



Acknowledgement

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Summary

This case study aims to explore the lead user phenomenon, more specifically the ideas these users generate in comparison to mainstream users. We use the case of healthy food to test existing theory. Much theory was studied in order to define lead users in a food context, and this turned out to be more challenging than first assumed. After identifying potential respondents within our personal network, a screening process was conducted to separate lead users from mainstream users. The results from the self-assessment survey assigned the participants in two different groups and identical idea generation sessions inspired by the creative platform (Byrge 2010) were conducted in order to generate user ideas for new and healthy snacks.

The ideas generated were evaluated by four experts with diverse backgrounds, from different companies and research facilities within the food sector. The evaluation was based on Poetz and Schreier's (2012) dimensions to measure idea quality, where they compared professionals and users as idea generators in a similar case. The three dimensions employed to measure idea quality in this study were novelty, customer benefit and feasibility.

The results from the study clearly show that the two groups did not significantly differ with respect to idea quality, meaning there were only minor insignificant differences between the lead user and mainstream user ideas. This implies that lead users do not contribute to better ideas than the mainstream users. The results however showed that the evaluators scored the ideas differently and inconsistent. This was supported in the statistical analyses, which showed that there were significant differences between how the experts evaluated idea novelty and benefit on average.

However limited in scale, this study has shown that mainstream users can compete with lead users in generating novel concepts for food. Since mainstream users actually generated more top ideas, these users are definitely able to compete with lead users in the food sector.

Sammendrag

Dette er en case-studie med formål å utforske fenomenet ledende brukere, mer spesifikt de idéene disse brukerne genererer sammenlignet med ordinære brukere. Caset vi anvender for å teste eksisterende teori er sunn mat. Mye teori ble undersøkt for å definere ledende brukere i forbindelse med mat, og dette viste seg å være mer utfordrende enn først antatt. Etter å ha identifisert potensielle respondenter innenfor vårt personlige nettverk, ble en screeningprosess gjennomført for å separere ledende brukere fra ordinære brukere. Undersøkelsen baserte seg på en selvevaluering av ledende bruker-egenskaper, og resultatet plasserte deltakerne i to ulike grupper. Deretter gjennomførte vi identiske økter med idégenerering for nye sunnere snacks produkter, basert på Den Kreative Plattform (Byrge 2010).

Idéene ble evaluert av fire eksperter med ulik bakgrunn, fra ulike bedrifter og forskningsinstitusjoner innen matsektoren. Evalueringen var basert på Poetz og Schreier's (2012) dimensjoner for å måle idékvalitet, hvor idéskaping blant fagfolk og brukere ble sammenlignet. De tre idékvalitetsdimensjonene; nyhetsgrad, nytteverdi for brukere og gjennomførbarhet ble benyttet i denne studien.

Resultatene fra studiet viser klart at det ikke er signifikante forskjeller mellom de to gruppene og idékvalitet, noe som betyr at det var kun mindre og ubetydelige forskjeller mellom idéene til ledende og ordinære brukere. Dette tyder på at ledende brukere ikke bidrar med bedre idéer enn ordinære brukere. Resultatene viste derimot at ekspertene evaluerte idéene ulikt og inkonsistent. Dette ble støttet i de statistiske analysene som viste at det var signifikante forskjeller mellom hvordan ekspertene i gjennomsnitt vurderte nivået på idéenes nyhetsgrad og nytteverdi.

Selv i begrenset skala har dette studiet vist at ordinære brukere kan konkurrere med ledende brukere i idégenerering av nye produkter i matbransjen. Siden de ordinære brukerne faktisk genererte flest topp-idéer, er disse brukerne definitivt i stand til å konkurrere med ledende brukere innenfor matsektoren.

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User-driven Innovation in the Food Industry:

Can mainstream users compete with lead users?

1. Introduction

1.1 Relevance

New product introductions are fundamental for many companies' strategy to attain growth and long-term success. Users are progressively involved in the innovation process, as user needs are seen as the strongest driver for innovation, together with price competition and new technology (Rosted 2008 ref. in Hoholm and Huse 2008). Recognizing the users' needs better than competitors is a challenge for all companies, which has led to a growing focus on user-driven innovation. Product innovations deriving from users can be the foundation of new and valuable commercial goods, and users can be a valuable source to increase the success rate of new products for a company.

Companies who are skilled in detecting and forecasting demand, while delivering products customized to this, have bigger chances to survive and become successful,(Urban and Hauser 1993, Costa and Jongen 2006). But when needs in the market change, the need for new products to meet the user needs grows. If companies are unwilling or unable to detect these changes and create products accordingly, some users, often referred to as lead users (von Hippel 2005), will develop a product to satisfy these unmet needs.

A recent study found that users are better than professionals when it comes to generating ideas in the food sector. User-driven ideas also tend to have a high attractiveness in the marketplace and are in general more novel (Poetz and Schreier 2012).

For this reason, involving users in the early stages of the innovation process can help producers to identify true user needs, and thus contribute to a more efficient new product innovation process. There is a trend in adapting innovation processes that focus on involving users as early as possible. Both the LEAN start-up method and Osterwalder business canvas are popular business trends, and both focus on rapid success by involving users to get frequent feedback early in the innovation process (Blank 2013).

For producers, user-driven innovation can be an effective strategy in order to bring the voice of the market closer and understand consumer needs and ideas. For the development of most products, the interdependency of users and producers are strong, and involving users actively in the innovation process can strengthen this relationship. In this way, the innovation arena becomes a platform for cooperation and coproduction, building a strong customer relationship. For the society, users can be a source of more novel innovations and economic growth.

1.2 Actuality

There are a number of successful examples of innovations across industries that derives from users themselves, for example medical surgery equipment and mountain bikes (Lüthje 2004, Lüthje and Herstatt 2004, von Hippel 2005). The power in the marketplace is increasingly shifting from producers to consumers as a result of increased access and sharing of information by users through the internet and other organized innovation networks and communities. In the marketplace, von Hippel (2005) says that innovation is democratized which can be exploited by involving users in the innovation process and giving them a more specific role of defining new products. Terms such as user-oriented (Grunert et al, 2008) and customer-led (Costa and Jongen 2006) innovations have been commonly used by researchers in the food sector, while other industries apply the term user-driven innovation.

Inactivity and unhealthy diets are growing social problems in Norway (SSB 2013) and in the western world in general. Inactivity and more energy dense meals and snacks can result in development of overweight (currently 27 % of the population) and obesity and lifestyle illnesses like cardiac heart disease and diabetes type 2. The Western users' awareness regarding the interdependence between individual health, consumed products and food production is growing (Costa and Jongen 2006). This leads to an increasing demand for healthy food products and for someone to lead this development in a better direction.

Based on these public health challenges, the government has a strong interest in healthier products, educating consumers in adapting a healthy lifestyle and influencing their food choices. The "key-hole" food label and industry regulations have been introduced to help consumers choose healthier products. User-innovations are found to create social welfare (von Hippel 2005), which is why it should be in the policy makers' interest to support user-driven innovation in the society. More conscious consumers with new demands can be a source of new ideas for products that both meet these challenges, and take the users' preferences into account.

The food sector is a well suited industry when studying the need for user-driven innovation, because it can be characterized as a slow-moving industry (von Hippel 1986) with many new product launches and a slow change in consumers' eating habits and needs (Grunert et al, 2008). This result in an opportunity, which should be exploited by food companies, since close to 50 percent of the new products in this industry fail within a year in the market (Costa and Jongen 2006). By involving the user, translating their subjective needs and integrating these into new products, healthier alternatives that meet both the government's guidelines and users' needs can be introduced to the market. A strong focus on innovation in this area can potentially lead to entirely new product categories and sustainable competitive advantages for the company.

1.3 Contribution

Many studies on user-driven innovation in the food sector have been conducted the past decade (Costa and Jongen 2006, Grunert et al, 2008), but there seems to be a gap in the literature on comparing different user groups. This study aims at combining existing theory regarding user-driven innovation in the food sector (Costa and Jongen 2006, Grunert et al, 2008) and lead user theory (von Hippel 1986) as a basis for tapping deeper into the lead user phenomenon in food consumption, more specifically how lead users can be identified.

The majority of the research on user-driven innovation is related to technology-based innovations, but we also find examples in food, sports drinks, mountain bikes and windsurfing (Shah 2000; von Hippel 1986). Successful product innovations are likely to come from ideas generated by consumers of the products (Desouza et al, 2008). Most of the published research within user-driven innovation involves expert customers such as chefs, suppliers, retailers and other parts of the supply chain (Costa and Jongen 2006, Grunert et al, 2008). The end consumer is typically involved later on in the process when prototypes are ready for testing. This study contributes to this field by incorporating them in the early stages of the innovation process. Whether the involved users should be mainstream users or lead users is where this study aims to explore further.

The outcome of this research may also be relevant for practice, and might give food producers an avenue for evaluating and reviewing their current innovation and idea generation process in the early stages of the innovation process.

1.4 Purpose of the study

The purpose of the study is to encourage food companies to involve users as a main source of innovation in the process of developing new products, and give them an indication to what type of users to integrate in the idea generating phase.

User-driven innovation in the food sector can benefit companies, users, governments and the society. This study can also be basis for future research and inspire to further product development in the food sector.

1.5 Problem statement

From the fundamental theory in this study, we see that most attempts to involve users are based on indirect ways of gaining information about the users' needs. Quantitative methods such as market research based on mainstream users, or by involving them at the end of the product development process is the most common practice (Grunert et al, 2008, Hoholm and Huse 2008).

This leads to our curiosity of how producers can involve users directly in the innovation process, and what type of users can generate the most value in the idea generation process. Our interest in innovation in food products is based on personal preferences from years of traveling. We are amazed by the offers in healthy food around the world, and want to inspire the Norwegian food sector to integrate the consumers in new product development (NPD). We wonder where the sources of inspiration to new ideas come from, and we want to explore how users can be a source of generating new ideas. Based on this, we suggest the following problem statement:

“Can mainstream users compete with lead users in generating new product ideas in the food sector?”

2. Theory

2.1 Theory structure

The literature is divided into three main parts and result in the presentation of three research questions in 2.5. Firstly, the relevant literature regarding user-driven innovation is presented. In this section, we discuss the drivers, consequences and user involvement in relation to user-driven innovation, followed by user-driven innovation in the food sector. The second part is called User-driven Front-End Innovation, and discusses the idea generation phase, the end users as idea generators, and the lead user method for NPD. The last chapter presents the conceptual development of lead users and considers various definitions and methods to identify these users.

