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***Title:* How does Norwegian technology start-ups use open innovation Strategies for to get access of new business ideas?**

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Master Thesis

Thesis Title:

How does Norwegian technology start-ups use open innovation Strategies for to get access of new business ideas?

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Technology sector in Norway is growing and around 100 start-ups are actively involved in this industry. But many of them are not clearly aware about the utilization of open innovation strategy to get access of sourcing business idea. Many start ups select open innovation strategy collaborating with external stakeholders lessening cost and increasing growth. Therefore, looking outside of the companies for innovation and administrations are beneficial for future development. The intention of the thesis paper is to present examples on how open innovation in action within the start-ups.

Purpose

Twenty first century is called as an era of globalization where every single firm are competing with each other. Open Innovation is quite common term for business firms specially start-ups. Therefore, this newly build start-ups are realizing the importance of open innovation strategy for sourcing ideas for business expansion. The main purpose of this research paper is to symbolize a first step in building a map of the “Start-ups using open innovation strategy to get access on sourcing new business idea context” phenomenon. Throughout the study and analysis of appropriate literature, this research aims at deepening our understanding of the theme and at providing directions for further research.

Design/methodology

This paper is a qualitative research based paper where I conducted with some technology based start-ups in Norway. Utilizing a clear method for review the theories and articles related on open Innovation and networking and also some other authors selective set of papers, which might be cover the knowledge and area of regarding object of this paper. In total, there are 20-25 articles about “start-ups, Open innovation and networking” have been selected and analysed for working on full thesis.

Findings

After successfully conducting the interview from start-ups; analysed those information combined with literature review and related theories with an empirical evidence. All those

evidence are explaining the phenomenon of start-ups relation with open innovation strategy and importance of networking.

Practical implications

The research study produced valuable knowledge for both entrepreneurs and policy decision-makers in organizations. This thesis paper will allow a better understanding of the role of start-ups in open innovation processes and create connections. This improved understanding can help entrepreneurs of start-ups as well as policy makers involved in idea evaluation to using open innovation strategy.

Limitations of study

Most of the theories from different author's and researcher's papers are based on large organizations. Only few works have been done so far for small firm or start-ups. This is one of the reasons for encouraging me to choose this topic. Also my research focuses on start-ups based on geographically small area in Norway, so it might be some difference in other countries of the world.

Conclusion

After carefully analysing the findings, it shows that start-ups are using some portion of open innovation strategy for sourcing and evaluating idea. Therefore, start-ups are creating strong network connection with their stake holders for sourcing ideas and also involving some R&D activities with customer involvements.

Key words

Open Innovation, Closed innovation, SME, Networking, Start-ups, Tech Firms, Technology Explorations & Technology Exploitations.

Preface

I would like to thank everyone who has been involved in this thesis paper with their insight, time, and support. Although, I am sincerely thankful to my supervisor, Bjørn Willy Åmo for his strong support, continuous helps and dedicated supervision.

I pay my heartiest gratitude to all the teaching and non teaching staff of Nord University that directly or indirectly put effort to enable me to overcome all the hurdles during my two years Master's program. I also appreciate all my mates who made this journey pleasant and exciting.

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Md Minhazur Rahman

Table of Content

1. Chapter 1.....	1
1.1 Introductions	1
1.2 Back ground	2
1.3 Opportunities involving open Innovation.	3
1.4 Motivations	3
1.5 Research Question	4
1.6 Research Model	5
2. Chapter 2	6
2.1 Literature Review	6
2.1.1 A brief History of open Innovation	6
2.1.2 Closed Innovation.....	7
2.1.3 Open innovation	9
2.1.4 Difference between open & closed innovation	10
2.1.5 Networking theory of Innovation	11
2.1.6 Communication Networking	12
2.1.7 The Role of start-up Networks	13
2.2.1 Technology Exploration- Integrating & Commercialization...13	
2.2.2 Technology Exploitation- Obtaining	15
3. Chapter 3	17
3.1 Methodology	17
3.1.1 Research Approach	17
3.1.2 Philosophical Intend	17
3.1.3 Research Design	18
3.1.4 Area of Analysis	19
3.1.5 Data Collection Method	19
3.1.6 Interview	20
3.1.7 Data Analysis	21
3.1.8 Ethical Issues and validity	21

4. Chapter 4.....	23
4.1 Analysis	23
4.1.1 Start-ups Using Networking	24
4.1.2 Start-ups Connect with Customers & Stake holders.....	25
4.1.3 Start-ups Evaluating Ideas.....	26
4.1.4 Related questions for technological exploration	28
5. Chapter 5	30
5.1 Findings	30
5.2 Additional Findings	32
6. Chapter 6	34
6.1 Recommendation.....	34
6.1.1 Reality of thinking	34
6.1.2 Planned vs Arbitrary Strategy	34
6.1.3 Social Media Involvement	35
6.1.4 Proposed model linked with Findings	36
7. Chapter 7.....	38
7.1 Conclusions.....	38
7.2 Limitations	39
7.3 Further Study.....	40
References.....	41
Appendix	44

List of Figures

Figure 1: Proposed Researched model.....	5
Figure 2: Closed Innovation Model	8
Figure 3: Open Innovation Model.....	9
Figure 4: Network orchestration framework	11
Figure 5: Five Communications networks	12
Figure 6: The case Study of Research Process	19
Figure 7: Revised Researched Model	37

List of Tables

Table 1: Contrasting Principles of Closed and Open Innovation.....	10
Table 2: Detailed information of start-ups	23
Table 3: Overview of Sourcing and evaluating Idea	29

List of Abbreviations

OI = Open Innovation

SME= Small and Medium Enterprise

R&D = Research and Development

IP = Intellectual Property

IT = Internet Technology

CEO = Chief Executive Office

Chapter 1

1.1 Introduction

Open innovation is a concept for considering how organizations access their Innovative ideas beyond their own boundaries by exploiting inbound and outbound knowledge flows to improve the success of these efforts (Chesbrough,2003), originally identified two separate process- utilizing external innovations internally and externally commercializing internal innovations. But start-ups also enter into collaborations that combine these inbound and outbound flows in a couple of model of open innovation. Open innovation has been defined according to Chesbrough & Bogers “ a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using financial and non financial mechanisms in line with the organizations business model”.

In recent years there is rapid explosion of interest, where open innovation was a lubricate subject of several highly cited literature review. In few years back, West and Rogers (2014) drawing a research study on inbound open innovation into a three phase model of obtaining, integrating and commercializing external innovations. The main impact of research involving open innovation is to explore the growth and further opportunity to establish a start up company. There are many research have done so far with many questions and many examples related on open innovation’s theory. However, there is some fruitful opportunities still remain for researchers to apply other levels of analysis, examine unexplored phenomena and offer some more accurate measurement.

“Most of the innovations fail, but the companies who are not involved in any innovations die” (Chesbrough, 2003). This research paper looks at how Norwegian technology start-ups using open innovation strategy to get access on sourcing business ideas and how they evaluate those ideas.

Start-ups interaction with its environment in the innovation process that has been a trending topic for many years, therefore start-ups are getting more and more attention and support from media and government. Newspapers and journals are rarely writing about the importance of being open to your employees and customers (i.e. Svrluga, 2013; McClure, 2014). If you do a quick search on Google on the term “openness in start-ups”, and you will find thousands of hits concerning transparency and openness in start-ups. New models have been come forward (i.e. lean start-up model) with exciting opportunities, that are urging start-ups to be in

incessant contact with external sources and not reside on new ideas by themselves. To developing new product or services, there is always some growing complexity and cost involved, so firms can no longer keep trust on themselves but seek knowledge and expertise beyond their organizational boundaries (Wind & Mahajan, 1997).

1.2 Back ground

There has been nominal scientific research on open innovation in start-ups, maybe because it is quite huge area and also general term, which is hard to identify. The full thesis will displayed when searching for “open innovation strategies uses in start-ups for sourcing business ideas” describe numerous variations of “open” start-ups. Those variations of openness are called open innovation, which is involving by opening up the innovation process to both internal and external stake holders.

Henry Chesbrough (2012), the introducer of open innovation in this industry, in one of his research papers he reflect upon the progress and changes made by open innovation ideas since his publication of the book open innovation (Chesburgh, 2003). Lots of things have been changed since that time, in particular the focus and implication on open innovation. Lots of large companies have a closed innovation model, where some specific people are working on innovate for the company. This is quite slow process without any uniqueness as the sources of input are almost same head, sometime this processes are risky and slow in term of long run. Because of this some organizations decided to open up their innovation processes to sources from outside such as customers, suppliers, partners or even some times from competitors. (Van de Vrande et al, 2009; Vanhaverbeke et al, 2012)

To utilizing the relevant knowledge of researcher, the involvement and using of open innovation in start-ups have mostly been excluded from previous research done by many researchers. But last couple of years, some research has been focused on small and medium-sized firms (SMEs), which are seems like nearer to start-ups than large firms in size and available resources, but the research is not necessarily uses to start-ups. Therefore, some researchers are expressing their consideration to – and suggest that this is a lucrative issue that future researchers should pick up (i.e. van de Vrande et al., 2009; Bianchi et al., 2010).

