Understanding the Demand for a Future with Privacy-Enhanced Recommendation Systems

A Mixed Method Study

Master's Thesis

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Abstract

Advancements in communication technology has allowed for the emergence of recommendations that are more knowledgeable and personalized to the user than ever. Yet, in order for specific recommendation systems to accurately determine users' preferences, they need to acquire the user's personal information. As a consequence, users are expressing their concern for how their personal data is handled by companies' online. Despite this, consumers are still demanding recommendations while shopping on a company's website, and this has led to a privacy paradox.

While this phenomenon has already become a highly discussed and relevant topic within the marketing industry, little research has been conducted in this area. Consequently, this study aims at finding a solution to bridge this privacy paradox between consumers' online data privacy and companies' use of recommendation systems from a communication standpoint. This research focuses on understanding consumer perceptions on privacy concerns and how it affects consumer usage of recommendation systems, as well as to investigates what website attributes make consumers trust a website with their personal data through triangulation and a mixed method approach.

A conceptual model is presented with the findings that aims to represent the optimal recommendation system usage and implementation, benefitting the communication strategy for companies through privacy-enhanced recommendation systems. The findings conclude that customer reviews, online chat channel, hybrid privacy disclosure, social contract, trust in legislation, award from neutral source, third-party privacy seal, familiarity, contact information and overall trust builds trust and as such reduces privacy concerns. While lack of interest, lack of knowledge, collaborating filtering, content-based filtering, information and reciprocity indirectly influence privacy concerns.

Keywords

Personalization; Online Recommendation Systems; Recommendation Databases; Behavioral Advertising; Online Data Privacy; Privacy Concerns; Privacy Paradox; Consumer Behavior

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Contents

1 Introduction

This chapter presents an introduction to the topic of interest within this study. To start with, the background presents the current state of the online shopping industry, personalization services and consumers concerns for online privacy. This is followed by the motivation and problem discussion. Lastly, the purpose of this research and the two research questions are defined.

1.1 Background

In recent years, advances in communication technology has allowed electronic commerce, or e-commerce, sites to become a more attractive and accessible platform for consumers to shop, and because of this, consumers of today are more and more interested in shopping online over traditional brick and mortar stores (PostNord, 2017; Yun, Hooshyar, Jo & Lim, 2018). A survey conducted by Eurostat (2018) found that as many as 60% of consumers residing in Europe shopped online in the past month. Statistics also show the user penetration worldwide is projected to hit almost 59% by 2023, an increase of almost eight percent since 2018 (Statista 4, 2019). The annual growth rate of revenue is also expected to reach about nine percent (Statista 4, 2019), indicating that the market is expanding at a fast rate.

The reason that there is a growing preference for online shopping is that it provides consumers with an efficient way to purchase and receive a product on demand from anywhere at any time (PostNord, 2017; Yun et al., 2018). Online shopping also avoids limitations of business hours, travel time, and other undesired restrictions that are associated with traditional shopping (PostNord, 2017; Yun et al., 2018). For that reason, online shopping has quickly been taking over the retail industry, changing the way consumers and retail companies interact and how retailers reach consumers (Yun et al., 2018). Meanwhile, this has created an opportunity for companies to easily access consumer's personal data and leverage it to better interact with consumers and drive more business (Yun et al., 2018). For example, marketing tactics such as recommendation systems are used to personalize interactions towards consumers while they shop online (Gerber, Gerber & Volkamer, 2018; Morath & Münster, 2018; Yun et al., 2018).

Recommendation systems are used by companies to help consumers find desired products on their online platform more easily and efficiently, and in turn, they are able to generate more sales for the company (Morath & Münster, 2018; Yun et al., 2018). Research shows that recommendation systems and personalized interactions from companies has significantly improved consumers purchase intent as well as their relationship and attitudes towards a company and thus, generated positive word-of-mouth (Kobsa, 2007; Taylor, Davis & Jillapalli, 2009). Even though the consumer behavior is positive toward

companies who provide personalized content through recommendation systems, there is a major concern for privacy over consumers' information (Gerber et al., 2018; Kobsa, 2017). Consumers data privacy concerns can be referred to as the perceived risk involved in consumers not having control over how their information is collected from websites and how it is used by the organizations (Gerber et al., 2018; Taylor et al., 2009). Therefore, there is a large amount of uncertainty concerning online data privacy, and consumers concerns generally stem from the risk of misuse and lack of control over who uses their information (Taylor et al., 2009). Privacy concerns also include consumers perception of the behaviors resulting from companies collecting and applying consumers personal data (Phelps, D'souza & Nowak, 2001; Taylor et al., 2009;). Considering that the population is growing in terms of e-commerce usage with apparent underlying privacy concerns, companies need to recognize how to reduce the concerns to successfully secure a position in the market. Therefore, consumers skepticism over data privacy has created a difficult challenge for companies as they have to figure out how to navigate these conflicting behaviors in order to ensure the consumer is satisfied and continues to return to their e-commerce shop.