2.2 User-driven innovation

User-driven innovation can be defined as: “The process of tapping into users’ knowledge in order to develop new products, services and concepts. A user-driven innovation process is based on an understanding of true user needs and a more systematic involvement of users” (Wise and Hoegenhaven 2008). In other words, it involves product development in close collaboration with users, where users are either actively involved, or user needs are understood through observation and conversations. For a company, this can mean uncovering and utilizing users’ knowledge and furthermore profit from this.

User-involvement can either be direct or indirect, and user needs can be acknowledged or un-acknowledged. In order to conduct user-driven innovation by the definition above, direct user-involvement is required. This involves embracing users directly in the product development process.

If the user-need is acknowledged, the user is typically integrated directly in the R&D team, also referred to as user innovations (Rosted 2008 ref. in Hoholm and Huse 2008).

In Norway, user-driven innovation is still considered to be in the introduction phase, and very few cases have been documented where user-involvement leads to a totally new concept or a new product for a company (Farstad et al, 2007). A study presented by The Research Council of Norway show that user-driven innovation is not a priority amongst Norwegian managers, who tend to view themselves as more innovative than users (Rosted 2008 ref. in Hoholm and Huse 2008). This is in contrast with the recent study by Poetz and Schreier (2012) who found user ideas to be more creative and valuable than ideas generated by professionals.

2.2.1 User-driven innovation in the food sector

In the consumer world of food products, new products do not often differ radically from the existing products on the market. User-driven innovation in the food sector tend to occur informally, where companies involve retailers and suppliers in their product development process (Costa and Jongen 2006). The products introduced to the market are in general much more conservative in this sector than in other industries, and only 2.2 % of the launched products are radically new (Blatzheim, Gagsarrini and Lagioia 1999). Most of the user-driven innovation activities are related to the food chain and distribution channels, and are responses to new technologies or governmental restrictions (Costa and Jongen 2006, Grunert et al, 2008). Grunert et al. (2008) conducted a review and analysis of a study on user-driven innovation in the food sector, and argues that “Innovation with regard to food products thus eventually always face a mass market” (Grunert et al, 2008: 592). He states that in general, innovation for mass markets lack the personal interaction between end-users and professionals.

Many producers choose to leave the users out of the idea generation process, because they tend to struggle with identifying their need for new products (Grunert et al, 2008).

Von Hippel (1986) argues that in these markets the typical user can be valuable in development of new products. Grunert et al. (2008) supports this argument, but adds that since food products are in the mass market, it is unfeasible to interact with all users in the innovation process. Selecting a specific group of users can be the solution to improved user involvement in the industry and better products that meets the users' needs.

2.3 User-driven Front-End Innovation

The early stages of the innovation process is also referred to as the “Fuzzy Front End” or Front End of Innovation by many researchers, and is regarded as the link of weakness for most companies. Opportunity analysis and idea generation are the first two steps of this front end of innovation, and this is in general an area of high uncertainty (Koen et al, 2001).

The front end of innovation has been identified as the crucial step in new product development (van Kleef, van Trijp and Luning 2005). Many companies aim to improve the NPD process, as reducing the uncertainty in the early stages may be crucial for future market success. The idea genesis phase involves developing the opportunity (e.g an identified trend) into a specific idea. Company employees in the development or innovation department usually conduct the opportunity analysis, or they may rely on retailers to provide them with information about the end users. Based on this information, new ideas for products are then generated by product developers within the company (Costa and Jongen 2006). Users, normally mainstream users, are interviewed in relation to their needs for new products, but these needs are used as inspiration for in-house idea generation for new concepts within a specific trend (Lilien et al, 2004).

In this study, we adopt a different strategy. As the user need for healthy food has been identified, we let new ideas emerge from direct user involvement through idea generation sessions with actual users, and we will take a closer look at the ideas created. In the field of consumer goods, Shah (2000) found that many end users invented the first versions of what will later become a commercial product.

Today, marketers, engineers and designers still remain the responsible divisions in a company's creative innovation processes. Research exploring the elements that affect the success of new products point out that a key factor to success is to utilize a cross-functional team in the product development phase (Cooper 1994, Cooper and Kleinschmidt 1995). Traditionally, this is achieved through putting together a diverse in-house team, but it can also be achieved by integrating the users into the product development team. Users can function as designers and need-forecasters, and work closely with product developers (von Hippel 2005).

2.3.1 The lead user method for new product development

Lead users are familiar with conditions that lie in the future, and based on these assumptions they can provide accurate information on emerging needs and trends (von Hippel 1986). These innovating users can adapt and modify existing products to create novel products. Shah's (2000) study discovered that lead user ideas were found to be more novel, address current user needs and forecasted eight times higher sales by year 5 compared to non-lead user ideas. Interestingly, the ideas likely to result in an entire product line were also generated by the lead users (Lilien et al, 2002). User-driven innovation can therefore be seen as a preferred strategy in order to become more market oriented (Costa and Jongen 2006).

However, another crucial aspect to take into consideration when employing user-driven innovation is that lead users current needs lay in the future of mainstream users. Lead users are early adopters of new products, before mainstream users see the need for the products.

A key success factor is to consider these different needs before continuing with product development, by conducting analysis on how lead user ideas can apply to the more typical user in the target market (von Hippel 1986).

Grunert et al. (2008) use the term “arm’s length” innovation when the users are indirectly involved in the process. The problem for the innovator is that this approach can lead companies into the “incremental innovation trap”. Companies might miss the opportunities of bringing novel innovations into the emerging market if they have too much focus on mainstream users and their needs (Grunert et al, 2008).

For user innovations, where users are involved directly in the product development team (as discussed in 2.2), the lead user method is increasingly used. These individuals happily share their innovations with others, and tend to have little or no financial motive. Other personal benefits such as reputation and risk reduction are more significant to these “expert” users. Well-known products derived from lead users can in particular be found within software, extreme sports- and medical equipment (Lüthje 2004, von Hippel 2005).

The lead user method has a well-documented proof of improving effectiveness of the innovation process. To begin with, the lead user theory was suggested as a method to detect commercially winning innovations by users (von Hippel 1986). Today, the theory can refer to many documented studies that can demonstrate a positive correlation between lead user characteristics and the commercial attractiveness of the ideas generated. This theory will be tested in our study by comparing lead users to mainstream users.

Some of the major global companies like Johnson & Johnson and 3M are progressively involving lead users in the “fuzzy front end” of various projects (Lilien et al, 2002, Lüthje and Herstatt 2004). Yet, there is much to learn about key factors to a successful implementation of this method in the early stages.

Lettl and Gemünden (2005) studied the role of users in radical innovation activities, and found that users can take on an entrepreneurial role, and organize a network of professionals with diverse expertise and resources. In Norway, the dairy company TINE has identified lead users who are involved as advisors and participants in the product development process. These lead users are chefs and food experts at different universities and research facilities like Nofima (Farstad et al, 2007). There are also examples of retailers who behave as lead users in the promotion of organic food, and bring food producers, suppliers and farmers together in a network to respond to the growing market need (Grunert et al, 2008).

Furthermore, unmet user needs may in the long run lead to a threat for existing food producers because users may substitute existing products with new and healthier alternatives they produce themselves or buy from competitors. Incorporating lead users in the innovation process can be a way of turning rivalry from users into an opportunity where users function as an important source of additional input (Franke, Von Hippel and Schreier 2006).

2.4 Conceptual development of lead users

In the food sector, identifying these extraordinary users can be challenging as they are rare (Belz and Baumbach 2010).

Wise and Hoegenhaven (2008) argue that one doesn't have to be an expert to be defined as a lead user, but that anybody who knows the product or how to develop it to some extent fall under this category. Von Hippel (1986) defines lead users as:

- “1. Lead users face needs that will be general in a market place - but face them months or years before the bulk that market place encounters them, and
2. Lead users are positioned to benefit significantly by obtaining a solution to those needs”.

Some users innovate to promote personal benefits, such as financial, emotional or improving the overall user experience. Others can benefit directly from their own innovations if current needs are not met by existing market offers (Lüthje 2004). In a food context, this can for instance be users with food allergies, or with health or lifestyle preferences who strive to improve their consumption conditions.

2.4.1 Identification of lead users

Lüthje (2004) employed von Hippel's definition of lead users for further operationalization, leading to the following:

“(1) Lead users face need long time before other people do, they are ahead of trend.

(2) Lead users will benefit significantly from solutions to their needs, and the fact that these are not met by existing products in the market, can be translated to dissatisfaction with the existing offer in the marketplace”.

When dealing with a product targeting the mass market, the user is involved through “characterizing the population of potential users by sampling techniques, and/or in-depth characterization of a small number of users where such insights are deemed to be especially valuable” (Grunert et al, 2008: 592).

Lüthje (2004) proposes four additional lead user attributes in addition to von Hippel's ahead of trend and dissatisfaction, in order to identify lead users in the field of consumer goods. The first two, use experience and product related knowledge can be linked to the probability of user inventions, and is combined called user expertise by Lüthje (2004). The user expertise increases with the everyday use of products, and is valuable throughout the product development process. The third, involvement is measured by the user's commitment to the product category, and the fourth opinion leadership is attributed by other users but also reflects the degree of involvement.

These six variables (von Hippel`s two and Lüthje`s four) has later been adopted and used to identify lead users in a new context of sustainable food (Belz and Baumbach 2010).

The main approach to identify lead users today is to use a screening method and screen a large number of potential users. In this study we employ a similar procedure as conducted by Belz and Baumbach (2010), and adopt it to a healthy snack food context.

2.5. Research questions

The study conducted by Poetz & Schreier (2012), where users are compared to professionals as idea generators, builds upon previous research by Amabile et al. (2005) who studied the relationship between positive affect and creativity in organizations. Our study is inspired by Poetz and Schreier`s (2012) study and method, by testing whether lead users are better suited to generate ideas than mainstream users. From the theory discussion three research questions are developed:

1. Can lead users generate more novel ideas than mainstream users?
2. Can lead users generate ideas with higher customer benefit compared to mainstream users?
3. Can lead users generate more feasible ideas than mainstream users?

3. Methodology

This chapter will contain the case studied (3.1), sampling and recruitment (3.2), screening of lead users (3.3), respondents (3.4), idea generation methodology (3.5), data analysis (3.6), validity and reliability (3.7) and ethical considerations (3.8).

3.1 Case

In this study we have chosen healthy snacks as the case for the study. The main focus is to generate ideas for healthier snack alternatives. The two fields; snacks and health, are in conflict because snacks are generally not associated with health and a healthy focus among the consumers. Combining these fields have shown to be difficult but fruitful for innovation and category development. We have chosen to target lead users related to healthy food, by lead user identification and compare these to mainstream consumers of snacks.

