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Private Labels in Foods

Consumer Choices between Private Labels and National Brands: Investigating the Effects of Category Complexity, Social Consumption and Perceived Risk

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Abstract

The purpose of this thesis was to investigate the effects of social consumption, category complexity and perceived risk on consumer choices between private labels and national brands in addition to studying the potential effects from social consumption and category complexity on perceived risk. Moreover, lack of current research on private labels in Norway further influenced the decision of studying the subject in this market. Hence, the study is aiming at contributing to understanding consumer choices in the context of the Norwegian grocery market and consumer culture.

The mentioned effects were studied through the use of an online survey with a self-selection sample consisting of 148 respondents after data cleaning. Further, the study includes grocery products, specifically from product categories within foods: frozen pizza, shrimp salad spread, canned tomatoes and jasmine rice. Each product category in the study was presented in the form of a product pair consisting of one private label product alongside one national brand product. The largest Norwegian retail owners - REMA 1000, COOP and Norgesgruppen - were represented through their private labels.

The main findings reveal both category complexity and perceived risk as factors contributing to increase the choices of national brands as compared to private labels. Social consumption was found to increase preferences towards private labels - a finding which is hypothesized to potentially be both unique to the Norwegian culture and the least confident result of the study. The effect from social consumption on perceived risk was not significant. However, category complexity is found to increase perceived risk amongst consumers.

***Keywords-** private labels, store brands, national brands, consumer choices, consumer preferences, perceived risk, social consumption, category complexity*

Preface

This thesis is written as a part of the Master of Science in the Economic and Business Administration program at The Norwegian School of Economics (NHH). Both authors major in Marketing and Brand Management (MBM). The thesis was written during the spring semester of 2020 and constitutes for 30 credits (ECTS).

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1 Introduction

Private labels (PLs) have been present in the market since the nineteenth century and have had a steady global growth since the 1960s (Herstein & Gamliel, 2004; Chimhundu, 2011). At the same time, PL brands have developed from mainly offering low quality, low priced items to include a full range of prices and quality (Chakraborty, 2013).

According to Nielsen (2018), PLs continue to gain market shares worldwide at a strong, steady pace while also venturing into new markets. Furthermore, there are PLs present today acting as standalone brands, some of which are even leading innovation and sales in their respective product category (Ezrachi & Bernitz, 2009, p. 6). Thus, national brands (NBs) are experiencing increasing pressure in terms of both competition for market shares, but also product quality.

The PL growth is especially strong in foods and in markets with a higher degree of market concentration (Burton et al., 1998). Norway's market situation in the foods industry is somewhat unique. First, it is characterized by a high grocery market concentration (Ezrachi & Bernitz, 2009, p. 32) dominated by three powerful retailer owners, all offering PL brands. Second, also the NB production side has a relatively high concentration with the national brand powerhouse Orkla holding substantial market shares within most grocery categories. Thus, the Norwegian market setting portrays as an interesting opportunity for studying PLs.

In a PL literature classic, Lamey, Deleersnyder and Dekimpe (2007) identify how PL sales increase during economic recessions. Hence, the economic downturn the world is experiencing during the Covid-19 pandemic, makes investigating what drives PL sales compared to NBs seem as relevant as ever. At the same time, the consumer structure is also changing. According to Nielsen (2018) millennials are soon becoming the largest grocery consumer group, and their behaviours and preferences will therefore have great impacts on the grocery market. The same report (Nielsen, 2018) further elaborates millennials as less brand loyal and more open to trying new products. The combination of changing consumer demographics and the current economic downturn, indicate that important changes are emerging, signaling potential possibilities for PL producers and challenges to NB producers.

At the same time, even though private labels have been actively studied over the final decades of the 20th century, a simple Oria-search (January 2020) in private label

literature reveals a decrease in publications during recent years. Between 2014 and 2016 there were published 11.203 articles on “private label” of which 56 where peer reviewed, whereas from 2017 to 2019 there have been 8.235 articles published whereof 47 where peer reviewed. “Store brand” yields similar results in terms of withdrawal, from 2.669 articles and 32 peer-reviewed in the first three years, and only 1.699 and 30 reviewed in the latter. The decrease in literature on the topic could be attributed to several reasons. For instance, major companies on either the PL or the NB side can be paying for their own research, which they would naturally wish to keep for themselves in order to use the findings to stay ahead of the competition. A similar possibility is that these companies may have become more restrictive in sharing their data with researchers if they are afraid of consequences in terms of competition. Big data collection and analysis has grown exponentially in recent years (Davenport, 2014), and data may therefore be considered a large competitive advantage. If consumer data is privileged information to only some actors in the market, this forms the basis for asymmetric information, hence impairing the competition, creating motivation for publicly published research on the subject.

The combination of current economic and demographic development, the growth in the PL category and decreasing level of published research makes investigating the topic even more relevant. Understanding the role PLs play in the Norwegian grocery market would be highly valuable for consumers, retailers, and national brands alike. Thus, this thesis aims at reducing the knowledge gap both between actors, and in the literature by contributing to the research area of PLs with an openly published study. The study will focus on how category complexity, perceived risk, and social consumption affects choices between NBs and PLs as well as whether category complexity and social consumption affects perceived risk amongst consumers. These factors were chosen due to a limited knowledge base on the effects, especially regarding the Norwegian grocery market (see chapter 2).

1.1 Definitions and Abbreviations

In this section, the most central terms used throughout the thesis will be defined.

Private Label (PL)

A PL is *a brand which is fully owned, controlled, and sold by the retailer themselves* (Kumar & Steenkamp, 2007). The definition also covers PLs that are produced by national brands behind the scenes specifically for the retailer, which is a commonplace practice (Bergès & Bouamra-Mechemache, 2012; Ter Braak, Deleersnyder, Geyskens & Dekimpe, 2013). PLs are sometimes referred to as store brands or generic brands.

Kumar and Steenkamp (2007) defines “Premium-lite” PLs by how these aspire to be of similar or better quality than national brand products, yet at lower prices. Whenever PLs are referred to in this thesis, the referral is to PLs that can be categorized anywhere in between “Premium-lite” and low-priced, whereas low-priced are, in this thesis, defined as of significantly lower price than competing NBs. “Premium-priced” PLs are left out of the study as these are defined as higher quality and price than the leading national brands (Kumar & Steenkamp, 2007). This boundary is due to the vast majority of PLs in Norway, the location of this study, being outside the “premium-priced” category. Furthermore, premium-priced PLs differ substantially from the typical private label, being stereotyped as both low quality and price as opposed to the leading national brand in the category (Nenycz-Thiel & Romaniuk, 2011; 2014). As late as in 2009 Nenycz-Thiel and Romaniuk found that the older stereotype of PLs still lives in consumers’ minds. Hence, including premium-lite to low priced PLs seem to portray the most relevant picture at this point in time.

National Brand (NB)

Based on the chosen definition of PLs (Kumar & Steenkamp, 2007), national brands are defined as all brands that are not fulfilling all three requirements from the definition of PLs’, namely being fully-owned, sold and controlled by a retailer. Thus, national brands are *“all brands that are not fully owned, controlled, and sold by the retailer themselves”*.

Social Consumption

Bearden and Etzel define category publicness as: "... a measure of the extent to which product usage occurs in a situation in which referent others are present"- (Bearden and Etzel, 1982, p. 205). This acts as a foundation for the following definition of social consumption for the study; "*Any consumption observable to others that will happen, is ongoing, or has happened, including consumption visible through gift-giving and on social media.*" This entails that if a consumer brings a product to a party, to work etc. without consuming it during other people's presence, it is still seen as social consumption. The reason why these situations are included in the social consumption term is due to how the observation by others before and after consumption will likely play as large a role in the consumer's experience of being judged by others, as if the consumption happened during the time of the social meeting.

Category Complexity

DelVecchio's (2001) definition of category complexity is based on how difficult a consumer believes it is to manufacture the product in question. Additionally, the amount of ingredients and how hard they are to identify are included as drivers for perceived category complexity as this arguably adds to the perceived intricacy of a product. Hence, the final definition of category complexity is "*the degree to which the products in a category appears to be hard to successfully copy, or is based on a wide variety of ingredients, or include uncommon ingredients*"

Perceived Risk

Dowling (1986) defines perceived risk in terms of the uncertainty of a desired performance, whilst Narasimhan and Wilcox (1998) define the same term based on the penalty the consumer expects to experience if the product fails to perform as expected. They further define penalty as "the disutility a consumer will suffer if the product they select fails to meet their performance expectations multiplied by the probability that this failure will actually occur"- (Narasimhan & Wilcox, 1998, p. 589). Similarly, we define perceived risk as "*The negative emotions a consumer expects to experience if a product fails to perform as expected multiplied by the perceived chance of the product not performing as expected*". Thus, the definition covers all negative emotions, ranging from shame to irritation and sadness.

1.2 Problem Formulation

Having established definitions of the key terms used in the thesis, the focus shifts onto the problem formulation that will be the foundation for research in later phases. Based on findings from the succeeding literature review, this thesis aims at investigating the following problem: *“How do the degree of social consumption and product category complexity affect perceived risk, and how do perceived risk, social consumption and category complexity affect consumer choices between PLs versus NBs?”*

This problem formulation both focuses on how social consumption and category complexity affects perceived risk, and how the three variables influence consumer preferences. This should be interesting to investigate as most literature on these variables' relationships to PLs and NBs often hypothesize, but rarely conclude (e.g. Narasimhan & Wilcox, 1998; De Wulf, Odekerken-Schröder, Goedertier & Van Ossel, 2005; Müllera, Bergen, Dutta & Levy, 2006).

Moreover, the research of this thesis focuses on the grocery market which, due to its size, is of interest to a wide range of stakeholders. Lastly, the research should contribute to understanding the Norwegian market in particular as the research is conducted in Norway. Because the Norwegian market is rather unique (e.g. in terms of market concentration), such research in the Norwegian market is due time.

1.3 Research Questions

In order to operationalize the problem formulation from section 1.2 to be used in a research setting, it is broken down into specific research questions (see Table 1). In accordance with the problem formulation, five research questions were elicited, each linked with a corresponding hypothesis.

In accordance with best practice (Saunders, Lewis & Thornhill, 2019, p. 295), the research population is defined at this stage. All research questions are related to the selected research population which is “Norwegian consumers who grocery shop”, and are as follows:

- | |
|---|
| <p>R1 “How will the degree of social consumption affect perceived risk?”</p> <p>R2 “How will the degree of product category complexity affect perceived risk?”</p> <p>R3 “How will perceived risk affect consumer preferences towards NBs in comparison to PLs?”</p> <p>R4 “How will the degree of social consumption affect consumer preferences towards NBs in comparison to PLs?”</p> <p>R5 “How will the degree of category complexity affect consumer preferences towards NBs in comparison to PLs?”</p> |
|---|

Table 1. The research questions.

All these questions will ultimately be investigated through a questionnaire.

1.4 Structure

In this section, the structure of the thesis will be outlined.

First, a literature review is conducted in the field of PLs. The literature review contains a collection of articles that were deemed relevant for the problem formulation. Hence, literature on social consumption, perceived risk and category complexity is discussed in-depth in this section. Additionally, there are also articles which approach the topic in a more general sense.

The literature review is then summarized, leading on to the hypotheses development and research model. Each hypothesis is produced from a rationale deliberating how they were produced. The research model represents how all of the hypotheses expect the variables to be related.

After presenting the hypothesis and research model, the thesis moves on to the research method. This part of the thesis opens by clarifying the research context, philosophy, and approach. Further, the research strategy is described before the variables are discussed in depth. Then, the research design is illustrated in terms of time horizon, sampling and assignment as well as the details on the questionnaire design. The final part of the research method chapter focuses on the quality of the research where issues regarding validity and reliability as well as ethical considerations are discussed.

The next chapter covers the analysis of the collected data. This part explains the analysis process and investigates which, if any, of the hypotheses are supported. The analysis chapter includes descriptions of both t-tests and regressions which were conducted as central parts of the analysis. Following the analysis is a chapter for discussion, wherein the managerial and theoretical implications are deliberated. Finally, the limitations of the study are discussed with a main focus on reliability and validity.

2 Literature Review

In this chapter, the literature deemed central for the thesis will be presented with particular focus on where there may exist knowledge gaps to be filled.

2.1 PL Development: Strategy, Positioning and Demand

PLs, also referred to as store brands and generic brands, have traditionally been perceived as generic, low price and of lower quality than NBs in the same category (Apelbaum, Gerstner & Naik, 2003; Steenkamp, Van Heerde & Geyskens, 2010). However, this has changed radically in the later decades (Hyman, Kopf & Lee, 2010), to the point where some NBs struggle for market share in a radically shifting and fastmoving market situation. In the following sections this development is discussed and explained further.

PL Strategy and Positioning

The incentives for retailers to introduce private label brands are strong; they can build store loyalty (Dick, Jain & Richardson, 1996), differentiate themselves from competitors, as well as increase profits in a category (Raju, Sethuraman, & Dhar, 1995) by introducing PLs. The retailers may also attract price sensitive consumers by introducing a PL designed to better meet their needs (Hyman et al., 2010). Moreover, retailers can increase their bargaining power towards suppliers if they are able to compete with the national brands. In Norway, where the grocery market concentration is already high (Ezrachi & Bernitz, 2009, p. 32), this puts retailers in a unique position over time, which imposes a potential threat to the national brand suppliers, ultimately forcing them to either settle for low-margin contracts or losing access to the market all together. In addition to this, the retailers have data on consumer shopping patterns (Haddon, 2017), which they may use in order to introduce PLs specifically designed for consumers based on their data, introducing an added advantage. The fact that only the retailers have access to this knowledge, strengthens their position even further as compared to the national brand manufacturers. This strategy of taking advantage of consumer data insight has, for example, already been implemented by Amazon (Biscotti, 2019), where their private label “Amazon’s Choice” can be found in most of the lucrative product categories.

In terms of PL positioning, Sayman, Hoch and Raju (2002) established that PLs are more likely to target stronger NBs, and that high quality PLs can create fierce

competition with leading NBs, which further add pressure to leading NBs producing high quality products. However, the overall impact of PL success has been asymmetric, and the weaker NBs have taken the biggest negative impact as opposed to the NBs holding the number one or number two market positions (Kumar & Steenkamp, 2007).