1.1.1 Personalization

At first, the focal point of e-commerce concerned transactions between the buyer and the seller. From there, it has progressed into a customer-centric perspective where the interaction between the user and the company is prevailing (Goy, Ardissono & Petrone., 2007). During the recent decade, many companies have also acknowledged the challenge of confronting the profusion of information and alternatives users are confronted with when using the internet (Micarelli, Gasparetti, Sciarrone & Gauch, 2007; Ricci, Rokach & Shapira, 2015). Consequently, a number of new technological tools have been developed to counteract this dilemma and to ensure consumers can access information that suits their needs (Gauch, Sperett, Chandramouli & Micarelli, 2007; Micarelli et al., 2007; Ricci et al., 2015). One of these technological tools is personalization, where the information results shown for the user is adjusted to the individual user profile (Gauch et al., 2007; Micarelli et al., 2007; Ricci et al., 2015). Since personalization filters the information for the user, thus increasing the precision of the results as well as condenses the time spent, it is regarded as a convenient method for accessing information (Micarelli et al., 2007). The basis for these personalization techniques to work is algorithms and cookies that can track users' online behavior. Kobsa (2007) summarized several studies regarding users concerns from being tracked online, and the results showed that about 91% of users were uncomfortable being tracked online and only about 62% of users accept cookies from a website.

However, the objective of personalization is actually to facilitate the online experience, and there are different ways personalization systems personalize information for the user. The type of personalization system that is utilized depends on the task the user is performing on the internet (Micarelli et al., 2007).

That is, whether the user is searching for information by browsing, searching for information by query, or searching for information by recommendations (Micarelli et al., 2007). When browsing for information, users scan websites without having a specific aim as to what they are looking for (Micarelli et al., 2007). As a result, it can be difficult personalizing the results as there is no end goal and the quantity of information is immense. In contrast, when searching for information by query, personalization systems can actively process keywords used as well as the information available online, and subsequently display results adapted to the individual user (Micarelli et al., 2007). Finally, searching for information by recommendations use personalization systems that aim at displaying and recommending results that are dependent on the context and the user (Goy et al., 2007; Micarelli et al., 2007). The system is as such guiding the user through the arrangement of information and it proposes tailored results to satiate their need (Goy et al., 2007). These results are individualized based on the knowledge of the users, such as their preferences and their backgrounds (Micarelli et al., 2007). By generating such results, the user's search process is facilitated since both foreseen and unforeseen information adapted to the individual interest is available (Gauch et al., 2007; Pechpeyrou, 2008; Ricci et al., 2015). Additionally, data can also be gathered to include information that is calculated as not of interest to individual users in order to eliminate non-interesting information (Gauch et al., 2007).

Recommendation systems are the most common personalization system implemented by companies and the consumer process of searching for information by recommendations is as such gaining increasing interest among companies (Adolphs & Winkelmann, 2010). The knowledge of the user is gathered by the systems from the interaction between the user and the system (Micarelli et al., 2007). While this personal data formerly consisted of personal information such as name, address, phone number; sociodemographic variables such as gender, age, education, job; as well as geographical data such as location, city, and country (Goy et al., 2007; Micarelli et al., 2007; Taylor et al., 2009), recommendation systems nowadays usually collect behavioral data via cookie tracking (Gauch et al., 2007). Cookie tracking occurs when a browser is connected to a website system, and a sort of user profile with a userID is created and stored in the consumer's computer (Gauch et al., 2007). The behavioral data is then saved in these individual user profile (Gauch et al., 2007).

These user profiles are often dynamic with users' changing preferences and this is done to identify short-term user profiles that display present interests, as well as long-term user profiles that display interests that are likely to remain over longer periods of time (Gauch et al., 2007). To continuously update this information and maintain accurate information about the user, algorithms have been developed to acquire usage data inconspicuously (Micarelli et al., 2007). This is done by registering the online behavior on the server side via browsing cache and agents that collect browsing history and search logs,

or on the client-side that collect cookies, keyboard tracking and click-through rate (Gauch et al., 2007; Micarelli et al., 2007; Taylor et al., 2009).