1.3 Opportunities involving Open Innovation

Direction of Knowledge flows: Chesbrough (2003, 2006a) offered a model of how firm's familiar with different models of open innovation, while parts of the model have been explored in further research but the complete model is rarely explored. While there is considerable research that systematically investigates inbound Open innovation, our understanding of outbound Open innovation remains heavily influenced by anecdotal examples of Chesbrough (2003).

Other types of organizations: Recent research has conducted and documented the expansion of how open innovation is used outside the multinational firms, such as small & medium sized entrepreneurs (SME). Still very few entrepreneurs have considered its use by new start ups to consider profit maximizations.

Network collaborations: Another important extension has been moving beyond the bilateral collaborations to various network typologies of networking collaborations. These network creates include alliances, communities, ecosystem and platforms that require firms to orchestrate the joint value creation and value capture of the firm across the network. Some firms that sponsor ecosystem must attract other firms to follow their innovative ideas to create value while resolving their competing interests. Little open innovation has done so far on such networks beyond competing and communications industries.

Innovation in Service: Though other aspects of innovation research and practice have been done, open innovation has emphasized innovation in products to the exclusion of services. Also, Chesbrough (2010) concluded that open innovation differs in services because of greater opportunities for value creation through customization and personalization, while facing different challenges in value capture.

1.4 Motivations

This research paper is to clear up the confutation about using open innovation strategy to sourcing new ideas for start-up. Actually there are some sorts of motivation here to working on this thesis paper. After toughly study this term didn't find enough research paper or journals related in open innovation with start-ups. This paper focuses on improvising ideas and obtaining on sources and integrating and commercializing those ideas for start-up

business. The world is running behind the technology and tech companies are leading current business market. But most of the start-ups need proper guideline and related research papers to create growth in existing market. Most of the start-ups are facing difficulties to survive in market due to lack of proper research and development relevant in tech industry. Hope this research paper will help those start-up companies in future, who want to capture market growth with unique and exciting new business ideas.

1.5 Research Question

At first I look for preliminary literature review that how open innovation theories are used in start-ups and make them benefited (Vanhaverbeke et al., 2012). After reading some relevant papers and journals, researcher noticed that the adoption and use of open innovation in start-ups have mostly been excluded from research. Most of the recent research have been done by Small & medium enterprise (SME), which is closer to start-ups then large firms in size and available resources. While involving this research study, researcher also noticed that the similarities between start-ups and small R&D team for large firms. That's why the research topic for this study is following:

“How does Norwegian technology start-ups use open innovation Strategies for to get access of new business ideas?”

There are many start-up in market, who are struggling to survive in market just because lack of obtaining unique new business ideas and their implications. The subject of proper knowledge and education about open innovation strategy is very important for starting any business specially tech start-ups. Open innovation is a broad topic with many subtopics. From the literature review and my knowledge from studying about start-up industry I have developed two sub questions for this study:

- Question 1: How does start-ups actively utilizing networking and alliances in order to capture new business ideas?
- Question 2: How does start-up team evaluate those new business ideas?

1.6 Research Model

Here is my proposed model where I will discuss about the sourcing ideas for start-ups to using open innovation strategy. In the Phase1 Stage to phase 2 is idea selection stage where start-ups sourcing some ideas followed by open innovation strategy. Then next phase is the evaluation stage where they evaluate those ideas according to their client’s project and demands as well as companies affordability. Phase 3 to phase 4 stages is quite important as they need to build strong network according to implication those ideas. Furthermore in phase 5 stage they implement ideas for clients use and capture market growth.

In literature review section I will talk about open and closed innovation and their differences. Also I will talk about creating network connection to involve with different stakeholders to sourcing and evaluating ideas for using their clients in future. Furthermore, I will include about start-ups outsourcing ideas and external and internal flows for connecting with clients. Above model will help me to describe how to source ideas and how R&D team evaluating ideas then they will connect with clients to implement their idea. Different start-ups have different way of implementation but ultimately they always target their clients for these ideas. Below model is inspired by Innovation management and process model. In following chapter you will find more relevancy of proposed model.

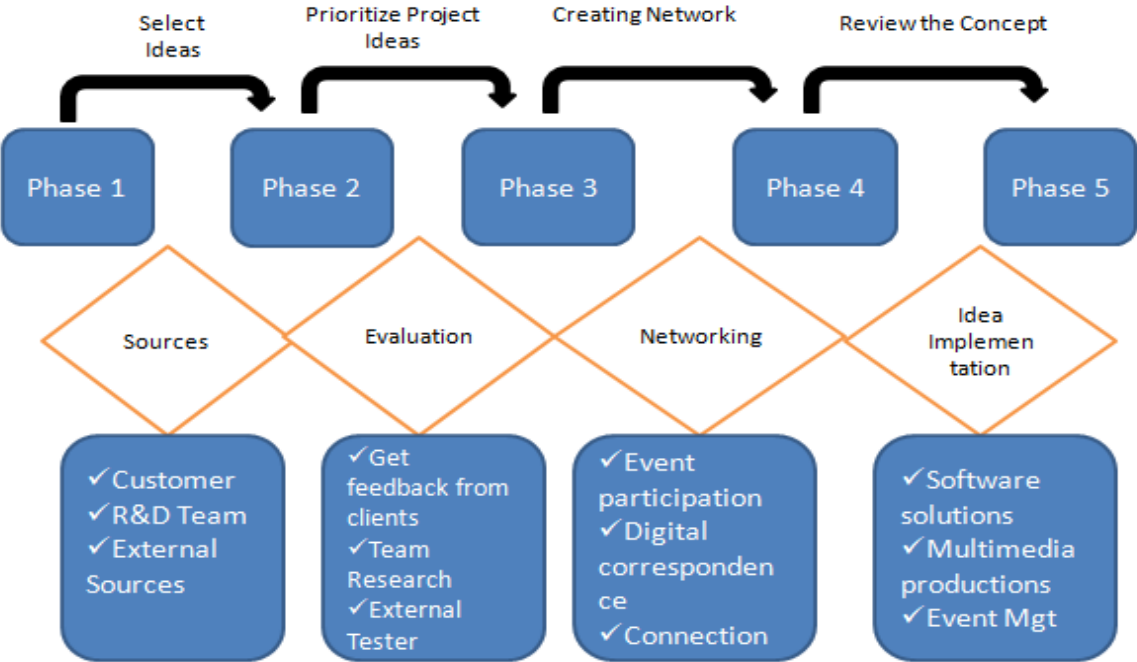


Figure 1: Research model for sourcing & evaluating idea. (Source and Inspiration:- Stage Gate Model -Cooper,2004)

Chapter 2

2.1 Literature Review

2.1.1 A brief History of Open Innovation

Open innovation has become a unique concept for organizing invention. It was originally introduced by Chesbrough in his 2003 book “Open innovation: The new imperative for creating and profiting from Technology”. Open innovation is a notion what assumes that company’s can and should use external ideas as well as internal ideas, and internal as well as external paths to market, as they look to go forward with their innovations. Open innovation strategy help extend combine internal and external ideas jointly into platforms, architectures and systems. In same way open innovation processes use business models to define the requirements for these architectures and systems. His business models allowed both external and internal ideas to create value, while described internal mechanisms to maintain some portion of that value.

There are two important kind of open innovation process used in start ups like outside-in and inside-out, which is also referred to as inbound and outbound open innovation. First one called outside-in part of open innovation which is involves opening up a company’s innovation processes of different kinds of external inputs and contributions. This is also the feature of open innovation that has gets even more attention, both in academic research and practical work. Last one inside out open innovation processes needs organizations to let new and less utilized ideas to go outside the organization for other firms to use in their businesses (Chesbrough, 2003).

Because innovation is an inherently complex and dynamic social process, there is tremendous value in connecting theory and practice. Indeed, effective policy requires policy makers to have a comprehensive understanding of what might work in theory and what is working in practice. The rise of open innovation, as a concept and also as a research field and community, is due to a number of factors. A fundamental notion is that knowledge for innovation is widely disrupted in the economy or in more popular terms, “most smart people work for someone else”.

There have been completed a great deal of research on start-ups (i.e. Bhide, 1991; Klepper, 2001; Sarasvathy, 2001), and what they can do as a firm or as individual entrepreneurs in order to amplify their chances of success. Actually there are some important factors for

growing start-ups such as entrepreneurial learning, company structure, management control, customer contact and networking. Baloff (1970) state in his journal that broke management exploit results in productivity losses, and indicates that more efficient management and development of strategy should decrees unnecessary losses. Last few years lots of scholars have picked up this issues (i.e. Kaplan & Warren, 2009; Storey, 1994; Stevenson, 2007), and much work have done in this subject but most of them based on large organizations. Some other researchers focus on education (i.e. Dickson, Solomon & Weaver 2008; Aulet, 2013; Middleton & Donnellon, 2014). Education is a wide part of area and many of the researchers are debating how to be the perfect entrepreneurs (Middleton & Donnellon, 2014). Many researchers have been written learning books with detailed guidelines for entrepreneurs to follow (Blank & Dorf, 2012; Aulet, 2013).

