Norwegian University of Life Sciences

Master's Thesis 2017 30 ECTS
School of Economics and Business

Open Innovation in large good-producing companies in Norway
A comparative case study of Consumer Involvement

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Entrepreneurship and Innovation

Acknowledgements

This thesis marks the completion of my two years at NMBU to develop my understanding of entrepreneurship and innovation.

There are several people I would like to thank for their involvement in making this thesis become reality. A big thanks to my supervisor Siw Fosstenløkken, who have supported and encouraged the development of this thesis. Your guidance, knowledge and feedback have been greatly appreciated.

Thank you very much to the employees at the four companies who volunteered their time to participate in the study. It made the journey much more interesting, and I hope you gained some benefit through the participation and resulting thesis as well.

To my family; your love, support and encouragement has never wavered, and the last two years and months have been no exception. Thank you very much. To my friends and classmates: I'm very happy I got to share these last two years with you, it's been a great experience, and I wish you all the best of luck forward. To my colleagues at Peppes Pizza: thank you for your flexibility when I needed additional time off to complete the thesis.

Finally, there is one person who deserves my greatest gratitude for the last few months.
My dear girlfriend Mia Bjerkestrand, who has taken on every supporting role possible: my motivator and cheerleader, chef and ear-pincher, proof-reader and advice-giver, companion.
I could not have done this without you. From the bottom of my heart: thank you.

Ås - Norway, May 2017

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Nils Kristian Holte

Abstract

In 2003, Henry Chesbrough introduced the concept of 'Open Innovation', which is an approach to innovation where the company conducts its research and development available to external influences, rather than operating as an isolated entity. There has been some research on Open Innovation practices in large Norwegian companies in general, however, there has been little focus on specifically the consumer's role and their involvement in this context. This study takes a qualitative approach to gain an understanding of this topic, constructing a comparative case study by conducting standardised, in-depth, semi-structured interviews with six employees at four different companies. The study found all four companies had consumer involvement on some level; while some companies relied primarily on focus groups for feedback and prototype testing for consumer involvement, one company had their consumers at the very centre of product development for some of their products. In conclusion, large Norwegian companies do involve their consumers during product development, although to what extent differs both between companies and even within companies, considering what product is being developed. This study has primarily practical implications, building insight into how large Norwegian companies involve their consumers with some suggestions for improvement.

Sammendrag

I 2003 introduserte Henry Chesbrough konseptet 'Åpen Innovasjon', som er en metode for innovasjon hvor selskapet driver forskning og utvikling tilgjengelig for ekstern innflytelse, istedenfor som en lukket enhet. Det har blitt gjort noen studier på Åpen Innovasjon i store norske selskaper generelt, men det har vært mindre fokus spesifikt på forbrukerens rolle og deres involvering i denne konteksten. Denne studien bruker kvalitativ metode for å opparbeide en forståelse av dette temaet, og konstruerte en sammenliknende case studie med standardiserte, semi-strukturerte dybdeintervjuer med seks ansatte fra fire forskjellige selskap. Studien fant ut at alle fire selskaper hadde forbrukere involvert på et visst nivå; noen selskaper brukte primært fokusgrupper for tilbakemeldinger og prototypetesting ved forbrukerinvolvering, hadde et selskap forbrukeren som selve kjernen i utvikling av noen av deres produkter. Studien konkluderer med at store norske selskaper har forbrukere involvert i produktutviklingsprosessen, selv om graden av involvering varierer fra bedrift til bedrift, og selv innad i bedriften avhengig av hva slags produkt det gjelder. Studien har primært praktiske implikasjoner gjennom å bygge innsyn i store norske selskapers forbrukerinvolvering med noen forslag for forbedringer.

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Chapter 1 – Introduction

1.1 Background: overview of theme and purpose

A company's ability to innovate is essential to develop and/or keep competitive advantage in a progressively more dynamic market (Drucker, 2002). Innovation can occur in any avenue within a business – marketing, process technologies, administrative structures, and market development. The most common fields of innovation, however, are within the core offerings of a company; their products and/or services(North & Smallbone, 2000).

No matter what industrial sector or geographic location of the company, innovation is a critical driver for economic growth, as a study collecting data from 1757 executives from around the world identified (Shelton & Percival, 2013). The study estimated a 62.2% growth for the most innovative companies over the next five years, while companies with average or low levels of innovation predicted a growth of 35.4% and 20.7%, respectively.

By innovating, a company tries to get ahead of the competition for instance by offering new/better products/services before the competition can catch up. The term 'innovation' has been defined in a multitude of different ways and words; this study will use the 2004 United Kingdom Dept. of Trade and Industry definition; 'innovation is the successful exploitation of new ideas'(Tidd & Bessant, 2013).

One approach to innovation is 'open innovation', a term coined by Henry Chesbrough (Chesbrough, Vanhaverbeke, & West, 2008). The term, in brief, describe companies acknowledging that not all good ideas reside within the people employed at the company (Chesbrough et al., 2008). Open Innovation is defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively" (Chesbrough et al., 2008, p. 1). In this definition, Chesbrough et al. (2008) does not just argue for companies to absorb ideas created external to the company, but also allow for ideas created internally to take external paths to market. Open innovation treats research and development (R&D) as an open system, rather than the traditional closed variety. Sometimes, the next step lies in the mind of an external party.

The thesis aims to contribute in two ways;

- Gain insight into the open innovation practices of large good-producing Norwegian companies with regards to their involvement of consumers in the innovation process
- Identify differences and similarities between participating companies, and compare to relevant theory where applicable

Choosing Norwegian companies has a few reasons; first, there is limited research performed on Norwegian companies with specific focus on consumer involvement. Secondly, as a Norwegian, the author has a genuine interest in the topic, and wish to gain and share insight of it. Thirdly, studying Norwegian companies increases the chance of conducting interviews with key employees in person. The reason for concentrating on large companies is because large companies traditionally face more obstacles regarding innovation, see section 2.5.

While the research on Open Innovation in Norwegian companies is limited, there are some studies the author would like to acknowledge. Hoholm and Huse (2008) presented a tool to categorize the level of user-driven innovation, and applied to a few companies before going deeper on Tine (a Norwegian producer of dairy products). Fosstenløkken (2015) researched how end-user innovation could be developed from learning circuits. Duesund (2012) researched Open Innovation practices in the Norwegian service industry, and Flakstad, Gjertsen and Prytz (2013) conducted a qualitative study on four companies (two large, two small/medium) on how and why they practice Open Innovation. Finally, Christiansen (2014) researched user-driven innovation in NSB (Norway's railroad company), and Haukebø and Heimstad (2016) conducted an in-depth case study on how Q-Meieriene (another Norwegian producer of dairy products) created value with consumer input.

This study will continue to build insight into large Norwegian companies' attitude towards and practice of Open Innovation. Specifically, the study will focus on large companies only, and how their innovation processes involve consumers through Open Innovation.

1.2 Research questions (RQ's)

To best reach this thesis' goal of gaining insight into the 'how' of innovation processes, the following research questions were produced;

RQ1: How do large Norwegian good-producing companies involve and utilize consumers in an open innovation paradigm in corporate product innovation processes?

RQ2: To what extent do the companies involve consumers as part of their innovation processes?

1.3 Thesis structure

To answer the research questions, the thesis will consist of six chapters. This chapter has introduced the theme, purpose, and the structure of the thesis. The second chapter will provide an overview of the theoretical framework assessed in conducting of the study, while the third chapter explains the method of which data collection was conducted, with reasoning. Further, chapter four will present the findings of the data collection and in chapter five analyse the findings, comparing them to each other and, where applicable, theory discussed in chapter two. Finally, chapter six will provide the discussion and conclusion for the study, along with implications, weaknesses and limitations, and suggestions for further research into the topic.

Chapter 2 – Theoretical Framework

2.1 Innovation

There are many definitions of 'innovation', of varying degrees of specificity. One is 'innovation is the specific tool of the entrepreneurs, the means by how they exploit change as an opportunity for a different business or service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced' (Drucker, 1985). Another is "Turning an idea into a solution that adds value from a consumer's perspective", a third is simply "The application of ideas that are novel and useful", and finally "..innovation is the implementation of something new" (Skillicorn, 2016). The repeated theme is implementation of something novel which creates value.

For this study, the definition of the 2004 United Kingdom Dept. of Trade and Industry includes the above-mentioned theme; 'innovation is the successful exploitation of new ideas'(Tidd & Bessant, 2013). The definition is open, simple and not too technical. Another description of innovation as 'novel, useful, and utilized' has a similar character (Kubberød & Sanne, 2015). The study is more interested in how the companies try to facilitate innovation, rather than to what degree the end-result is innovative.

2.2 Closed Innovation vs Open Innovation

The term 'Open Innovation', or OI, was coined by Henry Chesbrough in "Open Innovation – A New Imperative for Creating and Profiting from Technology" in 2003 (Chesbrough et al., 2008). In the book, Chesbrough presents a different mindset for innovation – open innovation – in contrast to the traditional 'Closed Innovation' model (Chesbrough, 2003). To understand OI, the predecessor must also be understood. Figure 1 on the following page illustrates the traditional 'Closed' model (Chesbrough, 2003, p. 31). It represents the business' research and development (R&D) department, which is the department most commonly associated with innovation.

As Chesbrough explains;

> *"*[Figure 1] *shows this Closed Innovation paradigm for managing R&D. The solid lines show the boundary of each firm, A and B. Ideas flow into each firm, on the left, and flow out to the market on the right. They are screened and filtered during the research process, and the surviving ones are transferred into development and then taken to market.*
> [Figure 1] *also shows the knowledge landscape that arose from the pattern of deep, vertically integrated R&D organizations such as firm A and firm B, and the impoverished landscape that surrounded them. Although there were many ideas, few of them were available outside the walls of these firms."(Chesbrough, 2003, p. 30)*

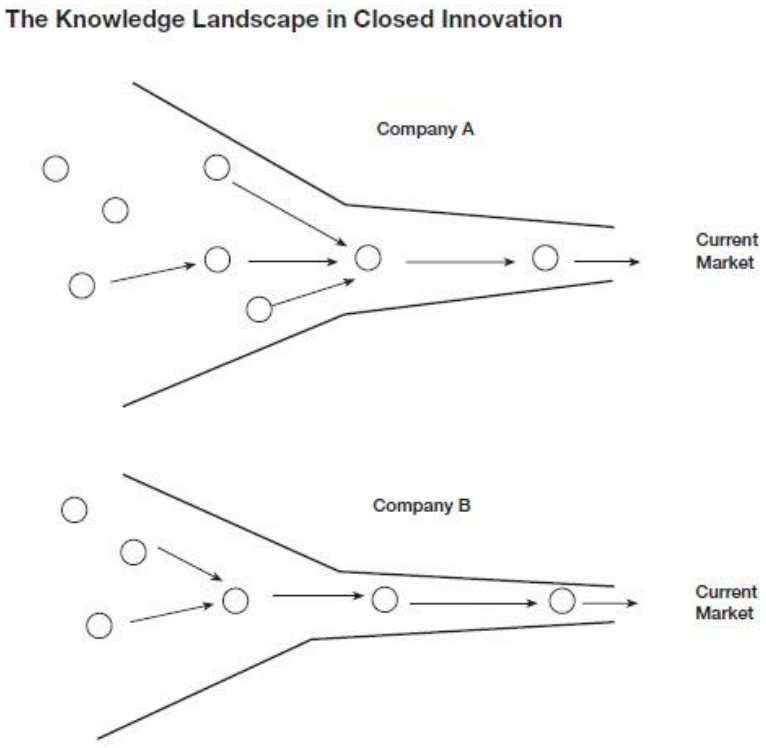

Figure 1 Closed Innovation model (Chesbrough, 2003, p. 31)

Further, the solid lines of the 'funnel' in figure 1 illustrate how both company A and B do not allow any input from external parties, nor for any ideas conceived internally to leave the company, implying that all R&D activity is performed within each company (Chesbrough, 2003). The closed system is also reliant on a high degree of control, only to use ideas, concepts, and projects created, researched and developed within the company. Thus, the company also carries the full expense of creating the knowledge for each given project (Chesbrough, 2003).

Despite being the norm of operations for a long time, the structure is not without issue. In addition to high costs mentioned above, the two parties of 'Research' and 'Development' have different goals. There can be a disconnect between the departments regarding handing over projects (Chesbrough, 2003). Among many differences, a critical one concerns at what point Research ends its work on a project, and Development is to pick it up. A common occurrence is Research leaving a project saying 'We're done with this', and Development says 'We don't think it's ready yet'. At that point, potentially viable projects meet a dead end, in limbo between the departments (Chesbrough, 2003). This issue will be adressed after presenting the Open Innovation model, as part of 'Principle 5' of Open Innovation (Tidd & Bessant, 2013).