3.2 Sampling of lead users and mainstream users

3.2.1 Participants demographics profile requirements

The target participants were young women and men, 21-29 years old, who live in Oslo and are working. These requirements allowed us to use our personal network to create as similar groups as possible to eliminate other factors that could have an effect on the idea generation. The targeted lead users work within the health sector to ensure they have knowledge and experience in healthy food. We believe that consumers who fit this profile will have general or deep knowledge related to this topic.

3.2.2 Extreme case sampling

Convenient sampling was chosen because of our time limitations and available resources. The main channel used to target the potential users was through Facebook where we invited participants that fulfilled our required demographics within our network. Two Facebook events were created. In the first event, we invited randomly chosen individuals within our networks that were viewed as regular consumers of food and snacks. To attract enough participants, we contacted individuals by phone and Facebook messages to encourage them to participate.

The second Facebook event was intended for recruitment of lead users to join our idea generation. Lead users were thoroughly chosen by extreme case sampling. Using those that can be defined as “exception to the rule” (Oliver 2006) may provide a new perspective on more typical cases. We identified potential lead users that we knew were especially interested in food and probably dissatisfied with existing products. They all said that they produce healthy snacks at home regularly, or on a daily basis. Hanne Sofie identified most of the lead users at a personal trainer course. There was a trend among the upcoming personal trainers (approximately 30 people) for eating exceptionally healthy and cooking with natural ingredients. The other potential lead users were relatives of Iris (the other researcher) and could easily be identified as potential lead users. They also work within the health sector. The potential lead users among the personal trainers and Iris` relatives were invited via Facebook to join the session.

3.2.3 Incentives for participating

The participants were given incentives for participating. The incentives were healthy snacks and wine in the idea generation sessions, and everyone was offered a free personal training session with one of the researchers who is a personal trainer (Hanne Sofie). The snacks and wine in the sessions were identical to gain reliability.

3.3 Screening of lead users

To screen the users, we used the six variables by Belz and Baumbach (2010), originally defined by Lüthje (2004). We used the item wordings developed by Belz and Baumbach for sustainable food to measure the level of “lead user-ness”, and adapted these for the case of healthy food products. The six item variables in the survey were measured by three claims for each variable.

Table 3.1: Measurement of Lead User Characteristics

Scale item	Item wording
Ahead of trend	<ul style="list-style-type: none"> ➤ In general I am one of the first within my circle of friends who buys novelties in the area of healthy food. ➤ I love buying novelties in the area of healthy food before the majority of people do. ➤ Generally, I belong to the first who use new healthy food products.
Dissatisfaction	<ul style="list-style-type: none"> ➤ I am dissatisfied with healthy food products. ➤ At the moment my expectations of healthy food are not fulfilled. ➤ I have needs concerning healthy food which are not satisfied up to now.
Product-related knowledge	<ul style="list-style-type: none"> ➤ Within my circle of friends I am considered as an expert in healthy food. ➤ I know a lot about healthy food. ➤ I consider my knowledge as high regarding healthy food.

Use experience	<ul style="list-style-type: none"> ➤ I am very familiar with the use of healthy food. ➤ I regularly prepare dishes, which contain healthy food. ➤ I know the advantages and disadvantages of healthy food from my own experience.
Involvement	<ul style="list-style-type: none"> ➤ Healthy food matters to me. ➤ Healthy food is interesting for me. ➤ It is a lot of fun informing myself about healthy food.
Opinion leadership	<ul style="list-style-type: none"> ➤ In general, I often speak with my friends about healthy food. ➤ Within the last 6 months I have spoken with many other people about healthy food. ➤ In discussions about healthy food I tell others more than they do me.

A 5 point Likert scale was employed for the measurement of lead user claims. The Likert scale ranged from 1 (Strongly disagree) to 5 (Strongly agree). The items (1-6 in Table 3.1) were measured with three claims for each lead user characteristic and later randomized in the testing. The survey was first written in English, then translated into Norwegian by our supervisor, and then translated back into English in order to strengthen the validity. The back-translated version was compared to the original version to ensure that no meaning in the claims should be lost. Based on self-assessment, the potential participants were asked to take the survey individually (see Appendix A for the questionnaire).

The scores from the Likert scale were summarized into one total score, where a lead-user scale from 0-90 points was used to measure the level of “lead user-ness”. Similar to Belz and Baumbach (2010) we characterized all users who scored over 70 points in total as lead users. In this study these scores were transformed into percentages, because we find it is easier to compare these numbers. Users who scored over 78% out of full “lead user-ness” (=100%) in the survey were categorized as lead users.

The users who scored below 78% on the survey were characterized as non-lead users. They were not invited to participate as a mainstream user in the idea generation session. The same survey was also used to screen the selected group of mainstream users, to ensure they could not be defined as lead users (below 78% “lead user-ness”).

3.4 Respondents

Sixteen participants were identified, with eight in each user group that fulfilled our criteria and was willing to collaborate in our case. Both user groups were identical on average age and gender, but occupation and industry varied. While the lead users’ professions were strongly homogenous, the mainstream users’ occupations were much more diverse. We will outline the results from the lead user survey in detail in the tables below, which illustrate that some of the mainstream users have high scores on “lead user-ness” in relation the cut-off requirements. The data from the screening survey indicates that the difference in average lead user scores between the two user groups are only 19%.

Table 3.3: Lead user demographics

Participant ID	Gender	Age	Occupation	Total lead user Score; %
Lead users				
1	F	29	Nutritionist and PT	93
2	F	28	Consultant and PT	90
3	F	29	Accountant and PT	87
4	M	23	Sales and PT	87
5	M	22	Chef and PT	84
6	F	29	Leader and PT	82
7	M	26	Physical therapist	79
8	F	29	Assistant and PT	79
Mean lead users	63 % F	27	88 % PT	85

Table 3.4: Mainstream user demographics

Participant ID	Gender	Age	Occupation	Total lead user Score; %
Mainstream users				
9	F	26	Consultant	77
10	F	27	Project coordinator	73
11	M	27	Salesman	68
12	M	26	Accountant	67
13	M	29	Customer service	67
14	F	29	Ergo therapist	64
15	F	26	Insurance advisor	55
16	F	26	Insurance advisor	53
Mean mainstream users	63 % F	27	100% Professionals	66

3.4.1 Lead user identifications scores

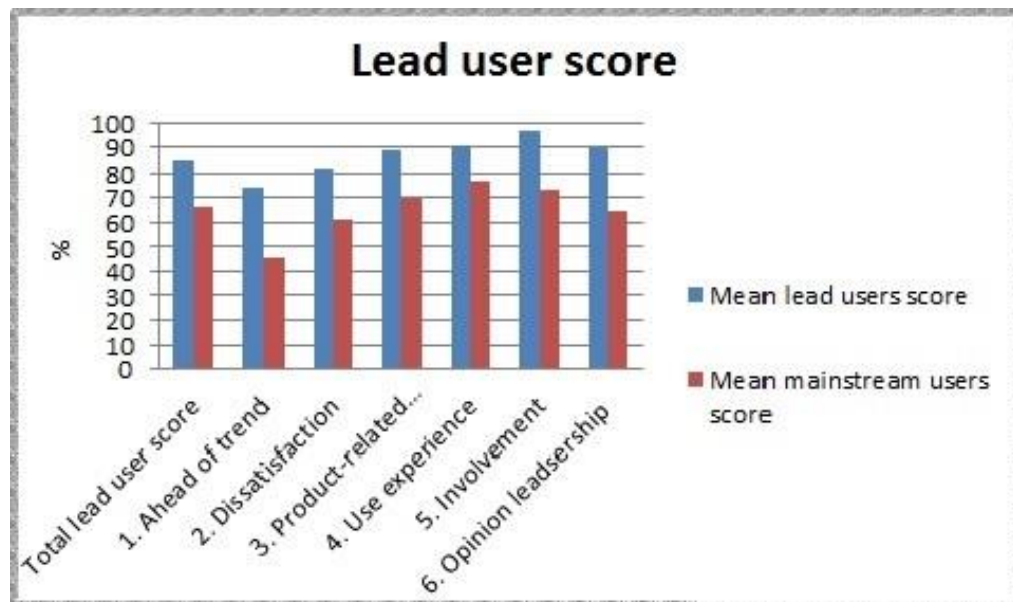


Figure 3.1: Measurement of lead user score

The lead user group scored on average 85% on the lead user test based on the six variables, and tend to view themselves as opinion leaders with a strong level of user-involvement, product related knowledge and experience.

The mainstream users do not seem to view themselves as being ahead of the trend, but seem to hold high levels of product related knowledge, experience and involvement. Two of the mainstream users scored very high on product related knowledge (80% and 93%), and five scored between 80% and 93% on use experience, clearly within the required lead user score level.

3.5 Methodology: The Creative Platform

The creative platform by Byrge (2010), a researcher at Aalborg University, was chosen as inspiration for our case in order to address the research question outlined above. The creative platform's philosophy is based on creativity and focuses on the individual in groups in the idea generation process. The basis for the method is to create a mental place for every individual in the group with free communication and free perceptions, which can lead to cooperative and individual creativity (Byrge 2010 p. 11). In this method idea generation is conducted in several sequences, separated by short breaks of fun activities to "disconnect the mind" and attain the focus on the creative platform.

Because of our time limit, we shortened the process, and conducted the first modules in the process; see Appendix B. Hanne Sofie acted as the facilitator who had an important role in the idea generation session in order to develop creativity. Iris was observing the sessions and recording, ensuring that everything was conducted in the same way in both groups, to increase the reliability of the study.

Horizontal thinking was used because it is claimed that applying knowledge that is not directly related to the studied matter will combine different kind of knowledge and produce new ideas (Byrge 2010 p. 13). A tool in horizontal thinking is 3D cases that also worked as energizers through the idea generation sessions were utilized.

The idea of 3D cases is to use the physical body in order to change attitudes (Byrge 2010 p. 128) and is meant to have an effect on creative performance (see Appendix B for the 3D cases).

3.6 Analysis of data

3.6.1 Step 1: Idea evaluation

The evaluation process was divided into two steps. In the first step we evaluated the ideas based on two criteria; (1) Are the ideas true ideas (not just comments on the problem), and (2) is a serious evaluation of the ideas possible (Poetz and Schreier 2012). The ideas that did not meet these criteria were eliminated in the first phase.

Ideas that were either 100% identical and repeated within the same or different user-group, or imaginary (i.e. snacks with zero calories), or simply stating the problem (i.e. “healthier ice-cream” and “healthier popcorn”) were labelled as invalid ideas according to these issues and removed (see Appendix C). The remaining ideas from both user groups were then merged into one list and given a random 3-digit number in order to stay anonymous for the expert judges in step two (Appendix C).