A subject that is somewhat less covered is that of open innovation in start-ups. There is a need for increased focus and research on open innovation uses in SMEs (Vanhaverbeke et.al., 2012). As mentioned earlier in the introduction part, SMEs are looks closer to start-ups rather than large organizations, and they should apply open innovation strategy to get access because the lacking of financial resources and technical capabilities in their organizations (Vanhaverbeke et.al., 2012). Chesbrough (2003) argues on the other hand that large organizations need to apply open innovation process because of their stagnation in trying to innovate and a shift in the era of innovation. (Van de Vrande et al. 2009) also argues that enterprises can no longer afford to innovate on their own due to labour mobility, abundant venture capital and widely dispersed knowledge across multiple public and private organizations.

2.1.2 Closed innovation

Before getting familiar with open innovation, entrepreneurs need to understand the traditional type of innovation. The traditional type of innovation is a closed innovation model (Chesbrough, 2003), where the company has dedicated all credits to R&D department that does all of the innovation research for the company. Here company must innovate their own ideas, utilize their own resources to develop them, create their own network to market and distribute them, finance them, and support them (Chesbrough, 2003). Therefore, this statement is closely related with closed innovation process: “If you want it done right, you have to do it yourself”.

(Chesbrough, 2003) There are some implicit rules of closed innovation:

- Firms should hire the best and the brightest people, so that the smartest people in industry work for them.
- Introduce new products or services to the market, Firms own R&D team must discover and develop themselves.
- If our team find out it for ourselves, then we will achieve the market revenue.
- Whoever the company gets an innovation to market first will usually win.
- If firms guide the industry to making investments in R&D, they will determine that the idea is best and unique, so it will help them to lead the market.
- Firms should manage their genuine ideas, so that competitors don't get benefited from their ideas.

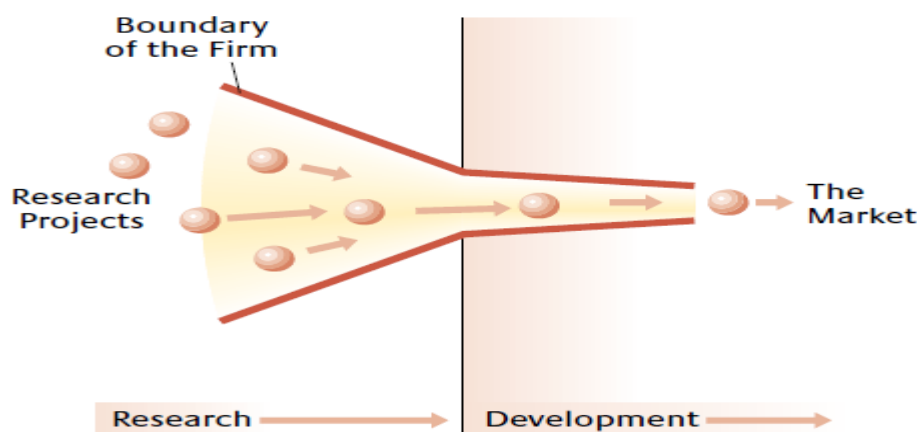


Figure 2: Closed innovation Model (Chesbrough, 2003, pp-36)

Above figure 2 shows that how closed innovation process works. Every single organization has their own R&D team with several ideas so their internal team can evaluate the ideas with internal projects. They strictly maintain about the privacy of the idea to stay inside the boundary. Whenever the research done with this specific project and got positive result then they lunch it to the market.

2.1.3 Open Innovation

Open innovation is a broad concept where firms can utilize their sources both way internally and externally. An ancient era most of the large organizations are strict with closed innovation process but now time changed and whole world is open for business industry. Firms are going out with their ideas to share with stake holders and get feedback from them for future developments.

“Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology” (Chesbrough, 2003,pp 15)

Therefore, this new type of innovation model opens up this closed model and involves different external and internal non-R&D sources. Van de Vrande et al. (2009) argues that labour mobility, abundant venture capital and widely dispersed knowledge make it difficult for organizations to innovate on their own and need to engage in alternative innovation processes.

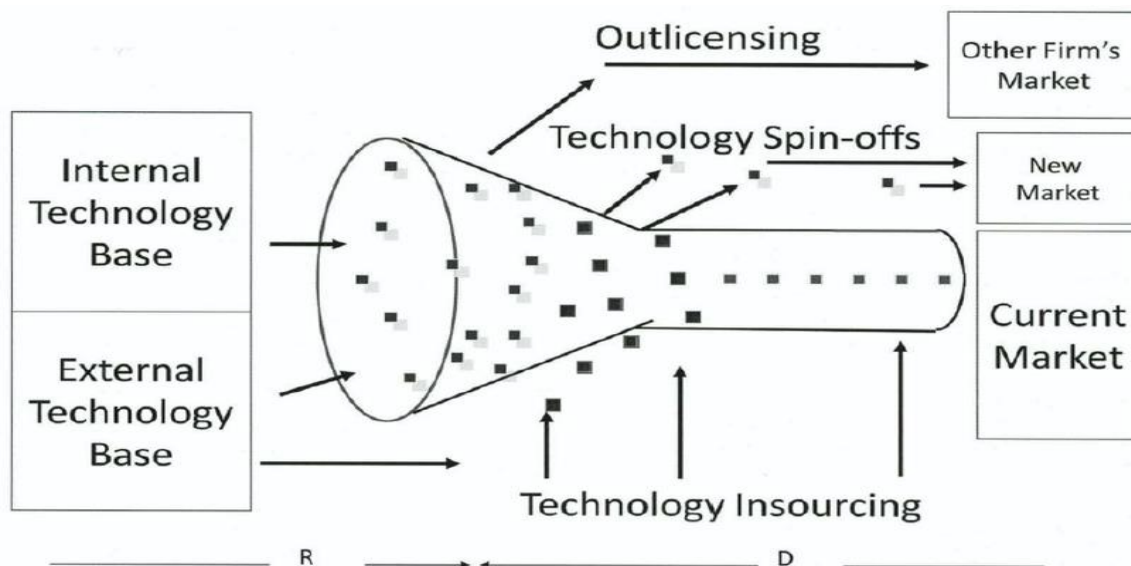


Figure 3: Open Innovation Model (Chesbrough, 2012, pp-23)

Here figure 3 showing below how open innovation process works in company. It seems like firms can still produce ideas from internal sources but some of ideas may get in touch with

out of the boundaries of firms. Open innovation always encourage new sourcing for outside and get external ideas which could be manage by partnership with other companies, customer feedback or acquire new licensing for own patents or intellectual Property (IP). Chesbrough, (2003) states in his paper that open innovation is waste of time because it creates too many ideas seems to fail, but it also enables the recovery of projects that companies believed would fail in the first place.

2.1.4 Differences between open innovation and closed Innovation

Closed Innovation facts	Open Innovation facts
The smart people in same field working with us	Not all smart people work with us, we try to work with smart people inside or outside of the firm.
To make profit from R&D we must discover it, discover it and ship it to ourselves.	External R&D can create significant value, internal R&D is needed to claim some portion of that value.
If we discover it ourselves, we will get it to market first.	We don't have to originate the research to profit from it.
The company that gets an innovation to market first will win.	We don't have to originate the research to profit from it.
The company that gets an innovation to market first will win.	Building a better business model is better than getting to market first.
If we create the most and the best ideas in the industry, we will win.	If we make the best use of internal and external ideas, we will win
We should control our IP, so that our competitors don't profit from your ideas.	We should profit from others use of our IP, and we should buy others IP whenever it advances our own business model.

Table 1 - Contrasting principles of closed and open innovation (Chesbrough, 2003, PP-38)

2.1.5 Networking Theory of Innovation

Dhanaraj and Parkhe (2006) present a framework for management of innovation networks and for understanding how different kinds of management efforts can enable innovation outcomes. The framework focuses on how a hub as coordinator can improve outcomes by facilitating interactions between the involved firms and institutions. Drawing on network theory and its focus on structures, relations, and outcomes (Dhanaraj and Parkhe, 2006), the framework addresses the essential process-structure duality that in many ways defines a network's ability to facilitate innovation. In fact, the outcome of a network is equally dependent on the interactions between independent members of the network as it is on the network's structure:

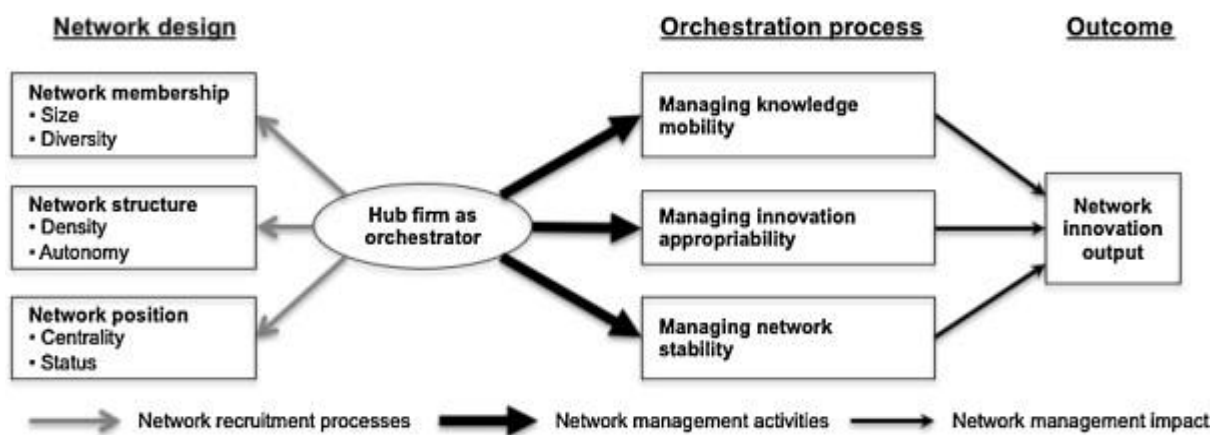


Figure 4: Network orchestration framework (Dhanaraaj & Parkhe, 2006, pp-660)

Networks are more than just relationships that create strong connections with firms and stakeholders. In an open innovation process most of the firms are involve in networking. Because they are the outcome of generate ideas of coordination, networks constitute capabilities that augment the value of firms. These capabilities hustle to market, generate rents that are subject to private requisition. It is through an understanding of networks as knowledge encoding coordination within and between specialized firms in specific cooperative and competitive structures that the “missing” sources of value can be found (Kogut, 2000).