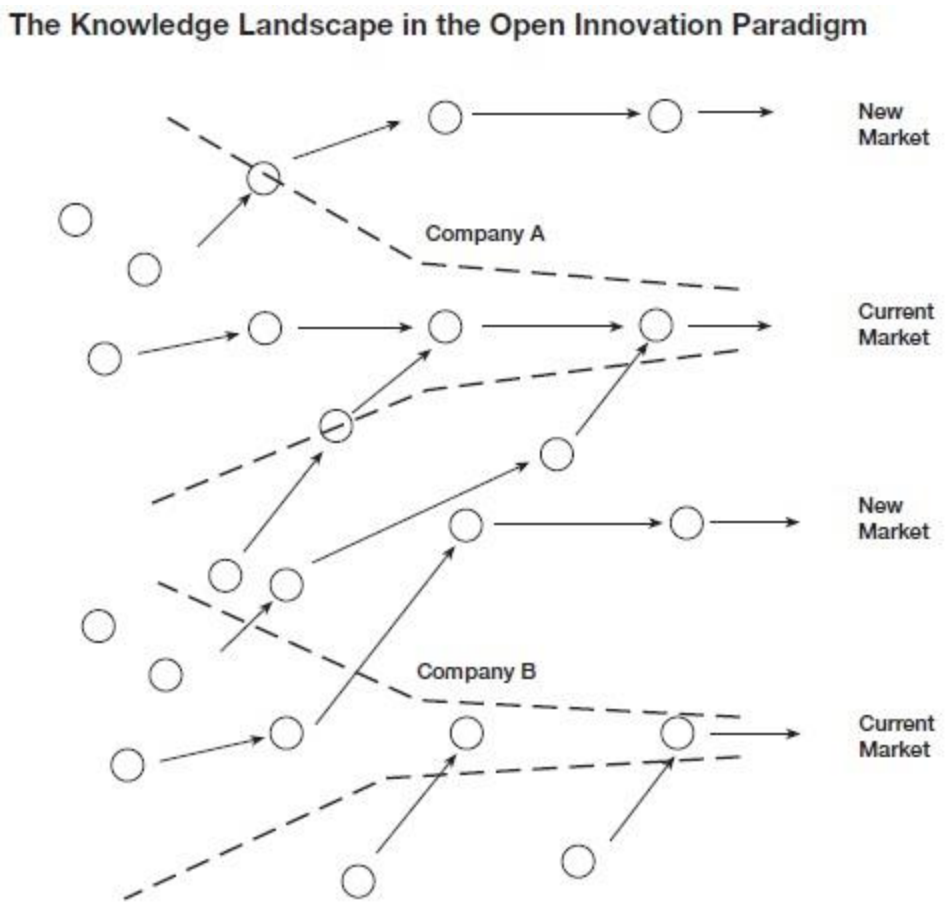

Figure 2 Open Innovation model (Chesbrough, 2003, p.44)

Figure 2 shows the Open Innovation Paradigm (Chesbrough, 2003, p. 44). Ideas/knowledge is represented by the circles in figure 2 as well as in figure 1. The difference between the two figures is how figure 2's 'company walls' are open. This represents Open Innovation – by allowing ideas to escape (or enter) the company structure (Chesbrough, 2003). In 'Open Innovation – Researching a New Paradigm', the authors Chesbrough, Vanhaverbeke and West further elaborates on the figure 2-model above (Chesbrough et al., 2008). Among else, it contains the ways of which a project may leave the company – such as through technology spin-offs and licencing the intellectual property of technology to another party. This may be to a related company, or a different company altogether, depending on the intentions of the selling/licencing company (Chesbrough et al., 2008).

There may have been several reasons for the paradigm shift from Closed to Open Innovation, however the rise of internet in the late 1990's and early 2000's has certainly been a considerable catalyst. Internet allowed for easy two-way communication between producer and consumer (Nysveen, Thorbjørnsen, & Pedersen, 2012). Not only was direct correspondence accelerated with e-mails; Facebook, and Twitter have become some of internet's social media flagships and allows for instant contact between any two parties with an internet connection. Facebook and Twitter are the most and second most used social networking platforms, respectively, followed by LinkedIn, Google+, YouTube, and Instagram (Moreau, 2017). Sharing knowledge has never been easier – the beforementioned platforms cater to different markets, however, they all enable people to connect and to share.

Internet also enables consumers to gather information on options available for their needs, giving them more power over the companies (Bisgaard & Høgenhaven, 2010). It has also given the businesses more incentive to involve consumers in their innovative processes, to create products more closely tailored to their intended target markets. Pulling information from external parties such as consumers and suppliers will increase a projects' chance at commercial success, as the company has better reason to assume the project will deliver a desirable product, than if the project was only developed internally (Bisgaard & Høgenhaven, 2010).

Another reason for companies to utilize OI is sharing risk by partnering with other companies (Gower, 2013). Although working in partners pose some risk (unwanted leaks of information, and trust of competence and intention), however, being able to share risk among multiple stakeholders is a very real benefit. After initially building trust (minimising the risks), the result is a partnership with others also wanting the project to succeed, while having to front a lower portion of the cost than if ventured as a single party (Gower, 2013).

The different stakeholders may draw on each other's different set of knowledge, resources, and experience to reach the agreed-upon goal. The above paragraph is directly related to business-to-business partnership; however, it may be translated into business-to-consumer relationship. While the consumer may not front as much of the financial risk as another company, the information shared by a consumer (particularly if having relevant work-experience) could save the company money as they would not have to conduct research to obtain the knowledge themselves.

Further, Tidd and Bessant describe OI as innovation performed with any party external to the company (Tidd & Bessant, 2013). These parties may be clients, consumers, suppliers, competitors, consultants, and partners. Companies practicing OI may increase their competitive advantage through increased information and lower costs through six principles. The six principles, as presented by Tidd and Bessant (2013, p. 493-494), along with their potential benefits and challenges are as follows;

Principle 1 – Tap into external knowledge

Each individual company can only hold so much information, and can therefore tap into a greater pool of knowledge by opening up to external parties. Doing so decreases the need to rely on their own limited information alone. The challenge is knowing what to look for, and where. Another challenge is how to transfer the information – tacit and systemic knowledge, however useful it may be, can be difficult to transfer.

Principle 2 – External R&D has significant value

Under the traditional Closed Innovation paradigm, R&D conducted by other companies is irrelevant as shown in figure 1, as the company does not allow ideas to enter nor leave the confines of R&D of said company. However, when utilizing OI, ideas from R&D departments of other companies may be included as shown in figure 2. This way, the receiving company can save costs associated with creating the knowledge (as it already exists), in addition to more rapidly increase the breadth and depth of their own R&D department, without having their own R&D department spending time on it themselves. A challenge with this principle is the knowledge acquired may also be available to other companies practicing OI. Therefore, knowledge acquired this way is less likely to lead to distinctive advantages.

Principle 3 – One does not have to originate research in order to profit from it

With a Closed Innovation-approach, a company would only use what it made itself. Therefore, 'not made here' becomes 'not used here', which makes it difficult to capture value from 'not made here'-knowledge.

When practicing OI, and utilizing knowledge produced elsewhere, it reduces the cost of internal R&D, which allows for more resources available to improve external search strategies and develop relationships. However, internal R&D needs to stay sufficiently funded and competent to correctly identify external knowledge of value, and how to implement said knowledge to capture that value.

Principle 4 – Building a better business model is superior to being first to market

The fourth principle emphasises a company's aim to capture value, rather than only focusing on creating it. A business model including an open approach to innovation may achieve this by both trying to create value through internal R&D, as well as what the company can acquire externally. The challenge then becomes building a business model which includes the resources required to negotiate with external parties to access their knowledge.

Principle 5 – Best *use* of internal and external ideas, not *generation* of ideas

Expanding on principle 4 of capture value, not just create it, principle 5 urges companies to achieve a balance between idea generation, and idea search/identification. However, having an idea (whether it has been generated internally or externally) is only part of the innovation process. There is still a long journey before an idea may become a product (see section 2.4). There is also a potential for higher cost – the evaluation of all ideas examined and developed requires resources, and opening the innovation process up to external ideas is likely to lead to more ideas being processed. Some amount of those ideas will be deemed unsatisfactory and never developed completely, ultimately becoming a cost for the company.

Returning to the tension between Research and Development, and where ideas are put on hold between two departments, OI offers an alternative. An idea which company B's Research is done with, but company B's Development does not think is ready, an OI approach allows it to leave the company. At some point, company A's Development department could pick it up and start working on it, if it was past the point of 'ready' for them. Overall, allowing ideas to be shared through an OI approach increases the utility of ideas.

Principle 6 – Profit from others intellectual property (IP), and others use of own IP
Profit made from acquiring IP from other companies (inbound IP), and from selling/licencing own IP (outbound IP), is not possible in a Closed Innovation paradigm, given the solid boundaries of the companies. While operating with an OI approach, however, companies may exchange IP that may not have been used otherwise while making money. There is a very real challenge in negotiating terms and conditions for IP exchange however, to reach an agreement favourable and desired by both/all parties. There may also be difficulties relating to strategic direction and commercial interest. Another potential challenge not mentioned explicitly in the 6 principles; there is a risk of leaking information unintentionally through an OI approach which may hurt competitive advantage (Tidd & Bessant, 2013).

2.3 Users and Innovation

User-driven innovation is innovation helmed by users, as opposed to manufacturers (Tidd & Bessant, 2013). Von Hippel (2001, p. 85) suggests the expression 'if you want something done, do it yourself' is the case-in-point, as the consumers know themselves better than the manufacturers, and create what they need themselves ('user' and 'consumer' are used interchangeably). They may alter the product to improve its usefulness for them personally, use it in a new way entirely, or even creating something new from scratch because what they want does not exist. As an example, consider the origins of the dishwasher, presented by Josephine Cochrane in 1983 (Shah & Tripsas, 2007). Reportedly saying 'If nobody else is going to invent a dishwashing machine, I'll do it myself', being tired of her servants breaking her fine china plates, started the process of the company which through the years would become KitchenAid, part of Whirlpool Corporation (Shah & Tripsas, 2007). Von Hippel argues consumer contribution is a cornerstone for innovation – their experiences with the product will likely outmatch the hours spent on the product in development. Users may also have extensive insights in field-use of the product, considering factors which were not present in the development (Von Hippel, 2001). User-led innovation is prominent in technological products – particularly in software. There are several software companies and -platforms with massive amounts of user-created content (Piller, 2006). A reason for this is because software demands few resources when compared to production of physical products. Another reason is because software being a versatile 'platform' for products – consisting of everything from games to security systems.

Central to this concept are lead users. Lead users are users who recognize requirements early, expect a high level of benefit from an innovation, develop their own innovations/applications, and/or are perceived to be pioneering and innovative (Tidd & Bessant, 2013).
However, users innovate in the world of physical products as well; the general design of a pick-up truck as known today started with farmers cutting off the back of their trucks to use them for rural/farming purposes (Von Hippel, 1988).
User-led innovation is nothing new, however, the change in culture regards with communication and sharing information, ideas, knowledge and thoughts, enabled by strides in information technology, means companies can easier utilize this to their advantage (Nysveen et al., 2012).

2.4 Co-creation between Company and Consumer

Co-creation is defined as the result of company and consumer working together, creating a value-rich experience for the consumer (BusinessDictionary, 2017). However, it can also be applied to OI; by opening to external influence and knowledge (from a consumer or another party), the company and consumer are co-creating a new product/service/experience (Ramaswamy, 2011). This provides value both to the participating party once while participating, as well as again when utilizing the outcome (if successful), along with every other consumer who will enjoy the outcome. Co-creation is a way of involving end-users to make a good idea even better, and increase consumer engagement by directly involving them in the product development process (Neumann, 2014). While co-creation is not new, it has only recently received more attention. Largely more driven by internet and social media, co-creation is used as another tool for companies to differentiate themselves (Urbick, 2012). The consumers previously held the role as a passive end-user, and has shifted towards being an important part of value creation. Amazon started co-creation as simple as encouraging book-readers to write reviews for other potential buyers (Urbick, 2012). Urbick (2012) further argues for co-creation with consumers through multiple points of interaction can provide substantial rewards, among else from consumer loyalty.

Today, co-creation is not uncommon practice, with several large companies participating in involving their consumers in their innovation processes and product development to suit their target markets to the best of their ability (Milbrath, 2016). The five companies/brands presented by Milbrath (2016) operate in very different markets, suggesting there is space for co-creation in a wide spectrum of industries, if not all. Ward Smith, product manager at DeWALT sums it up like this; "Competition is fierce, everyone's trying to launch more tools, faster. You need a fast and accurate assessment tool to be more reactive in the marketplace" referring to their 'insight community' of more than 10.000 consumers/end-users (Milbrath, 2016).

2.4 Innovation process model

2.4.1 General Process

Figure 3 Simplified innovation process model (Tidd & Bessant, 2013, p. 47)

Figure 3 shows a simplified model of the innovation process (Tidd & Bessant, 2013, p. 47). It consists of 4 phases; search, select, implement, and capture (SSIC). The questions 'do we have a clear innovation strategy?' and 'do we have an innovative organization?' concerns the organization regarding if the corporate environment is innovation-friendly or not.

Step 1: Search

"Scanning the environment (internal and external) for, and processing relevant signals about, threats and opportunities for change" (Tidd & Bessant, 2013, p. 59). Relating this towards R&D of a company, including the external environment would imply some degree of OI, as a Closed Innovation approach does not accept external ideas at all. The signals could take form of developing technology, requirements in the market, feedback from consumers, change in legislation, acts of competitors, and, just as likely, a mix of several of these factors and others (Tidd & Bessant, 2013). As this is the first step of the innovation process, it is important for companies to have an efficient and effective process of vetting information received/researched. The data collected is evaluated in the next step; selection.

Step 2: Selection

"Deciding (on the basis of a strategic view of how the enterprise can best develop) which of these signals to respond to" (Tidd & Bessant, 2013, p. 59). As previously stated, internet has opened the world's ability to share information more than ever. Therefore, the amount of information gathered in the 'search'-stage can become staggering. It is important for the company to decide which information/ideas they should move forward with, both for considering ability to execute on it, as well as the fit with the company's image/strategy (Tidd & Bessant, 2013). As innovation by nature has risk associated with it, any firm can only take on so many projects with an uncertain future.

Step 3: Implement

"Translating the potential in the trigger idea into something new and launching it in and internal or external market" (Tidd & Bessant, 2013, p. 59). To implement a new idea is rarely done through a single event. Rather, it requires gathering knowledge, and to execute the innovation in an uncertain environment, requires extensive problem-solving. If step 1 ('search') is 'research', then this is 'development', together forming R&D. Step 2 would then act as a 'gate' for which (researched) ideas will pass into development (see section 2.4.2 on the stage/gate model)

After selecting a given idea, this step is concerned with turning the idea into something that can progress to step 4 of capturing value. The idea may turn into a new product/service, change in process, a shift in the business model, or in another way (Tidd & Bessant, 2013).