PL Demand

Another important aspect to consider is consumer PL demand. The degree of store-loyalty towards the retailer is found to be a main driver for its PL brand equity (De Wulf, et al., 2005) arguably impacting the demand for the PL in question. Hence, one cannot expect all other drivers for PL perception or success and impact to necessarily be applicable to other PLs. This insight combined with how consumers still see national brands as superior, could also contribute to understanding why we observe an increase in “phantom brands”, that is, PLs with no direct reference to the store name, over the last few years (Ellis, 2012). In the Norwegian grocery market, such PLs could be exemplified by Solvinge and Jacob’s owned by the retail chains REMA1000 and Norgesgruppen, respectively. Solvinge was originally a NB, but was purchased by REMA without any marketing regarding the new ownership nor any changes in packaging, logo etc. Jacob’s, on the other hand, has always been owned by Norgesgruppen, but has never been marketed as such. Thus, both REMA and Norgesgruppen have drawn on the benefits from consumers viewing NBs as superior whilst grasping market share and power.

Moreover, Lamey et al. (2007) have identified how PL demand not only increases in economic recessions, but also remains high even after an economic recovery. From this, one can hypothesize that PL demand will keep on growing in the future as the world economy fluctuates.

2.2 Consumer PL Proneness

In this thesis, a PL prone consumer is defined as a consumer who have higher preferences for PLs than the average consumer. There has been a tremendous effort in finding which consumers are more prone to choose PLs over national brands (e.g. Cunningham, Hardy & Imperia, 1982; Dick et al., 1996; Sethuraman & Cole, 1999; De Wulf et al., 2005; Beneke, Flynn, Greig & Mukaiwa, 2013). This research has, however, in many cases been inconclusive and in other cases the research contradicts each other. For instance, Sethuraman & Cole (1999) conclude that middle-income households are willing to pay a

smaller price premium for NBs indicating they have higher PL preferences than both low and high-income households. On the other hand, Chakraborty (2013) highlights that lower income households are more prone to purchasing PLs. Hem (2013) describes how much new research has focused on finding characteristics of the PL prone consumer in terms of socio-economic backgrounds, income, and education, and how concluding on the matter does not seem to succeed. Today, there is some level of agreement that one is unable to classify consumers in terms of PL proneness. (Hem, 2013).

2.3 Perceived PL Quality

There have been published several PL research articles which have successfully investigated antecedents to perceived quality (e.g. Sethuraman & Cole, 1999; Dick et al., 1996). Even though PLs improved their quality and are now producing goods ranging from low-priced to premium products, consumers still seem to evaluate national brands as superior in terms of taste, reliability, and quality (De Wulf et al., 2005). Consumers also show willingness to pay a price premium for NBs when the product is either more hedonic, less frequently purchased or when they believe that price strongly correlates with quality (Dick et al., 1996). The fact that consumers' willingness to pay premium when the product is more hedonic and less frequently purchased could possibly be due to the product being utilized in a more social or symbolic situation. One may also hypothesize that more hedonic products often entails a higher degree of product complexity, thus more potential for confusion, perhaps leading consumers to lean on trusted brand names to make judgements. It is known that the preferences for NBs almost disappear during blind tasting, indicating a clear gap between perceived quality and actual quality (Beldona & Wysong, 2007). At the same time, it is also known that brand name is given more weight in consumer decisions in categories where less information is available (Degeratu, Rangaswamy, & Wu, 2000), suggesting that consumers have a higher trust level of brands being able to cover their needs, although not enough to ignore other attributes if present. The trust level consumers seem to show for NBs could help explain why it is becoming increasingly important to NB producers to invest in marketing and strengthening their brand.

2.4 Social Consumption

In addition to consumer proneness and perceived quality, other researchers have focused on the social aspect of PL consumption. In 2006, Müllera and colleagues found that consumers are more price rigid towards PLs than towards NBs during holidays. The authors suggest this could be due to increased social consumption during the holidays, but do not investigate this further. Instead they refer to other researchers who have similar explanations. Moreover, the articles mentioned (Belk, 1976; Cheal, 1987; and Otnes, Lowrey & Kim, 1993) in Müllera et al. (2006) were published between 1976 and 1993 and were inconclusive. De Wulf and colleagues (2005) also make similar suggestions, but do not investigate these in depth. Thus, investigating the social consumption aspect of PL consumption could be overdue.

However, in one study, Baumann & Hamin (2014) were investigating drivers for brand choice, revealing that both self- and family consumption had many similar drivers, whereas gift-giving significantly stood out having image as the dominant driver for choice. The same study identified that Chinese consumers are more willing to purchase PLs intended for gift-giving whilst Caucasians only chose national brands for the same purpose. The study is valuable in terms of social consumption as it indicates that both cultures and the social aspect of the purchase affects drivers for brand choice. The impacts of cultural and social aspects can be further observed by the study conducted by Shannon and Mandhachitara (2005), finding that Thai consumers, who tend to shop in groups, rarely purchase PLs, indicating that NBs are more socially acceptable in non-individualistic cultures. Thus, the study is contrasting the findings of Baumann & Hamin (2014) in terms of PLs social acceptance in Asian cultures but supports that there is an impact from cultural and social aspects. At the same time, Nielsen (2018) describes Asian consumers as more brand loyal and Asian markets as significantly less PL prone, supporting the findings of Shannon and Mandhachitara (2005). Consequently, there is some uncertainty in terms of which cultures are affected and in which directions these effects work in terms of social consumption and PLs.

What is more, these studies do not investigate additional forms of social consumption other than self-use, family-use, gift-giving and collective shopping. In addition, the cultures and markets investigated differ from the situation in Norway. Therefore, it would be valuable to understand more about social situations and the effect they have on PL demand in general, and especially in the Norwegian market and culture.

2.5 Category Complexity

In a study from 2001, DelVecchio aimed at understanding how complexity could affect perceived PL quality, and finds that it does in fact play a role. Category complexity and publicness of consumption were found to have a negative effect on the perception of PL quality. This perceived quality could arguably have implications on consumer preferences and choices. However, additional studies of the concepts are needed in order to determine the effects. Moreover, the study is nearly 20 years old, and PLs have, as discussed in section 2.1, evolved substantially since then, both in terms of quality, price range and product category. In short, research on the effect of category complexity on consumer preferences for PLs is rare, and so, more research on the matter would offer value to the field of PLs and NBs.

2.6 Perceived Risk

Narasimhan and Wilcox (1998) speculate that an increase in perceived risk will decrease the demand for PLs, but their article remains inconclusive. However, another study (Beneke et al., 2013) concluded that perceived risk decreases perceived value of PL in the cleaning product category. Thus, present research on the relationship between perceived risk and PL preferences reveal interesting directions for further investigations, but the subject is not thoroughly researched at this point in time. Investigating this further, and in relation to social consumption and category complexity could therefore have theoretical and managerial value.

2.7 Boundaries

Substantial research has been conducted on the subject of PLs and NBs. However, boundaries were made in the literature review in order to keep it focused. Thus, there are multiple fields that are thoroughly researched, but not included for further research or discussions. For example, there is substantial research considering the price and perceived quality effects on PL preferences (e.g. Raju et al., 1995; Ezrachi & Bernitz, 2009, p. 13; Chakraborty, 2013). There is also an abundance of literature covering PL strategy in terms of positioning and pricing of PLs compared to the NBs for the corresponding product category (e.g. Sayman et al., 2002; Hyman et. al., 2010). Thus, this thesis will not investigate these matters. Also, there have emerged considerable amounts of research related to PLs and their performance online (e.g. Degeratu et al., 2000; Dawes & Nenycz-Thiel, 2014; Robinson, Dall'Olmo, Rettie & Rolls-Willson, 2007),

and thus it was left out of the thesis frame as there is already a fairly steady research base.

2.8 Summary

Table 2 (below) shows an overview of selected research on PLs. The research presented was selected due to it being deemed as central to this research and subsequent problem formulation, forming a viable knowledge base in which to build upon. The presented literature reviews private labels from both a historical and strategic view as well as psychological perspective. Several articles are left out from the literature part of this thesis due to overlap with other articles, or articles which since their publication have been replaced with newer research.

Subject	Study
Literature Review/Definition	<i>Kumar & Steenkamp, 2007</i> <i>Hyman, Kopf & Lee, 2010</i> <i>Chakraborty, 2013</i>
Historical Evolution	<i>Dick, Jain & Richardson, 1996</i> <i>Lamey, Deleersnyder & Dekimpe, 2007</i> <i>Apelbaum, Gerstner & Naik, 2003</i> <i>Steenkamp, Van Heerde & Geyskens, 2010</i>
Consumer Proneness	<i>Raju, Sethuraman & Dhar, 1995</i> <i>Wulf, Odekerken-Schroder, Goedertier & Van Ossel, 2005</i> <i>Cunningham, Hardy & Gionnova, 2016</i>
Perceived Quality	<i>Dick, Jain & Richardson, 1996</i> <i>Sethuraman & Cole, 1999</i> <i>DelVecchio, 2001</i> <i>Beldona & Wysong, 2007</i> <i>Beneke, Flynn, Greig & Mukaiwa, 2013</i>
Strategy	<i>Degeratu, Rangaswamy & Wu, 2000</i> <i>Ailawadi, Neslin & Gedenk, 2001</i> <i>Sayman, Hoch & Raju, 2002</i> <i>Kumar & Steenkamp, 2007</i> <i>Beneke, Flynn, Greig & Mukaiwa, 2013</i>
Social Consumption	<i>DelVecchio, 2001</i> <i>Shannon & Mandhachitara, 2005</i> <i>Müllera, Bergen, Duttac & Levy, 2006</i> <i>Baumann & Hamin, 2014</i>
Perceived Risk	<i>Narasimhan & Wilcox, 1998</i> <i>Beneke, Flynn, Greig & Mukaiwa, 2013</i>
Complexity	<i>DelVecchio, 2001</i>

Table 2. Visual Presentation of the Research most relevant for this thesis.

Furthermore, from Table 2 one may observe that only one article in the list is less than five years old, and most of the articles are ten years or older. In terms of the reviewed research categories, category complexity and perceived risk, appear to be the least researched areas. As for social consumption, several articles were identified in which the concept is mentioned, but as discussed (in section 2.1), the literature does not conclude on effects. On the other hand, the literature provides more insights into how PLs are perceived in terms of quality as well as PL strategies such as positioning.

In summary, the overall impression is that it is reasonable to expect that PL demand will continue to grow and that retailers will strengthen their position towards its consumers and suppliers through PL introductions and development. Furthermore, there is a solid knowledge base on what causes higher perceived PL quality, but a lack of in-depth knowledge concerning how social consumption, category complexity and risk affects consumer choices when choosing a PL or NB. Finally, none of the mentioned studies have been conducted in the Norwegian market which is strongly characterized by a high market concentration. Therefore, investigating how social consumption, category complexity and risk affects PLs in the Norwegian grocery market poses as interesting.

3 Hypotheses

Because perceived risk is partially defined in terms of negative emotions, and due to the fact that people tend to be more self-conscious in social settings (Fenigstein, Scheier and Buss, 1975), the hypothesis is that perceived risk increases as the consumption becomes more social. For instance, making dinner or serving wine that tastes less satisfactory than expected is predicted to create stronger negative emotions if one is serving guests rather than eating or drinking alone. Hence, the first hypothesis is:

H1: *“Increased degree of social consumption will strengthen perceived risk”*

As more complex categories naturally lead to less homogenous products, there is a larger possibility that products in the category will differ from each other. For example, it is rather rational to assume that consumers will expect there to be a larger taste difference between different frozen pizza brands (more complex) than different jasmine rice brands (less complex). As taste naturally functions as an essential performance factor in foods (e.g. Clark, 1998), expected differences in flavor entails that perceived risk could increase as category complexity increases, leading to H2:

H2: *“Increased degree of product category complexity will strengthen perceived risk”*

If a consumer perceives the risk to be high for any reason regarding a product category, she may try to guard herself against this perceived risk by choosing the “safer” option, hence increasing her preferences towards NBs, which are generally viewed as superior to PLs (De Wulf et al., 2005). Thus, perceived risk is thought to have a direct effect on the dependent variable (choice). This leads to H3:

H3: *“Increased perceived risk will increase consumer preferences towards NB and decrease preferences towards PL”*

NBs are generally viewed as more socially acceptable than PLs (Baltas, 1997). At the same time people have a tendency to strive to sustain their social image (e.g. Kapferer, 1997). From this, it could be inferred that a consumer likely will have a higher motivation to choose a NB over a PL, when the consumption is exposed, and their social image could be evaluated by others. This rationale means that we believe the degree to which the consumption is social has a direct effect on choice which leads us to H4:

H4: *“Increased degree of social consumption will increase consumer preferences towards NB and decrease preferences towards PL”*

When a category is more complex, it becomes harder for the consumer to distinguish the different products’ performance and quality (e.g. Erasmus, Donoghue & Dobbelstein, 2014). Thus, the consumer may use heuristics such as trusting a familiar brand name providing sufficient quality. Hence, complexity is expected to have a direct effect on the choice between a PL and a NB. Based on this rationale we establish H5:

H5 *“Increased degree of product category complexity will increase consumer preferences towards NB and decrease preferences towards PL”*

3.1 Research Model

Based on the discussed hypotheses, a model was developed which can be seen below (Figure 1).

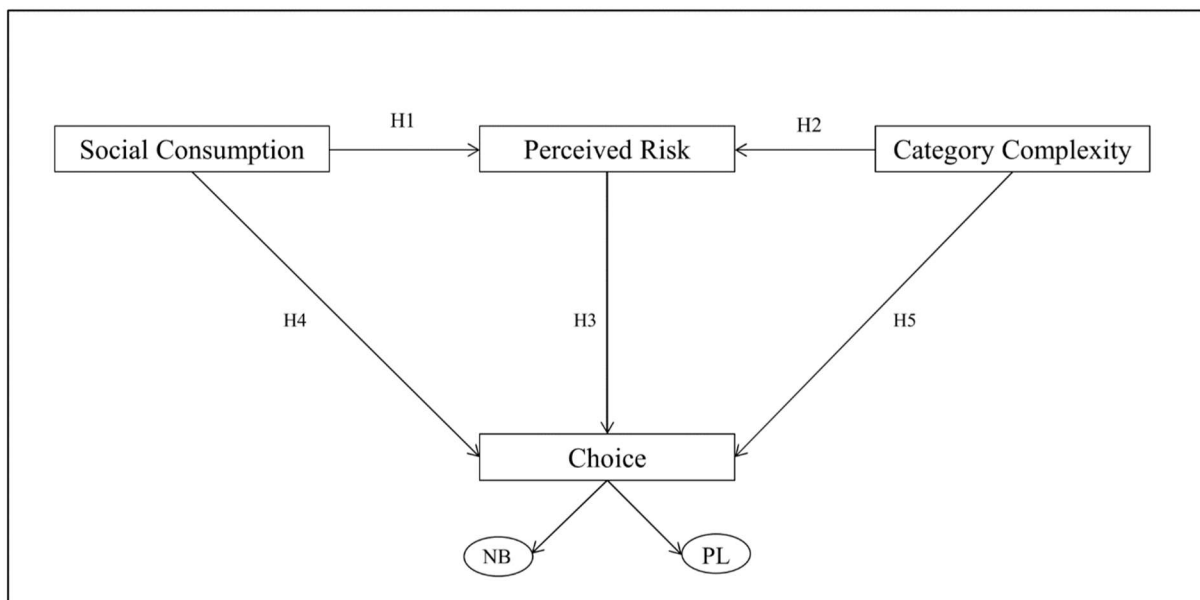


Figure 1. The research model with corresponding hypothesis

As one can observe from the model, this thesis finds interest in what variables affect the choice consumers make between PLs and NBs. As discussed in the introduction, there already exists knowledge on how other variables affect the choice of interest. Such

variables are not included in the model, meaning that the model is not expected to fully explain consumer choices. However, this thesis is examining if the three independent variables of perceived risk, social consumption and category complexity affect consumer choices, and if so, how great the effects are.