3.6.2 Step 2: Expert evaluations

Four experts that work in the field of healthy food evaluated the quality of the ideas. We named the experts A, B, C and D, in order to keep the experts anonymous. The experts came from different backgrounds in the food sector. One worked with commercialization of healthy food products and is considered to be an industry expert, one is a food researcher and two work in the field of nutrition.

An email, presenting the case and data collection, was created and sent to the food experts. Attached was a list of the top 55 ideas, and a short presentation of the case and researchers (Appendix D). We made 4 unique versions of this list, placing the ideas in different and randomized order for each expert to increase the reliability of the study. One idea was listed two times to all the experts, this was meant to work as a control variable. A pretest was conducted, in order to remove uncertainties. One of the experts could not assess some of the ideas, and rated the ideas 99.

The food experts were asked to base their evaluation of the ideas on three key qualities similar to Poetz and Schreier's (2012) study (Appendix E). The ideas were rated on a 5-point scale, 5 points awarded to the ideas with the highest level of novelty/customer benefit/feasibility, and 1 point to the ideas with the lowest level of measurement.

3.6.3 Step 3: Statistical analyses

All of the ideas that were rated 99 (9 ideas) were eliminated from the statistical analyses, which was conducted in Excel and SPSS. We ran a two-ways ANOVA test on all the data where we controlled for the group (mainstream and lead) and evaluators (A, B, C, D as 1, 2, 3, 4). The ANOVA tests were conducted to determine if there are significant effects between the groups. Excel was used to run descriptive tests (mean and standard deviation), in order to reveal the variation in the data scores.

3.7 Reliability and validity

Recruitment was conducted as convenient as possible due to the time limit of the thesis. This resulted in all the lead users working within health, and they are mainly personal trainers. This can be regarded as one of the weaknesses. What could have been done differently, was recruiting people from different sectors, more varied occupations, ensuring that this variable were not affecting the results. However, as long as they met the criteria for “lead user-ness”, we consider this a minor problem to our data.

The survey was based on a self-assessment of lead user characteristics, and can therefore not be considered fully reliable. This can also be a ground reason for the moderately high average mainstream lead user score (65%).

Results from the methodology may depend strongly on the personality of the participants, as creativity and “letting loose” among strangers is not easy for everyone. Some people may have held back on ideas and subconsciously blocked their creative mindset. Nevertheless, to limit this factor we used the creative platform to overcome this, as this method is designed to overcome challenges that can arise when strangers are put together in a group.

3.8 Ethical considerations

Ethical issues in relation to a research method in groups were taken into consideration (Stockdale 2002). The potential participants were informed about all aspects of the study that might affect them. The participants were provided with an information sheet that included information about audio recording, time commitment, use of data, dissemination of findings, the right to refuse and a consent form (Appendix F). Participants have ethical rights to sign a consent form and have the right to refuse to participate, the right to withdraw and refuse to use audio/video recording at any time (Blee and Currier 2011).

4. Results

4.1 Ideas generated

An overview of the mean total scores of the ideas generated are presented in the table below.

Table 4.1: Lead user versus mainstream user statistics

	Lead user ideas	Mainstream user ideas
	N=25	N= 31
Idea quality	Mean	Mean
Novelty	2,9	3
Customer benefit	3,4	3,2
Feasibility	3,7	3,5
Three-way interaction	36,5	33

The two idea generation sessions resulted in a total of 97 ideas. Mainstream users generated 69 ideas (71% of the total ideas), which is a striking result. When looking at the ideas more closely, we found that 36 of the mainstream ideas were not true ideas, and were eliminated in step 1 of the evaluation process. 20 of these eliminated ideas were comments to the problem, where “healthy” were stated before an existing product, for example; “Healthy chocolate” and “healthy ice cream” (Appendix C).

The results display varieties in product related knowledge and experience of use, when referring to the actual ideas generated. Ideas based on existing products with minor incremental changes came mainly from the mainstream users, while overall more detailed ideas, including natural ingredients, spices, sweeteners, cooking methods and full recipes were generated by lead users.

The result from the following descriptive analysis indicates that there are only small differences between the idea quality of mainstream and lead users. In terms of novelty, it appears that mainstream ideas are rated slightly higher (mean=3) than lead users (mean=2.9).

Overall, according to the quality index (three way interaction; novelty X customer benefit X feasibility) lead users score significantly higher (mean=36.5) than mainstream users (mean=33).

Table 4.1.1: Descriptive Statistics for evaluation of idea quality

Descriptive Statistics					
Quality dimension	Evaluator	Mean	Std. Deviation	N	
X	Novelty	A	3,0	1,4	55
		B	3,2	0,9	55
		C	2,6	1,4	47
		D	3,0	1,7	55
		Total	3,0	1,4	212
	Customer benefit	A	2,8	1,6	55
		B	3,8	1,1	55
		C	3,2	1,4	52
		D	3,4	1,1	55
		Total	3,3	1,4	217
	Feasibility	A	3,9	0,4	55
		B	3,1	0,8	55
		C	3,6	1,1	51
		D	3,6	1,3	55
		Total	3,6	1,0	216
	Total ideas	A	3,2	0,6	165
B		3,4	0,2	165	
C		3,1	0,2	150	
D		3,3	0,3	165	
Total		3,3	0,2	645	

The total ideas from table 4.1.1 illustrate the total average score on the three quality dimensions (novelty, customer benefit and feasibility) for all ideas. Evaluator A and D are the nutritionists, evaluator B is the industry expert, and evaluator C is the food researcher.

From the descriptive statistics, we see that all four experts have evaluated the total ideas with mean scores slightly above medium (3.3, medium=3.0), and the total standard deviation is low (std. 0.2). The most contrasting result is expert A in the evaluation of feasibility, where the standard deviation is 0.4. This indicates that A gave the same score in this quality dimension for almost all 55 ideas.

4.2 Results of idea novelty

Table 4.2: ANOVA (two-ways) results: Novelty of ideas

Tests of Between-Subjects Effects

Dependent Variable: Novelty

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	3.822	2	1.911	1.071	.345
Evaluator	14.242	3	4.747	2.661	.049
Group * Evaluator	22.327	5	4.465	2.503	.032
Error	358.631	201	1.784		
Total	2266.000	212			
Corrected Total	393.830	211			

a. R Squared = ,089 (Adjusted R Squared = ,044)

The results from the ANOVA test show a relatively low explained variance. The R-Squared number describes the rate of variation in a response variable which is explained by its correlation with one or more of the forecasting variables. Since only 8.9 % of the variation is explained by Group and Evaluator for the novelty dimension, that means that 91.1 % of the variation is unaccounted for. There is no significant correlation between the two groups ($p=0.345$). However, we see that the evaluators are significantly correlated with novelty ($p=0.049$).

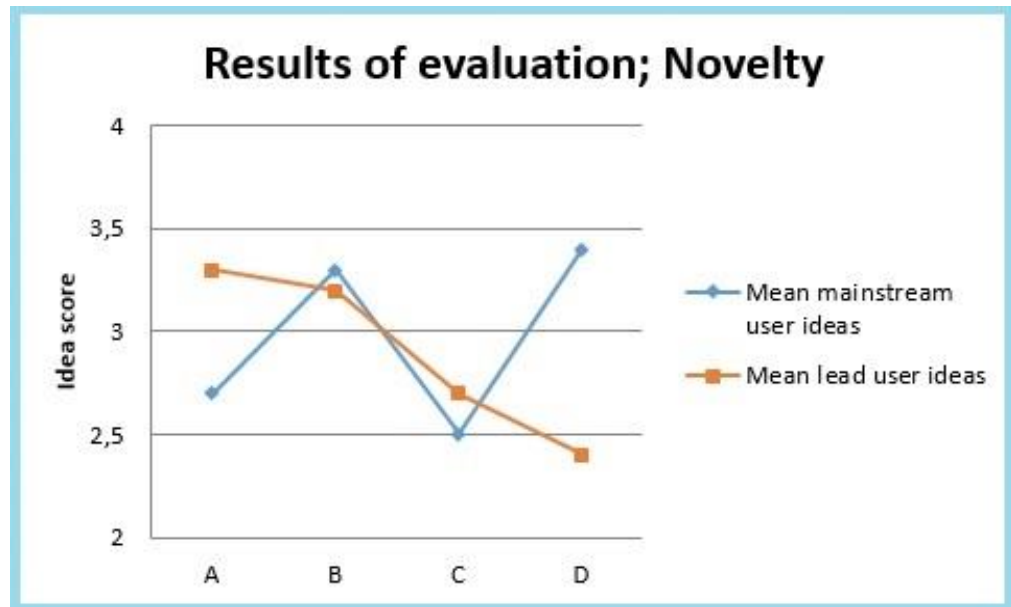


Figure 4.2: Evaluation of idea novelty

The original values from the Likert scale was 1-5 on the idea scores, since all ideas had average scores between 2.0 and 4.0, we ranged the Y-axis according to this interval.

From figure 4.2, again we see that there is large disagreement between the evaluators. Evaluator A and D seem to be in conflict in relation to the factor novelty of the ideas, where A scores show that the lead user ideas are more novel, in contrast to D's opposite score results. Scores from evaluator B and C display little difference between the evaluations of the novelty dimension for the two user groups' ideas.

4.3 Results of idea customer benefit

Table 4.3: ANOVA (two-ways) results: Benefit of ideas

Tests of Between-Subjects Effects

Dependent Variable: Benefit

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	4.125	2	2.062	1.229	.295
Evaluator	19.294	3	6.431	3.834	.011
Group * Evaluator	21.295	6	3.549	2.116	.053
Error	343.862	205	1.677		
Total	2774.000	217			
Corrected Total	398.313	216			

a. R Squared = ,137 (Adjusted R Squared = ,090)

Again, according to the ANOVA model, there is a significant correlation between the evaluators and customer benefit ($p=0.011$), which means that 98.9% of this quality dimension can be explained by the evaluators.