It may also be a combination of contributions – a new product which prompts a change in the company's business model. Through this step, uncertainty is high at first, and is decreased as the process continues to add knowledge of factors such as market demand, technological aspects, and competitor behaviour. This is a costly process, which increases the importance of selecting the most viable ideas from step 1 and carry them through step 4.

Step 4: Capture

The three previous steps have been building up to the final stage of capturing value. A company wants to capture value from their innovation "both in terms of sustaining adoption and diffusion and also in learning from progressing through this cycle so that the organization can build its knowledge base and can improve the ways in which the process is managed" (Tidd & Bessant, 2013, p. 59). Value captured from innovation can manifest in several ways; commercial sales, increased market share, decreased costs, or changing the world for the better (the latter often being the value sought in social innovation). Other ways include patents and developing tacit knowledge, both of which lay grounds for capturing value over time (Tidd & Bessant, 2013).

2.4.2 Stage/Gate

The stage/gate approach to innovation is similar to the SSIC model, however, it has more detail. The stage/gate model handles each stage as an isolated block, and an idea must pass certain criteria (set in the 'gates' between blocks) before moving on to the next stage. An example of such a model is presented in figure 4, adapted from Coloplast's model (Tidd & Bessant, 2013, p. 333). The stage/gate model contains stages in between an idea travels, separated by gates, thereby the name. The first stage is gathering ideas ('stage 0'), and ideas must pass through the first gate in order to reach stage 1. As shown, the first gate is concerned with filtering ideas which are worth the preliminary investigation, to be further elaborated on in stage 1 (Tidd & Bessant, 2013). This process continues, developing further in each stage to pass the next gate, until the idea completes the process as an added innovation, or is declined at a gate. If an idea is declined at the gate between stage 2 and 3, for instance, the idea may be scrapped entirely, or sent back to stage 2 for a new attempt.

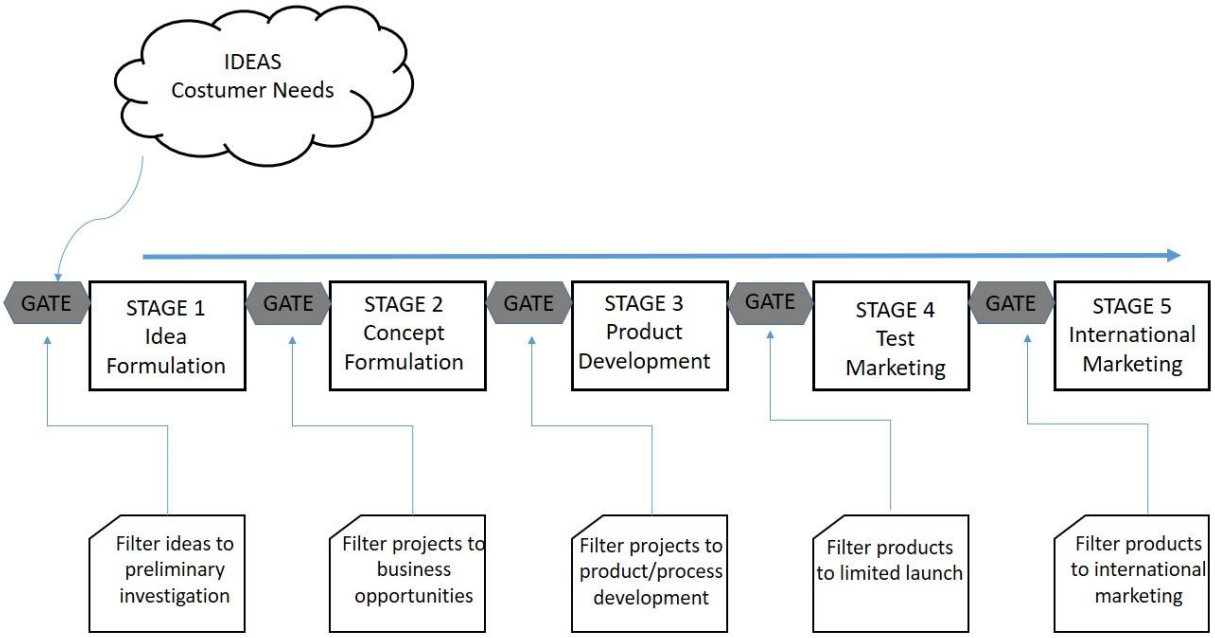

Figure 4 Stage/Gate process model (Tidd & Bessant, 2013, p. 333)

A gate may also decide to ship an idea back several stages, should the 'gatekeepers' decide something was wrong which should have been discovered at a previous gate. The gatekeepers may be senior managers or other employees with relevant experience in evaluating an idea at it's given stage.

Comparing the stage/gate to the SSIC, they serve the same purpose, while stage/gate offers a bit more detail. The 'search' step in SSIC may encompass stages 0-2 of stage/gate, depending on where the company draws the line between its 'research' and 'development' departments. Similarly, the 'select' step may be the gate between either 0 and 1, 1 and 2, or 2 and 3. 'Implement' may compare to stages 3 and 4, while step 4 'capture' as the final step translates to stage 5, maybe stage 4, again depending on the company's policy.

2.5 Large companies and Innovation

This section will define how it identifies large companies, and then explain a few common issues often associated between large firms and innovation. This study defines a 'large company' per 'Regnskapsloven' (Law of Accounting) of Norway. To be considered a large company, it must fit within the legal confinements §1-5 or surpass two of the three criteria listed for small companies in §1-6. These criteria are maximums of revenue of 70 million NOK, operating profit of 35 million NOK, and 50 employees.

Large companies have a reputation of not being particularly good at innovation. There are several reasons for this. Wessel (2012) argues the main reason is large companies are *designed* to be bad at innovation, or rather, they are designed to create operational efficiency.

Further, Wessel says while a start-up is made to innovate and take risks, established corporations measure success by profit. The corporation solves the problem of satisfying the customer/consumer, then streamlines the process. As Wessel (2012) states; "Seasoned managers steers their employees from the art of discovery and towards engaging in the science of delivery". Blank (2016) also found economic motive for large companies not to innovate. Especially, creating value for their shareholders and keep the value of the shares high. Using metrics such as 'internal rate of return', resources set aside to produce long-term gains through innovation may look bad for the bottom line in the short term, thus becoming unattractive (Blank, 2016).

Lindegaard (2011) says bureaucracy can be a hindrance to innovation. Smaller companies with a less intricate organizational structure is less likely to have this obstacle, and may therefore more easily innovate. De Terney (2015) also identifies bureaucracy as an obstacle to innovation, alongside lack of focus and structural inertia. Lack of focus refers to a company having a large portfolio of products, which may be distracting and prevent to identify innovation opportunities. Structural inertia has parallels with the issue of maximizing efficiency; De Terney argues as a company builds a successful business model, it gets tied up in commitments to the moving parts of itself. Thus, innovation may be perceived as a threat to the efficiency.

2.6 Norway and Innovation

In 2013, a survey called Corporate Values reported innovation to a be value less emphasized than before by Norwegian companies, compared to companies in 12 other countries (Haugen, 2013). The rising values in Norwegian companies are customer satisfaction, quality, ambition, excellence, and competitive drive. However, Norway as a country does well in world-wide rankings of innovative countries. In the Global Innovation Index 2016 (GII 16), Norway was ranked 22nd of 128 countries (Dutta, Lanvin, & Wunsch-Vincent, 2016).

In a European context, however, Norway comes up short compared to its neighbouring countries. Sweden, Finland, and Denmark ranks 2nd, 5th, and 8th, respectively. Additionally, of the 'Top 25' countries in the world, 15 were European. At 22nd place, Norway only beat Belgium (23rd) and Estonia (24th) in Europe's Top 15. It should be noted, however, that 39 European countries were ranked, placing Norway just within the top 1/3 of European countries (Dutta et al., 2016).

Bloomberg Markets' 2017 Innovation Index places Norway slightly higher at 14th place (Jamrisko & Lu, 2017). It is not directly comparable, being a less comprehensive ranking and ranking by different criteria. However, they are consistent in giving Norway a relatively high rank, without being in the very top. The Bloomberg Index surveyed over 200 economies, however received only sufficient response from 78 countries (data on at least 6 of 7 categories) (Jamrisko & Lu, 2017). Compared to the 2016 Bloomberg Innovation Index, Norway stayed put at 14th, while Sweden and Denmark each climbed a rank (from 3rd to 2nd and 9th to 8th, respectively), and Finland climbed two ranks from 7th to 5th (Jamrisko & Lu, 2017). Sweden, Denmark, and Finland received identical rankings on the Bloomberg 2017 Index and the GII 16 index.

Finally, Colson (2017) placed Norway as the 9th best country in the world in which to start a business. Despite a high tax rate, transparency and lack of corruption are cited as reasons for the high ranking. This matches the findings of GII 16; in the sub-category of rank based on institutions, especially political, regulatory and business environment, Norway received above 'Top 10' rank for each category. The highest was business environment, ranking at the 3rd highest in the world (Dutta et al., 2016). The ease of starting businesses in Norway may put pressure on other companies to be innovative to stay competitive.

Having reviewed theory relevant to the study, it will provide a context for the findings, and grounds for comparisons. Next, the method of the study is presented.

Chapter 3 – Methodology

3.1 The Approach

This section will describe, in detail, the choice of methodology for the study and the reasoning. First, a reminder of the research questions (RQ's) this study aims to answer;

RQ1: How do large Norwegian good-producing companies involve and utilize consumers in an open innovation paradigm in corporate product innovation processes?

RQ2: To what extent do the companies involve consumers as part of their innovation processes?

To answer these questions, the study will be conducted qualitatively, specifically as a comparative case study using in-depth semi-structured standardised interviews as the data collection method. This chapter explains what this means, and why this approach was chosen.

There are two primary kinds of research – qualitative and quantitative (Silverman, 2011). Quantitative research gathers numerical data to investigate the issue at hand, often in large amounts and aiming to make an aggregate generalization of the population. Polls regarding elections, reviewing a product on a scale from 1-10, level of agreement towards a certain statement, and age are examples of quantitative data.

Qualitative studies are preferred when seeking understanding of a phenomenon in context, using words rather than numbers (Silverman, 2011). Additionally, qualitative research are recognized by factors such as;

- used on small sample sizes, not necessarily meant to generalisation towards a population
- using data collection methods such as focus groups, in-depth interviews and/or observations
- may conclude with a hypothesis from data collected and analysed, rather than starting with one to prove/disprove
- aims to describe behaviours and 'how/why'-oriented questions, to seek understanding

(Askheim & Grenness, 2008)

Clearly, this study is best served by a qualitative approach, and will be exploratory of nature. An exploratory approach "is used when investigating unknown or under-developed areas in order to identify and understand phenomena and relationships" (Fosstenløkken, 2007, p. 75), echoing the characteristic of qualitative research. Reviewing the information above, there are several advantages with the qualitative approach. Firstly, the study aims to assess how Norwegian companies utilize OI with regards to consumer involvement. This requires in-depth answers, to analyse their processes and get an understanding of the system employed. Secondly, having the words 'how' and 'what' in RQ 1 and 2 respectively are strong indicators. Towards this purpose, quantitative data are not sufficient (Silverman, 2011). Thirdly, the study seeks understanding of a few companies' processes, rather than to find generalizable data to apply towards the population. Finally, the study is not starting with a set of hypotheses to prove/disprove, which is common practice of quantitative studies.

The study will be conducted as a comparative case study. According to Yin (Yin, 2003, p. 1); "In general, case studies are the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context". 'Comparative' means having several case studies and comparing them to each other to identify similarities and differences. This accurately describes the circumstances for this study. The author has no control of the events, which are the participating companies' innovation processes. The study focuses on the phenomena of OI in relation with consumer involvement conducted by companies in their real-life operations as well. Finally, RQ1 contains the word 'how', a simple yet important characteristic. While RQ2 is a 'what'-question, it relates to and aims to further elaborate on the 'how' in RQ1.

Yin (2003) lists six sources commonly used for collecting evidence when conducting case studies, along with their strengths and weaknesses. They are; documentation, archival records, interviews, direct observations, participant-observation, and physical artefacts. As mentioned, the study will be conducted with in-depth semi-structured interviews. Therefore, a closer look at interviews in general is warranted.

Interviews are characterized by the following strengths (Yin, 2003, p. 86);
"- Targeted: focuses directly on case study topic
- Insightful: provides perceived causal inferences"

These attributes are favourable for the study. The study looks to find answers to a series of defined yet open-ended questions; an interview allows to set up for targeted questions while also having the flexibility to probe the interviewee on points of interest. The second strength of insight is also valued. If not necessarily to establish causality, rather to build insight in terms of understanding.

However, interviews also have the following weaknesses (Yin, 2003);
"- bias due to poorly constructed questions
- response bias
- inaccuracies due to poor recall
- reflexivity – interviewee gives what interviewer wants to hear"

The author will try to stay aware of wording and non-verbal communication to minimise reflexivity. The interviews for this thesis will be conducted with a voice recorder where available to avoid inaccuracies. For any interviews where voice recording is not available, the author will endeavour to take the extra time needed to write detailed notes, to ease recollection of data after the interview. Finally, the author will try to avoid biases by taking an outsiders' look, as well as receiving input from the supervisor to evaluate the interview guide.

Interviews conducted as part of a case study often appear to be guided conversations, as opposed to structured queries (Yin, 2003). Further, Askheim and Grenness (2008) describe the interviewer's role during in-depth interviews as that of a moderator. Commonly, the interviewer moderates the interview with the aid of an interview guide, a document serving as both navigational tool and checklist to ensure all relevant topics are covered (Askheim & Grenness, 2008). The use of an interview guide is also a hallmark of a semi-structured interview (Johannesen, Christoffersen, & Tufte, 2011). In-depth interviews may last anywhere from 30 minutes up towards several hours, and enables the interviewer/moderator to ask for elaboration and clarification along the paths of conversation explored from the 'main road' of the interview guide. The result should be unambiguous and detailed data.