The model below (Figure 2) builds on the same rationale showcasing how the variables are expected to affect each other.

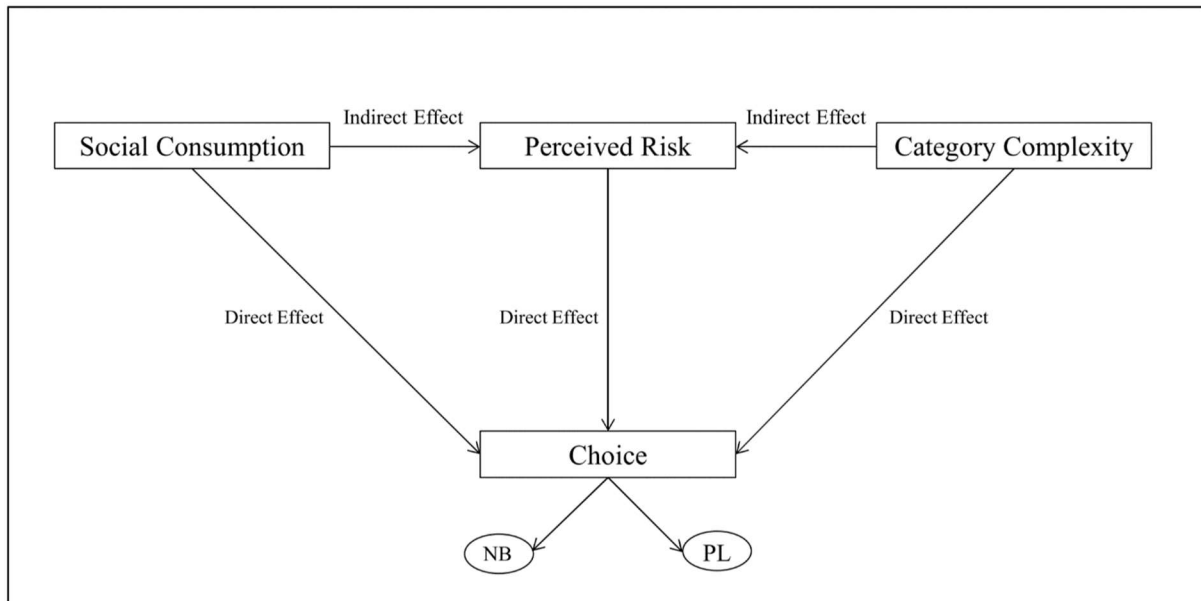


Figure 2. The Research Model with effects

As shown in Figure 2, all three independent variables are thought to have an isolated, direct effect on the choice between PLs and NBs. However, only two of the independent variables are expected to have indirect effects on choice through affecting a third independent variable, that is; both social consumption and category complexity is hypothesized to strengthen the perceived risk.

4 Research Method

This part of the thesis discusses the research method in-depth, including the research context, philosophy, approach, strategy, sampling, assignment, and the survey as well as ethical considerations and the robustness of the research design.

4.1 Research Context

The Norwegian grocery market was the sphere chosen to look at consumer choices between PLs and NBs. This choice was made for several reasons. Primarily, most consumers will consume groceries, meaning that this market has an extensive number of stakeholders. Manufacturers, retailers, and consumers as well as local businesses in the area of a retailer or a plant, will all be affected by consumer choices. Thus, the grocery market is of high interest. Moreover, the fact that most consumers also will take part in grocery shopping, makes practicalities easier in terms of sampling of respondents to the questionnaire. As discussed in the literature review, there is a growing consensus of difficulty in discriminating PL prone consumers from other consumers. This is true in terms of age, gender, educational and socio-economic backgrounds. The practical implication this entails is that it should not render the results useless if this study ends up with a sample that is not completely representative for the “Norwegian grocery shopper”. However, the goal will be to cover an as representative sample of the population as possible, within the practical restraints. This could be important if other research in the future is in fact able to identify more about the PL prone consumer, and to make the presented findings suitable for re-testing.

In order to select products for the study, retailers from all three key players in the Norwegian grocery market were visited: SPAR representing Norgesgruppen, REMA from Reitangruppen and COOP Extra representing COOP. From these stores, one PL product from either a low complexity category and/or from a high complexity category was selected from each retailer’s PL brand range. To complement the PL products, a corresponding NB product was selected within the same product category. Products that appeared similar in terms of design, size and quantity were selected in order to facilitate a pure “NB versus PL” as a main driver for the respondent choices. An overview of the chosen products can be seen below (Figure 3). More detailed pictures of these products can be found in Appendix A.



Figure 3. The chosen product pairs.

In a pursuit of objective data collection and interpretation, this research is conducted without data, sponsorship or any other support from stakeholders related to the grocery market. Hence, a budget for the study is unavailable which has some natural implications for the research design (e.g. sampling). As this research project is a Master's thesis, the timeline is limited to five months to prepare and conduct the research and corresponding analysis which influence certain choices. Thus, choices have been made based on a qualitative cost-benefit analysis. These tradeoffs will be discussed for each relevant subsection of the methodology chapter.

4.2 Research Philosophy and Approach

According to Saunders, Lewis and Thornhill (2016, p. 137), it is well advised to think through the reasoning behind all the choices made for the final research design. In light of this, the following sections present the research philosophy and approach in order to clarify the initial thought process.

Research Philosophy

In terms of ontology, we consider ourselves critical realists (Saunders et al., 2016, p. 115) due to our belief that things exist independently of the human mind. Thus, we believe that if a tree falls in the forest, it makes a sound even if no human is around to hear it. However, we do also acknowledge how we, as researchers, can only experience the world through our perception capabilities and that we are very much affected by the social conditionings from our environment.

As for epistemology (Saunders et al., 2016, p. 129), we also consider ourselves critical realists as we consider observable phenomena to be the foundation of knowledge, whilst accepting that our human perception will always be the focal point of these observations, hence opening up for interpretations which could at times be flawed.

Lastly, our axiology (Saunders et al., 2016, p. 116) is realism as we strive for objectivity, but recognize how we, as human beings, will always be influenced by our upbringings including individual experiences and biases. In summary, our research philosophy entails a strive for objective data collection and analysis, while being aware of the possibility of human biases contributing to the process, including the analysis and inferences.

Approach

This research adopts a deductive approach as it is deemed suitable for testing the hypotheses (Muijs, 2010, p. 7). Even though inductive research has grown in the field of business research (Jebb, Parrigon & Woo, 2017), our research philosophy motivates for an unbiased measure of the truth. Inductive approaches generally involve a larger degree of interpretations by the researchers. This study aims at decreasing the amount of subjective interpretations. We further argue that the approach is deductive as general theory is developed with corresponding hypotheses prior to conducting the research in order to test these hypotheses based on the collected data (Saunders et. al, 2016, p. 124). Moreover, the hypotheses are tested using quantitative data, supporting our realist view as well as the deductive approach (Muijs, 2010, p. 3).

From this, we take inspiration from Robson's (2002) stages for a deductive approach. First, we deduce hypotheses about the relationships between the variables. Second, these variables are defined in operational terms suitable for measurement. Third, the

hypotheses are tested through collection of quantitative data. Fourth, an examination is conducted in order to find support for or reject the hypotheses. Finally, a discussion is presented on how these findings may be generalized and which theoretical and managerial implications the findings indicate.

4.3 Research Strategy

As this thesis aims at understanding how and if three independent variables affect each other as well as a dependent variable, an explanatory design is employed. Thus, quantitative data is collected in order to make inferences that have the goal of being generalizable to a larger population. The quantitative data is collected from respondents receiving one of three different treatments, i.e. three stimuli that differ in terms of envisioned social settings. However, in contrast to a traditional experimental design, this study lacks a control group. This should, nonetheless, not significantly weaken the study as a basis for comparison is ensured through the different treatments.

4.4 Variables

As the outcome of interest is the choice between NBs and PLs, choice is the dependent variable. Based on H3, H4 and H5, perceived risk, social consumption and category complexity are all independent variables affecting the dependent variable. Further, H1 suggests that social consumption will strengthen the perceived risk variable. From H2 we see that category complexity is also believed to strengthen the perceived risk variable.

Even if it is hypothesized that the three independent variables will affect choice, the model is not expected to fully explain the dependent variable. In the literature chapter of this thesis, it was pointed out that there are several other variables known to affect the choice between NB and PL (e.g. consumer belief in the correlation between price and quality). However, this study finds interest in how much these three variables affect the choices consumers make when purchasing either a PL or a NB.

Concepts

As determined in section 1.1 the concept “social consumption” is defined as: “*Any consumption that is conducted in the presence of others, including consumption posted on social media or that others observe will happen and gift-giving*”. Such a broad concept

requires extensive measurement through several different treatments covering divergent forms of consumption observable by others.

The category complexity concept is based on the definition: “*the degree to which the products in a category appear to be hard to successfully copy, or is based on a wide variety of ingredients, or include uncommon ingredients*”. Thus, it is clearly made up of three noncumulative requirements which function as components to the concept. Each requirement should be measured individually.

The concept “perceived risk” is defined as: “*The negative emotions a consumer expects to experience if a product fails to perform as expected multiplied by the perceived chance of the product not performing as expected*”. The definition offers a clear idea what the concept should include, consisting of two dimensions- namely negative emotions and the chance of disappointing performance.

4.5 Research Design

This part of the thesis presents the research design as well as arguments for the choices made in this matter.

4.5.1 Time Horizon

The research and data collection will be conducted at one point in time and will therefore not capture any changes. Accordingly, this study employs a cross-sectional design (Saunders, et al., 2016, p. 155). This type of time horizon is typical for a survey strategy, which is the strategy of choice for this thesis (Saunders, et al., 2016, p. 155). On this basis a cross-sectional design seems suitable.

4.5.2 Survey

For the research strategy in terms of data acquisition, it was decided to utilize a survey in the form of a questionnaire. This choice was made for both theoretical and practical reasons. The practical aspect is grounded in how surveys typically will facilitate a larger data collection. As this is a quantitative study with limited resources, choosing a survey strategy is the most effective way to go. Moreover, a survey strategy has several general benefits. First and foremost, this research design allows collection of responses to a large amount of questions. Secondly, the data will be standardized, simplifying the analysis and leaving less room for subjective interpretations (i.e. wording from respondents is not

involved in close-ended questions). Thirdly, a questionnaire provides the benefit of being simple for respondents to participate in and understand. Theoretically, a survey also opens up for both descriptive and explanatory statistics, which suits the analysis well. (Saunders et al., 2016 p. 144).

The questionnaire used in this research is presented in-depth in a sub-section of questionnaire design (section 4.6).

4.5.3 Sampling

This study finds interest in all consumers who conduct shopping in any Norwegian grocery retailer. The research population was earlier defined (section 1.3) as “Norwegian consumers who grocery shop”, making the target population a representative selection of Norwegian grocery shoppers. Hence, the sampling does not need any specific group as most Norwegians will have experience with such shopping. Moreover, because there is quite an agreement among researchers that one is unable to discriminate PL prone consumers in terms of age, gender, education and socio-economic backgrounds it should not yield a large effect if the sample turns out to be somewhat biased in terms of any of these factors (Hem, 2013). However, if the sample is strongly biased, the findings could be weakened as one cannot know if future research is able to determine that there in fact is differences in the population in terms of PL proneness. Therefore, it is acknowledged that the optimal sampling strategy would be one creating a representative sample of the population of “Norwegian grocery shoppers”.

Because the data will be collected using a questionnaire and due to limited available resources, the sampling method of choice is a non-probability self-selection sample (Etikan, Musa & Alkassim, 2016). This choice was made to ensure a large number of respondents to the questionnaire, demanding easy accessibility and willingness to participate. In practice this entails that the questionnaire is posted on social media such as Facebook and LinkedIn, where both researchers have contacts aged 12-80, whereof the majority are contacts between 18 to 55 years old. In terms of socio-economic backgrounds, the contacts are expected to display relatively wide spectrums of education and income. No incentive is attached to the questionnaire in order to avoid biased respondents who answer inaccurately and quickly solely for the chance of receiving incentives.

The general weakness of the adopted sampling method is the lack of control regarding who ends up as participants. Self-selection could lead to biases hurting the generalizability of the findings (Muijs, 2010, p. 36). However, at the end of the questionnaire each respondent is asked to specify their gender, age, and level of education. This is not in order to use the data to look for demographic effects as this is not of concern in the study, but to elaborate on the degree to which the sampling is representative or useful to future studies. The self-selection method is also prone to outliers (Etikan et al., 2016), but since the target population of “Norwegian grocery shoppers” is abnormally wide, it is unlikely that many participants will not fit into such a population, indicating that this issue is not a considerable threat to the study.

4.5.4 Assignment

As the questionnaire consists of three treatments, participants are randomly assigned to one of these treatments. The survey will be conducted online, and participants will enter via a link and respond on their smartphone, tablet, or computer. Thus, participants will randomly be directed to one of the three treatments before responding to questions. The random assignment will be pre-programmed as a part of the questionnaire design.

Having three treatments has the advantage of testing one variable based on differences between treatments instead of including more questions for this variable. Hence, we expect this choice to ensure more participants finish the survey than if the amount of questions were larger. A disadvantage is how three treatments, resulting in a between-subject design, demand a larger number of respondents in order to make statistical inferences. However, the choice was made after assessing the risk of not collecting enough responses against the risk of respondents not finishing the survey due to the increased amount of questions.

4.6 Questionnaire Design

4.6.1 General Structure

The questionnaire consists of 29 questions (choice, Q1-Q5 times four product pairs, three demographic questions, one manipulation check and one control question) and is presented to the respondents in three versions. The three versions consist of three different social situations but are otherwise identical. Moreover, the questionnaire has a between-subject design so that each respondent is only receiving one treatment in order to avoid learning-effects (Charness, Gneezy & Khun, 2012). When the participants have answered a question, they will not be able to move backwards to prior questions. Even if this stops participants from editing responses they realize they want to change, it also helps avoiding any contamination effects, which could happen due to social desirability bias, e.g. changing answers due to wanting to seem consistent in the answering (Ganster, Hennessey & Luthans, 1983). The order of the questions is pre-randomized for Q1-Q5 for each product pair in order to avoid unknown order effects. Further, the questionnaire uses close-ended questions measuring the responses on a 7-point Likert scale. This was chosen to standardize the data and analysis. An overview of the general structure can be viewed in Figure 4 below.