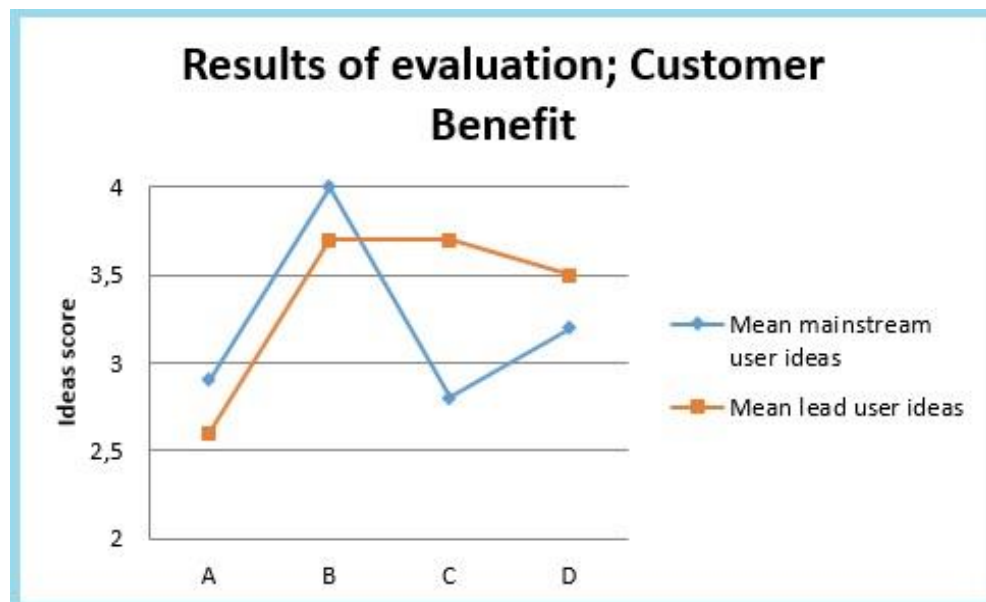


Figure 4.3: Evaluation of customer benefit

We see that expert C and D found lead user ideas to be more beneficial than mainstream user ideas compared to the other two experts. Scores from evaluator A and B display little difference between the evaluations of the customer benefit dimension for the two user groups' ideas. The results illustrate again the conflicting evaluation amongst the experts, which is also found from the statistical data in table 4.3.

4.4 Results of idea feasibility

Table 4.4: ANOVA (two-ways) results: Feasibility of ideas

Tests of Between-Subjects Effects

Dependent Variable: Feasibility

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	1.588	2	.794	.862	.424
Evaluator	3.038	3	1.013	1.099	.351
Group * Evaluator	12.638	6	2.106	2.286	.037
Error	187.957	204	.921		
Total	3008.000	216			
Corrected Total	220.148	215			

a. R Squared = ,146 (Adjusted R Squared = ,100)

The data shows that neither group nor evaluators are significantly correlated with the feasibility of the ideas. These sources can explain the novelty by only 57.5 % (p=0.424) and 64.9 % (p=0.351) certainty. This is also the quality dimension with the highest R Squared number, meaning that this is the dimension that is strongest explained from the model, out of all the three dimensions. There is 14% accuracy in the model, which explains that there is a small correlation between the groups in idea generation and the evaluators.

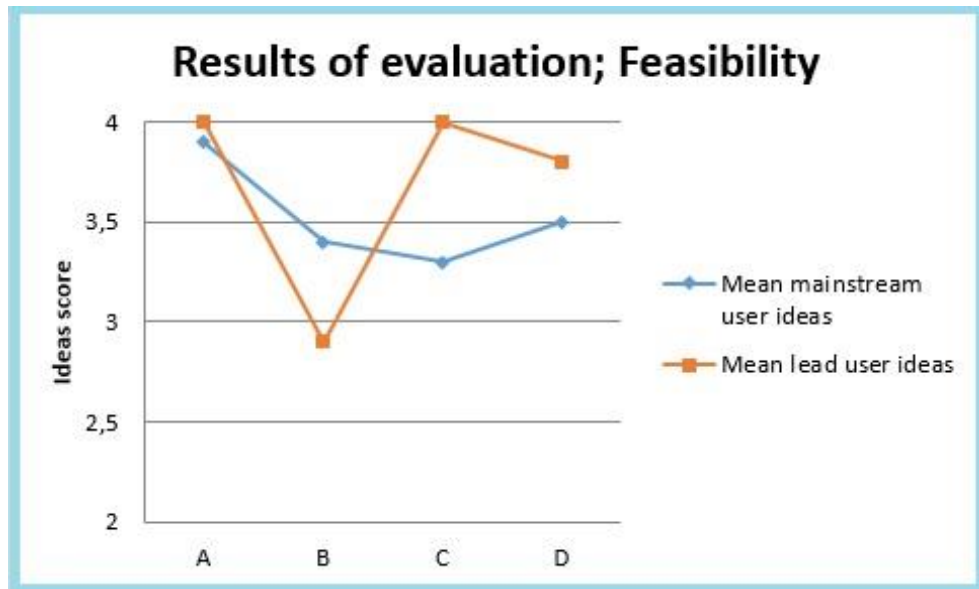


Figure 4.4: Evaluation of idea feasibility

Expert B disagrees with the other experts in feasibility, where B rated lead user ideas to be less feasible compared to mainstream user ideas. The other experts rated lead user ideas as easier to realize than mainstream user ideas. The ideas are rated higher in the feasibility dimension than the other quality dimensions overall.

4.5 Top ideas

Table 4.5: Top ideas

	Total	Novelty		Benefit		Feasibility	
		Lead	Main	Lead	Main	Lead	Main
Top ideas	1	3	8	8	9	11	12
Other ideas	54	22	23	17	22	14	19

Top ideas can be defined as ideas that score 4 and higher (4-5=Top ideas, 3 is in the middle, below 3 is low rated ideas).

The counting was done manually based on the mean of the experts' evaluation. Firstly, the results in table 4.5 illustrate that there is only 1 top idea out of 55 total ideas from the total main score, which was a mainstream user idea. Looking at the mean numbers for the three quality dimensions, 11 ideas (20% of the ideas) were considered very new, and only 3 of these were lead users ideas.

Secondly, 25% of the ideas had top scores in customer benefit, and 37.5% of the ideas had top scores for feasibility, which might indicate that realizing the ideas does not represent a bottleneck for the fundamental ideas. The results also indicate that there are hardly any differences between the top ideas generated by the two user groups when it comes to idea benefit and feasibility.

5. Discussion

5.1 Novelty of ideas

According to our first research question, "Can lead users generate more novel ideas than mainstream users?" the results clearly show that lead users are not better in generating more novel ideas than mainstream users.

The theory implies that users often generate new ideas closely linked to already existing products in the market (Grunert et al, 2008). The novelty for all the ideas scored medium, which underline that the ideas might be closely linked to existing ideas, in other words not brand new ideas, however the standard deviation indicate that the range of the ideas was large and about 1/5 of the ideas were found to be very new (top ideas).

Based on von Hippel's (1986) lead user theory, we assumed that lead users were going to be more capable than mainstream users in generating more novel ideas for products. Surprisingly, we were proven the opposite by the top ideas.

Given that the mainstream users generated more top novel ideas, it is important to notice that the differences in idea novelty are small, which we see from the plot of means in the novelty of ideas (Figure 4.2).

The results from table 4.5 illustrated that the mainstream users generated almost three times more top novel ideas. This could also indicate the difference in creativity level pointing that the creativity level could have been higher in the mainstream group. However, we did not test the creativity level in the groups. During the idea generation sessions, we observed that the mainstream users seemed instantly more active and creative. They appeared to be more focused on generating as many new ideas as possible, good and bad, rather than spending a long time picturing how the product would be produced and what it could look like in the end, as some of the lead users did. This is in line with what we expected to find, if we compare the two user groups to Poetz and Schreier's (2012) study. The lead users would in this case possess more expertise and therefore more easily fall into convergent thinking compared to the mainstream users. The same study also found that users are better than professionals in generating ideas in the food sector.

In general, decisions about involving users and innovation processes come from top management levels. The inquiry initiated by the Norwegian Research Council where Norwegian managers viewed themselves as more innovative than users (Rosted 2008), is in conflict with Poetz and Schreier (2012). These findings indicate that there needs to be a change in this tendency in order for user-driven innovation to be more adapted in Norwegian companies. Our results show that users are able to generate innovative ideas, which should provoke more implementation of user-driven innovation.

Blatzheim et al (1999) found the food sector to be highly conservative where the introductions of radically new products are rare, compared to other industries. The top ideas show that users are able to generate ideas with high novelty. If we look at the most promising idea, 909; broccoli chips, we claim that this is a radically new product as it was rated top score (4 and 5) in novelty from all the experts.

Even though the experts are in conflict in the evaluation of the ideas in general, they seem to agree on the novelty aspect of this top idea. From the results we also see that there are a lot of ideas with a medium score on novelty (score between 3 and 4). As the food sector is slow moving (von Hippel 1986), with a slow change in consumers' eating habits and needs (Grunert et al, 2008), ideas with medium novelty scores can be a starting point and developed further in NPD. We argue that some of the top ideas have the potential to be the beginning of a new product category.

It is also interesting to see that the two nutritionists are in strongest conflict when evaluating the novelty of lead user ideas. We do not know why this could be, but it might indicate that evaluating the ideas were strongly subjective, and not depending on the professional background.

5.2 Customer benefit of ideas

In relation to our second research question, "Can lead users generate ideas with higher customer benefit compared to mainstream users?" we found that both user groups generated ideas around the same score level, but lead users ideas were evaluated as slightly more beneficial in average (Table 4.1).

According to Poetz and Schreier (2012), users can help producers to identify true user needs, which are linked to creating products with customer benefit. Users can not only provide information about their needs, but also solutions to these needs. If we look at the ideas that made it to the experts evaluation, we see that users tend to create ideas with higher customer benefit than novelty (Table 4.1). Again, the experts seem to agree on the evaluation of the most promising idea (909; broccoli chips), that scored high on this quality dimension.

In regards to the second research question the findings strongly vary between the experts evaluation. The findings based on the results show no significant correlation between customer benefit of ideas and the groups.

In general, we can infer from the theory, that lead user have the potential of becoming future competitors in the market if their needs are not met. The higher user benefit new products have, the less need lead users will have to innovate for themselves.

5.3 Feasibility of ideas

Our findings regarding our last research question “Can lead users generate more feasible ideas than mainstream users?” supports the theory presented in this study. The majority of the experts find lead user ideas to be more feasible (Table 4.1, Figure 4.4). The theory (Poetz and Schreier 2012) implies that there is a correlation between lead user characteristics and commercial attractiveness (i.e. feasibility) of the ideas generated, which is in line with our findings. On average, feasibility (Table 4.1) is the quality dimension where both user groups received the highest evaluation scores. This is in contrast with Poetz and Schreier’s (2012) study where experts were found to generate more feasible ideas than users.