It requires the full attention and active listening on the interviewers' part, and few can conduct more than a few such interviews a day (Johannesen et al., 2011). To account for this, the author did not conduct more than one interview per day. As this thesis is focusing on four companies, spanning five interviews, this will not pose a problem.

Becker (1998) argues questions should preferably worded asking 'how' rather than 'why' if possible, as the latter may create a sense of defensiveness on the interviewee's part. Therefore, it is important to balance getting the required information while presenting open-ended questions in a friendly and non-threatening way (Yin, 2003). The interview guide was structured to follow this advice, and was limited to a single 'why'-question. During the interview, the author was attentive with regards to the intonation when asking the question to put forth the genuine curiosity and avoid making the interviewee feel the need to 'defend' their 'why'.

Yin makes a distinction between 'respondent' and 'informant' (Yin, 2003). A respondent can be considered the 'base-level' of interviewee. A respondent will answer the questions; however, an informant is more engaged with the study, and may suggest other people to interview, offer additional insights than what is asked/required, and/or assist finding additional sources of evidence. Olivia and Diana (all interviewees are presented in table 2, section 3.3) did act as informants per the definition; they both engaged additional employees at their companies to add information where they were not entirely able themselves. Viktor, Tim, and Elise also acted as informants by offering additional sources of evidence for the study; Viktor and Tim both offered additional documents they thought could be relevant to the study, and Elise agreed to alert the author should an opportunity for observation arise (it did not, unfortunately). Bruce could arguably also be considered an informant, offering names of several organisations that their company utilize for their research. That information did not end up being relevant for this study, however, could be useful for a potential future study.

To enable the approach of comparative case study, a standardised interview guide will be used (Johannesen et al., 2011). This means each interview will be conducted with the same set of questions. However, the responses may vary, as the study operates at a semi-structured base.

In practice, the result is each company will give a base set of comparable answers, while they may offer different tangents to elaborate upon. Standardised interviews also have the benefit of being more focused, being less time-consuming, and easier to compare; all desirable attributes for this study (Johannesen et al., 2011). It should be noted that a drawback of standardised interviews may limit flexibility, however, the semi-structured approach should compensate sufficiently. The interview guide itself was constructed with the literature review in mind as background information, the primary intent being to ask questions regarding the company's innovation processes and the involvement of consumers. The interview guide was sent to each company well ahead of their interview so that they had time to prepare for the interview if they wanted to.

The author was also interested in doing observatory research, however, none of the companies who agreed to participate were conducting any research involving consumers at the time. To understand why observation would be useful, Yin (2003, p. 86) lists the following advantages of observation;

"- reality: covers events in real time
- contextual: covers context of event"

Observing the companies in their undertaking of innovation alongside consumers could potentially bring valuable insight, however, the timing of the study did not allow for any to take place. Additionally, the method can be very time-consuming and have relatively high costs, in which case the research generated may not have been worth the effort collecting it (Yin, 2003).

3.2 Selection and Recruitment

The criteria for selection to participate in the study is for the company to be

- Norwegian of origin and operation
- Be legally considered a 'large' company
- Have a certain degree of renown
- Been in operation for 50+ years
- Not be among the companies from previous studies

The first criteria ensure the study measures innovation of Norwegian companies, which is the target environment for the study. As the study aims to investigate large companies, the companies must be legally considered 'large' as per Norwegian accounting law. Further, the third and fourth criteria filter companies to find ones with some degree of set processes and methods of operation. Finally, the companies may not have been part of any study mentioned in the introduction, as this study want to further widen the insight in Norwegian companies, not the depth of understanding for companies already examined.

Through this lens, approximately 20 companies were selected for recruitment through web search. The companies were contacted by phone where a number was listed, otherwise by e-mail (invitational e-mail enclosed in Appendix 1a and 1b, in Norwegian and translated English respectively). Most declined due to not having time or resources to spare, or did not respond at all. Four companies agreed to participate. All companies who agreed to participate were reached by calling the company switchboard, introducing the author and the purpose of the thesis, and then ask to be transferred to the company's innovation/product development department. When transferred, the author presented the study as per the invitational e-mail verbally, as well as sending the e-mail after the call ended as an official invitation. The e-mail also acted as the start of correspondence to agree upon a time for the interview, if not already scheduled during the phone call.

A brief overview of the participating companies (cases) is presented below. The numbers have been rounded to help maintain their anonymity.

The first company is non-consumable good-producer 1 (NC1). NC1 was founded in the 1930's, has approximately 1500 employees and had an operating profit of over 200 million NOK in 2015 (before taxes), and revenue of approximately 400 million NOK. The company produces goods used both in home and office, and has established a few select niches of which they produce a specific line of products.

The second company interviewed is non-consumable good-producer 2 (NC2). NC2 is over 100 years old and has about 100 employees. In 2015, NC2 had an operating profit of 6,5 million NOK (before taxes), and a revenue of about 200 million NOK. The company produces outdoors equipment, used by both amateurs and professionals.

The third company interviewed is consumable good-producer 1 (C1). C1 is over 100 years old, and operates as part of one of Norway's largest companies. They have about 600 employees, an operating profit of more than 350 million NOK in 2015 (before taxes), and revenue of 2 billion NOK. The company produces edible consumables, spread among several product lines.

The fourth and last company interviewed is consumable good-producer 2 (C2). C2 itself was established mid-2000's, however, it is the result of a merge between two companies each with history going back more than half a century, which is the age the study will consider. C2 has approximately 6000 employees, had an operating profit of about 350 million NOK in 2015 (before taxes), and a revenue of more than 18 billion NOK. The company also produces edible consumables, of which they provide a wide range of products, some at a basic level and some more refined products. The numerical data are summarized in table 1.

Table 1 Numerical data for participating companies

	NC1	NC2	C1	C2
Age in years	~85	~100	~100	~50
Employees	1500	100	600	6000
Operating Profit pre-taxes (2015, in millions NOK)	200	6,5	350	350
Revenue (2015, in millions NOK)	400	200	2000	18000

3.3 Data collection

The researcher personally conducted interviews with the selected companies. Initially, a single interview with a single employee from each company, with an option for a follow-up interview, was the extent of planned research. With companies NC1 and NC2, a single interview each with one employee was conducted, as planned. However, the two other companies helped initiate a wider participation from their companies. For C1, a single interview was conducted with two employees. This happened because the original interviewee took the initiative to invite a colleague who she thought could help answer the questions, after reading the invitational e-mail and interview guide. Two separate interviews were conducted with C2. After the first interview with the employee at C2, I was encouraged by that employee to contact another employee further questions for more elaborate answers regarding consumer involvement. The interviews lasted 30-70 minutes (see table 2). The bulk of the data was collected during those interview, the only additional contact with interviewees were questions concerning confidentiality. Two interviews were held in person at the companies' facilities (NC1 and NC2), while the three others were conducted by phone due to logistics.

The researcher intended to conduct all interviews face to face, being able to use non-verbal communication in addition to verbal. Initially, the researcher was scheduled to visit C2's facilities for the first interview, however, an injury to the researcher's leg and alterations with public transportation schedules made the trip difficult, and a phone interview was arranged instead. The details around data collection for each company is provided below. The interviewees have been given fictional names to keep the employees and their employers anonymous. Their titles are accurate.

The first company is non-consumable good-producer 1 (NC1). The interview was conducted by phone and was recorded in writing by the author. The interview lasted approximately 45 minutes. Additionally, the author was supplied with two PowerPoint-presentations and one pdf-document, prepared for internal circulation regarding consumer feedback on new products in development. The informant, referred to as Viktor, is head of product development.

The second company interviewed is non-consumable good-producer 2 (NC2). The interview was conducted in person at the company's offices with one employee, Tim, and was recorded with the authors' smartphone. The interview lasted approximately 70 minutes. Tim is the technical director at the company. The author was also supplied with two pamphlets about the company.

The third company interviewed is consumable good-producer 1 (C1). This interview was conducted in person at C1's office with two employees of the company, Olivia and Elise. The interview was recorded with the authors' smartphone. The author was primarily in contact with Olivia, who arranged for the meeting to also include Elise. Olivia is a product development manager, while Elise is a market manager. The interview lasted approximately 30 minutes.

The fourth and last company interviewed is consumable good-producer 2 (C2). This interview was conducted in two parts, with two different informants. The second informant (Bruce) was interviewed by a referral-of-a-referral of C2's first informant (Diana), to get more information with regards to consumers' involvement. Both interviews were conducted over the telephone. The interview with Diana was not recorded, while recording gear was available for the interview with Bruce. Another referral was suggested for a third informant, however, the author and the third informant were not able to find mutual availability in the time remaining. Diana is a department executive within product development, and Bruce is a head of insight.

Table 2 A summary of the interviewees

Name	Company	Title/Position at company	Method of Interview	Length of Interview	Voice recording
Viktor	NC1	Head of Product Development	By phone	45 min	No
Tim	NC2	Technical Director	In person	70 min	Yes
Olivia	C1	Product Development Manager	In person	30 min	Yes
Elise	C1	Market Manager	In person	30 min	Yes
Diana	C2	Product Development executive	By phone	45 min	No
Bruce	C2	Head of Insight	By phone	50 min	Yes

3.3 Analysis of Data – Comparative Case Analysis

During the two phone interviews where voice recording was not available, the author wrote thorough notes during the interviews, and elaborated on them after the interview ended. To make sure as many notes as needed to recall the interview later was taken, the interviews (with Viktor and Diana) went on for a little longer than they might have with a voice recorder. Then, when going back to gather the data and compile it into the study, further elaborations were made, based on memories triggered by the notes taken during the interviews.

For the three interviews where voice recording was available, the author was less rigorous taking notes during the interviews, putting more of the attention towards active listening, rather than writing. This allowed for closer moderation of the interview. When compiling the data into the study, the author listened to the recordings and wrote down any relevant information. On average, going through each recording took 3-4 times the length of the recording itself. Sections with relevant information took a while to get through, having to stop and write every few seconds of the recording. Other sections could just pass by, as they were mere segues between topics, or tangents of information which, while interesting, eventually fell outside the investigate frame of this study.

The categories of data presentation (attitude, practice, involvement, results, concern, and future development) were partly constructed and partly emergent. After going through the first three interviews (NC1, C2 part 1, and C1), the six sub-headlines presented themselves as being a mix between the initial two pre-constructed alternatives, adding in what felt like natural 'divides' in the data collected from the interviews. The companies are compared against each other by the structure of these six categories. In each of the six categories, the data from each company will be summarized and compared each other, and to theory presented in chapter 2, where applicable. Finally, each company will be ranked per the model used by Hoholm and Huse (2008) mentioned in the introduction, as a punctuation mark of the analysis. It should be noted, that throughout the remainder of the thesis, phrases such as (product) innovation and product development are used interchangeably, unless specified otherwise.

3.4 Validity and Reliability of Data

Validity within research refers to if the data accurately reflects reality (Hammersly, 1990). Further, it can be split into two types of errors; either accepting a false hypothesis, or rejecting the true hypothesis (Kirk & Miller, 1986). The idea of validity originated in relation to qualitative research, where data is analysed to accept or reject opposing hypothesises, however, is still relevant to qualitative studies. For the purposes of this paper, validity comes from having in-depth interviews with the subject. Personal interviews allow for clarifying questions from each party to enable accurate data. Further, as the paper deals in data which could be regarded as sensitive to the participating companies' competitive advantage, the interviewees will receive a summary of their own interview. At this point they may pinpoint data which cannot be shared publicly, or will result in the paper being classified, however, it also allows for the participant to review their answers once more, and make corrections to any misunderstandings.

Reliability, in short, is a measure of replicability (Silverman, 2011). It concerns, if the data collection is repeated, to what degree would it find the same results. Reliability refers to both different researchers or to same researcher in a different situation.

Two criteria are suggested for reliability in qualitative studies (Moisander & Valtonen, 2006);
- Research process transparency: detailed description of the research process employed by the researcher(s) to allow for repeated results.
- Theoretical transparency: detailed description of the theoretical framework acknowledged by the researcher(s) leading to the context of the research.

Chapters 3 and 2 work towards these criteria, respectively. However, the study may not be repeatable. The participating companies' identity are undisclosed to mitigate any loss of competitive advantage, and interviewing different companies may result in a different dataset and different conclusions. This study does not aim to set a definitive, generalizable statement of Norwegian companies' practice regarding OI, rather to gain insight of consumer involvement in the cases studied.

3.5 Ethical and Legal Considerations

The participating companies has been verbally informed of the author's intent of publishing the study. Each participant will receive a summary of their interview to approve the information disclosed. Further, the companies are kept anonymous, only categorized by which industry they operate, as well as some financial data. While these conditions are not optimal, they were necessary for the companies to discuss their processes regarding innovation. This is further addressed in section 6.6.

Additionally, Norwegian law requires studies which collects personal information to apply for permission at NSD, 'Norsk Senter for Forskningsdata' – Norwegian Centre for Research data (www.nsd.uib.no). The study was approved under given conditions. These conditions will be adhered to, ensuring the protection of personal data for the participants.

The next chapter presented the data collected through the method described in this chapter.

Chapter 4 – Presentation and Analysis of Data

As introduced in chapter 3, the four companies participating in the comparative case study are split in two categories; two non-consumable goods-producers, and two consumable goods-producers. The cases are therefore referred to as Non-Consumable [Good-Producer] 1 and 2 (NC1 & NC2), and Consumable [Good-Producer] 1 and 2 (C1 & C2). While all companies were introduced in chapter 3, there is a short introductory paragraph for each company.