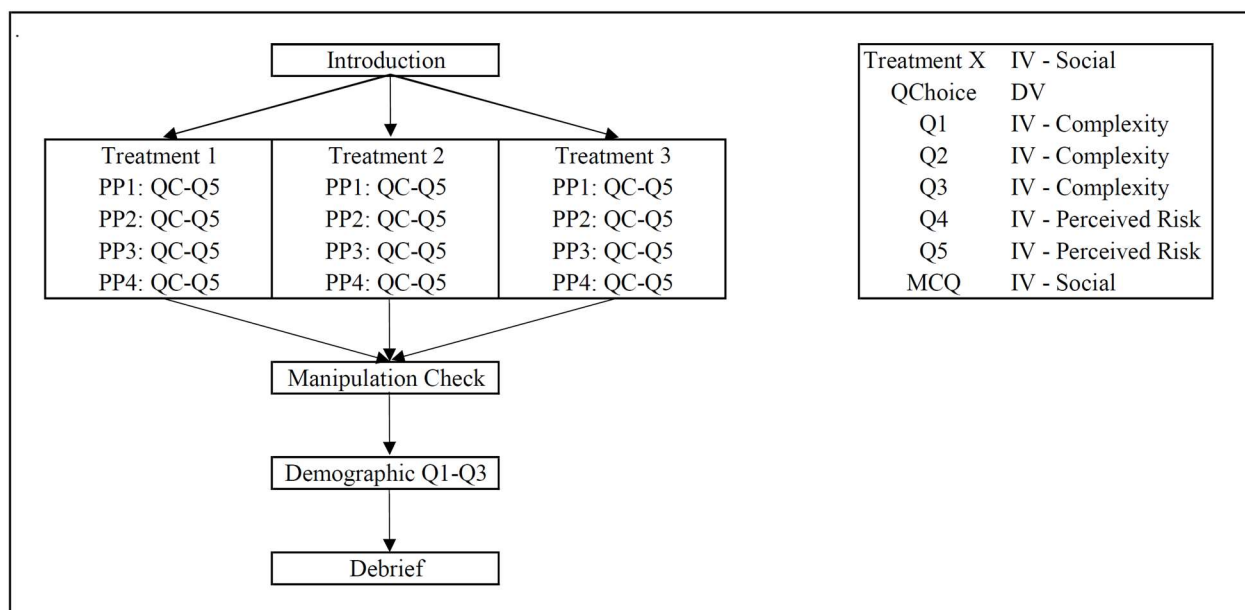


Figure 4. An overview of the Questionnaire Design.

PP= product pair - A product pair consists of one PL and one NB from the same product category (e.g. PP1= canned tomatoes)

4.6.2 The Choice between NB and PL

In order to observe the choices the respondents make between NBs and PLs, we ask the respondents to indicate which of the two products in a product pair - one PL and one NB - they would choose. The products will be from the same product category with fairly similar packaging. The respondents will be presented with pictures of both products and true prices as collected by the researchers in grocery stores per early February 2020. The respondents will not receive any more information than the photos and prices. The aim is to provide the same level of information to respondents as they would get during a normal grocery shopping trip. Private labels and national brands will not explicitly be mentioned in order to avoid having respondents focus on the study objective rather than to make choices as they normally would in a grocery store. The pictures of the products are presented side by side in pairs, and when a PL is on the left or right is randomized in order to avoid unknown effects of their visual placement.

4.6.3 The Social Consumption Variable

In order to test for the social consumption hypotheses, the social consumption variable will be manipulated resulting in three versions of the questionnaire. In the first version, the respondents will be told to make choices given the setting that they would prepare a meal for themselves and eat in solitude. In the second version, the respondents will be told to answer given a situation in which they are to prepare a meal and plate it to bring to a dinner party. In the third version, the respondents are told that they are grocery shopping before their guests will come to their home and prepare a meal together with the respondent before eating the meal together. Hence, there are three social consumption-levels in the three versions. Version one has no level of social consumption, level two has a moderate level of social consumption, whilst level three has the highest degree of social consumption. Version three is considered more social than version two as the guests are able to observe the chosen ingredients and/or products during the collective preparation of the meal.

4.6.4 The Category Complexity Variable

Based on the definition of category complexity, two complex and two non-complex product categories were selected. The chosen complex categories are frozen pizza with ham and peppers as well as shrimp salad spread. The non-complex categories consist of

boil-in-bag jasmine rice and canned diced tomatoes. All products pairs from the chosen categories have been selected based on each pair (consisting of one PL and one NB) having similar content, size and packaging aesthetic (e.g. colors).

In order to measure if the consumers truly experience the product as complex or as non-complex, they are asked Q1: *“To what degree do you believe a competitor easily could perfectly copy this product?”* and Q2: *“To what degree do you find these two products similar?”* and Q3: *“To what degree do you think you could identify all of the ingredients in these products?”*. A high score on the responses would indicate that the respondents view the products as low complexity products.

4.6.5 The Perceived Risk Variable

In order to measure the perceived risk, and based on our definition of the concept, the respondents are asked Q4: *“How likely do you believe it is that this product does not live up to the performance level you expect?”* and Q5: *“To what degree will you be bothered if the product does not live up to the performance level you expect?”*. The Norwegian word “plaget” which almost, but not completely translates to “bothered”, was chosen as it can be used to cover all forms and velocities of negative emotions. The two questions aim to measure the two dimensions of perceived risk, namely the chance of the product not performing and the negative emotions in such a case.

4.6.6 Manipulation Check

As the social consumption variable is manipulated through the three versions of the questionnaire, it is important to be able to measure if the respondents actually envisioned the described scenario throughout the questionnaire. In order to control for this, respondents are given a manipulation check after all the product related questions. The manipulation check will be in the form of a question (MCQ) asking what situation, if any, the respondent envisioned during the time of responding. In order to measure if respondents did not envision any situation, a “none of the above” option is present in addition to multiple social scenario options. Including multiple scenarios was chosen to ensure that the participants do in fact remember the manipulation they received of the social consumption variable. There is, however, a possibility that respondents will be reminded of their social conditioning when seeing the manipulation check question and therefore pass it without actually having answered based on their given social situation.

If this is the case for many respondents, it could hurt the validity of the survey in terms of the social consumption variable. The outcome of the manipulation check is deliberated in section 5.1.

4.6.7 Control Question

In order to avoid participants with outlying attitudes towards PLs to zero out otherwise true effects from the remaining participants, the study includes a control question. In other words, a question related to PL attitude will be included at the very end of the questionnaire. The question is placed at the end as it is necessary to explain the PL word in order to ensure that respondents understand the question, and saving the question for the end helps not to reveal the angle of the study early on, avoiding any framing effects. The question will aim at uncovering both abnormally strong positive and negative attitudes. Thus, participants with such attitudes can later be singled out and removed from the data set.

4.6.8 Wording and Scale

All questions are in Norwegian in order to avoid any misunderstandings from the interpretation of a language that is not the respondent's native language. Moreover, the aim is to use simple and easy to understand phrasing. A qualitative pretest was also conducted where representatives from the target group were asked to take the questionnaire in front of the researchers, asking questions or mentioning if they struggled or felt anyone else could struggle with phrasing, design or any other aspect of the questionnaire. It was decided to employ simple language, only including words that anyone would be expected to be familiar with.

In order to measure the velocities of the participants' responses, it was decided to utilize a Likert Scale (Likert, 1932). A 7 point scale was employed as this can provide more accurate and nuanced observations of the respondents' opinions than the traditional 5 point Likert Scale (Finstad, 2010). The exact number of seven points was chosen due to it being commonly used in social sciences as well as enabling inclusion of a neutral point, requiring an uneven number of points in the scale. Including a neutral point should help the participants to respond in a balanced and symmetrical manner and not force them to choose if they are indifferent or neutral (Joshi, Kale, Chandel & Pal, 2015). Accordingly, the measurements in the scale consist of close-ended questions where the respondents are able to choose one in seven options per question.

While choosing a scale with close-ended questions for measuring responses has its advantages, it also removes the opportunity of collecting individual additional thoughts and thus, may sometimes cut off the collection of data in ways that limit the overall knowledge base. At the same time, restrictions are necessary to enable the collection of quantitative data in practice. Also, the research philosophy (see section 4.2) motivates for close-ended questions in order to reduce the need for subjective interpretations. Further, different respondents may indirectly interpret numbers (e.g. 6 out of 7) as of different strengths. However, the latter effect is sought mitigated through excluding visible numbers and including words explaining the scale (e.g. 6= agree).

4.6.9 Overview of Questions

An overview linking all questions in the questionnaire to the corresponding variables and hypotheses, can be seen in Table 3, whilst the questions in full text (as presented to the respondents) can be seen in Table 4.

Concept/Variable	Hypothesis	Treatment 1:	Treatment 2:	Treatment 3:
Social Consumption (IV)	H1, H4	Not social	Somewhat social	Very social
Category Complexity (IV)	H2, H5	Q1, Q2, Q3 (Likert)	Q1, Q2, Q3 (Likert)	Q1, Q2, Q3 (Likert)
Perceived Risk (IV)	H3	Q4, Q5 (Likert)	Q4, Q5 (Likert)	Q4, Q5 (Likert)
Choice (DV)	H1, H2, H3, H4, H5	QC (Dummy)	QC (Dummy)	QC (Dummy)

Table 3. An overview of all questions linked to corresponding hypotheses.

Question	English	Norwegian
QC	"Which product would you choose?"	"Hvilket produkt velger du?"
Q1	"To what degree do you believe a competitor easily could perfectly copy this product?"	"I hvilken grad tror du en konkurrent problemfritt og perfekt kunne kopiert dette produktet?"
Q2	"To what degree do you find the two products similar?"	"I hvilken grad synes du disse produktene likner hverandre?"
Q3	"To what degree do you think you could perfectly identify all of the ingredients in these products?"	"I hvilken grad mener du at du kunne gjengitt alle ingrediensene i produktet?"
Q4	"How likely do you believe it is that the product does not live up to your expected level of performance?"	"Hvor sannsynlig tror du det er at produktet ikke lever opp til dine forventninger?"
Q5	"To what degree will you be bothered if the product does not live up to your expectations?"	"I hvilken grad vil du plages dersom produktet ikke lever opp til dine forventninger?"

Table 4. An overview of all questions. English version is freely translated from Norwegian

4.7. Quality of the Research Design

4.7.1 Pretest

A pretest was conducted by the help of friends, fellow students, professors, and family taking the questionnaire while giving feedback about the experience. They were asked to mention any word that felt unclear, any visuals that felt too large or small, if the questionnaire duration felt accomplishable and so on. No major problems were discovered except for a few words in certain questions where adjustments were made. The largest contribution from this pretest was discovering that only showing the social condition in the beginning was insufficient stimuli in order for participants to pass the manipulation check. Hence, treatments were altered to be visually displayed on top of the survey page throughout the questionnaire except for during the manipulation check.

4.7.2 Reliability

Rossiter (2002, p. 2) defines reliability as “(...) a precision-of-score estimate for a particular application of a scale”. Hence, we are interested in whether the research design makes our measurements reliable in the way that if one is to replicate the measurements, they would provide the same scores. Using quantitative data and close-ended questions should strengthen the reliability as there is less room for subjective interpretations of numbers than e.g. from participant’s speaking freely when answering as in an interview. Also, the 7-point Likert Scale should help avoid interpolations, meaning that participants are more likely to feel the answer they provide is closer to their true opinions (Finstad, 2010). Thus, if the study is replicated, one should not expect the measurements to change due to a lack of nuances in the scores.

Ideally, one could have opted for an even wider selection of NBs and PLs as well as different product categories. However, using three major PLs and four key NBs should also enhance reliability compared to using fewer products and brands as this contributes to a wider data set (Saunders, et al. 2016).

The most concerning issue in regard to reliability is, however, the sampling method. Self-selection sampling is not an ideal method to ensure a representative sample of the target group (Saunders et al., 2019, p. 296). On the other hand, increasing the response rate will reduce the amount of statistical error (Saunders et al., 2019, p. 299), and this

sampling method was therefore considered the best option in to ensure a large response rate considering the limitations in terms of time and budget. According to Stutely (2003, p. 218) a rule of thumb is to have at least 30 participants for each treatment in order to enable drawing statistical conclusions. The number of respondents who finished the questionnaire was 330 respondents before the cleaning of the data and 148 after the cleaning. Hence, the final sample is able to satisfy this minimum requirement.

4.7.3 Validity

Overall, validity is concerned with whether we measure what we aim at measuring (Greco, Walop & McCarthy, 1987). However, examining whether the different types of validity are satisfying is necessary in order to infer anything about the cumulative satisfaction. As there are multiple versions of validity (Rossiter, 2002), only the versions considered most relevant will be discussed in this section.

Rossiter (2002) describes content validity as an a priori evaluation of whether the concepts are in fact being measured through the selected items (i.e. questions). The definitions and operationalization of the concepts have been thoroughly discussed in section 1.1 and 4.4. All of the central concepts have been defined in terms of existing theory but have also been slightly adjusted. The questions corresponding to each concept have been shaped in a pursuit to cover every dimension of a concept (See Figure 4 and Figure 5). For example, the questions related to risk both cover the expected possibility of the product not performing as well as covering the actual level of negative emotions if the product fails to perform, in accordance with the two dimensions in the definition of perceived risk. Even if these questions could potentially be interpreted differently amongst subjects, a qualitative analysis of the questions was conducted in a pretest checking for the participants' understanding of the content. Based on this, the questions should have a satisfying degree of homogenous interpretations, and hence, a good content validity.

Face validity is similar to content validity, but is determined after the data collection (Rossiter, 2002). Typically, one will look at face validity through the use of a factor analysis establishing that questions measuring the same concept have a similar loading in the factor analysis, indicating high intercorrelation. Such an analysis later revealed a satisfying face validity (see section 5.3).

In summary the reliability and overall validity of the survey is considered sufficient for the purpose of the study.

4.7.4 Ethical Considerations

Since the researchers could not be present when all of the participants responded to the survey, it was important to ensure that the survey provided the participants' informed consent. Thus, an introduction was included where participants received information about the study and that they at any time could choose not to finish the questionnaire. Participants were also informed about how their data would be handled and that they would be anonymous. Lastly, a short debrief was provided at the end of the questionnaire informing the participants on the general angle and goals of the study. The debrief is, however, not detailed in order to avoid a potential impairing situation in which another respondent gets access to the debrief before finishing his or her responses. A visual representation of the landing page and the debrief as well as the entire questionnaire can be found in the Appendix.