Interestingly, we see that the experts disagree on the feasibility aspect of the most promising idea (909; broccoli chips). The experts have rated this idea fairly low in feasibility. Because this is an idea that can be labeled as a radically new idea, it can be difficult to determine if it is easy to realize.

Expert B, the only expert that rated lead user ideas low in feasibility, is the expert who works with commercialization. This person has a different basis for evaluating this quality dimension. It might therefore seem that the experts’ evaluation can be dependent on their professional background.

5.4 Lead user identification

The difference between the user groups' lead user score was not as high as we had hoped to find. Wise and Hoegenhaven (2008) argue that one doesn't have to be an expert to be defined as a lead user, but that anybody who knows the product or how to develop it to some extent fall under this category. If we focused on this definition, most of the mainstream users in our study could also be categorized as lead users. The mainstream users score high in expertise (product related knowledge and use experience), which could indicate that everybody feels that they are an expert to some extent regarding products that they handle and consume every day, such as food (Figure 3.1). The latter means that when dealing with such products, the typical user can be valuable in NPD (von Hippel 1986). When it comes to generating ideas for healthy snacks, it is natural to assume that everybody see themselves as experts because these products are related to pleasure. This is a highly subjective and hedonic matter because it focuses on preferences of individuals.

A challenging aspect of this study was the identification and operationalization of lead users in our context. These results are based on self-assessment of lead user characteristics, defining lead users in a food context related to the trend identified (healthy food) has proven to be difficult. According to the current debate in the literature, lead users are ahead of trend and hard to identify (Belz and Baumbach 2010). Von Hippel (1986) suggest ahead of trend and dissatisfaction as the most relevant variables to separate lead users from mainstream users, and claim that lead users are ahead of trend and more dissatisfied with existing products. This has been confirmed by the findings in our study, with approximately 30% (ahead of trend) and 21% (dissatisfaction) higher scores for the lead user group (Figure 3.1). However, the average lead users score for ahead of trend was below the required score to be defined as lead users. Only 2 lead users had the required scores in ahead of trend and 5 lead users had the required scores in dissatisfaction (>78%) (Appendix G). This indicates that maybe we are not dealing with lead users, merely a segment of users that are somewhat more trendy.

The low score for lead users ahead of trend can be a result of the fact that it is a current trend to have a healthy lifestyle in the society for most users. This could be the explanation for the fairly high average score on lead user characteristics in general, because we are dealing with a social phenomenon like healthy food. The mainstream users might have overstated their consumption of healthy food products and healthy practices, since there is a healthy food trend. One can also ask if the trend is perhaps already adopted by the mass market at the time of our study. This can indicate that it is very difficult to separate between the lead users and mainstream users in the healthy food context. As a consequence, lead users as end users in this category might be found on a higher level where user allergies, intolerances or illnesses create the need for niche products.

Based on this, we feel that perhaps the lead user theory is not well suited in the food context (when dealing with end users). Perhaps the theory is better suited for industrial goods and/or other consumer goods as we have seen well documented examples of lead user innovations in software, extreme sports- and medical equipment (Lüthje 2004, von Hippel 2005). This gets us to reflect on whether or not von Hippel's lead user theory might be dependent on context, and thus could be less regarded as a general theory.

6. Conclusion

The results from the three-way interaction (Table 4.1) illustrate that the mainstream group generated ideas slightly below the quality level of the lead user ideas. The difference between the two groups was not significant. However, the mainstream user group generated more top ideas, meaning that the mainstream users are able to compete with lead users. Significant differences were found in the different evaluators in all the quality dimensions, meaning the results strongly depend on the evaluator. Identification of lead users in our context was found to be difficult, and we might not have found actual lead users.

Can the most promising idea generated by the user groups be presented to a snack producer as a possible successful new product?

We don't see a reason why the idea generated by users could not be successful, because the idea is evaluated by experts in the field of study as novel and beneficial for customers. However, the realization of the potential product needs to be explored and implemented in the innovation process where more aspects of the products are evaluated before a potential production and market launch.

6.1 Contribution

This master thesis has made an attempt to contribute to new knowledge about lead users in a food context. First, and foremost, during the research process, we discovered that identifying the suitable evaluators of ideas are just as important as spending a lot of time and resources trying to identify lead users in a food context, as the evaluation process turned out to be very subjective. Second, it has been shown that most users in the food area, lead users or not, can be valuable partners for new ideas in NPD. We also argue that feasibility perhaps is not a bottleneck for food products, since this is the category where all ideas score the highest and because product related knowledge and use experience is high among our participants. Our findings can also contribute to the discussion of the lead user theory and whether or not this theory is suited in any industry - or if it is dependent on contexts.

Finally, we encourage food companies to involve users more actively in the innovation process, and argue that both lead users and mainstream users can be of value in idea generation.

6.2 Limitations and recommendations for future research

A limitation for our study is the convenient sampling we used, which resulted in a very homogenous group. We assumed that by using this method we would be able to identify lead users easily, which proved to be difficult. That is why future studies should consider a different sampling method for identifying and selecting lead users.

The findings in this study are based on merely one case study, comparing only two user groups, which has a limited reliability. Future studies should also involve more than one group for each user group at the idea generation sessions. This way the results could be generalized, and possibly different results could be found. Potentially, there could be found significant differences in the user groups, which could give producers an indication of which users could be of most value in the innovation process. As this study did not find any difference between the two user groups, another interesting study would be to look at how different levels of creativity and personality types affects the idea generation for new products in the food sector.

More research on the term lead users and how one can identify and operationalize lead users in the food context is needed. If future studies were to compare mainstream users and lead users, we recommend a thorough evaluation of the participants ensuring that the mainstream users are at the opposite end of lead users on “lead user-ness”. The external evaluation of mainstream users could have been done more thoroughly through observations or interviews or by a large screening based on objective characteristics if time and resources were not limiting factors. Individuals with the lowest level of “lead user-ness” could have been identified and invited to the idea generation sessions. This could probably result in significantly higher differences in the two user groups, which could lead to a different output of ideas in the idea generation process.

Future studies can explore user ideas versus professional ideas further, to hopefully provide stronger evidence that promotes user-involvement in NPD. In the case of healthy snacks, perhaps snacks producers should be the evaluators. If we had the opportunity to collaborate with a snack producer, we could have used the product developers in the company to evaluate the ideas. We assumed that food experts could be well positioned for evaluating the three dimensions of idea quality because they were experts in the field of study. Perhaps the users themselves would be the best source of evaluating the actual customer benefit of the new product ideas. Still, we argue that food experts also can be users of healthy food products and therefore could function as evaluators for this factor.

The “noise” found in the ANOVA test can be described by other factors effecting the results and perhaps measurement errors. It is also worth mentioning that the idea that was listed two times was rated differently by all experts. One of the experts actually rated the same idea very differently. This clearly shows that even the experts disagree with themselves. Because we used experts from different backgrounds and the evaluation is based on subjective criteria, more experts should have been engaged to evaluate the ideas. This could have illustrated a clearer picture of the results. On the other hand, we could have chosen experts from similar backgrounds and companies within the field of study, which might have also resulted in clearer results.

The three dimensions used to measure idea quality should have been explained more thoroughly to the evaluators, as one of them reported to have some difficulties in rating some of the ideas. Also, the large variation in the rating amongst the experts could have been reduced if the criteria for each dimension was more detailed and explained.

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8. Appendix

Appendix A: Spørreskjema Masteroppgave, ledende brukere.

Vennligst kryss av i den boksen på skalaen/marker det tallet du synes passer best for deg på alle påstandene. Skalaen rangerer fra 1 til 5, 1=Svært Uenig, 5=Svært Enig.

Navn:

Alder:

Yrke:

Påstand	Svært Uenig	Noe Uenig	Verken enig eller uenig	Noe Enig	Svært Enig
1. Generelt er jeg en av de første i min vennekrets som kjøper nye sunne matprodukter.	1	2	3	4	5
2. Jeg er misfornøyd med det som finnes tilgjengelig av sunne matprodukter.	1	2	3	4	5
3. Jeg er vanligvis blant de første som prøver nye sunne matvarer.	1	2	3	4	5

Påstand	Svært Uenig	Noe Uenig	Verken enig eller uenig	Noe Enig	Svært Enig
4. Jeg elsker å kjøpe nye sunnere matprodukter før majoriteten av andre folk gjør det.	1	2	3	4	5
5. For øyeblikket er mine forventninger for sunne matprodukter ikke oppfylt.	1	2	3	4	5
6. I min vennekrets er jeg ansett som en ekspert på sunn mat.	1	2	3	4	5

Påstand	Svært Uenig	Noe Uenig	Verken enig eller uenig	Noe Enig	Svært Enig
7. Mitt behov for sunnere mat er ikke er oppfylt i dag.	1	2	3	4	5
8. Jeg forbereder jevnlig sunne matretter.	1	2	3	4	5
9. I diskusjoner om sunnere mat forteller jeg mer til andre enn de gjør til meg.	1	2	3	4	5

Påstand	Svært Uenig	Noe Uenig	Verken enig eller uenig	Noe Enig	Svært Enig
10. Generelt snakker jeg ofte med vennene mine om sunn mat.	1	2	3	4	5
11. Sunn mat er interessant for meg.	1	2	3	4	5
12. Jeg er klar over fordeler og ulemper ved sunne matprodukter fra egne erfaringer.	1	2	3	4	5

Påstand	Svært Uenig	Noe Uenig	Verken enig eller uenig	Noe Enig	Svært Enig
13. Jeg anser mitt kunnskapsnivå om sunn mat som høyt	1	2	3	4	5
14. Jeg vet mye om sunn mat.	1	2	3	4	5
15. Det er veldig gøy å oppdatere meg på sunn mat.	1	2	3	4	5

Påstand	Svært Uenig	Noe Uenig	Verken enig eller uenig	Noe Enig	Svært Enig
16. Jeg er godt kjent med bruk av sunne matprodukter.	1	2	3	4	5
17. I de siste 6 mnd har jeg snakket med mange andre mennesker om sunn mat.	1	2	3	4	5
18. Sunn mat er viktig for meg.	1	2	3	4	5

Back-translated version in English:

* All items were measured on a 5-point Likert scale: 1 = strongly disagree; 5 = strongly agree.