4.1 Case 1: NC1 – Non-consumable good-producer 1

The first company is non-consumable good-producer 1 (NC1). NC1 was founded in the 1930's, and produces goods used both in home and office. They have established a few select niches of which they produce a specific line of products. Viktor is a head of product development.

4.1.1 Attitude towards innovation in the company

Despite its age, Viktor described the company as 'young at heart', which is supported by a lot of young employees. Viktor thinks the company has done well to follow the trends in society, and continues to do so. Innovation, according to Viktor, is one of three core values in company and a necessity to stay ahead of the competition. The company has not adhered to any academic method/process when developing their products, rather following a system developed internally. It focuses on market and competition analysis, and designing products tailored for their niche market, while being relatively easy to manufacture. Viktor has been at the company for about 25 years, and has applied the experiences learned from the beginning to the job he's in today. One key implementation Viktor has added to the company is a clearer leadership with regards to innovation at all levels within the company.

4.1.2 Innovation practice

For NC1, 'innovation' is practically tantamount to 'product development'. There has been some process- and organisational innovation as well, however, the primary focus of innovation at the company is directly related to their product. When NC1 was established, it started with a product of radical innovation and has laboured to stay ahead since. Among its employees, they have 27 people dedicated to product development, of which four are full-time designers.

There are an approximate of 35 employees total who are regularly involved in product involvement. In addition, there are two external consultants who partake in product development, however, their role is more administrative as project leaders/managers. The product development process itself is described similarly to the process in figure 3, with the addition of a 'brainstorming' stage at the very beginning, which extends into the 'search' stage.

4.1.3 Involving consumers

Viktor says consumers are involved throughout the product development process, until final designs are set and the result shipped to production. NC1 performs consumer surveys on wants and expectations, which are included as data during brainstorming in the 'search'-stage. After input from designers, they move on to 'select', where the designs with the most promise are accepted into 'implementation'. At this stage, prototypes are produced to be presented to focus groups for testing. Parameters included during focus groups are aesthetics, feel, functionality/attributes, comparisons to competing products, and finally where it would be sold and at what price level the consumers would be prepared/expecting to pay. NC1 would also note which products appealed most to what demographics (age and gender). NC1 values focus groups due to its ability to acquire depth of understanding with the consumer. NC1 is also available on Twitter and Facebook, though not the most avid users. Additionally, they may be contacted by e-mail, phone, and regular mail by consumers. Viktor reports feedback spanning consumers with praise, to consumers who'd wish to redesign the entire product they had purchased. Viktor admits NC1 could be better responding to feedback through these channels, however, the departments dealing with said channels do not have the resources to. Viktor also explains a recurring issue with information they do receive through these channels – compensation requested by the consumer for sharing their information. Intellectual property (IP) has value, and the rights (IPR) to it can lead to requests of royalties or other types of compensation. Viktor shares a few kinds of issues around IPR;

- Request compensation: consumers who offer their ideas in return for compensation have an imbalance between the state of their idea and the amount of compensation requested. Viktor says it is too much of a risk too early, and thus having to decline cooperation.
- Request help to acquire IPR: there have also been incidents of consumers offering an idea without the proper IPR secured, and asking NC1 to cover part or all the cost of securing it. Again, too much risk.

- Already working on it: in some cases, NC1's staff have been offered enough information to realize the idea offered is something they are already working on, decreasing the NC1's interest, and also possibly lead to a conflict of interest if both NC1 and the consumer wants to claim the IPR for the idea. In these scenarios, the offers have been declined.

The exception is technology/design which has been completed and any relevant IPR secured, at which point NC1 may consider licencing the content, however, it is a rare occurrence and Viktor could not think of any recent such licences acquired. Viktor is asked about the concept of 'lead users', and while aware of the concept, Viktor says it is not something NC1 focus on, neither is it an important factor in the industry.

4.1.4 Results of Open Innovation with consumers

Including consumer insight has been common practice since before Viktor joined the company, and therefore cannot say particularly how it may have changed the company from not including consumers. However, he does confirm following the trends of society seen through the consumers' eyes is becoming increasingly important. As competition as increased, the importance of the consumer's opinion has risen as well. After all, the consumer makes the final decision to buy or not, according to Viktor. Additionally, each new product launched takes out an old one, as to not develop too large of a product portfolio. There has also been a shift towards the experience of the product, rather than technical specifications. With that in mind, NC1 has initiated testing by consumers for home and business, by taking prototypes home for extended testing (prototypes in use for approximately three-six months), as well as testing in an office-setting outside their company, for an equal length of time.

4.1.5 Concerns with the 'open' platform

Viktor admits leaks are a concern for the company, in particular with consultants as they may also have assignments with competitors. However, it's an acceptable risk, with trust of mutual professionalism grounding the relationship. When considering leaks through consumers, Viktor says NC1 does not consider it a major risk, due to the limited insight the focus groups are given and the added protection of non-disclosure agreements participants sign.

4.1.6 Future development

Viktor expects consumer involvement to stay approximately the same, or slightly increase over the next five years, particularly considering the frequency of consumer contact. According to Viktor, timing is essential to follow the trend and stay relevant in their market, which has close competition and product distinction can be a challenge. Viktor's desire for future development is for product development to have more of a say in selection of products to implement (step 2 into 3 in figure 3), citing a product which was ready in 2009 being delayed by higher-ups despite great feedback from focus groups. Fortunately, the market had not shifted and the product was a commercial success when it was finally launched in 2015.

4.2 Case 2: NC2 – Non-consumable good-producer 2

The second company interviewed is non-consumable good-producer 2 (NC2). NC2 is over 100 years old and produces outdoors equipment, used by both amateurs and professionals. Tim is the technical director of the company.

4.2.1 Attitude towards innovation in the company

The industry NC2 operates in is characterized by tradition, so in that way, the age of the company is noticeable, according to Tim, more so than by actual age itself. Their current factory was built in the 1970's, at a point in time where the products were made the 'old way', with 'traditional' materials. However, the late 1970's and early 1980's lead to a paradigm shift in the industry, forcing NC2 to adapt quickly, and they did. NC2 operates in a conservative industry, and there have been mostly incremental innovations since the 1980's. Their current production process allows NC2's products advantages in some areas, and has some known drawbacks as well, compared to competitors' processes. Operating in a conservative industry, Tim says there is a heavier emphasis on production/process innovation than on product innovation, meaning improving product quality is more important than radical innovation of the product itself.

However, there has been some product diversification in recent years (where the core product is adapted into niche sub-products) where product development is a priority. Overall, the industry does not experience frequent radical innovations, the latest one being in the 1970's/80's. There has been a recent slight shift in trends of consumer demand, towards old ways of making the product, and NC2 follows this to 're-innovate' the old product into modern production.

4.2.2 Innovation practice

NC2 employs three people dedicated to product development, with one additional employee for internal testing, and several others partake in the process. For their innovation process, NC2 have not implemented any official model or process with regards to steps and gates between, Tim says. NC2 follow three-year plans, made in consensus with several parts of the company such as marketing, sales, and distributors. NC2 has tried longer plans, however, realized they were being changed too often due to changes in the market, that two-three years at the time was ideal timespan. These plans often include what products are up for modification due to feedback, which should be retired, and which new products to replace them.

Each product has a two-year cycle of renewal, which means every two years of a products' life cycle, it is reviewed for improvement, continuation, or discontinuation. According to Tim, NC2 has a versatile manufacturing process, enabling them to alter nuances of their core product effortlessly. This allows NC2 to follow developing trends in the market rapidly, even if they're not the 'first mover', and responds to unforeseen trends relating to the current three-year plan.

For product development, the core product has not changed since the shift in 1970's/80's, and R&D at NC2 focus on the parameters of the core product, investigating new materials and manufacturing processes, with prototypes tested frequently. This process starts with input from lead users, which Tim and the other staff bring into design. The lead users provide detailed feedback and requests for NC2 to work with. Most often, the feedback will be applied to existing products to see if any can be adjusted to meet the need, Tim says, as improvements requested are often incremental and concerns technical properties of the product. NC2 employs somewhere between five and 10 people who have previously been professional users themselves. This increases understanding of consumer need, and allows for qualified internal testing, before offering internally approved prototypes to lead users for testing.

None of these employees were in contact with NC2 as lead users before their employment at NC2, Tim adds. Iterations of this process is repeated until lead users are satisfied along with NC2, and the product is shipped to graphic design before the final production.

4.2.3 Involving consumers

NC2 divide their products into two main categories; professional and casual. For their professional line of products (pro-line), they work closely with their consumers and their associates (lead users). For pro-line products NC2 has wider budgets available to do so, while Tim cite costs and pressure on price as a leading reason for consumer involvement being less of a focus for the products aimed at casual users. Lead user contact regarding the pro-line, however, can be very frequent, as often as weekly and even daily towards the end-stages of product development, Tim says. NC2 arranges for a 'industry camp' with partners each spring to do testing, meetings, and update on the feedback received from the last year. These partners include suppliers, retailers, sales & marketing, and even some lead users are invited. While NC2 consults external parties for casual product development, it's mostly contact with retailers and intermediaries who considers sale of product.

Products are also displayed on industry shows, however, NC2 do not utilize direct consumer contact such as focus groups for this line of product. R&D for the casual line of products mostly concern how to develop cheaper processes and using cheaper materials without compromising quality. Regarding inbound consumer contact, Tim says they are active on Facebook and other social media, and tries to follow up as many requests as possible. Tim approximates 10-12 inquires/suggestions by consumers directed towards product development, including product suggestions. Some are interesting and investigated, while others are quickly rejected. A recurring reason for rejection is a potential conflict with IP. While several ideas have made it some distance into development, there has not been a completed product launched which started from a user's suggestion in the since Tim joined the company ten years ago. At some point, prototype testing has revealed the suggestions to have too many/significant issues to go the distance. Additionally, NC2 has participated in research-programs dedicated to cooperate with users and research facilities to develop new features beyond the core product. This allows NC2 to take on more risky projects while not taking the whole risk themselves. As a direct result, NC2 made an addition to their core product in 2013 which has become a standard for their products.

4.2.4 Results of Open Innovation with consumers

According to Tim, working with lead users allow NC2 to produce the best products they can for those who require them to perform optimally. The goal is well-performing products. Some lead users have also made significant contributions to product development beyond what NC2 asked for.

4.2.5 Concerns with the 'open' platform

Tim says leaks are a concern, though not a major one. Professionalism and trust is important in this setting. However, if a new (potential) partner talks too much about a competitor, Tim says there would be grounds for some scepticism. Traditionally, NC2 has been a fairly closed company, and recently become more open. Learning and knowing what to hide and what to share is important, according to Tim.

4.2.6 Future development

Tim says that ideally, more consumers would be involved in product development, especially for the casual-line product, as it is almost non-existing currently. However, NC2's resources are not sufficient to comply at the moment. Tim sees social media as a platform to improve upon this in the coming years.

4.3 Case 3: C1 – Consumable good-producer 1

The third company interviewed is consumable good-producer 1 (C1). C1, like NC2, is over 100 years old, and operates as part of one of Norway's largest companies. The company produces edible consumables, spread among several product lines, and the interview is conducted with 'Olivia' (product development manager) and 'Elise' (market manager).

4.3.1 Attitude towards innovation in the company

Olivia says the company being as old as it is, is somewhat noticeable, particularly in the manufacturing plants. There are certain traditions and a way of doing things that have been around for a while. The marketing department feels a lot younger, according to Elise, and front their brands accordingly. Both agree that innovation is the most important factor of survival and growth for the company. Company philosophy, culture and growth-models are built around innovation. Operating in a stable market, innovation is the way to increase a consumer's desire for a product.

4.3.2 Innovation practice

Olivia says C1's product development processes revolve around end-user insight and a stage-gate approach towards developing products from the insight, though not following any particular model by the letter. C1 has 15 full-time employees dedicated to product development, however a great number of others work 'part-time' with product development, though they could not approximate a number. However, Olivia and Elise estimate 40% of revenue could be traced back to innovations. Elise says each R&D-project is different, however, it usually starts with assigning a project group who is tasked with gathering insights and create a pool of ideas from that insight. The insight is gathered both from consumers and internal sources, sometimes through agencies, but most of the time it's conducted by the company itself. Then, the ideas are sorted through the first gate. The next steps follow a similar pattern, being developing the concepts further, distinctly realizing the product with prototypes and testing, and the products which pass through each gate are launched. The major gate of any project is the first gate, being accepted from pool of ideas into development, according to Olivia. C1 R&D is mostly focused on developing the products, while developments of packaging (structural or graphical) less so. According to Olivia, this is due to their market being mature and that the company is satisfied with the current state in addition to product recognition in stores.

4.3.3 Involving consumers

Olivia says the consumer is usually the defining factor concerning the type of product being developed, through surveys online. Further, consumers are included through the process for validation, particularly for prototype testing. As C1 produces edible consumables, flavour validation is a 'must'. C1 receives consumer feedback and ideas through hotlines and social media as well. Being in the industry they are, Olivia says, virtually everyone and anyone have an interest in their product, which allows from consumer feedback from a lot of people. Therefore, it is relatively easy to find respondents for surveys and prototype testing. 'Lead users' is not a major concept within C1's industry. Rather, it is more important to define target markets; larger groups of people with similar wants. Prototype testing is most often conducted off-site. Elise says focus groups are rarely performed at headquarters. Olivia says it helps lower the threshold for the consumers, and Elise adds that it helps to enact anonymity for their testing. The anonymity has two advantages, says Elise; one is testing is not skewed by the consumer knowing who produces it, and additionally it allows the question of 'do you see this as something C1 should/could offer?', without the consumer already knowing C1 is conducting the test. Participants for surveys and testing are found through agencies, and sometimes the agencies conduct the testing as well. The participants are most often selected through demographics, however, also sometimes regarding their knowledge or like/dislike for a certain product in C1's portfolio, if the product in question is a development on an existing product.