5 Analysis

In this chapter, the collected data is analyzed in order to investigate the hypotheses. Initially there is a description of the cleaning and preparing of the data for SPSS as well as sample characteristics. Following, fundamental assumptions are tested through t-tests. Furthermore, the hypotheses are tested through the use of t-tests, linear regressions and multiple linear regressions.

5.1 Cleaning the Data

Dropout Rate

In total 330 responses were collected through the questionnaire, from which 209 respondents completed the survey 100%, equaling a total dropout rate of 36%.

Manipulation Check

In total 14 respondents reported that they did not envision any social setting. These respondents were deleted from the dataset. Furthermore, 35 respondents failed the MC-question by selecting a different treatment than they actually received and were subsequently removed from the dataset. Lastly, 7 respondents did not answer the MC test all together and were removed.

Summarizing the above, a total of 56 respondents failed the manipulation check for various reasons. This equals 26,7% of the respondents who finished the questionnaire. All of these responses were deleted, resulting in a remaining 153 respondents in the dataset.

Abnormally Strong PL Attitudes

The control question of PL attitude was established in order to reveal abnormally strong attitudes. Respondents who answered either of the extreme ends of the Likert Scale (1- I actively avoid such brands, and 7- I prefer these brands over other brands) were removed to avoid respondents with abnormally strong attitudes to wash away otherwise true effects. In total 5 respondents were removed.

In summary, the dataset was in total cleaned of 182 responses through unfinished responses, failed manipulation checks and abnormally strong attitudes. This resulted in

the dataset being reduced from the original 330 respondents to a clean dataset consisting of 148 respondents.

Preparing the data for SPSS

The respondents answered all questions on a 7 point Likert scale except for the choice-, demographic- and manipulation check questions. However, all of the alternatives for answers were in text. In order to enable SPSS to discriminate the answers, they were prepared by converting text answers to numbers. Also, to let SPSS read the data; the data was reorganized into logically meaningful columns and rows. For example, a column was created for social treatment in order to enable SPSS to isolate the variable. The reorganization of the data resulted in the total amount of columns being reduced from 72 to 29 columns.

5.2 Sample Characteristics

In this section the final (cleaned) sample will be described.

The sample size after cleaning is 148 respondents, whereof, 42 received the high social treatment, 43 the medium social treatment and 63 the low social treatment. The differences in the number of respondents in the three sample sizes are effects from more respondents passing the manipulation check and/or finishing the questionnaire in the low social treatment as respondents were initially distributed evenly. By following both the logic of Green (1991) and the rule of thumb provided by Stutely (2003, p. 218), the sample size for each group should be sufficient for conducting regression analysis considering there are three predictor variables in this study.

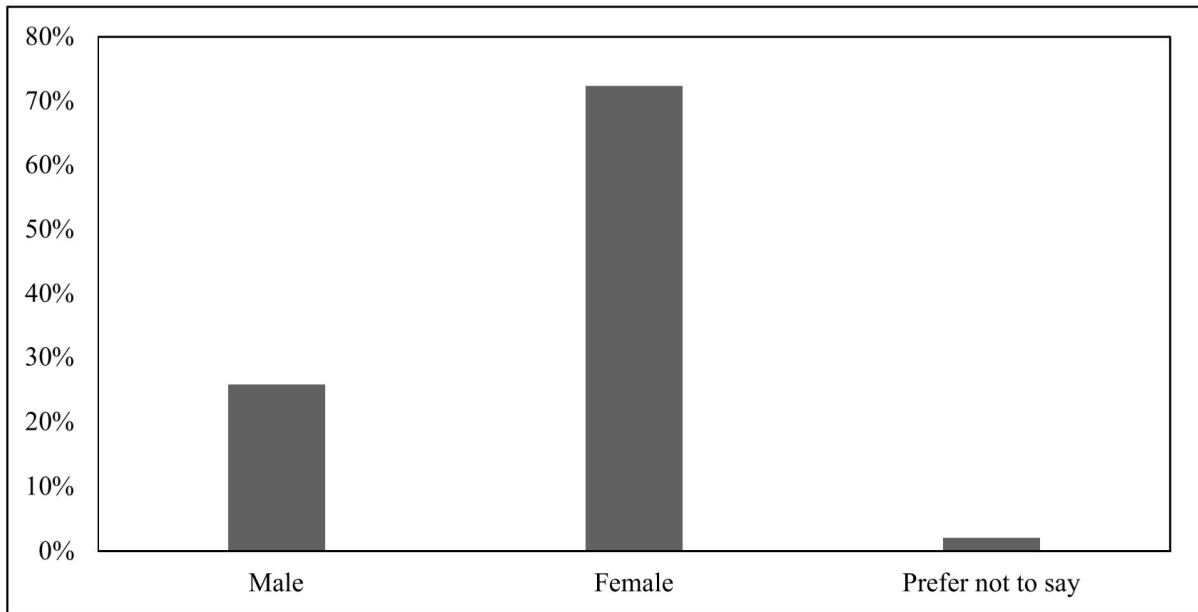


Figure 5. Gender distribution

Of the 148 respondents, there were 38 males and 107 females whilst 3 preferred not to say. The gender distribution in percentage is presented in Figure 5 above. Having three times more women than men could be a sign of a biased sample. However, as discussed in section 2.2., one has not successfully found conclusive evidence of differences in terms of PL preferences based on gender. Thus, having more women than men in the sample should not necessarily weaken the study.

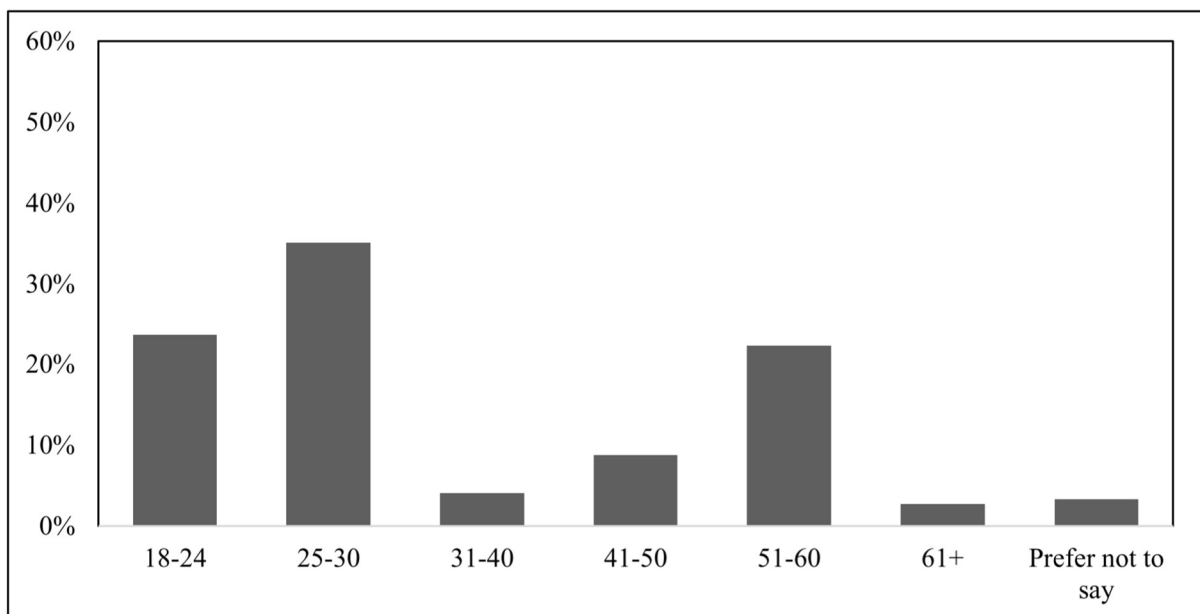


Figure 6. Age distribution

In terms of age distribution (see Figure 6 above), the sample looks satisfactory with fairly even distribution along age groups even if the 31-50 and 61+ groups would ideally be larger.

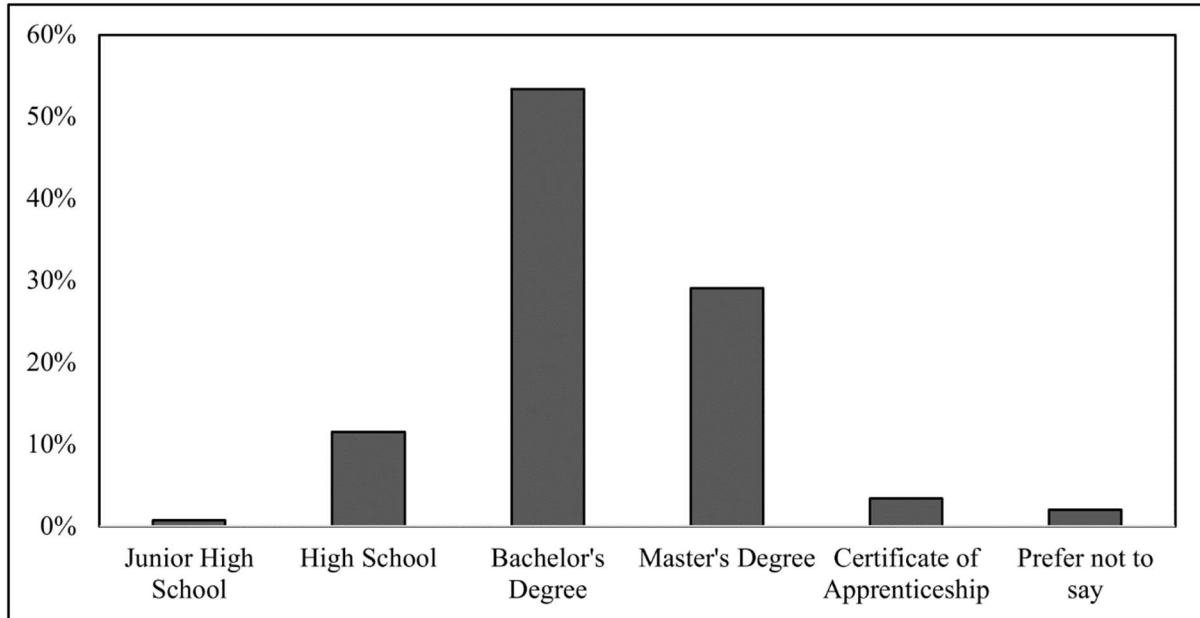


Figure 7. Education

The respondents forming the sample have a fairly high level of education (see Figure 7), with over 80% having finished a Bachelor's or Master's degree, which could introduce bias. However, the Norwegian population is highly educated in general, where 34,7% of Norwegians have a degree from college or university with the percentage being even higher for women, and especially for women aged 25-50 (SSB, 2019). The high educational level in the sample could be a result of the sample consisting of more women and affected by the networks in which the survey was shared. As both authors are students, the utilized social networks naturally include many other students as well as alumni. The highly educated sample could introduce a bias. On the other hand, as discussed in section 2.2, there are no strong indications in the PL literature that level of education affects PL preferences. Thus, per today's knowledge the sample should be adequate.

5.3 Factor analysis

Most of the concepts measured in this study have no latent items. The perceived risk variable consists of two directly measured dimensions (the negative emotions if the product fails to meet the expectations and the expected chance of the product not meeting the expectations) measured through Q4 and Q5. The choice between PLs and NBs were collected through one single question for each product pair. The social consumption variable was manipulated directly through treatment. Thus, only category complexity was measured through three latent items (Q1, Q2 and Q3). In order to investigate the degree of common loading on the three items onto the concept of category complexity, an EFA (exploratory factor analysis) was conducted in SPSS. As complexity is a relatively broad concept, the three items are not expected to be heavily correlated.

Results yield the three items adequately loading on the complexity concept. The determinant was .770 which is $>.0001$ (Field, 2013 s. 684). No multicollinearity was uncovered as no correlations are above .9 (Field, 2005, p. 641). All items show positive correlations above the traditional cut offs at .3 (Cohen, 1992) except for the correlation between Q2 and Q3 (see Table 5). However, all items were kept for further analysis as correlations with Q1 are above cut off, hence contributing to creating a broader information basis to the concept. A Kaiser-Meyer-Olkin test revealed $MSA = .617$ which is $>.5$ indicating acceptable meaningfulness (Field, 2005, p. 640). Bartlett's test provides a $sig = .000$ indicating good fit (Rodrigues, 2015). In summary, the factor analysis supports the items' ability to measure the category complexity concept.

Correlation			
	Q1	Q2	Q3
Q1	1.000	.307 **	.359 **
Q2	.307 **	1.000	.248 **
Q3	.359 **	.248 **	1.000

Table 5. Factor analysis statistics: Correlation matrix for the category complexity variable. Significance: * $p < .1$, ** $p < .05$, *** $p < .01$

5.4 Confirming Assumptions through T-tests

Before conducting the analysis directly related to the hypotheses, it is necessary to test initial assumptions. The most central assumption made in the study is connected to expected differences in category complexity in the chosen product pairs. Hence, this is investigated in the following section.

5.4.1 Differences in Category Complexity

The four product pairs were chosen as they were thought to be different in terms of perceived category complexity. The hypothesis was that the canned tomatoes and jasmine rice product pairs would be perceived as less complex than the frozen pizza and shrimp salad spread product pairs. In order to investigate H3 and H5, the actual differences in complexity between the product categories needed to be supported through t-tests. Before conducting t-tests, the normality of the dependent variable was tested to ensure meeting the criteria for t-tests (Field, 2005 p 287). Results indicated normality with skewness = .910 which is < 7 and kurtosis = .193 which is < 2 (Curran, West & Finch 1996; Ryu, 2011). Further, the distribution between the groups should be unproblematic as the amount is equal for all groups.

In order to confirm the hypothesis of complexity differences, a t-test was conducted in SPSS. Both non-complex product pairs were tested against both complex product pairs making up two t-tests investigating differences in the scores on mean complexity. T-test 1 tested shrimp salad spread against diced tomatoes (Pair 1) and pizza against jasmine rice (Pair 2). T-test 2 tested shrimp salad spread against jasmine rice (Pair 3) and pizza against diced tomatoes (Pair 4). The summary of the sample statistics for T-test 1 and 2 can be seen in Table 6 below:

	Mean	N	Std. Deviation	S. E. Mean
Shrimp Complexity	11.67	148	2.837	.233
Tomato Complexity	8.64	148	3.078	.253
Pizza Complexity	11.62	148	3.403	.280
Rice Complexity	6.52	148	2.822	.232

Table 6. Paired Sample Statistics. Means are mean perceived risks for each product pair.