2.1.6 Communication Networking

Connecting network for start ups are rapidly growing in 21st century. That's why this century known is an era of Globalization where organizations are open for each other and can communicate easily via networking technology. What is unfolding before our collective gaze is being driven by stunning advances in computer and communication expertise. While many of the changes brought about by globalization are benefited to mankind (Scholte,2000).

Historically, organizations are organized by place like where the organization was located and the event organizers are always makes event where organizations are existed. As early communication technology are enable people to communication at a distance. Today, at the dawn of new millennium, communication networking technology makes it possible for people to experiences same event same time anywhere in the world. Distance no longer matter and time shrinks space. Now people are generating virtual organizations by merged communication and computer technology. So that people at a distance can work as if they were in same space in same time (Desencitics & Monge, 1999).

Communication network patterns that recurs multiple settings are called Network forms. An old theoretical paper by Bavelas (1948) based on Lewin's (1936) psychological field theory identified a number of small group communication networks forms in organizations including the circle, wheel, chain and "comcon" (completely connected) and theorized about how the different forms processed information. These network forms varied in the degree of which they were prioritised organizations.

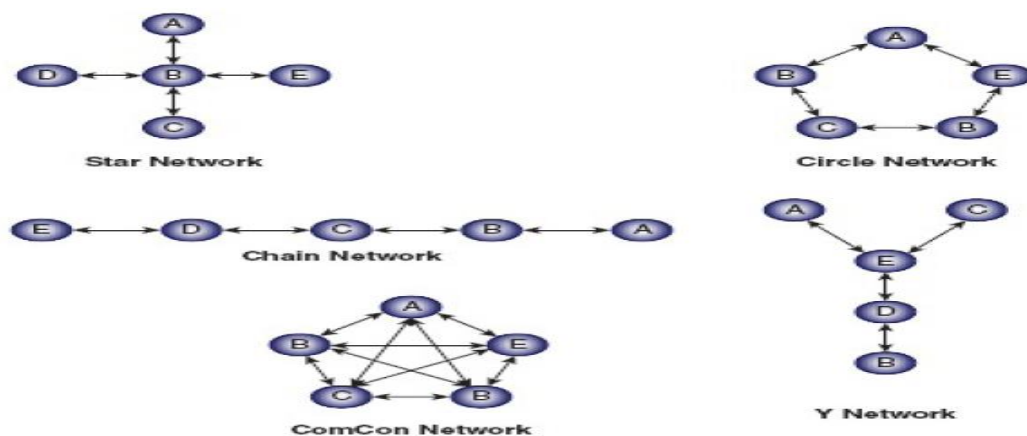


Figure 5: Five communication networks (Bavelas, 1950)

Five communication networks (Bavelas, 1950) figure 5 indicate that permitted direction of the flow of communication or the access of communication channel. Star network is one of the best communication networks where communicator sits in middle and connects with others in same flow. In circle networks everyone gets flow equally from each other but on the other hand in chain networks C stands in middle to be a principal character to communicate with stakeholders. The Y network is also best degree of centralization. The ComCon network also has extreme degree of centralization even better position than circle network

2.1.7 The role of start-up networks

As mentioned earlier, networks have often been considered as instrumental to the success of innovation processes (West and Gallagher, 2006). They have been considered instrumental either to the acquisition of resources (e.g. knowledge or financing) (Soetanto and van Geenhuizen, 2015) or to the introduction of new products in the market (Lundberg, 2013).

For start-up companies as well as other actors involved in innovation processes it is important to understand how the structure and processes of the network affect their own processes and outcomes.

2.2.1 Technology exploration – Integrating and Commercializing

Technology exploring means that a firm integrates and commercializes ideas and technologies which collected from external sources. Van de Vrande et al. (2009) points out five different types of inflows technology exploration.

Customer involvement – Gassmann (2006) hypothesizes that to inform internal innovation, the company should involve their clients in the process. If customers are not satisfied by the development of certain product or service then they usually provide useful feedback. The lean start-up model which is known as popular model by entrepreneurs is closely related to this principle. (Ries, 2011).

Smith (1998) mention in her article that start-ups value customer relations and used various methods to assure that their customers were informed. Executive performers in the study would implement changes based on suggestions from customers. Yli-Renko & Janakiraman (2008) also highlight the need for customer involvement in product development. They describe today's processes as so complex and splintered that start-ups have no other choice to include both internal and external parties.

The research study indicates that start-ups should have continuous networking with their clients and stakeholders, so that they can utilize them for own firms. It's not only schedule time in the business model, but also when it comes to available resources (van de Vrande, et al. 2009).

External networking – Always focused on maintain the connections with external sources, including both individuals & organizations and both informal and formal network. A well network connection might help them to create an alliance or a partnership with other firms, which can lead an useful way of acquiring technological capabilities (Gomes-Casseres, 1997).

Gemmel et. al. (2012) discovered a “close outer group” consisting of key partners, customers, support groups and a “personal board of directors”.

Pittaway et. al. (2004) accentuates that the business networking is important for increased innovativeness. His journal moreover gives prove recommending that arrange networks with providers, clients and other stakeholders are very important for innovation performance and execution.

External participation – It includes investing or recovering start-ups and other businesses to keep an eye on possible opportunities (Chesbrough, 2003). For example, some start-ups are not suitable for using every idea by their own so it would be better off being an extra functionality to another company.

Though start-ups have a partial amount of resources and shortage of funding, it is difficult for them to invest any resources in another start-up. But however, start-ups will gain access to social, technical and commercial competitive resources by configuring effective alliances towards network (Baum et al., 2000).

Outsourcing R&D – Some time companies can gain external knowledge, which they can get licensed or brought (Gassmann, 2006). Sometimes start ups make strange move, since their

innovation process is base of their business. But start-up should not stop inventing new ideas as they stop, they will die in business.(Chesbrough, 2003). Start-ups are always seeking ideas from their outsourcing activities like events and tech fest for developing new products and services.

Inward licensing of IP – To take an advantage from external innovation opportunities, companies require licensed IP. This might be a bizarre move for start-ups, since they always look for something new and interesting. It's always potential for start-ups to have an unused IP license and it could be potential for their further growth.

Therefore believe that using alliances and network to increase start-ups competencies, without even knowing that this is a form of open innovation. Edwards et al. (2005) States that the SME's use alliances and network to extend their competencies. Hence my first question is:

Question 1: How does start-ups actively utilizing networking and alliances in order to capture new business ideas?

2.2.2 Technology exploitation – Obtaining

While develop technology, start-ups always implies that they are using existing inner knowledge and capabilities. Van de Vrande et al. (2009) identify three different types of technology exploitation.

Venturing – is inventing new companies with combine of their internal knowledge and resources. Like some spin-off firms are always getting support from their parent organizations such as financial and administrative support. Most of the start-ups are happily involved with other firms on project basis but not destroy their own identity. Previously research have been done on venturing in start-ups is deficient and it's suitable for large organizations.

Outward licensing of intellectual property (IP) – Now days Most of the organizations considering of holding own patents and copyrights for their own product and service. It helps them to keep thir resources secured. It always creates value for start-ups in market to holding

IP license. But it's quite expensive for start-ups to holding license and most of the start-ups are facing shortage of fund.

Helmets & Rogers (2011) had done some work on whether patenting helps start-ups in the form of competitive advantage. They identified start-ups that do patent their products have a lower possibility of business failure and higher possibility to increase market growth within first five years of existence. Therefore they reveal that the motivation for patenting is to get hold of licensing income, and it also great for start-ups that want to be an innovation-producer instead of marketing their innovation by themselves.

Participation of non-R&D workers in innovation initiatives – Employees outside of the R&D department have good knowledge of how new products are invented and supplied in existing market and provide them relevant facts about the company's innovation processes.

A newly build start-ups are unable to structure strict hierarchy, which let them create individual departments so everyone involve in overall process and cooperate each others. (Laforet, 2008). Therefore my second question is:

Question 2: How does start-up team evaluate those new business ideas?