4.3.4 Results of Open Innovation with consumers

Feedback during concept- and prototype testing is critical, according to Olivia. There have been concepts and flavours which internal sources have been confident in, that testing has revealed to score poorly. The consumer feedback guides where C1 should move next to become interesting in the consumer's eyes. At later stages, there may be several iterations of a product that has passed through, however, C1 does not wish to launch all of them. In that case, testing with consumers can act as the deciding factor on which product reaches the market.

4.3.5 Concerns with the 'open' platform

Elise says C1 is not too concerned with leaked information. As mentioned, the anonymous testing is primarily to receive an unbiased reply.

4.3.6 Future development

Olivia says the current process employed at C1 is working well, and will probably be kept in use for the immediate future. There have been improvements to it in recent years, and if they notice a need to improve further, they will, Elise adds. They agree consumer involvement will probably stay at the level it is today, while emphasizing that whenever they develop brand new concepts, consumer participation is increased to ensure it is well-received.

4.4 Case 4: C2 – Consumable good-producer 2

The fourth and last company interviewed is consumable good-producer 2 (C2). C2 itself was established mid-2000's, however, it is the result of a merge between two companies each with history going back more than half a century. The company produces edible consumables, of which they provide a wide range of products, some at a basic level and some more refined products. 'Diana' is a department executive within product development, and 'Bruce' is a head of insight. The subheadings will contain 'I1' and 'I2' to represent interview with Diana and Bruce, respectively. In the second interview (I2), the focus is on consumer involvement in the company's process, due to Bruce's role as head of insight.

4.4.1 I1 - Attitude towards innovation in the company

According to Diana, C2 is driven by a mix of optimism and realism, being proactive and agile. Although having had some rough patches, C2 is in a good position presently. To Diana, innovation is associated with survival for the company, producing today to have a livelihood tomorrow. The primary focus is to make future products match consumers' expectations, thus having insight from both partners (retailers) and consumers (end-users). Although being clear on consumer insight being important to developing new products, Diana thinks there is also a limitation on how much information about opportunities can be gained from consumer insight, that the consumers cannot always accurately convey their needs/wants.

4.4.2 I1 - Innovation practice

C2 has 15 employees in full-time positions working with innovation/product development, and several more get involved in the process along the way. A major change for the company is to work closer with their customers (meaning retailers, not end-users). In brief, C2's product development model is similar to the stage/gate model introduced in chapter 2 (figure 4). Starting with ideas/brainstorming, moving into development, then testing, followed by the completion phase (of development), before being launched.

4.4.3 I1 - Involving consumers

According to Diana, consumer (end-user) involvement is key during development and testing. The most important parameter is taste. Regarding consumer involvement, C2 has subscriptions on several databases/reports which gathers data on consumers' consumption habits on a regular schedule. C2 previously hired consultancy agencies to perform focus group research, and while they still do, it has shifted more towards the subscriptions of dataflows.

4.4.4 I1 - Results of Open Innovation with consumers

There has been occasions where consumer testing has revealed a strong dislike for flavours which internal R&D had favoured heavily. There has also been relevant feedback on packaging and labelling which have compelled C2 to act differently than they initially intended.

4.4.5 I1 - Concerns with the 'open' platform

Diana is not concerned with leaked information due to consumer testing such as focus groups, as she believes they do not receive enough information to provide any harmful leak. When considering using consultants and other external parties, Diana admits leaked information is a concern. There have been incidents previously where C2 experienced information being divulged to wrong parties, however, improvements have been made to better prohibit future leaks. As C2 does share suppliers with competitors, it is a risk they must accept, and trust is paramount.

4.4.6 I1 - Future development

The level of consumer involvement may increase or decrease, although Diana says the level as it is right now is high compared to previous years. C2 is considering to try geographical test-launches to assess consumers' response to a new product in real-life, without risking a large loss (financially and with regards to reputation) should it fail.

The reason for not doing so already is that it might give competitors the opportunity to respond faster by the time the product is sold nationwide. However, Diana notes, there have been occasions where limited launches of a product would be preferable, knowing their outcome. It is a concept still debated within C2. Otherwise, Diana says consumer feedback is key during development and shaping the product, and there are plans to construct an organized system to store all ideas, received from external and internal parties, for future use. Although C2 does have a system for it, it could be better according to Diana. Finally, following market trends such as healthy products with environmentally-friendly packaging is a priority for C2.

4.4.7 I2 - Involving consumers

Consumers are involved both passively and actively, Bruce says. For 'passive' involvement, C2 subscribes to several reports, released every month, every year, and every other year. This helps C2 track consumer trends in the industry as well as attitude towards the brand, and adjust accordingly. One such report is 'Norske Spisefakta' – 'Norwegian Eating Facts'. The active participation is often related to launch of new products, however, not exclusively for this purpose. When developing a new concept, C2 will perform both qualitative and quantitative research, Bruce says. For qualitative, C2 arranges focus groups. The focus group study generally consists of four groups of seven to nine participants for two hours. The participants are recruited through agencies. One such agency, and publisher of 'Norwegian Eating Facts', is Ipsos MMI. C2 makes sure to have participants from several demographic groups, the most important category being geographic location (north/south, east/west, urban/non-urban). On occasion, C2 performs one-to-one interviews as well. Quantitative data are gathered from online surveys, usually aiming for 200-300 respondents, reached through agencies. C2 also collect data from partnerships with loyalty/reward programs.

However, C2 also conducts research with consumers to enhance general consumer understanding, related to the company and weighted attributes of products offered. This kind of research is often outsourced to external agencies. Additionally, there are agencies which perform studies with questions from several parties at once, lowering the cost for the individual party. During development of a product, there are frequent prototype testing with consumers; some conducted at agencies, others at malls/stores.

Unfortunately, Bruce says, the process is rather expensive when they involve consumers actively, and thus less than half of new products are tested with consumers. Bruce says C2 would prefer to test as many products as possible with consumers, if able. The factors to consider when evaluating of a product should be tested with consumers include

- How novel is the product?
- How important is a strong result?
- R&D's own (un)certainty regarding the product

Consumers contacting the company with feedback of their own initiative has increased the last few years, according to Bruce. However, the majority comes from customers, meaning retailers C2 supply with their product. In a market driven by small profit margins, retailers want exclusive products to differentiate themselves, rather than price. These requests, Bruce says, are weighted heavier than consumer (end-user) requests, as the retailers decide if they want to stock a given product.

Consumers' requests come mostly through the website. Complaints are always investigated, and comprise maybe 10% of inquiries, Bruce estimates. Complaints are followed up more closely than requests/suggestions, however, in either case Bruce says C2 analyses trends as opposed to a singular point of contact. In aggregate, Bruce estimates a few thousand inquiries are made per year from consumers, and approximately half are directly related to products.

4.4.8 I2 - Results of Open Innovation with consumers

The benefit of including consumers is a deeper understanding of the consumer, directly from the source itself. Data generated often has value beyond the project for which it has been collected. Research is utilized on several levels; brand, product category, product, and product attributes. Testing with consumers may not always pick the best sellers, however, is important to weed out the worst ones. Products may face challenges such as distribution/logistics and competitors' products when put on a shelf, which is not a factor during testing. There have been products tested which internal R&D believed in, which tested poorly and was discontinued. Bruce says on a rare occasion, a product which tested poorly has been pushed through by management, despite its test results. The product was tweaked per testing and managed to sell a 'first round', however, very few made repeated purchases.

To Bruce's knowledge, a product developed from consumer suggestion may have happened at some point, though not in recent memory. In any case, it would likely be from a trend of several consumers voicing similar requests, highly unlikely to have stemmed from a single request. Bruce adds C2's suppliers are also active in suggesting new products.

4.4.9 I2 - Concerns with the 'open' platform

Bruce says it's a concern, though not major. Between trust with their external partners and limiting information flow to only the relevant parties, it's an acceptable risk.

4.4.10 I2 - Future development

Given there has been a lot of development recently, in particular with direct consumer contact, Bruce expects that trend to develop further. Bruce also says there has been a clear shift with regards to urgency of research – everything needs to happen fast, preferably on a digital platform, with smartphone-compatibility. With that in mind, a concern for Bruce is consumers' increasing 'impatience' when participating in surveys. Apparently, the agencies which help C2 get participants for their studies says it's harder to get people to sign up and participate. Therefore, surveys need to be constructed to be short, concise, and, again, be conductible by smartphone interface. In addition, competition has increased too, pressuring schedules for product launches. The most novel product developments, however, are less stressful as it has less risk of a competitor beating C2 to the market.

The next chapter will summarize these findings, compare the cases to each other and, where applicable, theory from chapter 2.

Chapter 5 – Data Analysis

For each section, the findings from each company will be summarized, compared to literature reviewed in chapter 2, and compared to each other.

5.1 Attitude towards innovation in the company

The author chose to focus on large companies due to their reported difficulty with innovation. As listed in section 2.5 the obstacles include bureaucracy, lack of focus in product portfolio, and focus on profit and efficiency. This section aims to discover if this is a perceived issue among the participating companies' employees.

Viktor described NC1 as 'young at heart' with young employees, and emphasized that innovation was encouraged on every level of the company. Viktor himself says he made an effort to implement improvement he had observed along the way to his current position. Finally, Viktor said NC1 never adds new products without removing another, actively working towards a non-expanding product portfolio. At NC2, Tim says the company operates in an industry of tradition, which does limit how radical their innovation can be within its scope. NC2 have not been pushed in radical innovation since the shift in 1970's. However, NC2 is actively engaged in incremental product innovation, as well as process/production innovation. NC2 also manages their product portfolio by evaluating each product every other year. At just 100 employees, NC2 is the lowest staffed company in the study. The relatively low number of employees may lower the obstacle of bureaucracy. Olivia says that C1's age, particularly in manufacturing plants, is somewhat noticeable, in way of tradition. Elise experiences the marketing department a lot younger. However, both agree innovation is a vital factor for company survival and to capture consumers' attention. At C2, Diana says the company is driven by a mix of optimism and realism, and acts proactively and with agility. Having been through some rough patches, the company is in a good position and works with both customers (retailers) and consumers (end-users) to make the desired products. However, Diana also believes the customer/consumer may not always know what they want, which becomes the task of the company.

Despite their age, each company seems to prioritize innovation as a key part of survival and growth. While Tim and Olivia note some age is showing in their companies, each company seem to welcome and encourage innovation. The two 'NC' companies both talk about actively managing their product portfolio. The interviewees expressed attitude towards innovation matching the high score on business environment from the GII 16 report reviewed in section 2.6.

5.2 Innovation practice

In this section, the companies' response when explaining their innovation process will be analysed. It should be noted that when the researcher asked or talked about innovation, every interviewee made the association directly to product development, and occasionally brought up process/production innovation. The theory from chapter 2 on innovation models is significant to this section.

NC1 focus on product development, while there has been some process innovation as well. Organizational development was briefly mentioned, as Viktor implemented steps to include more employees in NC1's innovative process. The transit towards the experience of their products, may arguably be categorized as business model innovation. NC1 has 27 full-time employees dedicated to innovation, with another eight regularly involved, and two external consultants as project leaders/managers. NC1's innovative process is described similarly to figure 3, adding the 'stage 0' from the stage/gate model in figure 4 as a precursor to 'search'.

At NC2, there are four employees dedicated to innovation, with several others having a variable amount of input. NC2 does not follow any particular model, according to Tim. However, from the description given, it resembles the mid-to-latter half of the stage/gate model as shown in figure 4. This means the process usually starts at a concept (stage 2), and is reiterated through the rest of the process. The core product offered by NC2 is fairly 'fixed', thus incremental product innovations and process/production are the most likely to yield results. In this regard, Tim says NC2 are well-positioned and in possession of the necessary tools. When initiating the process, lead users often are included in the process from the start, for pro-line products. Innovation for casual products are almost exclusively regarding process and production, to lower costs while maintaining quality.

In C1, Olivia says product development revolves around end-user insight, using a stage/gate approach as shown in figure 4. 15 employees are full-time dedicated to innovation, with several others being involved along the way. The result is an estimated 40% of revenue may be traced back to innovation, Elise and Olivia estimates. C1 gathers insight from consumers either by conducting surveys and/or focus groups themselves, or outsourcing them to agencies who specialize in the field.

According to Diana, C2 has 15 employees in full-time positions working on product development, and, as with the other companies, several more get involved in the process along the way. A recent addition to their process has been to involve their customers, meaning retailers, not end-users, in a larger degree. C2's innovation process follows a stage/gate model of their own, in effect working as a version of figure 4.

In summary, every company practices some degree of OI, none of the companies conducted their innovation processes in isolation. Further, three of the four cases use an innovation model of similar character to figure 4's stage/gate, in a varying degree of detail. NC1 is the stand-out who follows a model closer to figure 3's SICC. Table 3 summarizes the percentage of employees in each company dedicated full-time to innovation. No part-time participants were included; neither were the external consultants of NC1.

Table 3 Employees within each company dedicated to full-time innovation

	Employees	Dedicated Innovation	% Employees dedicated to Innovation
NC1	1500	27	1.8%
NC2	100	4	4%
C1	600	15	2.5%
C2	6000	15	0.25%

Table 3 shows a noticeable difference between the cases. NC2 has the highest percentage of employees dedicated to innovation, while C2 has the least. However, the 'C'-companies both employ the same number of employees despite the large difference of total number of employees.

5.3 Involving consumers

For NC1, Viktor says consumers are involved from the start of the product development process, until the finished designs are sent to manufacturing. When conducting focus groups for testing, NC1 always brings prototypes. Criteria in focus groups may include aesthetics, feel, functionality/attributes, comparisons to competing products, and price/retailer expectancy, where retailer expectancy concerns where the consumer would expect to find the product. NC1 also take note of demographic data regarding feedback. While present on Twitter and Facebook, and a phone number consumers may call, Viktor admits he would like to better at utilizing those channels. The reason for not doing so is resources. Given the pre-tax operating profit of 200 million NOK, this might indicate the issue of efficiency and generate profit rather than long-term value through additional investment in innovation. Viktor brings up the issue of IPR, this will be analysed at the end of this section. Lead users are not a relevant factor in NC1's industry. Never the less, NC1 includes consumers in their process, allowing for co-creation of products.