T-test 1 revealed significant differences both for pair 1 and pair 2 at the 99% confidence level ($p < .01$). T-test 2 also confirmed significantly different means for pair 3 and pair 4

at the 99% confidence level with ($p < .01$). The paired sample tests can be seen in Table 7 below:

	Mean	Std. Dev.	S. E. Mean	95% Confidence Interval of the Difference		t-value	p-value
				Lower	Upper		
Pair 1 Shrimp-Tomato	3.034	3.596	.296	2.450	3.618	10.264	.000 ***
Pair 2 Pizza-Rice	5.101	3.994	.328	4.452	5.750	15.537	.000 ***
Pair 3 Shrimp-Rice	5.149	3.637	.299	4.558	5.740	17.221	.000 ***
Pair 4 Pizza-Tomato	2.986	4.027	.331	2.300	3.641	9.022	.000 ***

Table 7. Paired Sample tests. Significance: * $p < .1$, ** $p < .05$, *** $p < .01$

In summary, the initial assumption that frozen pizza and shrimp salad spread are viewed as more complex than canned tomatoes and jasmine rice is confirmed at the 99% confidence level.

5.5 Investigating the Hypothesis

In this section, all five hypotheses in the study are investigated. H1 and H2 are initially analyzed utilizing t-tests before measuring effect size through linear regressions. H3, H4 and H5 are studied directly through a multiple linear regression, first collectively with all product categories and then for each product category.

5.5.1 Investigating H1 and H2: Effects on Perceived Risk

H1: The effect of Social Consumption on Perceived Risk

In order to investigate if increased degree of social consumption strengthens perceived risk, T-test 3 was conducted. The three levels of social consumption were parted into three groups where Group 1 represents no social consumption, Group 2 represents medium social consumption and Group 3 represents high social consumption. The mean values of perceived risk for each group was compared. Even if there were differences (1.275 mean difference between high and medium and .989 mean difference between medium and low) amongst the means of perceived risk, these differences were not found significant ($p > .1$). Hence, there is no proof that the degree of social consumption affects perceived risk. Thus, H1 is not supported.

H2: The effect of Category Complexity on Perceived Risk

In order to investigate if category complexity strengthens perceived risk, T-test 4 was conducted. The complex group consists of pizza and shrimp salad spread, whilst the non-complex group consists of canned tomatoes and jasmine rice. The differences in complexity between the two groups was already supported by t-test 1 and 2 (see section 5.4.1). The mean values of perceived risk for the complex and non-complex group was tested for statistical difference. The sample statistics can be seen in Table 8 below:

Group	Mean	N	Std. Deviation	S. E. Mean
Complex	34.6040	148	18.48404	1.51427
Non-Complex	26.0738	148	17.38207	1.42399

Table 8. Paired samples statistics. Mean perceived risk in complex and non-complex product categories.

	Mean	Std. Dev.	S. E. Mean	95% Confidence Interval of the Difference		t-value	p-value
				Lower	Upper		
Comp-NComp.	8.5302	15.9829	1.3093	5.9427	11.1176	6.515	.000 ***

Table 9. Paired samples tests for complex and non-complex groups. Significance: * $p < .1$, ** $p < .05$, *** $p < .01$

As can be seen from Table 9, the means were deemed statistically different at the 99% confidence level ($p < .01$). In order to investigate the size of this effect, a linear regression with category complexity as the independent variable and perceived risk mean scores as the dependent variable was conducted. Results revealed standardized $\beta = .118$ ($p < .01$). Thus, we find support for H2.

5.5.2 Investigating H3, H4 and H5: Effects on Choice

The next step of the analysis was to test for each of the independent variables' effect on the dependent variable - the choice between NBs and PLs. This was studied through the use of a multiple linear regression in SPSS using the method of least squares (Field, 2005, p. 146). As a criterion for linear regressions is normality in the distributed errors (Field, 2005, p. 170), a normality test was employed. Since choice is the dependent variable in this study, a normality test on choice was conducted. Results indicate

normality with skewness=.101 which is <7 and kurtosis= -.585 which is <2 (Curran et al., 1996; Ryu, 2011). The descriptive statistics can be viewed in Appendix C.

It must be noted that the dependent variable in this study is dichotomous as it only has possible values of either 1 or 2 (Field, 2005, p. 220). However, the distribution in the dependent variable was of less difference than that of 90/10 (see Figure 8), thus argued not to be problematic (Haworth, 1996, p. 62).

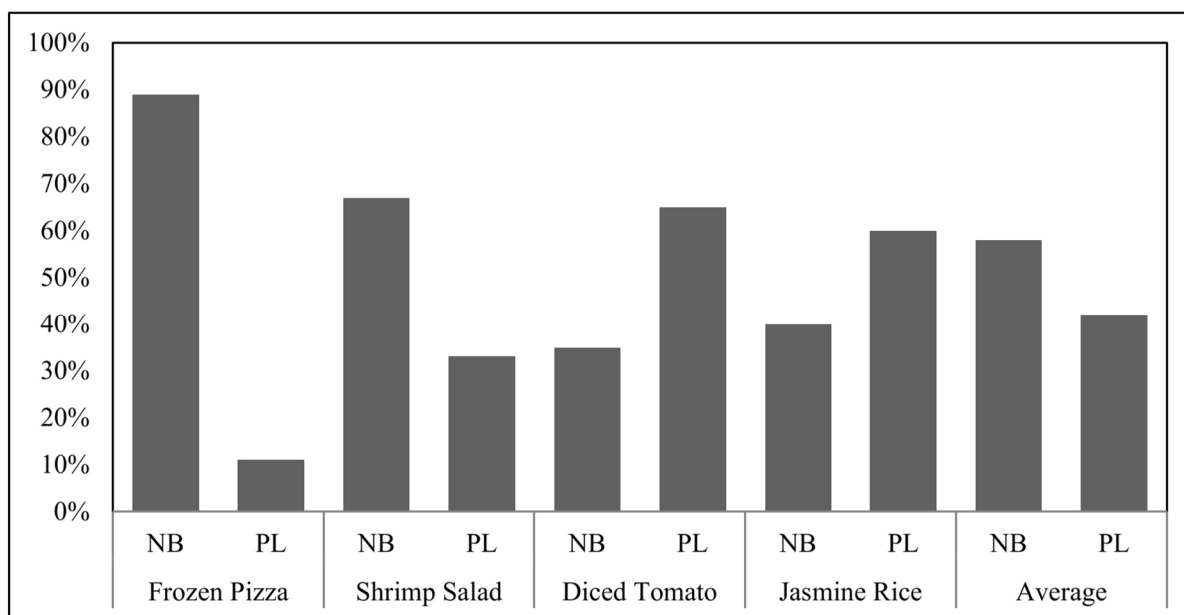


Figure 8. The distribution of the dependent variable

5.5.2.1 Regression

Model fit

The data underwent testing for logistic fit (see results in Appendix D) after the linear testing in order to investigate which regression would best fit the data, and hence, being used further in the study. For the logistic regression, the Hosmer and Lemeshow test is significant with sig= .031, indicating poor fit (Field, 2005, p. 223). In comparison, the linear regression provided sufficient fit revealing R-value= .254, and R-square= .065 which was significant at $p < .05$. Furthermore, there was no multicollinearity amongst the independent variables as the highest observed correlation between independent variables was -.215 which is $<.8$ (Field, 2005, p. 175). The standard residuals are within the intervals of min: -2.139 and max: 2.329 which is within the intervals of +3 to -3, hence not causing concern (Field, 2005, p. 164). Cook's distance= min: .000 and max:

.069 which is <1 , thus outliers are not problematic (Field, 2005, p. 165). As such, the linear regression shows no immediate issues.

The use of linear regressions has been criticized for being inadequate when the dependent variable is dichotomous (e.g. Field, 2005, p. 220). However, Hellevik (2009) argues this critique is only applicable to regressions seeking prediction, and not regressions with the aim to reveal causal relationships amongst the variables as is the case in this study. Hellevik (2009) further found no statistical differences in p-values when conducting comparisons using logistic and linear regressions on 320 identical data sets all including dichotomous variables. The aforementioned study indicates that a major argument against the usage of linear regressions on datasets with a dichotomous dependent variable, the fear of differences in p-values, is not nearly as problematic as traditionally assumed in the literature. Thus, as the logistic regression model was deemed an inappropriate fit for the data whilst the linear regression seems adequate, the rest of the analysis is conducted through the use of a linear regression.

Initial results

As the dependent variable, choice, was given a value of 1 for NB and 2 for PL, a negative coefficient between an independent and the dependent variable would indicate increased preferences for NBs whilst a positive coefficient would indicate increasing preferences towards PLs. The overview of coefficients can be seen in Table 10 below, whilst descriptive statistics may be viewed in Appendix E:

Concepts	Unstandardized Coefficients		Standardized	t-value	p-value
	β	Std. Error	β		
(Constant)	6.384	.475		13.426	.000
Social Condition	.165	.097	.137	1.707	.090 *
Complexity	-.018	.010	-.152	-1.841	.068 *
Risk	-.006	.003	-.196	-2.387	.018 **

Table 10. The Coefficients of the independent variables on choice. Significance: * $p < .1$, ** $p < .05$, *** $p < .01$

H3: The Effect of Perceived Risk on Choice

In H3 it is hypothesized that an increased level of perceived risk will increase preferences towards NBs and reduce preferences towards PLs. This was tested through a linear

regression in SPSS. Results were significant at the 95% level with ($p < .05$). The standardized β coefficient = $-.196$ indicating that as perceived risk increases, preferences towards NBs over PLs increases as well. Hence, H3 is supported at the 95% level.

H4: The Effect of Social Consumption on Choice

The standardized β was lowest for social consumption at $\beta = .137$ with $p < .1$. Hence the coefficient for social consumption was significant on the 90% level. However, the standardized β is positive, indicating that increased level of social consumption in fact increases the preferences towards PLs over NBs. As H4 predicts that an increased degree of social consumption would increase preferences towards NBs and reduce preferences towards PLs, H4 is not supported and also significantly contradicted.

H5: The Effect of Category Complexity on Choice

Following, the same linear regression provided significant results for the effect of the category complexity variable at the 90% level ($p < .1$). Furthermore, the standardized β coefficient = $-.152$. Thus, category complexity seems to increase preferences towards NBs and reduce preferences towards PLs. Consequently, H5 is supported at the 90% level.

5.5.2.2 Regression per Product Pair

The regression was also tested per product pair in order to investigate any product category related patterns. Thus, four linear regressions were conducted; one for pizza, one for shrimp salad spread, one for canned tomatoes, and one for jasmine rice (See Appendix F for descriptive statistics). Results revealed weakened patterns compared to the common regression including all product pairs.

The hypothesized reason for this decline is how the questions measuring category complexity and perceived risk are directed at “*the product you chose*”. Hence, a consumer choosing a NB could possibly experience the perceived risk as lower as compared to a consumer choosing a PL. This is considered a methodological weakness of the study. However, the design of the questions was chosen due to the respondents potentially having different opinions in terms of complexity and risk for the two products in a product pair from the same product category. Thus, the questions needed to be linked to a singular product. At the same time, these category specific effects do not seem to

hurt the regression including all product pairs, possibly as viewing them collectively will reduce these category specific differences.

Pizza

For pizza, category complexity's effect on choice is significant at the 95% level with standardized $\beta = -.102$ ($p < .05$), in line with H5. The effect of social consumption on choice was no longer significant ($p > .1$). However, perceived risk was significant at the 95% level with ($p < .05$), but the standardized β at $.178$ indicates that increased risk increases preferences towards PLs which is in direct contrast to H3. This is thought to be grounded in the perceived risk questions being related to their chosen product (as discussed in the previous section) as opposed to the category. When respondents choose the NB in the pizza product pair, they are believed to experience a lower perceived risk of the product not performing.

Shrimp salad spread

The shrimp salad spread product pair shows similar problems as the pizza product pair, but in terms of category complexity. The effect of category complexity on choice is significant at 90% level ($p < .1$). Standardized $\beta = .128$ indicating that increased score on complexity increases the choice of PLs. Like for the pizza pair, a possible reason for this finding could be that respondents choosing the PL experiences this product as less complex compared to those respondents choosing the NB as also the complexity questions are related to the already chosen product. The effect of perceived risk is not significant for this product pair ($p > .1$). Lastly, the social consumption effect on choice is significant at the 90% level ($p < .1$) and standardized $\beta = .122$ which again is in direct contrast to H3.

Diced tomatoes

For diced tomatoes, the effect of category complexity on choice is significant at the 99% level with ($p < .01$) and $\beta = -.383$ in line with H5. However, neither perceived risk nor social consumption is significant ($p > .1$ in both cases).

Jasmine rice

For jasmine rice neither perceived risk nor social consumption is significant ($p > .3$ in both cases). However, the effect of category complexity is significant at the 99% level ($p < .01$) and standardized $\beta = -.224$ in line with H5.

5.6 Summarizing the Analysis

Initially, fundamental assumptions were tested through t-tests. Furthermore, the hypotheses were tested through the use of t-tests, linear regressions and multiple linear regressions. All of the utilized tests and models displayed adequate fit. However, results from the multiple linear regression presented weakened patterns when conducted for each product category, indicating some methodological vulnerability. Nonetheless, conducting the multiple regression for all of the product pairs collectively, revealed significant results and more clarity.

5.7 Main Findings

In this section, the results of the study will be presented. As the purpose of the study was to answer five research questions, they are restated in Table 1 below:

- R1 “How will the degree of social consumption affect perceived risk?”
- R2 “How will the degree of product category complexity affect perceived risk?”
- R3 “How will perceived risk affect consumer preferences towards NBs in comparison to PLs?”
- R4 “How will the degree of social consumption affect consumer preferences towards NBs in comparison to PLs?”
- R5 “How will the degree of category complexity affect consumer preferences towards NBs in comparison to PLs?”

Table 1. The research questions (revisited).

In order to answer all five research questions, each one will be linked to the corresponding hypothesis and be deliberated in light of the results from the study.

Results on effects on Perceived risk

The first research question (R1) considers social consumption's effect on perceived risk. This effect was tested through a t-test comparing the means of perceived risk for the three treatments manipulating the social consumption variable. Results revealed no significant difference. Hence, H1 was not supported. Yet, an increased degree of category complexity was found to strengthen the perceived risk (R2), supporting H2 at the 99% level. Subsequently, one antecedent to perceived risk has been identified through the study.

Results on effects on Choice

Based on the findings from section 5.5.2.2, one must tread carefully while drawing categorical conclusions considering the problems revealed from the product pair specific regressions. Both the category complexity variable and the perceived risk variable are suffering from being linked to the specific products chosen by respondents rather than to the corresponding product pairs. This creates some degree of uncertainty as to if the risk and/or complexity effects stem from respondents' respective choices prior to the questions, or if choices were made based on perceived risk and/or complexity. Thus, the questions being framed to the chosen product, is in hindsight considered a methodological weakness. With this in mind, the comprehensive linear regression, with all of the product pairs included do, however, provide more clarity.