Chapter 3

3.1 Methodology

Below section describes the methodology used in this research paper. Researcher chose this topic because he have intention to work at start-ups in future and always been dreamed to be an entrepreneur and have found that being open can help to make profit any other start-up business.

3.1.1 Research Approach

IT industry in Oslo is quite competitive, where over hundred of IT start ups are working hardly to expand their businesses. However, researcher always queries about innovation process for start ups therefore using the understanding as a start point of the research. It's always discussable that this starting point will make it subjective and help to continue the work in a constructive way.

Wilson (2010) mention that any research has two approaches: Inductive and Deductive. This research will use open innovation process as a theoretical framework and how start-ups getting & using this new business ideas, thus making it a deductive approach because it begins with and applies some well known theories (Wilson, 2010, pp.7). But most of the theory is being developed for large companies and few for small start-ups. For this reason the researcher will also use some inductive research in the study. By using this theory, it will be helpful to develop a set of research questions based on existing theory and test them on the unit of analysis. This analysis will build up observations and findings also might recommend usage for further research.

3.1.2 Philosophical Intend

As it's planned to use mixed approach research; it's very important to know what kind of development can be managed to get from this research. Also it is important to understand how start-up companies will act while getting ideas and using them on their own company. While studying with all this information, the passive participant for this unit of analysis will not be

able to engage in an active way with their innovation process but can observe them from wide angle. It needs to be familiar with their innovation process and approach.

In this research process, researcher collected some information of their personal experiences and knowledge which might need for subjective view when it comes to the question of ontology and the nature of reality.

3.1.3 Research Design

When it's been decided to study this topic, it has been found the best fit for exploratory research study with elements from descriptive research. The main goal of the study is to understand how start-ups using open innovation strategy to get access in new business ideas from different sources and apply in to their organization. So far gone through this field; discovered very few research previously have been done in uses of open Innovation in start-ups where exploratory case study approach was the most suitable. It is also important to mention here that there are vast amount of research have been done in the field of open innovation, but as it is informed earlier that all are fittest for large organization which is very difficult to apply in start-ups. This is one of the main reasons that why the study area is partially descriptive as the researcher will make this open innovation framework to suitable for using start-ups.

Chesbrough (2003) writes on his book that companies are changing now days, they move from closed innovation model to open innovation but it was almost 16 years ago. Even now some organizations are still sticking on traditional way of innovation system. That's why in the introduction part it is mentioned that it's time for openness now. Twenty first century is known as a digital era and newly build up start-up companies are quite open for their innovative ways. Everyone can follow each others to get updated, customers are also interested to be informed earlier about any invent. According to Yin (2009), case study is more appropriate when the research investigates exactly in practical context.

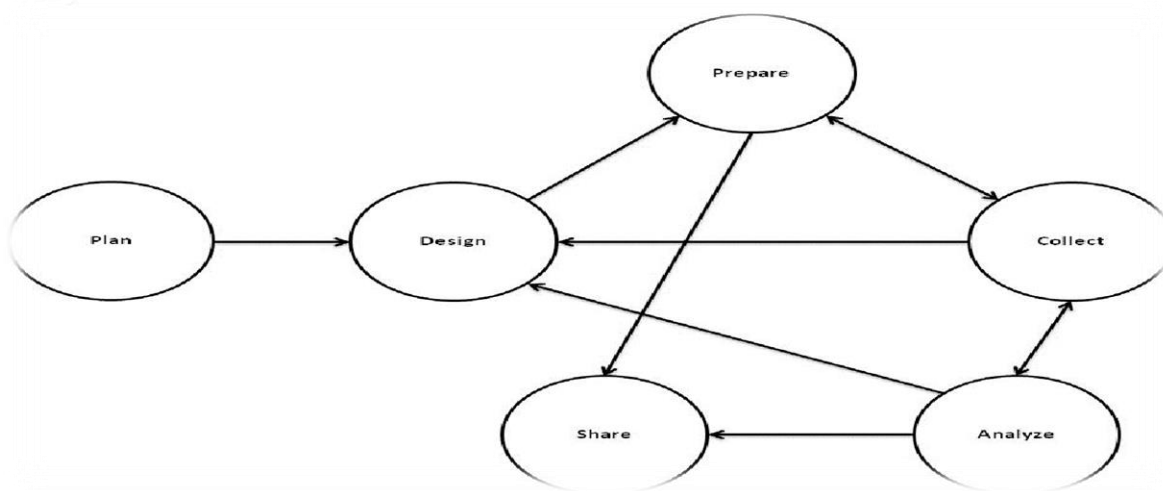


Figure 6: The case study research process, Yin (2009, pp-9)

According to Yin (2009) the case study research process model shows in figure 6 that before starts a research, need proper planning and design accordingly. Then researcher starts preparation and share ideas for collecting data from sample. After getting sample then researcher start analysing those data with relevant theoretical framework and get findings from research work.

3.1.4 Area of Analysis

For this research it is been chosen to look closer into tech start-ups in Norway. It is exciting when this topic comes in mind, because it was my dream to work on start-ups so closely. While start studying, it is being noticed there wasn't much work have been done so far in this specific sector. So, the researcher decided to work on this industry for increasing the knowledge as well as creating some case study research work for this tech industry. During this thesis work; obtained chance to involve closely with several start-ups and their innovative process.

3.1.5 Data Collection Method

According to Yin (2009) there are three principals of data collection method which help creating construct validity and reliability of research work evidence:

- i. Use different source of evidence

In this research work, different kind of source for evidence has been utilised such as documentation, Interviews, Archival records, Studying relevant journal and Participant observations. But the most important was interviews and study relevant journals also news article from different events organizer.

ii. Create a case study database

All the interviews and recorded conversations are correctly archived in i-cloud which storage will be accessible for inspection if needed. Interviewed are stored in both format with recorded conversation and text data. Also wide list of articles are included on web storage which is used in this research work. Also coding sheets are added there which utilized for analysis.

iii. Maintain chain of evidence

Since start writing this research paper, researcher was trying to make clear and visible steps for any external reader. Therefore, starting through literature review; added with research question and other linked sub questions. Above mention areas was helping to create guideline for interview and then findings and recommendation which is based on gathered information from interviews, literature review and additional evidence.

3.1.6 Interview

Most of the research has been conducted by either survey or interview. The main source of data for this research is qualitative interview from different start-up management person. The researcher started writing literature reviews of open innovation in SME's because there haven't done much work on open innovation in start-ups. Because 10/12 years ago SME was the alternative terms of start-ups, that's why most of the open innovation theories was based on SME's. In interview questioners, the main focus was the sourcing ideas for start-ups and their uses. Based on their answers the analysis been done about sourcing ideas for their organizations. These study paper will be good understanding about open innovation process for start-ups. In addition, some review of articles been obtained about openness in start-ups, connected with existing clients and building up strong networks with their stake holders.

Interview procedure

While taking interview the researcher tried to let them speak freely about their thinking about start-ups and the clear ideas about sourcing and evaluating ideas for their organization. It was such an amazing experience to know their thinking about start-ups and their way of working. The motive for this research was informed clearly to them to ensure that this information were for the research work's purpose and not for any professional uses. The main aim of research is to understand how start-up sourcing innovative ideas and then how they evaluate those ideas either fit for their companies or not. The Interview starts with some simple and basic information about innovation process. These questions will give a glance of idea about their stands on innovation system. Next part of the questioner is about innovation practise on their organizations. Such as how innovative they are, how many people involve in research & development process and their evaluating procedure etc.

3.1.7 Data Analysis

Wilson (2010) was the pioneer of data analysis. He was describing two approaches to coding of data: emergent coding and priori coding. All the answers from interview will be transcribed and then using priori coding. The categories used for the coding and develop from the open innovation theory. As the motive of this research work is understand to way of their acting about idea sourcing.

Using the coding frame according to Wilson (2010) is to make it easier and understandable for readers. A coding frame is a table with definitions or examples of individual concept of coding. The coding process done in excel where some data were used provided by interviewer for sourcing idea.

3.1.7 Ethical issues and validity

The researcher has a moral responsibility to carry out whole research work in honest and in accurate way, Wilson (2010). While working on whole process, one thing was always maintained that it has to be neutral in position and using the data according to respondent. Therefore, the objective especially used was self-experienced i.e. collecting data. Even while

taking the interview, it was completely objective and not trying to steer their answers in one direction or another.

By using anonymity, it was required to use “Company A”/ “Company B” instead of their own names. Even they were informed about using their company names in the main research papers but can be included in appendix.

Giving the actual validity; it is important to measure the data accurately. Also this study should provide stable and consistent result, so that it gives reliability and trustworthiness.

Chapter 4

4.1 Analysis

Here are some general analysis comes from the interview I have taken four start ups as these worked as the cluster and is enough to gather idea or resources of this study. These firms have the combination of all those activities which were searched by the researcher or else the number of the companies would vary.

The study is constructive and well organised where the quality is being focused rather than the quantity. Therefore these four start ups showed their urge of betterment by using open innovation strategies and networking for their upcoming sustainability via sourcing idea and information. So, the study gathered only few numbers of firms.