1.2 Motivation and Problem Disucssion

Research shows many users' value personalized content and that many companies are also profiting from offering personalized offers to their consumers (Kobsa, 2007), pointing to a successful relationship where both parties are rewarded. However, a survey found that most consumers are not comfortable with the way that companies use their personal data, and 70% of those users who are comfortable with it still take defensive actions with their personal data (Quint & Rogers, 2015). It is also expected that in the future, even more consumers will take defensive actions with their personal data (Quint & Rogers, 2015). Considering privacy concerns emerge when data is gathered and that user data is an essential component of these services, incongruity in the interaction is prevalent. Privacy concerns have also been found to grow correspondingly to the demand for personalization services (Gauch et al., 2007), supporting that research in privacy-enhanced personalization should as such aim to reconcile the conditions between the user and the company in a way where personalization systems can gather data with respect to the individual's privacy.

If these concerns would not be addressed appropriately, the privacy movement is pointing to personalization systems eventually disappearing as the user data sources are becoming unavailable (Kobsa, 2007). However, research has also shown that if companies and organizations acknowledge and counteract these privacy concerns, users' intent to disclose personal information significantly increases (Baek, Kim & Bae, 2014; Brandimarte, Acquisti & Loewenstein, 2013; Gerber et al., 2018; Xu, Tan, Hui & Tang, 2003). This is because consumers feel that their information is more secure with a company who addresses these privacy concerns (Brandimarte et al., 2013). Therefore, implementing privacy protections can ensure consumers feel comfortable and at ease with providing their personal data to a website. As a result, the outcome can lead to more accurate and relevant recommendations provided by the company to the consumer, creating a synergy that mutually benefits both parties.

The research area of online personalization is however a relatively new area and it has been established that there has not been much research done prior to 2005 (Huang & Gu, 2016). While there is research indicating that specific attributes of the design and interface of websites can increase trust from users, there is an absence of studies measuring the effect of a website design and interface on users' privacy concerns and their willingness to disclose personal information (Kobsa, 2007). This has led to a gap in research where corroboration via conjoint analysis is needed to address recommendation systems and users' interactions (Agarwal, DeSarbo, Malhotra & Rao, 2015). Further, considering the amount of

companies that spend substantial resources to develop new offerings that still results in a low adoption rate among the consumers, conjoint analysis can be a forestalling methodology to understand consumers' choices and preferences (Ighomereho, 2011). In other words, for an offering to be effective, a company must recognize how consumers make their choices among different alternatives (Rao, 2014). As such, a marketing strategy should not solely be based on positioning, communication, or distribution, but also on the offering's attributes that make up the offering and allow consumers to make a trade-off calculation (Rao, 2014).

While choosing between different offerings, consumers typically make trade-offs among the attributes of a product or a service and understanding the consumer perceptions and preferences in their trade-off process should as such be the first step in concept development before investing resources in any production and manufacturing (Ighomereho, 2011). This theory of thought provides companies with the opportunity to test different offering alternatives to assess the preferences within the market and evaluate their potential success (Ighomereho, 2011). Not only could such research in consumer value provide evaluations of success, but if applied appropriately, companies could evaluate potential market share, revenue, and profit (Ighomereho, 2011).

Similarly to the lack of research in the area of online personalization, there is also a lack of research in online recommendation systems, as research about personalization has primarily focused on databases or search engines (Ricci et al., 2015). As recommendation systems are found to be the most widespread in terms of implementation of personalization systems, it is contradictory that only few articles focus on this research area (Adolphs & Winkelmann, 2010). Additionally, even if implementation proceedings are deemed as a more prominent research section in comparison to research with a theoretical basis, less research is addressing the implementation proceedings of these recommendation systems (Adolphs & Winkelmann, 2010). As such, the scarcity of research in this area reveal an opportunity to explore implementation and usage of recommendation systems further (Adolphs & Winkelmann, 2010). This would allow both academics and practitioners to further understand how consumers perceive personalization services determined via recommendation techniques. In turn, companies and organizations can acknowledge these consumer perceptions and implement recommendation techniques accordingly.