NC2's pro-line of products is the most co-created set of products in this study. The pro-line is developed in close contact with the lead users and their associates, with contact as often as weekly, even daily. Tim also cites cost as reason for why the pro-line receives this treatment; with the pro-line retailing at a higher price, NC2 can afford the extra cost. In addition to frequent contact, testing and reiterations, NC2 even arranges 'industry camp' with their partners, including lead users. This is not the case for the casual line. The casual line is usually developed based on sales reported, and feedback mainly comes from retailers. While being active on Facebook and other social media, lack of resources prevents Tim and NC2 to follow up on every query. Approximately, Time estimates 10-12 queries per month, though it fluctuates through the year. Tim and NC2 have also had experiences with IPR issues. NC2 is the only company who reported to take on additional projects in relation to consumer involvement in innovation. NC2 have running projects through external R&D departments, funded by grants, used to develop new technology compatible with their core product. In 2013, one project resulted in a permanent addition to all their products.

In C1, Olivia says the consumer is often the defining factor of their new products. Consumers are heavily included in idea/concept formulation through surveys, and in further development through focus groups and prototype testing. Flavour validation is a must, fortunately, C1 has little difficulty finding willing participants. 'Lead users' are not relevant to C1. Elise says testing is often conducted without revealing C1's identity, to avoid bias and to ask the participant at the end if this seems like a product for C1. Participants are recruited from agencies with criteria relating to demographics and opinions/knowledge of previous C1 products.

Diana says consumer involvement is key during idea generation, development and testing, and conducted to enhance general consumer understanding. Like C1, C2 identifies flavour as the key parameter during testing. C2 subscribes to databases and reports for 'passive' consumer involvement. Bruce says consumer insight is generated both through qualitative measures such as focus groups and quantitative data such as online surveys, both most often recruited through agencies. However, even for a company with a revenue of 18 billion NOK and pre-tax operating profit of 350 million NOK, less than half of new products are tested with consumers at all, due to costs associated. Products received testing based on novelty, importance of result, and internal R&D (un)certainty. Bruce says the influx of feedback has increased, mostly from customers (retailers). Product exclusivity is the objective for customer, rather than having to compete on price. Feedback from consumers coming from online sources are investigated when becoming a trend. During an average year, Bruce estimates a few thousand queries, half of which related to products.

Each case places a heavy significance on consumer input, and has taken steps to include them in their processes on a significant level. The main limiting factor, as quoted by C2 and NC2, is cost. Both companies say they ideally would have consumer input on all their products, however, is not able to with regards to budget. There is a start contrast in amount of user feedback when considering NC2 and C2. C2 receives approximately ten times, or more, the number of inquiries NC2 does. While both amounts of consumer contacts were estimates, the difference is vast. Tim says they try to follow up on every request, however, is not able. It seems C2 has accepted not being able to directly follow up on each request, and instead stores and categorizes them to identify trends and act when they become significant.

Additionally, each company has some amount of internet presence, either on social media and/or being available for feedback through their website. This allows consumers to engage the companies at their own leisure, however, as explained by Bruce at C2, each consumer may not receive a personal response or trigger a change unless being part of a trending issue.

To further evaluate consumer involvement, the study will compare the findings to the principles of OI explained in section 2.2. To briefly recap, the '6 Principles of Open Innovation' were listed as (1)tap into external knowledge, (2)value of external R&D, (3)not having to originate research to profit from it, (4)business model being superior to market speed, (5)utilization of ideas over generating them, and (6)the give and take of intellectual property (IP) (Tidd & Bessant, 2013). There is some overlap of these principles regarding consumer involvement.

The first principle of tapping into external knowledge was implemented by each company. This was primarily through including consumers in idea generation and product development, categorized as market knowledge. Each of the cases actively utilize this principle. Focusing on consumers, this study did not delve into the second principle. The third principle of not needing to be the origin of an idea to profit from it is also adhered to. The participating companies were all open to ideas from consumers, in particular NC2 with their pro-line products. As a side note, C2 also works closely with customers (the retailers) with regards to making new and customer-exclusive products. The study did not collect data towards the express purpose of evaluating the fourth principle, however, it can confirm each company has built their business model to value consumer insight over speed, though not necessarily over cost. The fifth principle of idea utilization overlaps with principle 1 and 3 with regards to consumer involvement, and the companies do act towards this principle.

The sixth principle of IP has the least overlap with the previous principles, and came up during interviews, and the author will therefore spend some extra time on the issue. A barrier both NC1 and NC2 faced was intellectual property rights (IPR) issues. The property rights issues were primarily concerning information coming in, rather than fear of it going out, as will be discussed in section 5.5. C1 and C2 did not mention IPR issues during their interviews. Considering their respective industries (the NC's and the C's), it makes sense.

As Bruce noted, C2 analyses consumer input as part of the aggregate looking for trends. This minimizes one-on-one contact, where these issues often are identified. Also, if C2 acts on a trend among suggestions, it will be difficult for any one consumer to claim ownership of relevant IP.

Issues noted were as follows;

1. How far along any protection process was
2. Integrity of IPR available for the IP
3. Terms of compensation
4. Conflict with internal project
5. Leaked information

First, the stage of the IPR process. Both NC1 and NC2 noted if the idea from an external party, consumer or otherwise, is in its infancy and requires a lot of development regarding IPR, they were hesitant to include it into their own R&D. This was due to expected costs in development for both the idea and protecting the rights to it, as well as time and cost to develop it. Second, without IPR in place, the companies expressed concern whether they could establish protection of it. They would not have the necessary overview of to what degree the criteria for establishing IPR had been adhered to before being presented to them. Another potential issue, which did not come up during interviews, could possibly be legitimacy of the claim – without proper IPR already in place, the companies could not be certain the IP offered rightful property of the offering party. This leads into the third issue – compensation. The negotiation process for IP that made it so far as negotiations often stopped there, too. Both NC1 and NC2 reported difficulty reaching agreements as the owner of the IP would demand too steep terms. This does not mean they were greedy, rather they wished to be compensated higher than what NC1 and NC2 were prepared to offer at the given stage. Fourth, Tim said he had on occasion realized the IPR offered were similar to projects they were conducting themselves, which could lead to complications at a later stage. These complications include issues such as who would be entitled to the economic benefits, and what part of the similar IP was developed by whom. On those occasions, Tim would advise the other party to get their IP protected as soon as possible if it was not already, and they could talk later when both parties had the IPR in place. Finally, the issue of IP going out will be addressed in section 5.5.

5.4 Results of Open Innovation with consumers

For NC1, consumer involvement and feedback has directly affected which products make it to market. Consumers have also influenced NC1 to increase their focus on the experience of the product, rather than simply being technologically superior. This is a significant alteration of product focus, and can be described as consumers influencing organisational focus, causing organisational innovation.

At NC2, Tim explains the main benefit of involving consumers (for their pro-line products) is the ability to produce the best product possible for those who need it in their line of work, i.e. consumer satisfaction. This is not a result that directly shows on a company's bottom line, however, it will encourage consumer loyalty, which in turn influences purchasing decisions, which affects the bottom line. Additionally, Tim acknowledges some lead users have provided significant contributions to their product development. While NC2 do not conduct consumer testing on their product intended for casual users, there may be a 'trickle-down' effect where testing for pro-line products have results applicable to the casual line of products.

Olivia says the consumers participating in testing significantly decides which products make it to market from C1. In concept development, consumer feedback helps identify the most promising ideas. In prototype testing, flavour feedback is essential to iterations, and finally, if C1 has several candidates to choose from at the end of development, consumer feedback is often the deciding factor.

C2 has similar experiences. Both Diana and Bruce says consumer testing have shut down projects which internal R&D had great faith in. Bruce adds that consumer insight is often applicable to several additional instances than for the purpose of which it was collected. The information may be applicable on levels from top (brand-level) to bottom (product attributes-level). Additionally, Bruce says consumer insight plays an important role in eliminating bad concepts/products early as well. On occasion, management has ignored testing and launched products which, by rights of consumer insight, should be scrapped.

The result has been products that sell an initial batch, however, minimal repeat purchases. To Bruce's knowledge, no product has been developed based on single consumer suggestions. Multiple suggestions forming a trend of 'demand' have been acted upon, though.

Bruce adds C2' customers (retailers) sometimes make requests for products, which are more often acted upon, as the customer command the direct demand for C2's products and thus their opinions/requests are more heavily weighted. Lastly, C2's suppliers also often engage in idea generation.

The companies seem to agree consumer involvement, when they can afford it, is a positive addition to product development. Their results differ slightly, however. For C1 and C2, the consumer's insight can act as the deciding factor on which product reach market. For NC1, consumer insight had the additional impact of shifting the focus of product development from technology-focus to experience-focus. This is comparable to NC2's result of achieving consumer satisfaction and loyalty. However, there is clearly a consensus that involving consumers and engaging in co-creation with them is an attractive process that provides a favourable outcome, rather than not including consumers.

5.5 Concerns with the 'open' platform

One of OI's drawbacks is the potential of leaking information by including external parties. This section analyses how the companies perceive this risk.

For NC1, Viktor says leaks are a concern, however not a major one. There is sufficient trust with external partners, and considering consumers, Viktor says they do not receive enough information to significantly damage NC1's competitive advantage.

Viktor's statement about leaks, trust and information given to consumers are essentially echoed by every other employee interviewed at the other companies. Leaks are of some concern, though not a considerable one due to trust between external companies, and consumers are not given enough information to result in a harmful outcome. Diana is the only interviewee mentioning instances of breach of trust with external companies (not by consumers), prompting C2 to improve their routines around their sharing of information and selection of partners. However, it has not deterred them from practicing OI.

5.6 Future development

For NC1, Viktor expects consumer involvement to stay the same or increase over the next 5 years. Viktor's main desire for product development is for R&D to have more of an input in which products get launched, the reason being higher management halted a project which showed great results among testing. This can be analysed on several levels. First, it may echo the issue of bureaucracy of large companies, however, not necessarily as that issue often refers to complications of innovation due to organizational structure rather than executive decisions of stop/go during the development process. Second, it provides an opposite of the issue experienced at C2, where management pushed through products that tested (and sold) poorly. Each time, management went against test-results with negative consequences. Finally, it signals Viktor wants to grant R&D more executive power, in order to adhere to consumer feedback, effectively increasing co-creation in NC1.

At NC2, Tim hopes to have a higher level of consumer involvement, especially for casual-line products, and to improve their social media platform. Currently, resources available is a limiting resource. NC2 has the lowest amount of pre-tax profits, and their profit-to-revenue ratio is second lowest, earning slightly more in profits per unit revenue than C2.

Olivia says there is unlikely to be any large shifts in their process in the next years, as they are currently stabilizing after a period of change at C1. Elise adds that if circumstances change, they will stay alert to follow.

Diana at NC2 says the level of consumer involvement may increase or decrease slightly, however unlikely to change a lot, and NC2 is currently on a 'high' compared to recent years. Bruce says he believes the involvement is most likely to increase. A change they are looking at implementing is regional test-launches, rather than their current nation-wide launches. NC2 also plans to systemize a complete collection of their ideas, which currently is too decentralized, according to Diana. Bruce adds they are looking to make their surveys faster and easier to participate in to counteract the decreasing level of consumer interest in participating.

The companies seem to agree regarding a desire to keep consumers involved, even more than they are today for some. Again, C2 and NC2 both cite lack of resources as an obstacle, which, inside the confines of this study, makes sense as they are the least profitable by profit-to-revenue ratio. NC2 and C2 express an intent to advance their digital platforms; NC2 by increase their use of social media, and C2 by streamlining their surveys towards a smartphone-friendly interface.

5.7 Summary of Data Analysis

The data analysis identified more similarities between the cases than differences. A distinct difference was summed up in table 3 regarding percentage of full-time employees dedicated to innovation. NC2 has the highest level of co-creation when it comes to their pro-line products, and potentially also the lowest regarding their casual-line products. Among NC1, C1 and C2, there was a strong preference for focus groups during testing, allowing consumers to make their desires known. C2 also engage in extensive data collection through subscribing to reports. This database helped identify trends that C2 would want to engage in.

Using the analysis, table 4 categorizes each company by the tool developed by "PotentialInYou" used in Hoholm and Huse (2008) mentioned in the introduction of the study. The tool categorizes each company by its level of consumer involvement.

Table 4 Level of Consumer Involvement

Company	Industry	Level of Consumer Involvement	Preferences of innovation methods
NC1	Goods for home and office	4	Focus groups, test facilities
NC2	Outdoors equipment	5/1	Co-creation, product development camps
C1	Edible consumables	3	Focus groups
C2	Edible consumables	3	Focus groups, databases

The levels are described as follows;

1 – Envisioning the consumer's desires and construct knowledge about the users based on assumptions

2 – Asking the consumers' opinion about the product in question and note any suggestions if necessary

3 – Observing the customer interact with the product

4 – Testing the product by introducing it to the consumer in natural environments

5 – Involving the consumer directly into product development

Table shows NC2 has the highest level of consumer involvement, however, only when considering their pro-line. Their casual-line ends up on the bottom level. The preferences listed for NC2 corresponds to their pro-line only. NC1 have their products in an off-site testing house where they are tested over time in office-conditions. Additionally, the product developers take products home to test for the home-conditions. While the developers themselves is not 'consumer input', their family and other users does count as generating consumer involvement. C1 and C2 have similar preferences when it comes to method for consumer involvement, largely revolving around product tests in a focus group setting, with the occasional one-to-one interview.