Company	What They Do	Age	Number of Employee
Company A	Digital Marketing, Multimedia Production, Media Content provider.	1 Year	5 person (3 full time & 2 Intern)
Company B	E- Commerce & Online product branding platform	2 Years	15 Employee (10 Full time & 5 Part time)
Company C	IT & Software Solutions for Retail service and private organizations.	2 Years	10 employee (7 Full time & 3 Intern)
Company D	Entertainment Event Management, Software and Media Support Provider.	3 Years	8 person (5 full time and 3 freelancer)

Table 2: Detailed information of start-ups

4.1.1 Start-ups are using Networking to improve connections

Seems like Company A has very strong in networking. They join different events and fest's to spread networking with their clients. They also connect digitally like email, website and mobile calls to build strong network with existing as well as future customers.

“Well, This is what we can say our company strength, because we always prioritise networking to keep in touch with our clients as well as digital industry. Basically we participate different events related on tech industry and then we also connected with our existing as well as our prospective clients. Also we build up an strong network in our own industry in different stakeholders such as network IP provider, Sound system tools provider, event organiser etc”.- Company A

Company B is basically E-commerce based start-up. So they are very much dependable with their clients. They always maintain strong network with their clients and stakeholders. Because they have to update their clients with various offers to increase their sell.

“Networking is very important for online base business. So we always maintain a strong network with our customers, Stakeholder, Service provider and well wishers. Whenever we attend an event, our main goal is always create new networks so that we can increase our numerical level of customer. Also we establish strong network with our supporting firms, those who are closely involve in our E-commerce business”. - Company B

Company C shared some enthusiasm to build strong networking. Due to software solution and service provider they have to connect with people globally. Their R&D team build strong network with IT professionals around the world and marketing team maintain strong network with their clients. Also join different events to expand networking for future clients.

“We have a strong network all over the world. Our experienced R&D team always keep close connections with other software experts and companies. We also build strong network with our existing clients and always seeking to create network with prospective clients. We usually send vast email to our prospective clients or make cold phone calls to get an appointment so that we can arrange a formal meeting with them and explain them about our service”.- Company C

Company D is quite active on networking and they make strong network with their clients, stakeholders as well as community. Sometime they do some entertainment event for community to build up network connections.

“Well, we believe that networking is main base of our business. We always connected with our existing clients and seek for prospective clients. We also have strong network with our community and other stake holders involve in our business”.-
Company D.

4.1.2 Start-ups contact with customers and stakeholders to improve ideas

This term is very important for any start-ups. Because this days are very competitive for any business and companies are always seeking new ideas and their developments. Especially start-ups are working very hard to stay in existing market with their unique ideas.

Company A is quite strait forward with their clients as they said they use all their wings to contact with clients. Either face to face meeting or via digitally, somehow they manage to connect with their clients and stake holders to develop their existing and new ideas.

“Actually we always up to our own developments and we believe networking is the best way of self developments. We use all our wings to connect with our clients. Most of the times we do face to face meeting with our clients to hear specific feedback from them. Also if someone unable to joint face to face meeting then we connect with them via skype, email or direct phone calls. Even when they demand some new and innovative work from us we always try to hear from them with clear point of view so that we can work on specifically”. –
Company A

Company B is well organised and they add customer inquiry option in their website to keep in touch with their clients all the time. Even they have the option to hear client’s feedback from their sites so that they can contact with them quickly. They also make cold calls for their new and prospective clients to hear their demands so that they can make their developments.

“As we believe in open innovation process for our companies so we always focus on establish strong network with our clients. In our website we create an option for

customers to register themselves which is well secured. So whenever we invent new ideas and offers for our client, we send them detailed email so they get informed about the offers. We also include a feedback option for our customers in our website so they can give us valuable feedback. We also make cold calls to our clients to know about their demands and desires from our company”. - Company B

Company C is basically software solutions Provider Company and post purchase service is very important for them. So they have 24/7 hotline telephone number for their clients as well as frequent email correspondence. They haven't got many clients yet but they are working hard to develop their ideas to expand their business.

“Actually we haven't got lots of clients yet but however the number is we always treat them same way. Since they made a purchase contract with us we are always keep in touch with them because of post purchase service. Also we always welcome their feedback about our service and their demands on existing software they are using now. Sometimes we made some minor changes on our software solutions as per their requirements. We have hotline telephone number and Email correspondence to hear from our clients”. –Company C

Company D actually works as an entertainment event organizer and media content service provider, so they have to work with clients during the events. This is a good opportunity for them to connect closely with clients and can hear straightway for changes or correction.

“We have very strong network system to contract with our clients. We connect with phone or email even some times we meet with them face o face if needed. Also we have customer query section and contract us section in our website so they can provide us queries or feedback for our team. Even when we complete client's event then we hear from them if any changes needed”. - Company D

4.1.3 Start-up evaluating ideas

Company A is preferred to hear from clients first about their demands then they create or sourcing the idea according to their demand. They always prioritise their client's demand.

“We collect ideas from different sources and first we discuss in between us then offer to our client as per their requirements. If they like the idea then we start working on it. We always prefer to listen from your clients and then evaluate ideas so that it can match closely with their demands”. – Company A

They always think about their client before select any idea. Even they have a strong research & development team for sourcing idea but for selection client’s demand always come first.

On the other hand Company B builds strong team to work on evaluating ideas. They have very efficient R&D team but they would like to involve whole Management team for selection and evaluation process. Also they checked their idea step by step on different department or the firm.

“Well, actually that’s a bit interesting things. We have very efficient R&D teams but we always try to involve our management team to evaluating whole ideas. Like our R&D team sourcing some interesting ideas but we also share these ideas with our marketing team and get approval from them also because they have to convince our clients with these ideas. Even our financial team also involve in whole process so they can create a roughly financial budget for implementing ideas”.- Company B

They approved the idea from every step of their team then they demonstrate to their clients. So they are depending on team work rather than clients.

But Company C is not that much dependent on their internal R&D team. They have an external tester team to evaluating and testing their ideas. External team use different tools to compare the idea with other companies and inform them about the opportunities for the idea.

“We have experienced external tester team who run those ideas in our software system and test them. At first our R&D team source this idea then they test and compared in existing market. They also analyze future value and opportunities for those ideas”. –Company C

Seems like this company working quite differently because they use external team for evaluating and selecting ideas even though this external team is very efficient and professional. So they have less chance to fail their idea.

Company D was somewhat similar like Company A. They are also client demand based company because they organize client’s entertainment event. Actually that’s the reason for them to depend on clients. They also have latest technological system but they prioritise client preference.

“Basically we are always up to our clients. We always focus on client demands. If our clients have any demands or any idea that they want us to implement then we work on it, otherwise we show them something interesting selected by our unique team. Once client like we start working on it. So I can say our idea depends on customers”. –Company D

This company have good R&D team to evaluating ideas but they prefer to hear client demand first. Actually now market is quite competitive so if any company fail to listen clients demand then someone else will take the chance to done the job.

4.1.4 Other relevant questions for technological exploration in start-up

Types of info question	Company A	Company B	Company C	Company D
Start-up have R&D activities	Yes	Yes	Yes	Yes
How Innovative your start-up is?	Innovative	Quite Innovative	Fairly Innovative	Very Innovative
Start-up ever change direction in business.	Yes	No	No	No
External participations	Yes	Yes	Yes	Yes
Licensing any Patents or IP	No	Shared licensing IP	Applied (Getting by 2020)	Not yet but maybe in future.
Company Marge or venturing	No	Not yet	No	No
Out Sourcing Ideas	Yes	Yes	Yes	Yes

Other business involvement	Yes	No	No	No
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Table3: Overview of sourcing and involving idea.

Above table show that the current explanations (Obtaining & Integrations) for four tech start-ups in Norway which I been interviewed. Where everyone informed that they have own R&D activities for sourcing and evaluating ideas. All the companies are innovative but only Company A changed its direction in the business since they started operating. External participants are involved with every company but while in the case of licensing patents, Company C has applied for it others do not have. No one has been merged with any other company though all follow outsourcing ideas. Therefore, Company A has other business involvement only.

Chapter 5

5.1 Findings

Question 1: How does start-ups actively utilizing networking and alliances in order to capture new business ideas?

In the literature review section, it was clearly described with references that how start-ups create connections to utilizing networking. Because twenty first century is called globalization era and companies are always connected each other via different network. Even the proposed model, it is mentioned that how important the networking is and how they connected with their customers using different networking tools. Getting proper feedback from clients is very important for any start-ups because without knowing their desire how developing team will fulfil their demands.

Interview results were showing that most of the start-ups are holding positive attitude towards their clients. However, some of them may also be using different tools to develop ideas but it's always important to get in touch with their existing and prospective clients. One start up was saying that they use external freelancer to evaluating and testing the software solutions they create for clients but on the other hand some other start-up was waiting to hear from their client's first so that they can create ideas according to clients demand.

It's quite common now days that start-ups are actively participating events, workshops or even table talk with expert to build up strong network. Now almost every company is open for their services and solutions so other can easily follow them via digital networking tools. Round the year international tech events happen somewhere around the world so they can easily participate and get innovative ideas from external networks. Joining this kind of events or workshops they can easily connected with experts, what they might need in future for their idea developments.