Results revealed that an increased degree of perceived risk increases the choices of NBs and decreases the choices of PLs (R3). This result supports H3 on the 95% level. Social consumption revealed the most surprising effects as an increased degree of sociability in a consumption setting decreased preferences towards NBs and increasing preferences towards PLs (R4). Hence, H4 is rejected. However, the results for this variable are significant at the 90% level. Thus, results reveal an opposite finding than expected. Even if this result could potentially be impaired based on many respondents failing the manipulation check, indicating the possibility that some respondents also falsely passed, it could also point to unique cultural traits for Norwegian consumers. Results support H5 as increased category complexity is found to increase choices of NBs and decrease choices of PLs (R5). This result was supported at the 90% level.

As initially predicted, the regression model reveals a relatively low R-value at .254. This was expected as there are several other known variables affecting choices and preferences between PLs and NBs (see chapter 2) indicating that the three variables in this study

will not fully explain the variation in such consumer choices. However, significant support is found for the effects of this study's three independent variables' effect on consumer choices between PLs and NBs. Thus, the study contributes to understanding more about the basis from which consumers make choices between PLs and NBs.

Summarizing the results

In conclusion H2, H3 and H5 are supported, whilst H1 and H4 are rejected. Thus, neither of the hypotheses including social consumption are supported. However, the hypotheses regarding complexity's effect on both perceived risk and on choice are supported. Perceived risk's effect on choice is also supported. The findings on each research question and corresponding hypotheses can be seen in Table 11 below:

Research question	Hypothesis	p-value	β coefficient	Conclusion
R1	H1: Social consumption will increase perceived risk	.233	-	Rejected: no significant finding
R2	H2: Category complexity will increase perceived risk	.000 ***	.118	Accepted
R3	H3: Increased risk will increase NB choices	.018 **	-.196	Accepted
R4	H4: Increased social consumption will increase NB choices	.090 *	.137	Rejected: other significant finding
R5	H5: Increased category complexity will increase NB choices	.068 *	-.152	Accepted

*Table 11. Overview of the research questions, corresponding hypotheses, and conclusions. NB choices were converted to 1 and PL choices to 2. Thus, negative coefficients between variables and choice indicate increased preferences towards NBs. Positive coefficients indicate increased preferences towards PLs. Significance: * $p < .1$, ** $p < .05$, *** $p < .01$.*

Consequently, the study provides three variables affecting consumer choices between PLs and NBs. As discussed in the literature chapter, these variables had been subject to

little research in the past. Hence, the knowledge of their effect on choices is fairly novel and may contribute to reducing the knowledge gap. The findings are summarized onto the original research model (from section 3.1) and may be viewed in Figure 9 below:

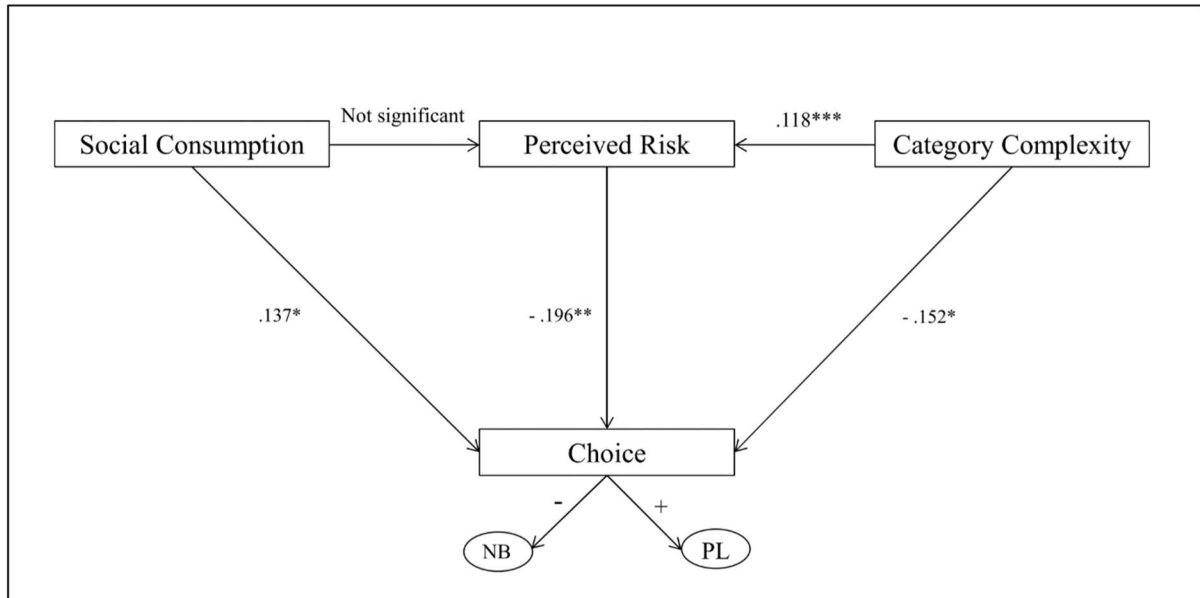


Figure 9. The research model with std. beta coefficients.

NB choices were converted to 1 and PL choices to 2. Thus, negative coefficients between variables and choice indicate increased preferences towards NBs. Positive coefficients indicate increased preferences towards PLs. Significance: * $p < .1$, ** $p < .05$, *** $p < .01$

6 Discussion

In this chapter, the main findings from the study are used to shed light on theoretical and practical implications.

6.1 Theoretical Implications

As discussed during the literature review, there appears to be a gap in the literature when it comes to the effects from social consumption, category complexity and perceived risk on consumer choices between NBs and PLs. This thesis has aimed to contribute to the theory by reducing the knowledge gap.

Category Complexity

The study adds to existing insights on category effects by introducing category complexity as a category factor that is enhancing NB choices. Hence, an added feature is found regarding the results of Dick et al. (1996) who identified an increased willingness to pay for a premium for NB products in categories that are more hedonic and that represent less frequent purchases. Thus, category complexity may be added to the established category features functioning as antecedents to choice.

Further, when the product category becomes more complex, the consumer arguably experiences a less clarified informational picture of the product, as more details entails more possible confusion. Hence, and supplemented by our findings, consumers could be leaning more on brand names to conduct choices in such cases. As such, the study lends support to the findings of Degeratu et al. (2000) that brands' significance for choices increase as alternate information becomes less clear.

The sole study retrieved investigating effects from category complexity regarding PLs was by DelVecchio (2001). However, the study looked at perceived *PL quality*. The conclusion was that PL quality is viewed as lower in more complex categories. Even if this is likely to also affect choices, DelVecchio never investigated this further. Nonetheless, DelVecchio's findings made the basis for an assumption in chapter 2; namely that *PL choices* would also decrease in more complex categories. The support our study establishes for this hypothesis provides a wider understanding of the role of category complexity.

Thus, one theoretical implication of the study is providing a broader image of which product category specific factors that affect consumer choices between NBs and PLs by introducing the importance of category complexity.

Perceived Risk

The literature review uncovered many hypotheses on the perceived risk's effect on PL choices, but few conclusions (e.g. Narasimhan & Wilcox, 1998). In one study, however, perceived *PL quality* of cleaning products was found to decline as perceived risk increased (Beneke et al., 2013). This created the focal point of one of the hypotheses of this study; that also *PL choices* would decrease as perceived risk increased. Moreover, it was assumed that this also would be true for foods. Since the hypothesis was supported, this thesis provides a broader understanding of the role of perceived risk in PL choices, as well as contributing to existing, non-conclusive research by providing significant inferences on the effects.

Social Consumption

The literature on social consumption is rather scarce, and almost nonexistent in regard to the Norwegian market. Some papers have indicated that social consumption will decrease PL choices (e.g. Müllera et al., 2006), but with few conclusions. It is theoretically interesting that the findings from our study indicate the opposite; that increased degrees of social consumption increases PL choices. On the other hand, some studies have revealed evidence that Asian, non-individualistic cultures are more brand loyal and less PL prone (Shannon & Mandhachitara, 2005). As the Norwegian culture is rather individualistic compared to the Asian culture (Hofstede, 1980; Telhaug, Mediås & Aasen, 2004), our findings could indicate support regarding how the level of individualism in a culture contributes to more social acceptance in choosing PL products. For example, Norwegian consumers could experience less social pressure in terms of brand choices or experience that making price conscious choices are socially desirable as compared to Asian consumers. In terms of levels of social consumption, Baumann and Hamin (2014) found self-use and family use to have the same brand choice drivers, whilst gift-giving stood out as more image-driven. Our study has aimed at investigating social levels in-between family-use and gift-giving by including the preparation and the consumption of a meal with friends and bringing and consuming a meal at a party. How PL choices grow as the situation becomes more social for Norwegian grocery shoppers, is considered an important theoretical implication from the study.

Summary

The results of the study support the three discussed variables' effects on consumer choices. Thus, researchers may include category complexity and perceived risk as variables in future research when continuing the work to understand consumer choices in the growing business field of PLs. In more detail, the study indicates perceived risk has the strongest effect in strengthening preferences towards NBs followed by the effects of category complexity. Moreover, category complexity should be included when explaining perceived risk as category complexity significantly strengthens the perceived risk consumers experience. These effects are expected to be relatively generalizable.

The social consumption variable is thought to have the lowest degree of external validity as the effect of social norms, beliefs and culture may well play into the effects identified in this study. Therefore, the findings on this variable is thought to be mostly applicable to the Norwegian research scene. Moreover, it must be noted that a high level of failed manipulation checks was present, indicating this variable could be prone to validity issues. Thus, the theoretical implication of this variable is deemed weaker than the other variables in the study, and there is a need for further research in order to draw confident conclusions. Yet, the study provides important insights to the theoretical field of social consumption in the Norwegian culture.

Consequently, the main theoretical contributions of the study are how the three variables affect choices between PLs and NBs, as well as identifying one antecedent to perceived risk.

6.2 Practical Implications

The findings of this study provide valuable insights to marketers, retailers, and grocery producers as a contribution to a deeper understanding of the antecedents to the choice between PLs and NBs. As much research on groceries are conducted outside of Norway, the results particularly provide important perspectives to those operating in the Norwegian market.

The results involving category complexity's effect on consumer choices, creates opportunities in terms of competitive strategy, investments, and product development. Research has already established that retailers may increase profits in a category by introducing PLs (Raju et al., 1995). This study identifies in which categories these effects could be most advantageous. As an increase in category complexity is found to increase preferences towards NBs, NB producers should prioritize investing in product development in more complex product categories. The opposite rationale is true for PL producers who should consider investing more in less complex products as these are found to be less prone to the traditional NB preferences amongst consumers. At the same time, marketers from both sides may supplement the decision-making knowledge base by taking into consideration how PL growth is stronger in markets with higher market concentration (Burton et al., 1998), and in less hedonic categories as well as categories involving less frequent purchases (Dick et al., 1996). These insights combined with our findings on category complexity could benefit producers of both PLs and NBs as one may concentrate investments where they are more likely to result in more competitive products.

Moreover, Hyman et al. (2010) describe how the introduction of PLs may attract price sensitive consumers. Yet, in our study prices were always visible to respondents, meaning that the category complexity effect on choice was present even when price differences were relatively large. Thus, NB producers could benefit from prioritizing to underline the complexities of a product rather than competing on price in more complex categories. On the other hand, PL producers may compete with a sharp price focus in the less complex categories where brands seem to have less impact on choices.

It must be noted that complex products in this study were frozen pizza and shrimp salad spread, whilst non-complex products were jasmine rice and canned diced tomatoes. Hence, the complex term must not be understood as only products that are

groundbreaking in their intricacy, but rather products that are of a less homogenous character.

Additionally, the effects of perceived risk on consumer choices are found to be significant as an increase in perceived risk also increases the demand for NBs and decreases the preferences for PLs. In this study perceived risk was defined as: *the chance of the product not performing as expected, multiplied with the negative emotions if the product fails to perform*. Thus, PL producers should strive to ensure their products are perceived as low risk. This should be possible with many different strategies such as warranties, word of mouth, online customer reviews and so on. At the same time, NB producers do in fact benefit if the product is viewed as risky. Hence, NB producers could create advantages by investing in new, innovative product categories where the consumer has less experiences and thus less knowledge to make them deem the product risk as low. As the consequences of failed performance is also a part of the perceived risk, NB producers should consider investing in categories in which product performance is thought to be an important requirement to consumers.

The most surprising finding of this study is the effect of social settings on consumer choices. Marketers are advised to be careful when utilizing this finding as a fairly large percentage failed the manipulation check on their given social setting. Hence, there is danger that also a considerable number of respondents falsely passed the manipulation check, weakening the findings linked to this variable. However, it is interesting that the study indicates that an increased degree of social consumption increases preferences towards PLs and decreases preferences towards NBs. Thus, PL marketers could promote products as fitting for social occasions and even invest in product categories that are typically consumed in the company of others. However, this finding could potentially be heavily affected by the social norms and beliefs of Norwegian grocery shoppers. Studies in different countries have indicated different, and opposite patterns (e.g. Müllera et al., 2006). Therefore, international marketers are advised to look for information or invest in research on how social consumption affects choices in the specific culture in which they conduct business.

Finally, store loyalty is known as a main driver for PL success (De Wulf et al., 2005). Thus, PL producers should view the practical implications discussed in this section in light of their customers' store loyalty. For example, if a PL producer experiences low store-loyalty, they could opt for introducing phantom brands instead of traditional PLs.

This could be particularly helpful in categories representing high levels of complexity and/or perceived risk in order to avoid decreased PL choices. On the other hand, since a high store-loyalty may also drive PL success, PL producers should not necessarily decide on a phantom brand in all PL introductions. Stores with high store-loyalty may benefit (as elaborated in Chapter 2) from explicitly linking the PL brand to the specific retailer. Subsequently, the recommendation is rather to take the perceived risk and complexity linked to the specific product category into consideration in order to establish a more comprehensive decision-basis before deciding for the introduction strategy.

7 Limitations

In this chapter, the most central limitations of the study will be discussed with focus on how these may have affected the validity and reliability of the study.

As described in section 5.3, the final sample size after the data cleaning was 148 respondents. Even if this sample size provided sufficient respondents (Green, 1991; Stutely, 2003, p. 218) for the purpose of the study, one would ideally have opted for a larger sample size. For instance, one may suspect that a larger sample size would provide stronger significance levels which ultimately would have strengthened the confidence in the findings especially in terms of reliability.