Online behavioral advertising also remains relevant because it is continuously being updated with emerging and existing technologies in the market in order to generate more advanced surveillance tools that comply with privacy regulations (Finn & Wadhwa, 2014). Online behavioral advertising is referred to as personalizing consumers interests by tracking their online activities and targeting them with

advertisements (Finn & Wadhwa, 2014; Toch, Wang & Faith Cranor, 2012). While data privacy regulations are constantly changing, this directly affects online behavior advertising (Finn & Wadhwa, 2014). For example, EU General Data Protection Regulation (GDPR) is a privacy law that went into effect in 2018 for the purpose of giving individuals more control over their personal data (European Commission, 2018). GDPR influences a firm's ability to collect, store and use an individual's personal information and thus it affects how firms can utilize user's data to continue to personalize content online to consumers (European Commission, 2018). Laws such as the GDPR law are informing the general public about methods of data gathering that have previously been obscured, and research has shown that once consumers are informed of companies gathering data about them, the concerns of one's privacy is growing (Toch et al., 2012). Regulations continue to go into effect and as a result behavioral advertising needs to adapt to both these regulations and consumers' progressing discernments of personalization technologies.

Among these shoppers, the majority of online shoppers reside in Sweden, Denmark and Norway likely due to the favorable online shopping conditions in these countries (PostNord, 2017; Statista 3, 2018) and they are projected to continue to grow (Statista 3, 2018). Denmark, Sweden and Norway also had the second highest annual spending per capita for online shopping in Europe between 2015 to 2018 (Statista 5, 2019). Further, in 2018 internet shopping was growing by 15% in Sweden, 11% in Denmark, and 15% in Norway (Passport, 2019; Passport 2, 2019; Passport 3, 2019). These growths are expected to continue the next years where by 2023, Sweden is projected to reach SEK 129 billion, Denmark is projected to reach DKK 66.2 billion, and Norway is projected to reach NOK 67.9 billion (Passport, 2019; Passport 2, 2019; Passport 3, 2019). More specifically, while looking at the most frequent online shoppers including Sweden, Denmark and Norway, research shows they are also not as willing to provide and store their personal data online (Statista 2, 2017; Statista 3, 2017). Statistics has shown that in 2018, users in this area were 42% more concerned about their online privacy compared to one year ago (Statista 2, 2017; Statista 3, 2017).

In general, the discussion regarding online recommendation systems and data privacy concerns has never been a more relevant and important topic from a marketing communicative standpoint. While there is an apparent contradiction in consumers perspective over their desire to use online recommendations and their discomfort with sharing their personal data with companies online, there is a high level of demand for two-way communication between the company and the consumer. Consequently, marketing communication plays a critical role in determining the extent to which consumers agree to disclose and use their personal information with companies in order to receive the benefits from personalized content. Meanwhile communication and marketing communication is key in

conveying the degree to which companies disclose information to consumers regarding how they will use and handle consumers personal data. Therefore, this research is written from a communicative and marketing communicative context.

1.3 Purpose and Research Questions

The intention of this study is to understand how to bridge this paradox between consumers' online data privacy concerns and companies' use of recommendation systems. Therefore, the purpose of this study is to further the knowledge of optimal recommendation system usage and implementation. More specifically, it addresses the problem of privacy concerns arising from recommendation systems based on online behavioral advertising that has been seen within the Scandinavian population. The study aims at understanding consumer perceptions on privacy concerns and how does it affect consumer usage of recommendation systems, as well as to investigate what website attributes make consumers trust a website with their personal data. In order to try and achieve the following, the two research questions are as stated:

Research Question 1: What are the consumer perceptions on privacy concerns and how does it affect their usage of recommendation systems?

Research Question 2: What website attributes make consumers trust a website with their personal data and what consumer values take priority over others?

2 Literature Review

This section presents relevant literature and theories pertaining to the research topic. The section is divided into two distinctive subsections, including Consumer Behavior and Interactive Communication. Consumer Behavior discusses consumers attitude, trust, perceived risk and the privacy paradox that consumers are confronted with when using recommendations. Interactive Communication discusses the website design and interface as well as technical processes.

2.1 Consumer Behavior

2.1.1 Attitude

Even though personalization helps filter through information for users, there is also a negative side to personalization, which according to Toch et al. (2012) has concerned consumers and shifted their attitudes towards personalization and privacy. A large number of consumers are not fully aware of the methods that firms use for behavioral advertising, forming a type of information asymmetry between the users and the providers (Kokolakis, 2017; Toch et al., 2012). However, research uncovers that once consumers are informed about them, they were highly concerned and apprehensive about having their personal information tracked and analyzed (Toch et al., 2012).

