• To develop innovations suitable for the next generation</td>
</tr>
<tr>
<td>Competitors</td>
<td>• To develop industry innovations or standards</td>
</tr>
<tr>
<td>Customers</td>
<td>• To develop products with a short time to market perspective</td>
</tr>
<tr>
<td></td>
<td>• To develop radical innovations</td>
</tr>
<tr>
<td>Intermediates</td>
<td>• To solve internally recognized problems</td>
</tr>
<tr>
<td></td>
<td>• To develop more complex products, when the innovation needs to be highly protected</td>
</tr>
<tr>
<td>Crowdsourcing</td>
<td>• To develop end-user focused products</td>
</tr>
</tbody>
</table>

(Guideline Open Innovation Channel Selection Process: OICSP, Authors own)

To conclude how the MNCs select its Open Innovation channels, the innovation needed tend to form which channel to collaborate with. Further, MNCs indicates that it is important to create a win-win situation as well as facilitate long-term partnerships in the Open Innovation selection process.
7. Limitations and Further research
It is important to keep in mind of that the number and choice of studied companies might lower the generalizability of the thesis, as the studied MNCs are operating in different industries, and are of different sizes. Further, all respondents are working in the Nordics, which might not reflect how MNCs act in other parts of the world. This thesis is not an in-depth study, it could be discussed if more respondents at each MNC is needed to get a broader angle on the issue. Further, it is important to know that the studied companies have been working with Open Innovation for a various lengths of time, which could have an impact on the empirical findings. However, this was not an issue for the authors due to the aim of the study. Suggestions for further research are to conduct a quantitative study on a large amount of MNCs working with Open Innovation to investigate what channels they select and why. Furthermore, there is a need to investigate how to measure Open Innovation.

Furthermore, this thesis discusses that collaboration between universities and MNCs could be due to that it is subsidized by public institutes or funds. The authors of the thesis and Perkmann and Walsh (2007) emphasize that overall evidence for this pattern is vague and a subject to further research. Finally more research is needed on intermediates and crowdsourcing as they are new ways of collaborating with external channels.
8. Reference


**Books**


**Online Sources**
http://www.mckinsey.com/insights/operations/the_next_step_in_open_innovation
## 9. Appendix

### Appendix I

<table>
<thead>
<tr>
<th>Interview questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Open Innovation Concept and Process</strong></td>
</tr>
<tr>
<td>1. Tell us about your role and how you are involved in the Open Innovation at the MNC?</td>
</tr>
<tr>
<td>2. Why did the MNC start working with Open Innovation?</td>
</tr>
<tr>
<td>3. Are you an open organization?</td>
</tr>
<tr>
<td>4. Can you describe the MNC’s Open Innovation process?</td>
</tr>
<tr>
<td>5. What are your incentives to use Open Innovation?</td>
</tr>
<tr>
<td>6. Has your work with Open Innovation been successful, if possible, please exemplify</td>
</tr>
<tr>
<td>a. New products or New Solutions</td>
</tr>
<tr>
<td>7. Who take the initiatives for new innovations?</td>
</tr>
<tr>
<td>a. Externally or internally?</td>
</tr>
<tr>
<td><strong>Problems with Open Innovation</strong></td>
</tr>
<tr>
<td>8. How did you adopt from a close to an open?</td>
</tr>
<tr>
<td>9. Have you had any problems connected to your Open Innovation work?</td>
</tr>
<tr>
<td>10. How do you integrate the external innovation in your organization?</td>
</tr>
<tr>
<td>11. According to you how should an MNC act to achieve a successful Open Innovation process?</td>
</tr>
<tr>
<td>a. What activities are the most important?</td>
</tr>
<tr>
<td>b. And what partners are the most important?</td>
</tr>
<tr>
<td>12. What factors are important for an MNC who wants to adopt Open Innovation?</td>
</tr>
<tr>
<td><strong>Open Innovation Channels</strong></td>
</tr>
<tr>
<td>13. From where do you get your external innovation?</td>
</tr>
<tr>
<td>a. Whom?</td>
</tr>
<tr>
<td>14. How do you choose who you collaborate with?</td>
</tr>
<tr>
<td>15. How do you judge and value which source of collaborations?</td>
</tr>
<tr>
<td>16. Do you use any specific tools to achive Open Innovation</td>
</tr>
<tr>
<td>a. Please exemplify</td>
</tr>
<tr>
<td>17. What channels do you use?</td>
</tr>
<tr>
<td>18. Do you use several channels at the same time?</td>
</tr>
<tr>
<td>19. Who do you choose whom to work with?</td>
</tr>
<tr>
<td>20. Do you use different channels for different types of innovations</td>
</tr>
<tr>
<td>21. Do you adopt the choice of channels to the type for innovation you need?</td>
</tr>
<tr>
<td>22. Do you adapt the channels for different types of department for which the innovation will be used?</td>
</tr>
</tbody>
</table>