Claim	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. In general I am one of the first within my circle of friends who buys novelties in the area of healthy food.	1	2	3	4	5
2. I am dissatisfied with healthy food products.	1	2	3	4	5
3. Generally, I belong to the first who use new healthy food products.	1	2	3	4	5

Claim	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
4. I love buying novelties in the area of healthy food before the majority of people do.	1	2	3	4	5
5. At the moment my expectations of healthy food are not fulfilled.	1	2	3	4	5
6. Within my circle of friends I am considered as an expert in healthy food.	1	2	3	4	5

Claim	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
7. I have needs concerning healthy food which are not satisfied up to now.	1	2	3	4	5
8. I regularly prepare dishes which contain healthy food.	1	2	3	4	5
9. In discussions about healthy food I tell others more than they do me.	1	2	3	4	5

Claim	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
10. In general, I often speak with my friends about healthy food.	1	2	3	4	5
11. Healthy food is interesting for me.	1	2	3	4	5
12. I know the advantages and disadvantages of healthy food from my own experience.	1	2	3	4	5

Claim	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
13. I consider my knowledge as high regarding healthy food.	1	2	3	4	5
14. I know a lot about healthy food.	1	2	3	4	5
15. It is a lot of fun informing myself about healthy food.	1	2	3	4	5

Claim	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
16. I am very familiar with the use of healthy food.	1	2	3	4	5
17. Within the last 6 months I have spoken with many other people about healthy food.	1	2	3	4	5
18. Healthy food matters to me.	1	2	3	4	5

Appendix B: Method implementation; The Creative Platform

The method used in the brainstorming session inspired by the creative platform will be described in detail; the module for the creative platform from 0-3B was used as inspiration to plan the brainstorming sessions (Aalborg University 2014). Element in the module were cut in our sessions because of the time limit being 1 hour per session. The following is in detail how the session was conducted, and what were being said by the facilitator is marked.

First, we asked the participants to sign the consent form with information about the process in order for the study to be ethically conducted (see 3.9 Ethical considerations).

1) Introduction; “Today you are going to experience the creative platform which is a method of thinking that enhances your creativity. The method was created by researchers of creativity at Aalborg University in Denmark. It involves thinking outside the box, without you thinking about it. Try to have fun, relax and not think too much. All you need is a pen and paper, in front of you there is post-it stickers and a pen. All interruptions like watches and phones, please take it off, put it in your pocket, you are not going to need it during the session. If you have any questions and you remember something important, write it down, put it away, it’s and interruption, get it out of your head so you can concentrate and be present in the process. The point with this, is that we get in the right mode of work. All ideas are accepted, we love mistakes, because that is where new ideas come from. Please don’t be afraid of writing down any ideas. We are not judging any idea, we won’t even look at the ideas in the group, and they will be collected at the end of the session.”

1A) The Red Carpet; this is the name when we are using a 3D case from the creative platform. The goal in this part of the session is to establish the creative thinking ways of the creative platform. “Now we are going to do an activity, this is to set our mind in the right place for creativity. Please stand up, and get together with the person that has the most similar colored hair as yourself. This is your partner. Imagine your day. You are going to tell your partner about your day backwards. You have one minute each to finish telling about your day backwards, everything you did. The one with the smallest hands will start.” We time 1 minute; “1 minute is up, switch roles, now the other one tells about his/her day”. Again we time 1 minute. “Thank you! Now you can find your seats”. Everyone found their seats.

2A) Presenting problem: “Now it is time to tell you about our problem. Today, there is many health problems correlated to our lifestyles, what we eat and our activity level. Some diseases are lifestyle diseases such as cardiac disease and diabetes type 2. We see that the Norwegian population eats too much fat and not enough vegetable. Many people also have food allergies and/or intolerances. We are studying product development in the food business, specifically in the snack industry”.

“Today we are going to come up with ideas to new alternative snacks that are healthier for the population. We hope to contribute to healthier snacks, in order to contribute to a healthier society”. Based on the creative platform, this is an introduction, only including the most important details on the problem area and when presenting the problem.

3B) Individual idea generation: This was the main part of the session where the brainstorming for the presented problem was conducted. Three types of brainstorming from the creative platform were used. First, “brain writing”, second a “person analogy” stimuli were used to think outside the box and come up with new ideas. In between the different types of idea generation, the participants were kept in the right creative mind and energized by a 3D case.

Brain writing; this is what is known as the “regular” way of generating ideas, where a problem is presented for the participants, without any stimuli. “Now we are at the main part of this session. We want you to brainstorm individually; please do not talk to each other. If you want a break, then go alone, and return to your seat when you are ready to proceed. Use the post-it notes. Write down anything that pops up in your mind. The problem is developing a healthier snack. Write down any idea, it can be a word, a sentence or a picture. No matter how crazy it is, it cannot be wrong! We want as many ideas as possible. One idea on each post-it note.”

Red carpet; 3D Case; “This time we are going to get together with a partner that has the most similar feet size as you. You and your partner are going to get married! Get into character; this is similar to a role-play. First, we are going to show you how we are going to plan our wedding party. The one with the darkest eyes will start with the wedding party plan. Therefore, Iris will start talking about our wedding party.” Iris says; «Our wedding party will be in Hawaii at the beach underneath the palm trees, there will be hula dancers and drinks made in real coconuts and pineapples.” Then the facilitator continues; “There is a sailboat coming to the beach to pick up all the guests for a sunset tour with dolphins surrounding the boat, the temperature is 30 degrees Celsius in both the water and in the air, the sun is shining and the everyone is feeling happy...”

Now, you plan your wedding party with your partner. Start talking about ideas that pops up in your mind, start discussing with your partner. Remember, The one with the darkest eyes will start with the wedding party plan.” Time 3 minutes; “Get back to your seats”.

Person analogy: “Now we want you to go into a character, similar to the activity we just did on the floor. Imagine yourself as a doctor. What ideas would you come up with to solve the problem?; healthier snacks. Again, do this alone, write down anything you think of, remember you are a doctor. One idea on each post-it note. Anything, a sentence, word or picture, nothing is a wrong idea, no filter”.

“Thank you very much for participating!” We truly appreciate you taking time to help us with this research process! We hope you had a fun session, I know we did! Please hand in all the post-it notes, have some more snacks and wine. Feel free to leave whenever you please! Again, thank you so much!”.

Appendix C: Ideas

Mainstream users: Total ideas/comments; 69

Amount of approved ideas in step 1: 31 ideas

- 074. Frosne druer
- 028. tørket kjøtt
- 025. frosset frukt i snackspakker/posjon
- 187. isbiter med smak
- 470. salt frukt
- 530. frysetørket salte grønnsaker
- 980. søtpotet chips
- 835. bønner bakt i ovnen lettsaltet
- 200. bønner med krydder (chili/paprika/ostesmak)
- 600. tørket fersken/aprikos med sunn sjokoladetrekk
- 270. grønnsaker og frukt som ser ut som snop
- 380. havregryn med gode smaker
- 140. brus med proteiner
- 956. middags”barer” som metter lenge
- 591. sjokolade med lite sukker
- 791. grønnsaks-shot
- 204. brokkoli shot
- 904. snop laget av frukt
- 805. snacks laget av råkost
- 706. is laget av frukt
- 608. grønnsaks chips
- 909. brokkoli chips
- 803. nøtte chips
- 107. gulrot chips
- 108. grønnsaks yoghurt med musli
- 902. nøttmuffins
- 604. marshmallows med stevia søtning
- 609. tyggegummi med sjokoladesmak

307. vingummi med 5 om dagen (som haribo pose)

309. smaksdråper som smaker smågodt

545. vaniljekesam is

Amount of eliminated ideas: 38

Repeated ideas: 2

frosset frukt #2

Already existing products: 8

130. sunne salte kjeks (chili/paprika smak)

peanøttbar

rå kakao sjokolade

fruktsalat

grønnsaks juice #2

grønnsaks smoothie

tørket frukt

milkshake pulver

Stating the problem, not an idea: 20

mettende snacks, spiser kun en bit

genetisk manipulert mat; få mest mulig næring ut av minst mulig mat

sunn ost

sunn sjokolade

sunn is

sunn kake

sunn protein (billigere biff)

sunnere "smash" chips

sunn kjeks

sunn blåbæryoghurt med nøtter

en erstatning til det usunne i taco

sunnere popcorn

sunn alkohol #2

sunn is med sunn sjokolade

sunne Cola
sunt smågodt
sunne brente mandler
sunne dressinger
snacks som gjør deg mett lenge

Ideas not possible to produce/not real ideas: 8

medisiner som kurerer sykdommer fra usunn mat
medisiner som erstatter at du har lyst på sunn snacks #2
alkohol som inneholder 5 om dagen
sprøyter som sprøyter inn stoffer som føles som snacks
smågodt uten kalorier
medisin som gjør at du kan spise så mye snacks du vil uten at det er usunt
tydeligere markering av sunn snacks

Lead User Ideas:

Total ideas/comments to the problem; 28

Amount of approved ideas Step 1: 25

958. Gulrot chips av økologisk gulrot med Himalaya salt (tørket, ikke fritert)
253. Frysetørket økologisk jordbær og bringebær som er crispy å tygge på
654. Tørkede økologiske epleskiver med manuka honning og kanel
012. Ristede bananskiver med raw sjokolade (80% kakao) og raw kakao strø
376. Tørket kokos med sitrongress og ingefær
871. Ristede kikerter med Himalayasalt
209. Grønnskål chips med himalaya salt
376. Fun saft og gelatin pulver blandet med vann og ha i frosne bær, serveres med vanilje kesam
739. Kokos masse dekt med sjokolade
132. yoghurt nøtter uten sukker
094. fryst banan dekt med sjokolade

- 594. søtpotet chips
- 293. proteinsjokoladebollar
- 333. agurk, gulrot og selleri med dip
- 789. frosne bringebær, sukrin melis og cottage cheese blendet til kremet is
- 038. frosne mango med isbiter blendet
- 398. Energibarer oppskrift; rå sjokolade, nøtter, litt honning blandet (langpanne steke)
- 376. Mager vanilje kesam med blåbær, bringebær og druer
- 475. Bananpannekaker (havregryn, 1 egg, 1-2 bananer)
- 100. Protein pannekaker m/havre og kesam (uten hvetemel)
- 125. snack laget av fullkorn
- 111. Gresk yoghurt m/ ferske bær, nøtter og honning
- 198. Lomper med røde bønner, ananas, salat og salsa
- 298. Granola (m/nøtter, frø, havregryn, kardemomme) m/cottage cheese og bær/frukt
- 379. Proteinvafler m/cottage cheese mixet med banan (=krem)

Amount of eliminated ideas: 3

Not healthy, already exists: 1 (sprøstekt bacon)

Stating the problem, not an idea: 2 (mer tørket frukt uten sukker og nøtter uten salt, mer frukt på boks)