Maximum start-up believes that customer feedbacks are very important for them to evaluate ideas. However few of them think like clients demand are quite strait forward and they haven't got much option to make huge changes rather than fulfil their desire. On the other hand some start-ups have divided their clients in different groups while getting feedback and interact with them accordingly. They connected with clients according to their using capacity of services they had but they also share those feedback to their team as part of development.

The literature states that about networking theories and tools that start-ups are using to maintain communication with their important stake holders. Actually using open innovation strategy to capture and develop new idea, communication is very important. Start-ups are building strong network with clients to get feedback so that they can utilize them for idea development. Teams are using different tools to get connected with important stake holders such as email, mobile phone and face to face conversation either virtually or physically.

While taking interview from start-ups, most of them saying as they are intended to build up strong communication network for future developments. They are preferred to connect with clients, service providers, event organizer, experts and who ever needed for capturing new business idea. One of the start-ups was saying they have hotline phone service for their clients so they can provide feedback as soon as they can. Another start-up company which is running same operations in two different countries, they also connected internationally between their R&D team. According to the communication network theory companies used to connect before like wheel or chain circle but now time changed, they prefer to connect whole circle or Completely Connected (com-con) way.

Start-ups which were interviewed for the study, none of them are having own intellectual property (IP) right now but two of them are planning to get their own IP by end of 2020 because they realize the importance of having own IP for using network connections. Others were also interested but they haven't got enough funds to acquire own IP. Licensing own IP is very important for create and build up strong network. Most of the start-ups have their own website with clear demonstration on their service and future views so that clients can get basic ideas while browsing their webpage.

Start-ups are connected with international and local experts for sourcing and developing ideas. Historically same sector companies are acting like competitors but now these terms changed. Now Instead of using time on analysing competitors, start-ups can build up partnership with their individual strength. (Sarasvathy, 2001)

Question 2: How does start-up team evaluate new business ideas?

In the Interview most of the start-up companies were saying that their whole team was involve in evaluation. Actually most of the start-ups are having around 10-15 employee and they have the flat hierarchy, so it's quite normal for them to involve whole team.

Even in literature review it's clearly indicated that involvement in whole team for development process is normal for any start-ups. Because they have very small team for research and development process which is not enough for any organization. Most of the time CEO or board of director members are actively involved in whole evaluation process. During the interview some of the start-ups' director team members were saying that they just listen to the top management team for evaluating ideas. Because most of the times they have some demand for specific ideas, so developers haven't got enough space to work individually. Few start-ups were saying during interview that they have external tester team who help them to evaluate idea. They are expert for future forecasting plan so its help R&D team to make decision quicker.

After carefully reviewing all start-ups interview, researcher noticed most of them are dependent on their clients about idea selection process. Because rather than making something unique ideas they always hear their clients feedback first and then they start sourcing or customizing ideas according to clients demand. Actually most of the start-up have limited infrastructure to use for their Research and development process. Even they also struggling for accrue funding as most of them applied for funding from Innovation Norway. As soon they get approval for funding they can invest more for R&D process to source and evaluate best ideas.

5.2 Additional Findings

The Interview showed that all of the start ups are involved in Research & Development (R&D) process. They believe that they have very efficient and dynamic team who can build up strong network with external sources to using open innovation strategy for sourcing ideas. Their team is actively connected with existing external networks and kept working to increasing day by day. Most of them are positive to their customer involvement. Two of them were saying they are very Innovative for souring ideas, on the other hand rest two are fairly innovative.

Furthermore, start-ups whose interviews were taken; just one of them swiped their direction of business but rest three never swipe their business direction but sometimes they closely work with other companies as a working partner. Because most of them work in different project where others firms are also involvement some times. All the start-up firms are actively participating external activities such as events, fest and workshops to creating external connections.

Two start-ups was saying they are highly interested to accrue own IP licensing, even one of them already start processing but other two are not taking any action right now about having licence. While taking the interview, they mention clearly that they using their external sources also for sourcing ideas. Even they are not planning to merge or venturing with other firms but one of them had involvement in other business.

To summarise the entire questioners that was asking while taking interview was supported by theory mentioned earlier in literature review part including networking and alliances. All of the enterprisers said their networking was very important for them, and the theory states that start-ups have no other choice then to find external connections and networks for help.

Perhaps the most interesting things were the involvement of clients and users. The theory clearly indicates that start-ups are using their customer's feedback actively in order to create the best possible service or product for them. That's why most of the firm are focusing on build up strong connection with their existing clients so that they can use those feedbacks for further developments and innovation.

Overall, the majority of the findings are supported by the literature review.

Chapter 6

6.1 Recommendation

6.1.1 Reality of thinking

The findings show from above that there are some aspects of open innovation that is not implanted in start-ups every aspects of working and some of aspects even absurd for most of the firms. But all the interviewers are quite positive and they will consider the possibility of adopting one or more aspects that they didn't already use. They believed it could be good idea to create more connections for networking and some had already thought to expand the way of networking. While taking the interview its quite interesting to hear from them that they have so many plans in their head but many of them might not get out of their easily. They have clear view for their future vision but unfortunately they have lack of resources to implement all this vision. So they have to use the available resources what they can easily from their network and connections.

6.1.2 Planned vs arbitrary strategy

After carefully analysis a linked findings it seems start-ups have an arbitrary strategy, where they do what they think is right without even making proper plan. But when they get the feedback from clients, they start changed and developed the services as per customer demands. Actually they are still in early stage of their business so haven't got enough market research and consultancy. Because they are small team now so that every single staff is involving the overall process but what about in future! When their growth rate will higher then they have to make individual department for employees to work. For example, they need to make specific department for Marketing, finance and other supporting works. For that they need proper forecasting for future with specialist. Might they need to hire external specialist for those things when their growth will be higher.

All the start-ups are quite open to work with other firms as a project base but they are not interested to make any merger or venture at the moment. Even only one start-up out of four changed working directions but others are strict on same way as they first started. Many of them said that it was just because they learned by experience but they believe it wasn't the best way to do, the way they working right now.

According to Sarasvathy (2001), a model she explains where entrepreneurs start with who they are (traits, tastes and abilities), what they know (education, training, expertise and experience) and whom they know (social and professional connections). Then they use those means to get different outcomes. So they have to know about their strengths and opportunities before start business in market. For example, making a clear and wide business plan is more essential for them before start operations. That might be one of the reasons for start-ups to submit business plan when they apply for funds from Innovation Norway or other Govt body.

6.1.3 Social Media involvement

Linked findings according to the start-up interviews, networking is very important for any start-ups where they get connected with stake holders. While taking interviews all the start-up clearly state that client's involvement is very important for them and they are actively connected via phone or emails with clients. But now time people are more active in social media rather than any other communication devices. So if companies are start using social media platform such as Facebook, Instagram or twitter, it's even quite easier for them to involve with their stake holders frequently. For sourcing and evaluating ideas they can invite their clients to provide feedback in their Facebook page, so they will get more and quick responses than any other ways of networking. Even most of the start-ups haven't got enough resource to get own IP licences or invest more money for R&D, but they can easily use those social media platform to build strong network with customers and other stake holders.

Most of the establish tech companies are actively focusing on involving social media. Even most of them have specific department calls digital marketing department where experts are creating strong network to engage new clients for their own business. Start-ups should follow these footsteps from their pioneer firms to use social media platform to get engaged with existing and future clients as well as increase market growth. In social media people are quite open mouth for saying something about any product or services, which feedback is very important for start-ups further developments.

6.1.4 Proposed model linked with findings

According to interviewer's findings, now we can be relate on below proposed model (Figure7), where start-ups are sourcing ideas from their clients, stake holders and other external sources. Firms are always tried to improve their networking to expand their connection so that they can source different ideas. After sourcing ideas entrepreneurs start evaluating those ideas. They connect with their existing clients and demonstrate them the idea to get feedback. Clients play vital role here to provide excellent feedback which is very important for start-ups. One of the interviewee start-up use external team to evaluate ideas for future opportunities with valid forecast plan. Even some start-ups using external sources such as events workshops or fest for collecting ideas and create new connections for their future networking.

Using Open innovation strategy, start-ups are some time thinks they can manage to source excellent ideas but truth is that all ideas are not fit for start-ups. Because of that firms need clear vision and plan for their own business before they select ideas. They have to be clear about their own capabilities and affordability's, so that they can manage to implement those ideas. This is the reason networking is important for every start-ups so they can expand their connections and make growth from their existing business for their very own future developments.

In that case social media played very important role for any firms. Because this platform is help start-up firms to get closer with their stakeholders very fast and help them to get quick response about their product or services where they are planning to utilize new ideas. Now a day's people are addicted with social media, so it's easier for firms to get attention from them as well as create new connections.

According to Pittaway et. al(2004), business networking is very important to increases connections for innovativeness. His paper indicates that network relationships with suppliers, customers and stake holders such as professional and trade associates are important for innovating performance and productivity for any entrepreneurs.