Chapter 6 – Discussion and Conclusion

6.1 Introduction

This study was conducted to gain insight into the OI practices of large Norwegian companies with regards to their involvement of consumers in the innovation process, and compare the cases to each other and, where relevant, to literature. To gain this insight, the author conducted five interviews with a total of six employees, distributed among four companies. The implications will skew towards the practical, being focused on case studies about company practice.

6.2 Discussion

This section will discuss some of the method utilized of the study, then the findings and analysis, before discussing the conclusion briefly.

As mentioned in chapter 3, the author sent the interview guide to the companies who agreed to participate as they said yes to partake in the study. In hindsight, the author wonders if it would have been better to send the study guide regardless, as part of the invitational e-mail. It would have given the companies a more detailed description of what information the study aimed at collecting. It is unlikely including it would have any negative impact, and it may have helped to lower the threshold for companies to accept the invitation. The author will keep this in mind for future studies.

For data findings and analysis, the initial plan was to simply use the four headings in the interview guide as sub-headlines (dubbed philosophy, practice, results, and future development). In the end, those headings felt like they did not quite hit the mark. The other alternative was to separate question by question. However, after having conducted the interviews, to split the data by individual questions felt too 'rigid' for presenting the data collected from the 'fluid' form of a semi-structured interview. Additionally, interviewees often answered more than one question at the time, not because they were posed several at the time, rather because they flow into each other. Having to pick and choose which part of each answer went into which question did not seem like an efficient nor practical method of sorting the data.

After going through the first three interviews (NC1, C2 part 1, and C1), the six sub-headlines presented themselves as being a mix between the initial two alternatives previously considered, adding in what felt like natural 'divides' in the data collected from the interviews. With regards to the findings, the companies were each supplied with the data gathered in their interview, and none had corrections to the data presented. This was positive because no company decided to censor their answers, and data collected during phone interviews proved accurate. This allowed the author to use the presentation of data he had constructed from the interviews unaltered.

In the first section of data collection/analysis, companies were asked about their attitude towards innovation. While their response does not necessarily describe the actual conditions, the general gist is clearly positive. However, when asked for future developments, Viktor hoped for less interference from management about products selected for launch.

This could indicate there is a certain amount of bureaucracy in NC1, a common hindrance to innovation in larger companies. The companies seem surprisingly engaged in innovation compared to what the author expected on the grounds of literature identifying

The employees may be positive towards innovation, though the numbers included in the study does leave a fair amount of profit. The exception is NC2 who has low levels of both operating profit and profit-to-revenue ratio compared to the other cases. NC1 especially have a high profit-to-revenue rate. The funds could have, in part, been invested in innovation instead of staying profit. However, there are several possible alternatives. Not having data from other years, 2015 may have been the first good result in a while. Another possibility is profit from that year was pumped into 2016's innovation processes, and did not 'stay profit' to build shareholder value at all. Moreover, the companies may have to reach given growth/profit to honour deals with investors/shareholders. Finally, the author has no knowledge of corporate tax laws and regulations, which may contain reasons for the companies to keep their levels of profit.

When considering table 1, there are a few things to keep in mind. While the employees seemed certain of their estimates of full-time dedicated innovative employees, the number of additional staff who does innovation as part of their job was uncertain. Therefore, these numbers are not a definitive summary of how many people work towards innovative purposes in each case.

Both C2 and NC1 went against their consumers' feedback by launching a disliked product and not launching a liked product, respectively. Both turned out to be wrong decisions. While one should avoid result-oriented thinking ('it went well, therefore it was the right decision' and vice versa), they are interesting data points, considering the positive impact following consumers feedback has had. Bruce said the disliked product sold its initial batch, with little to no follow-up purchases. Bruce and C2 presumably identified the initial batch selling because it was new and interesting, not because the consumers in testing were wrong, or rather a poor representation of the population.

Finally, the study was able to complete its research questions. The knowledge of how companies practice innovation with consumer involvement has been expanded upon. It should be noted that a more detailed picture could be formed by observing their practice, which the author was not able to due to the companies not having any focus groups or other consumer contact during the writing of this study.

For research question two, the author is satisfied with using the tool by 'PotentialInYou' (Hoholm & Huse, 2008) to punctuate the answer. When trying to answer 'to what extent', there may be difficulty in relation to how best illustrate the answer. The consumer involvement rankings simplified this, in two ways. Firstly, it simplified the presentation of it in a meaningful way, and secondly it simplified the different nuances the companies practice. To achieve the best understanding this study can offer regarding the innovation processes of these companies, reading chapters 4 and 5 is important, rather than just reading the conclusion.

6.3 Conclusion

The study aimed to answer these research questions;

RQ1: How do large Norwegian good-producing companies involve and utilize consumers in an open innovation paradigm in corporate product innovation processes?

RQ2: To what extent do the companies involve consumers as part of their innovation processes?

As most the study has been dedicated to give elaborate answers to these questions, the conclusion will be brief. To answer research question one; the companies participating in this study involve consumers most commonly for prototype testing and feedback during the steps/stages between selection of concepts and production of a finished product. Among two of the companies (C1 and C2), there is frequent inclusion of consumers' input for idea generation and concept development as well, though more by trends among many rather than an idea among few. One company (NC2) also involves the consumer through the entire process, however, only for products meant for professional use. Consumer input is utilized in some degree from the very beginning of conception towards end of product development, where the finished product is shipped to manufacture/production.

Research question two is answered by table 4, where the companies are ranked per their extent of consumer involvement, where level 1 is the least involvement and level 5 is the most. NC1 achieved a level 4 score, NC2 achieved level 5 for their professional products and level 1 for their casual products, and C1 and C2 both achieved level 3. For the levels explained, see section 5.8.

6.4 Theoretical Implications

The study has conducted research on four different companies (cases) and compared the findings. The companies were split between consumable producers and non-consumable producers. As such, the findings are not generalizable on their own. However, the study may help provide a more complete picture when more studies on consumer involvement are completed.

6.5 Practical Implications

It is the author's intention that companies may benefit from the findings of this study. In particular, that the participating companies take the opportunity of seeing their own processes through an external eye, and potentially identify steps to improve. While not presenting enough data to make a generalizable statement, it is clear within the study that involving the consumer has positive effects. In fact, interviewees from both C1 and C2 reported consumer insight to stop potentially embarrassing products seeing the light of day. Moreover, the only negative experiences with consumers' involvement was when ignoring their input. Both times the decision was made by management outside R&D.

The overall recommendation is to learn from each other, which is ingrained in OI. For instance, storing detailed ideas in a systemized way can help accelerate the selection phase of the innovative process. NC1, C1 and C2 might consider aspiring to reach higher levels of consumer involvement by experimenting with allowing consumers a more central role. NC2 should look towards matching their two product lines to a similar level, if possible.

Except for NC1's re-focus towards product experience, and encouragement of innovation among employees, there was little mentioning of innovation in areas outside product/process/production innovation in the other case studies. Examples of useful areas of innovation are marketing innovation, supply chain innovation, and the mentioned organizational innovation and business model innovation. The author understands this study focused on consumer involvement, and the interviewees may therefore not have thought of including answers outside of that topic. NC2's industry has been without radical innovation since the 1970's. The author would therefore encourage the thought of being the catalyst for a new one. Finally, the author hopes other companies may find useful information towards developing their innovation processes with regards to consumer involvement.

6.6 Weaknesses and Limitations of the Study

There are some weaknesses and limitations in this study that should be considered. First, the anonymity of the companies is not ideal. The results would carry more weight and credibility if the companies were public. Second, as a master's thesis, this study has the constraint of time. Third, two of five interviews were not recorded, which may have led to information loss. Fourth, the scope of the study is narrow, focusing only on consumer involvement in the Open Innovation approach. Finally, not being able to observe the processes in action may have detracted some value of insight.

6.7 Suggestions for further research

The author has identified some opportunities for further research. One possible path is to do research on the agencies used by companies to conduct their focus groups, as three of the four companies said they utilize such agencies. Another is research the opposite side, to interview consumers who involve themselves into the innovative process and identify their motivations and experiences. A third suggestion is to go deeper on any single company, potentially by participating/observing in a company's testing.

If a future researcher would be interested in further studies of any the participating companies, they may contact the author of this study who can act as an intermediary between the prospective researcher and their company of interest. Then, if the company gives its expressed consent, put the two parties in contact with each other.

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Appendix 1a: Invitational e-mail (as sent in Norwegian)

Hei [selskap],

Mitt navn er Nils Kristian Holte og jeg jobber med masteroppgave på Handelshøyskolen ved NMBU i Ås. Masteroppgaven, innen fagfeltet Entreprenørskap og Innovasjon, undersøker hvordan bedrifter benytter brukerne sine i utvikling av nye/forbedringer av eksisterende produkter.

Innovasjon er sentralt i dagens dynamiske marked, derfor tror jeg dere kan dra nytte av å være med i studien, og ønsker å invitere dere til å delta. Gjennom studien ønsker jeg å hjelpe deltakende selskaper å få bedre innsikt i egen innovasjonsprosess og øyne muligheter til forbedring og effektivisering, og bidra til innsikt i innovasjonsprosessen i større norske selskaper.

Studien vil fokusere på 3 områder; (1) hvordan deltakende bedrifter benytter brukere (prosess), (2) hvilke kunnskaper har fremkommet gjennom disse prosessene som kanskje ville gått uoppdaget uten eksternt innsyn, og (3) kort om selskapets filosofi/innstilling vedr. innovasjon.

Selve deltakelsen vil bestå av intervju med nøkkelpersonell innen deres innovasjonssystemer, eventuelt observasjon av interaksjon med brukere som tar del i innovasjon, hovedsakelig i Mars/April 2017. Intervjuet består av ca. 1 time med spørsmål rundt innovasjon, med ønske om et oppfølgingsintervju etter bearbeidelse av data fra første intervju.

Når det gjelder konfidensialitet vil det ikke deles noe offentlig dere føler kan skade deres konkurransedyktighet, og nødvendige steg vil tas for å anonymisere dataene.

Ser frem til svar om deltakelse, og ikke nøl med å ta kontakt ved spørsmål rundt studien.

På forhånd takk

Mvh,
Nils Kristian Holte

Appendix 1b: Invitational e-mail (translated)

Hi [company],

My name is Nils Kristian Holte, and I am currently working on my master thesis at The Norwegian University of Life Sciences' School of Business in Ås. The thesis, within the discipline Entrepreneurship and Innovation, researches how companies utilize their consumers when they develop new or improve on their existing products.

In today's dynamic marked, innovation is essential. I believe that because of that, you might be inclined to participate in this study. Through this study I wish to help the participating companies to obtain greater insight into their own innovation process and to present possible options to improve and streamline this, as well as contribute to insight to the innovation process of larger Norwegian companies.

The study will focus on three areas; (1) How the participating companies uses the consumers (process), (2) What knowledge has been procured through these processes that might not have been discovered without external insight, and lastly (3) briefly state the company's philosophy/attitude towards innovation.

The participation consists of an interview with key representatives in your innovation systems, optionally an observation of interactions with consumers that already takes part in innovation, mainly in March/April 2017. The interview will consist of about an hour with questions considering innovation, with a hope that you will consider a follow-up interview after the data from the initial interview has been processed if needed.

Considering confidentiality, nothing you feel can damage your competitive advantage will be published. Necessary steps will be taken to ensure the anonymity of the data you provide.

Looking forward to your answer, and please do not hesitate to contact me with questions about the study.

Thank you in advance.

Kind Regards
Nils Kristian Holte

Appendix 2a: Interview guide (as used in Norwegian)

Spørsmål/interesseområder for deltakende selskaper i masterstudien

Følgende som utgangspunkt, flere kan komme opp underveis som følge av innsamlet data.

Filosofi

Hvor gammel er bedriften? 'Føles' det?

Hvorfor har dere innovasjon? Hvorfor ikke? Spesielle felter som prioriteres?

Brukt noen spesiell tilnærming/teori?

Hvordan har innovasjonspraksis blitt formet i selskapet?

Praksis

Hvor sentralt er innovasjon for bedriften? Hvor lenge har det vært en 'offisiell' del av bedriften?

Ansatte/årsverk dedikert til innovasjon? Budsjettandel?

Hvordan ser prosessen ut? Typiske kanaler/skritt/'gates'?

Hvor stor del av dette involverer brukere/eksterne?

Hvor lenge har brukere vært en del av innovasjonsprosessen?

Tanker om 'lead users'?

Resultater

Hvilke effekter har dere sett?

Identifisere noen fremskritt som er gjort i samarbeid med forbrukere?

Bekymring for tap av konkurransefortrinn ved bruk av eksterne? 'Lekket' informasjon?

Videre planer?

Involvere brukere mer? Mindre? I andre aspekter/prosesser?

Bekymringer/ønsker for framtid i samskaping?

Appendix 2b: Interview guide (translated)

Questions/area of interest for participating companies in the master-study

The following is the starting point; more questions may arise as data is collected.

Philosophy
How old is the company? How old does it feel?

Why do you have innovation? If no, why not? Any specific areas that are prioritised?

Have you utilized any approaches/theories?

How has innovation been developed/shaped in the company?

Innovation in practice
How important is innovation in your company? For how long has it been an «official» part of the company?

Full-time employees dedicated to innovation? Budget share?

What does the process look like? Typical channels/measures/gates?

How much of this involves the consumers/external parties?

For how long has the consumers been a part of your innovation process?

Any thoughts concerning «lead users»?

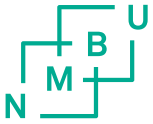
Results
What effects have been observed?

Can you identify any progression done through a collaboration with consumers?

Any concerns considering loss of competitive advantage when external people are involved? "Leaked" information?

Further plans?
Involve the consumers more/less? Maybe in other aspects/processes?

Concerns/wishes for the future in co-creation?



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