Same idea both user groups: 1

Søtpotet chips

Total amount of approved ideas; 55

Appendix D: Evaluation of ideas

	1. Idéenes nyhetsgrad sammenlignet med eksisterende produkter; her inngår idéens grad av kreativitet					2. Verdien til idéen i forhold til å løse problemet (kundes behov for sunnere snacks)					3. Hvor gjennomførbar er idéen? (Hvor enkelt kan idéen bli til et kommersialiserbart produkt, tekniske, produksjonsmessige og økonomiske aspekter må inkluderes)					User	Total score
	Expert					Expert					Expert						
IDÉ-ID	A	B	C	D	Mean	A	B	C	D	Mean	A	B	C	D	Mean		
958	3	4	4	3	3,5	5	5	5	3	4,5	4	3	4	4	3,8	L	3,9
600	4	4	2	1	2,8	4	4	3	2	3,3	4	3	5	5	4,3	M	3,4
253	5	4	4	1	3,5	5	4	5	3	4,3	4	2	3	3	3,0	L	3,6
380	4	2	3	3	3,0	5	4	5	3	4,3	4	2	5	3	3,5	M	3,6
140	5	2	9	5	4,0	2	2	1	2	1,8	4	4	2	1	2,8	M	2,8
956	5	3	2	1	2,8	5	5	3	2	3,8	4	4	4	4	4	M	3,5
654	3	2	3	3	2,8	4	5	4	3	4,0	4	2	5	2	3,3	L	3,3
591	1	1	1	1	1,0	3	5	3	2	3,3	4	3	4	5	4,0	M	2,8
791	2	3	4	3	3,0	5	5	5	5	5,0	4	3	3	4	3,5	M	3,8
012	3	3	3	1	2,5	5	5	3	2	3,8	4	2	3	4	3,3	L	3,2

904	3	2	1	1	1,8	1	5	1	3	2,5	4	3	99	4	3,7	M	2,6
805	3	4	4	5	4,0	5	5	4	3	4,3	4	4	2	1	2,8	M	3,7
706	2	3	2	1	2,0	4	4	3	5	4,0	4	3	5	5	4,3	M	3,4
376	5	4	3	5	4,3	1	4	3	3	2,8	4	2	5	4	3,8	L	3,6
871	4	4	2	1	2,8	3	5	4	5	4,3	4	3	4	5	4,0	L	3,7
608	3	3	5	2	3,3	3	5	5	4	4,3	4	3	3	5	3,8	M	3,8
909	4	4	5	5	4,5	4	5	5	5	4,8	4	3	2	2	2,8	M	4,0
209	5	2	5	1	3,3	4	5	5	5	4,8	4	3	3	5	3,8	L	3,9
666	2	4	1	3	2,5	2	2	2	1	1,8	4	3	4	1	3,0	L	2,4
803	4	3	99	5	4,0	3	4	3	4	3,5	4	3	3	2	3	M	3,5
200	5	4	4	2	3,8	5	3	4	3	3,8	4	5	4	3	4,0	M	3,8
107	2	4	1	3	2,5	2	5	3	3	3,3	4	4	3	5	4,0	M	3,3
108	4	4	5	5	4,5	3	4	5	4	4	4	2	4	3	3,3	M	3,9
902	1	3	1	3	2,0	1	2	2	3	2,0	4	3	5	5	4,3	M	2,8
739	3	3	99	1	2,3	1	3	2	1	1,8	4	3	5	5	4,3	L	2,8
132	4	3	99	3	3,3	4	2	4	3	3,3	4	3	4	5	4,0	L	3,5
094	4	4	2	5	3,8	2	2	2	4	2,5	4	3	3	2	3	L	3,1
594	1	4	99	1	2,0	1	5	1	3	2,5	4	4	3	5	4,0	LM	2,8
604	1	3	3	4	2,8	1	2	2	3	2,0	4	3	4	3	3,5	M	2,8

609	1	2	1	4	2	1	3	1	4	2,3	4	2	5	5	4,0	M	2,8
307	5	5	1	5	4,0	2	5	1	3	2,8	4	3	1	1	2,3	M	3,0
293	5	2	2	4	3,3	1	3	2	4	2,5	4	2	5	3	3,5	L	3,1
333	3	1	1	1	1,5	5	5	5	5	5,0	4	5	3	5	4,3	L	3,6
789	3	3	4	5	3,8	5	4	4	5	4,5	4	3	4	3	3,5	L	3,9
038	4	3	4	5	4,0	4	4	4	5	4,3	4	3	4	3	3,5	L	3,9
309	4	4	99	5	4,3	1	2	99	2	2	4	3	99	3	3,3	M	3,1
545	3	4	2	4	3,3	5	4	2	4	3,8	4	3	4	4	3,8	M	3,6
204	2	3	4	4	3,3	5	5	5	4	4,8	4	4	4	3	3,8	M	3,9
398	1	4	1	1	1,8	1	4	4	4	3,3	4	3	5	5	4,3	L	3,1
376	2	3	3	1	2,3	2	3	5	3	3,3	4	3	5	4	4	L	3,2
475	2	4	3	4	3,3	1	2	4	3	2,5	4	2	3	2	2,8	L	2,8
100	5	3	3	4	3,8	1	2	4	3	2,5	4	2	4	2	3	L	3,1
125	4	3	1	2	2,5	3	3	4	5	3,8	4	4	4	4	4	L	3,4
074	2	3	1	4	2,5	5	3	1	4	3,3	4	5	2	3	3,5	M	3,1
028	1	2	1	1	1,3	1	4	1	3	2,3	4	4	4	4	4	M	2,5
111	1	2	1	1	1,3	1	4	4	4	3,3	4	3	5	5	4,3	L	2,9
025	1	3	4	5	3,3	4	4	3	5	4,0	4	5	2	5	4,0	M	3,8
187	2	3	1	5	2,8	1	3	1	3	2,0	4	4	1	5	3,5	M	2,8
470	2	3	2	5	3,0	1	4	2	1	2,0	4	4	2	2	3,0	M	2,7

198	5	3	3	1	3,0	2	4	4	3	3,3	4	4	3	4	3,8	L	3,3
530	3	4	5	5	4,3	3	5	2	3	3,3	4	4	4	5	4,3	M	3,9
298	2	4	99	1	2,3	1	4	99	5	3,3	4	3	99	5	4,0	L	3,2
379	3	3	4	3	3,3	2	3	4	3	3,0	4	2	5	5	4,0	L	3,4
835	4	4	1	2	2,8	3	3	3	4	3,3	4	2	3	3	3,0	M	3,0
270	1	5	99	5	3,7	1	5	99	1	2,3	1	3	99	2	2,0	M	2,7
Total Mean	3,0	3,2	2,63	3,0	2,8	3,8	3,2	3,4	3,3	3,9	3,1	3,6	3,6	3,6			3,3

Appendix E: Email from researchers to food experts

Hei!

Vi er to jenter som nå trenger hjelp fra deg som mat-eksperter til å evaluere en rekke idéer, slik at vi kan komme i mål med masteroppgaven vår.

Datainnsamlingen har foregått via idégenerering; og idéene vi ønsker at du skal evaluere kommer fra forbrukere. Caset vårt handler om sunn snacks. Deltakerne ble i idégenererings-prosessen bedt om å generere nye idéer til sunne snacks alternativer som vi ser for oss kan realiseres i en rekke distribusjonskanaler for matprodukter her i Norge.

Prosessen har til sammen generert 55 idéer til nye sunne snacks produkter. Idéene er presentert i excel filen vedlagt og tilfeldig nummerert.

Vi ønsker at du evaluerer alle idéene i forhold til tre kriterier; Nyhetsgrad, nytteverdi for kunden og gjennomførbarhet.

Idéene skal evalueres basert på en 5-punkts skala fra 1 til 5, der 1=Lav verdi og 5=Høy verdi.

1. Hvor nyskapende er idéen? Idéenes nyhetsgrad sammenlignet med eksisterende produkter.
2. Hvor problemløsende er idéen? I hvor stor grad kan idéen løse problemet til kunder som ønsker sunnere snacks i butikkhyllene?
3. Hvor gjennomførbar er idéen? Hvor enkelt kan idéen bli til et salgbart produkt? Ta hensyn til både produksjonsmessige og økonomiske aspekter ved evalueringen.

Eksempel på evaluering: dersom du mener en idé har høy nyhetsgrad, gi idéen 5 poeng, dersom idéens nyhetsgrad er midt på treet, gi idéen 3 poeng.

Dersom dere er usikre på noe, har spørsmål eller innvendinger, er det bare å kontakte Hanne Sofie på mail (hannesofie87@gmail.com) eller telefon 92463745.

Med vennlig hilsen,

Hanne Sofie Herland og Iris Giladi

Masterstudenter ved NMBU

Appendix F: Ethical consent form

Idea generation session

CONSENT FORM

Please read the following statement before filling in, signing and returning the form.

Ethical considerations - Participant rights and information

- The idea generation session will last for approximately 1 hour.
- The session will be recorded for research purpose only.
- The data will be used in the research of idea generation. The ideas will be analyzed by professional food scientists and used further in the study. There will be two different groups, and the ideas for each group will be compared. The outcome will be used as an indication of the quality of idea generation based on two different user groups based on the case; healthy snacks.

I have read the information sheet describing the purpose of the idea generation group and what taking part will involve. I understand that, having agreed to take part, I can if I wish, change my mind and withdraw from the exercise at any point. I also understand that if I attend the idea generation session, I can take a break at any time, or withdraw from the discussion altogether, should I wish to do so.

Please print:

1. Your name:

2. Address:.....

3. Telephone no:.....

4. Email (if you would like to be contacted by email).....

5. Signature.....

Appendix G: Participants “lead-userness”

Respondent ID	1. Ahead of trend %	2. Dissatisfaction %	3. Product-related knowledge %	4. Use Experience %	5. Involvement %	6. Opinion leadership %
1	87	87	100	93	93	93
2	80	67	100	100	100	93
3	73	100	87	87	100	100
4	60	87	87	100	93	93
5	73	53	87	100	100	93
6	73	73	87	93	93	93
7	73	100	93	80	93	80
8	73	87	67	73	100	73
Mean Lead users	74	81.75	88.5	90.75	96.5	89.75

Respondent ID	1. Ahead of trend %	2. Dissatisfaction %	3. Product-related knowledge %	4. Use Experience %	5. Involvement %	6. Opinion leadership %
9	60	80	73	80	93	73
10	47	80	73	80	80	80
11	40	87	73	73	60	67
12	40	73	80	80	67	67
13	53	33	67	73	93	67
14	47	20	93	93	73	67
15	40	40	60	80	60	53
16	40	73	40	60	60	47
Mean Mainstream User	45.875	60.75	69.875	77.375	73.25	65.125



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