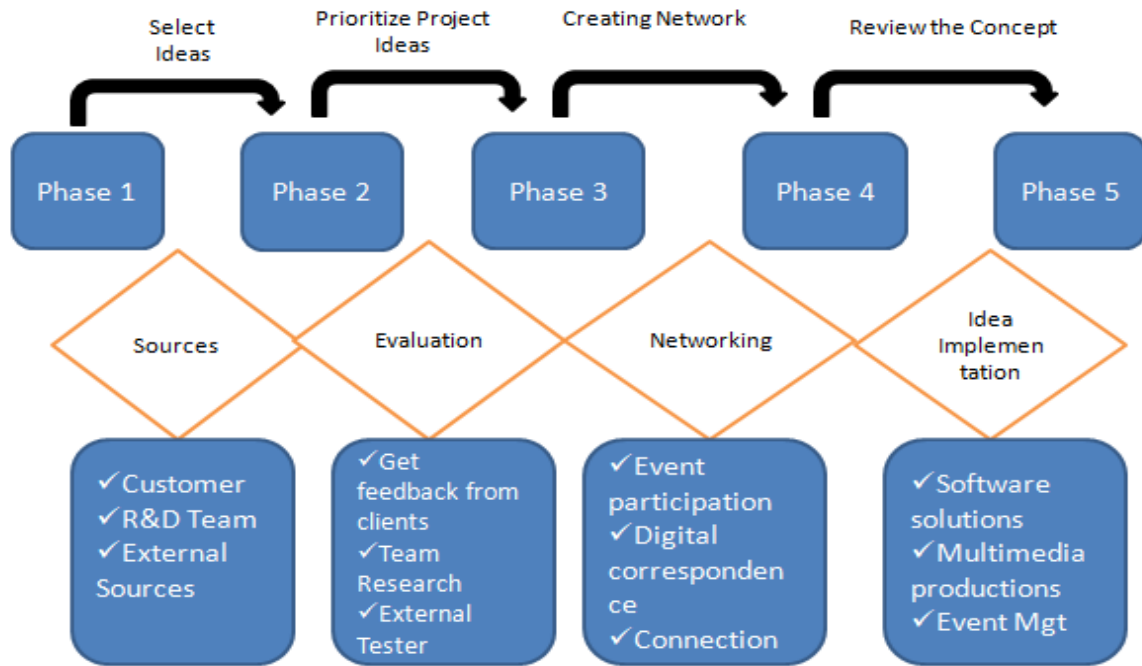


Figure 7: Research model for sourcing & evaluating idea.

Chapter 7

7.1 Conclusions

Generally, open innovation strategy research focuses on large companies. Whereas this system have been neglected in the small sized businesses for year after year. Therefore, Practises for open innovation in Start-ups has to be considered and this study tries to reduce this gap i.e. the gap of negligence of the open innovation between large and small sized enterprise. The study focused on implementing the open innovation strategy for start-ups to collecting and afterwards evaluating those ideas.

Drawing on clear analysis of the researcher from face to face interview of four tech start-ups in Norway; researcher tries to focus on importance for using open innovation strategy on start-ups. Eventually while having those interviews; most of the entrepreneurs openly mentioned the value of open innovation for performing their own start-ups.

It's been proven that open innovation is important for any corporation. This process has been used previously in large firms but now start-ups are quite open to proceed for their own businesses. Now, the start ups are more digitalized than before and for these transformations, open innovation plays such big roles. Moreover, the business market is very risky for the adaptations of the start ups and here, to fight challenges, open innovation is significant. As discussed before in the study that open innovation is not appropriate in some cases and had been rejected by declaring 'failure'. But overall, the process or the system is beneficial for the start ups based on their own resources and capability.

Open innovation in the service based firm (start ups), chains the networking system i.e. ecosystems as we know that the media of the communication inter-dependes. It is important to the value chain as well (grabbed from the interviews in the survey by the researcher). In the study, while collecting information, it has been confessed by the entrepreneurs that open innovation has matched or played well with their own strategies for sourcing ideas. Therefore, the researcher can establish the motive and purpose of the model along with the study well enough.

As per the model suggested in this study by the researcher, from the third phase of it, the networking of start ups has been discussed for sourcing data of the business. The phase has strong support from the real world too as the trend of open innovation provides a good result of networking i.e. technological exploitation and exploration which is basically the outflow

and inflow of data/idea. External flow of knowledge is an important open innovation activity among the start ups as per the study and proposed model suggest. Generally, the involvement of the customer is very significant in exploitation of the information and does not include too much of investment for this kind of enterprise. Networking in the open innovation should not have any certain limit or accessibility if the firm has proper R&D activities.

Collaborating with all kind of stakeholders i.e. both internal and external, organizations can overcome their deficiency in the appropriate abilities. In addition, the researcher strongly proves that the start ups are well fitted in obtaining their benefits in the open innovation markets with networking. This study has several implications: Firstly, it provides evidence that the firms can perform well in open innovation market places by creating value. Secondly, the networking of the enterprises along with the stakeholders creates effective mechanism where the most significant resources and ideas are interchanged or shared. Finally, the results of the activities of the start ups are satisfying and claimed to be sustainable in the marketplaces in the long run.

The above established implications clearly say the accountability of the study and support the idea of the proposed model. In future, the researchers must focus on the continuous adoption of the demand of start ups in the market places and make suitable platforms for further technologies in the field of open innovation and networking.

7.2 Limitations

The theories I used in this research literature review such as Open innovation theory or even networking theory are focuses on larger organizations and some of the parts of open innovation theory even seems impossible and irrelevant for start-ups. Even when I start writing my research thesis, I noticed that there wasn't much research work done for start-ups before. But as large firms are always pioneer for start-ups, so they will follow their footsteps for sure in future and this research even digs deeper into that facts.

Also this research focus start-ups located relatively small geographical area like Norway but it could be make some differences between start-ups in Norway and start-ups in other countries. Specially financial terms or even networking facilities are not same everywhere in the world.

7.3 Further study

This research works discovered that there are some differences in the openness of start-ups. It's such an interesting area for study would be analyze these differences and extended factors for start-ups based on their networking and connecting capabilities. Specially for those start-up who already successful and at least gaining sustainable revenue. After analyzing those companies and figure out the factors leading to their success.

Another interesting study of work would be the arbitrary strategy that seems many start-ups having their operations but it could be interesting to see being structured with some sort of planned strategy using in their firms.

Also start-ups need to create clear hierarchy for their future operation when their making at least some sustainable growth from the market. They have to expand their business in some sort of specific departments to continue run their operations. That would be a great area of work for start-ups in future.

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Appendix

Interview guide

Introduction

Short brief of introduce myself (name, educational institute, subject of study) and my research project.

Interview guidance: I would like to assure you that the information you gave me, those are enough secured and I am the only person who will have the access on this info. I also want to talk openly without any hesitation and will discuss about the entire topic we go through.

There is no right or wrong answer so you can express whatever comes in your mind. I will take some note while taking interview and if its ok for you then I would like to make an audio record for this interview, which will make easier for me to transcribe later. But I am the only person who has access on this recording.

The Interview will take approximately 20-30 minutes, and if you have any question don't be hesitate to ask me please.

Basic Information about start up

- Company Name
- Company Location
- Time period of existing market
- Company type (What do they do)
- Nr of employees

General Question about involving Innovative Process

Below questions will help me to draw a clear picture about the start-ups focus on R&D process and strength of their networking sources. Some of them might not clear about those terms even they have practice on their companies.

- How innovative would you say your company is?

- What kind of source your company use to collect new ideas? (Ex- Customers, online research, competitor company's or arrange workshops with young talents)
- How do you evaluate ideas?
- Do your start-ups undertake any R&D activities? How?
- Have your company ever change directions since they start?

Main Part (Related on Open Innovation)

Technology exploitation – Integrating and Commercializing

Technology exploring means that a firms obtaining knowledge and technological services from external sources.

Customer Involvement- Gassmann (2006) state that to notify internal innovation, firms should involve their customer first.

- How do you involve your clients in the developments? How you collect feedback or demand from them?

External Networking – Create strong network with clients and other stake holders for sourcing ideas.

- How well your company involve in networking?
- Do you believe that the networking is crucial for sourcing ideas?

Outsourcing- Companies should participate external activities such as event, workshops or tech fest etc for outsourcing idea and build up connections.

- What are your organizations stand on outsourcing innovative ideas?
- Is your start-ups involve in any other businesses?

Technology exploitation – Obtaining

When a company exploits technology, it obtain that it is utilizing internal capabilities and knowledge for inventing ideas.

Venturing – is undertaking a project or whole business with another firms including their own knowledge and internal resources.

- Have your company or you planning to merge with a new company based on your innovative idea or resources?

Licensing of Intellectual Property (IP) - Getting an IP license is creating more value of any tech start-ups.

- Do you hold any patents or other intellectual property (IP)? Are you licensing them out?

R&D Activities- It's very important for firms to involve in research and development (R&D) activities. They will actively involved in product development and new market sourcing for increasing revenue.

- How many employees are involved in your R&D departments and innovation process?
- What procedure they follow while working in R&D process?

Smiley sent off

- Do you have any questions?
- Would you mind, if I contract with you for any issues regarding this interview?
- Thank you for your valuable time.