In terms of sampling, the sample method was self-selection which is a form of convenience sample. Due to the resources of the study, the sample method was necessary. However, as described in section 5.3, the sample ended up biased in terms of gender and educational level. Even if these characteristics are not found to affect PL versus NB preferences in the literature (see section 2.2), the possibility of sample bias hurting the study exists. Thus, there is potential for the bias in respondent characteristics decreasing the external validity of the study.

The study included four product categories in which two were hypothesized to be of higher complexity than the two others. This was later supported at the 99% level utilizing a t-test. Even if the hypothesis is supported based on the four chosen categories, an ideal study would have included more categories in order to gain a broader perspective. For example, including even more complex products would have been interesting as complexity effects could be strongest when comparing highly homogenous products to relatively complex products as opposed to relatively complex products versus highly complex products. Such effects were not investigated in this study, which is deemed a limitation in terms of the internal validity of the complexity variable as well as the external validity regarding whether findings can be generalized to a broader range of product categories.

In terms of brands, the study included four NBs and four PLs. The PLs represented the major retailers in the Norwegian grocery market in order to ensure a relatively balanced perspective. However, neither the NBs nor the PLs in the study was controlled for brand awareness, brand loyalty or store loyalty. Such factors are known to play a role in

consumer choices (see section 2.1). Thus, the internal validity may be impaired by such factors.

As the data collection method was an online survey, the effects from choices made online compared to in-store was not controlled for. Arguably, the experience of the respondents would be closer to that of online grocery shopping than of physical shopping. As such, the study could be enhanced by also conducting an experiment in physical grocery stores. This could potentially enhance the generalizability of the results.

The most surprising finding of the study was the effects of social consumption as it was not significantly affecting risk as well as increasing choices of PLs and decreasing choices of NBs. There are some methodological aspects that should be noted in this regard. 26,7% of the respondents failed the manipulation check, which is relatively high. Moreover, there is a probability that some respondents passed the manipulation check by chance as it only had four response options. Lastly, respondents may have passed the manipulation check due to being reminded of their treatment without actually envisioning their given social setting while responding to the questionnaire. This may explain the low differences found in perceived risk based on social treatment and could potentially have hurt the results of the effects of social consumption on choices. Thus, there are concerns in terms of the reliability in the measurements linked to social consumption.

The last issue that is deemed central is how the questions regarding complexity and perceived risk were linked to the product that the respondent chose in each product category. The reason for designing the questions connected to the chosen product was that respondents may view the two products from the same product pair as different in terms of both risk and complexity, thus requiring linking the questions to only one product. Nonetheless, respondents who chose NBs could potentially report a lower experience of perceived risk and/or a higher experience of complexity compared to respondents who chose PLs for the same product pair. This may help explain why the results on complexity and risk differ when only looking at one product category at the time compared to when viewing all product categories collectively. The effects from linking the questions to the chosen product seem to be less problematic when all of the product categories investigated are seen as one such as in regressions including all four product pairs.

8 Future Research

This chapter will focus on areas of interest for future research on the subjects covered in this thesis.

How effects from category complexity, perceived risk and social consumption differ in physical and online shopping

As deliberated in chapter 7, the study in this thesis utilized an online questionnaire as method for data collection. This may have affected the results as there is likely to exist differences between choices made during online grocery shopping compared to physical grocery shopping. Gaining more knowledge on how the effects from complexity, risk and social consumption is mediated by shopping destinations would be valuable. It could be especially interesting to investigate whether social conditions would have a larger impact on both perceived risk and choices if experiments or observations are conducted in physical stores, as choices are then more visible to observers.

Social consumption in different cultures

The study was conducted in Norway with Norwegian respondents and primarily Norwegian brands. Thus, the effects from the social variable is thought to be most applicable to the Norwegian grocery market. Consequently, studying the effects of how the degree to which a product will be consumed in a social setting affects choices and perceived risk in other countries would reduce the knowledge gap further. A cross-cultural comparison of the effects of social consumption would be especially valuable in this matter.

Social consumption, category complexity and perceived risk in other industries

This study has solely focused on the grocery industry, more specifically on foods. Henceforth, investigating the effects from the variables in this study in other industries would bring valuable insight to practitioners in those markets. In particular, the personal care (Euromonitor International, 2019), electronics (Green, 2019) and clothing (Quelch & Harding, 1996) markets showcase PL growth, indicating industries of interest.

Antecedents to Perceived Risk

In this study the effects of social consumption and category complexity on perceived risk was investigated. Social consumption did not show significant effects while the effect from category complexity was eminently significant. However, the study fails to explain the perceived risk variable in terms of a comprehensive picture of its antecedents. Understanding more of how consumers' perceived risk is formed, would bring valuable insights to marketers. Suggestions could be to investigate additional variables' effect on perceived risk such as brand experience and word of mouth.

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APPENDIX

Appendix A. Pictures of all product pairs



PL

Product Pair 3: Boil-In-Bag Jasmin Rice

NB



NB

Product Pair 4: Frozen Pizza

PL



Appendix B. The Questionnaire

INTRO

Takk for at du tar deg tid til denne spørreundersøkelsen.

På neste side vil du få oppgitt et scenario. Scenarioet er relevant for alle spørsmålene i undersøkelsen og vil stå på toppen av siden gjennom spørreundersøkelsen.

Underveis vil du få presentert fire par med produkter og spørsmål tilknyttet disse. Spørsmålene er alltid relatert til det siste produktparet du så.

Alle dine svar er anonyme og kan ikke spores tilbake til deg. Du kan når som helst avbryte spørreundersøkelsen.

Sosialt konsum HØY**LES NØYE:**

Se for deg følgende scenario når du besvarer alle spørsmålene i undersøkelsen:

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.

1/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



Du trenger rekesalat. Hvilket produkt velger du?

Produktet til venstre



Produktet til høyre



Hvor stor sannsynlighet tror du det er for at produktet du valgte ikke lever opp til dine forventninger?

- Svært sannsynlig
- Sannsynlig
- Litt sannsynlig
- Nøytral
- Litt usannsynlig
- Usannsynlig
- Svært usannsynlig

I hvilken grad mener du at du kunne oppgitt alle ingrediensene i produktene?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noe liten grad
- I liten grad
- I svært liten grad

4/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



I hvilken grad synes du produktene og forpakningene ligner på hverandre?

- I svært stor grad
- I stor grad
- I noen grad
- Verken like eller ulike
- I noen grad ulik
- I stor grad ulik
- I svært stor grad ulik

I hvilken grad tror du en konkurrent problemfritt og perfekt kunne kopiert produktet?

- I svært stor grad
- I stor grad
- I noen grad
- Verken enkelt eller vanskelig
- I noen grad vanskelig å kopiere
- I stor grad vanskelig å kopiere
- I svært stor grad vanskelig å kopiere

I hvor stor grad vil du plages dersom produktet du valgte ikke lever opp til forventningene dine?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noen liten grad
- I liten grad
- I svært liten grad

7/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



Hvilket produkt velger du?

Produktet til venstre

Produktet til høyre

I hvilken grad tror du en konkurrent problemfritt og perfekt kunne kopiert produktet?

- I svært stor grad
- I stor grad
- I noen grad
- Verken enkelt eller vanskelig
- I noen grad vanskelig å kopiere
- I stor grad vanskelig å kopiere
- I svært stor grad vanskelig å kopiere

I hvilken grad mener du at du kunne gjengitt alle ingrediensene i produktet?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
-

I noe liten grad

- I liten grad
- I svært liten grad

10/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



I hvilken grad synes du produktene og forpakningene ligner på hverandre?

- I svært stor grad
- I stor grad
- I noen grad
- Verken like eller ulike
- I noen grad ulik
- I stor grad ulik
- I svært stor grad ulik

Hvor stor sannsynlighet tror du det er for at produktet du valgte ikke lever opp til dine forventninger?

- Svært sannsynlig
- Sannsynlig
- Litt sannsynlig

- Nøytral
- Litt usansynlig
- Usansynlig
- Svært usansynlig

I hvor stor grad vil du plages dersom produktet ikke lever opp til dine forventninger?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noe liten grad
- I liten grad
- I svært liten grad

13/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



Hvilket produkt velger du?

Produktet til venstre



Produktet til høyre



Hvor stor sannsynlighet tror du det er for at produktet du valgte ikke lever opp til dine forventninger?

- Svært sannsynlig
- Sannsynlig
- Litt sannsynlig
- Nøytral
- Litt usannsynlig
- Usannsynlig
- Svært usannsynlig

I hvilken grad mener du at du kunne oppgitt alle ingrediensene i produktene?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noe liten grad
- I liten grad
- I svært liten grad

16/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



I hvilken grad synes du produktene og forpakningene ligner på hverandre?

- I svært stor grad
- I stor grad
- I noen grad
- Verken like eller ulike
- I noen grad ulik
- I stor grad ulik
- I svært stor grad ulik

I hvilken grad tror du en konkurrent problemfritt og perfekt kunne kopiert produktet?

- I svært stor grad
- I stor grad
- I noen grad
- Verken enkelt eller vanskelig
- I noen grad vanskelig å kopiere
- I stor grad vanskelig å kopiere
- I svært stor grad vanskelig å kopiere

I hvor stor grad vil du plages dersom produktet du valgte ikke lever opp til forventningene dine?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noen liten grad
- I liten grad
- I svært liten grad

19/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



Hvilket produkt velger du?

Produktet til venstre



Produktet til høyre



Hvor stor sannsynlighet tror du det er for at produktet du valgte ikke lever opp til dine forventninger?

- Svært sannsynlig
- Sannsynlig
- Litt sannsynlig
- Nøytral
- Litt usannsynlig
-

Usannsynlig

- Svært usannsynlig

I hvilken grad mener du at du kunne oppgitt alle ingrediensene i produktene?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noe liten grad
- I liten grad
- I svært liten grad

22/29

Du skal handle inn matvarer til et måltid før gjestene dine kommer på middagsbesøk. Dere skal tilberede måltidet sammen.



I hvilken grad synes du produktene og forpakningene ligner på hverandre?

- I svært stor grad
- I stor grad
- I noen grad
- Verken like eller ulike
- I noen grad ulik
- I stor grad ulik
- I svært stor grad ulik

I hvilken grad tror du en konkurrent problemfritt og perfekt kunne kopiert produktet?

- I svært stor grad
- I stor grad
- I noen grad
- Verken enkelt eller vanskelig
- I noen grad vanskelig å kopiere
- I stor grad vanskelig å kopiere
- I svært stor grad vanskelig å kopiere

I hvor stor grad vil du plages dersom produktet du valgte ikke lever opp til forventningene dine?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noen liten grad
- I liten grad
- I svært liten grad

I hvilken grad tror du en konkurrent problemfritt og perfekt kunne kopiert produktet?

- I svært stor grad
- I stor grad
- I noen grad
- Verken enkelt eller vanskelig
- I noen grad vanskelig å kopiere
- I stor grad vanskelig å kopiere
- I svært stor grad vanskelig å kopiere

I hvor stor grad vil du plages dersom produktet du valgte ikke lever opp til forventningene dine?

- I svært stor grad
- I stor grad
- I noen grad
- Nøytral
- I noen liten grad
- I liten grad
- I svært liten grad

Manipulasjonssjekk

25/29

Hvilken situasjon så du for deg mens du svarte på spørsmålene?

- At jeg skulle lage mat og spise den alene
- At jeg skulle handle inn og lage mat å ha med til et middagsselskap
- At jeg skulle handle inn før gjestene mine kom for å tilberede mat sammen med meg
- Ingen av dem/ Annet

Demografi

26/29

Hva er din alder?

- Under 18 år
- 18-24 år
- 25-30 år
- 30-40 år
- 40-50 år
- 50-60 år
- Over 60 år
- Ønsker ikke å oppgi

Jeg er:

- Kvinne
- Mann
- Ønsker ikke oppgi

Utdannelse:

- Fullført grunnskole
- Fullført videregående skole
- Tatt fagbrev
- Fullført bachelorgrad eller tilsvarende
- Fullført mastergrad eller tilsvarende
- Ønsker ikke å oppgi

Tidligere erfaring (EMV)

29/29

Butikkenes egne merkevarer er merker som er produsert av og kun selges i bestemte butikkkjeder. Eksempler er First Price, Rema PRIMA og Kløver. Hva er ditt forhold til slike merkevarer?

- Jeg unngår aktivt slike merker
- Jeg er skeptisk til slike merker

- Jeg er litt skeptisk til slike merker
- Jeg er nøytral
- Jeg er åpen for å prøve slike merker
- Jeg liker slike merker
- Jeg foretrekker slike merker fremfor andre merkevarer

Appendix C. Descriptive Statistics: Normality Test of the Dependent Variable

		Statistic	Std. Error
Mean		5.6824	.08250
95% Confidence interval for Mean	Lower Bound	5.5194	-
	Upper Bound	5.8455	-
5% Trimmed Mean		5.6727	-
Median		6.0000	-
Variance		1.007	-
Std. Deviation		1.00365	-
Minimum		4.00	-
Maximum		8.00	-
Range		4.00	-
Interquartile Range		1.00	-
Skewness		.101	.199
Kurtosis		-.585	.396
			N=148

Appendix D. Logistic Regression

Model Summary			
Step	-2 Log. Likelihood	Cox & Snell R Square	Nagelkerke R Square
1	739.837 ^a	.112	.150

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	16.890	8	.031

Variables in the Equation						95% C.I. for EXP(β)		
	β	S.E.	Wald	df	Sig.	Exp(β)	Lower	Upper
Step 1 ^a Social Level	.215	.107	4.037	1	.044	1.239	1.005	1.528
Complexity	-.197	.026	57.572	1	.000	.821	.780	.864
Risk	-.008	.008	.829	1	.363	.992	.976	1.009
CONSTANT	1.184	.354	11.208	1	.001	3.267		

a. Variable(s) entered on step 1: Social Level, Complexity, Risk.

Appendix E. Descriptive Statistics: Linear Regression.

	Mean	Std. Dev.	N
Decision	5.6824	1.00025	148
Social Condition	2.15	.833	148
Complexity	38.2617	8.48958	148
Risk	60.6779	32.12692	148

Appendix F. Descriptive Statistics: Linear Regression per Product Pair

Product	Variable	Mean	Std. Dev.	N
Shrimp Salad	Decision	1.33	.472	148
	Complexity	11.67	2.837	148
	Risk	19.21	9.970	148
	Social Condition	2.14	.833	148
Diced Tomatoes	Decision	1.65	.479	148
	Complexity	8.64	3.078	148
	Risk	12.26	8.975	148
	Social Condition	2.14	.833	148
Jasmin Rice	Decision	1.59	.493	148
	Complexity	6.52	2.822	148
	Risk	13.51	10.088	148
	Social Condition	2.14	.833	148
Frozen Pizza	Decision	1.11	.312	148
	Complexity	11.62	3.403	148
	Risk	15.63	11.409	148
	Social Condition	2.14	.833	148