According to John, Kim, and Barasz (2018), more recently consumer awareness has increased considerably and since then there has been backlash due to the surveillance tools such as cookies used to develop personalized advertisements. Therefore, consumers have become more protective over their data as a result of the increasing data infringements, use of targeting to spread falsified news and advertisements that are exceedingly specific or follow consumers around the internet (John et al., 2018). Therefore, a recent survey found that 59% of consumers acted in order to restrict companies from tracking and advertising to them (Quint & Rogers, 2015). Another survey rated the top four attitudes towards sensitive pieces of personal information for consumers to share with companies and the survey found that 58% were sensitive towards sharing their personal address, 46% were sensitive towards sharing their mobile phone number, 45% were sensitive towards sharing their name, and 42% were sensitive towards sharing their date of birth (Quint & Rogers, 2015). Additionally, another study revealed that 66% of consumers preferred not to have personalized offerings (Toch et al., 2012). Research shows that these attitudes were persistent among various genders and ages (Toch et al., 2012).

However, research also revealed that some consumers accepted the use of surveillance tools due to the more interesting and relevant advertisements that could be specifically tailored to them (John et al., 2018). This was explained by consumers' strong belief that personalization created a more meaningful

and valuable online experience (John et al., 2018). This was also found to be true for a study conducted by Columbia Business School that revealed that about 80% of consumers were willing to disclose their personal data for product recommendations or assistance tools that would help them with their decisions online (Quint & Rogers, 2015). However, the same survey also found that younger generations attitudes were different than older generations as statistics showed that the younger generation viewed personalization as more valuable (Quint & Rogers, 2015). Specifically, the survey found that 51% of millennials and 44% of Generation X were comfortable with sharing their personal data with companies, while only 35% of the Boomer Generation and Silent Generation were comfortable sharing their personal data (Quint & Rogers, 2015).

Quint and Rogers (2015) also identified the future consumer data-sharing mindsets of consumers and characterized them into four different groups called Defenders, Resigned, Savvy and In Control, and Happy Go Lucky. The Defenders is where 43% of consumers were projected to belong to in the future, and they would be both highly defensive and not happy with sharing their data (Quint & Rogers, 2015). The Resigned is where 23% of consumers were projected to belong to and they would have a low defense but would still be unhappy to share their data (Quint & Rogers, 2015). The Savvy and In Control was projected to have 24% of consumers and they would be highly defensive but also happy to provide their data (Quint & Rogers, 2015). Finally, Happy Go Lucky, which was projected to have only 10% of the consumers and would be the ones with a low defense and happiness to share their data (Quint & Rogers, 2015). However, even though the Happy Go Lucky group was already relatively small, it was also found that 70% of those who had a positive attitude toward data sharing still took defensive actions with their personal data (Quint & Rogers, 2015).

To oppose such counteracting attitudes, there research has identified several tactics that can be used. Persuasion was one of the tactics often used to try to change an individual's attitude towards becoming more comfortable with a company and it has been a major objective used within marketing (Solomon, 2017). In order to change consumers attitudes towards a product, service or brand, it was also important to understand the psychological principles as discussed by Solomon (2017). These principles consist of reciprocity where individuals were more influenced to contribute if they received something in return, scarcity where individuals preferred products or services that were not as abundant, authority where individuals often trusted a person with more authority, and consistency where individuals were less likely to contradict what they have previously said and done (Solomon, 2017). The remaining principles included liking, where individuals agreed with like-minded and attractive people as well as consensus, where individuals observed others' actions before they made a decision (Solomon, 2017). Utilizing these

principles could potentially change consumers attitudes and persuade them to engage with a firm as well as purchase a product or service (Solomon, 2017).

2.1.2 Trust

Research has also showed that trust was an important factor for companies to address because it created easier decision-making, lead to a transaction, and was key in facilitating a relationship with the consumer (Alshibly, 2015). A survey found that 75% of individuals were more willing to give their personal data to trusted brands or companies and 80% of individuals were likely to only disclose their personal data with a select number of companies that they do trust (Quint & Rogers, 2015). According to Quint and Rogers (2015) findings, in order to build trust, companies should provide consumers with new and relevant offers and benefits, generate different varieties of value exchanges that help consumers, ensure they are in control over their personal data, and be transparent and forthcoming on how they plan to use consumers personal data.

Since consumers have been dependent on a firm to handle their personal information, it was seen as important for them to be able to trust the firm even though firms are not always predictable (McKnight, Choudhury & Kacmar, 2002). The social contract theory by Donaldson and Dunfee (1999) saw the interaction between a consumer and a company where personal data is exchanged as a social contract (Jahn & Brühl, 2018; Pan & Zinkhan, 2006). When such a contract was established in the minds of the consumers, consumers assumed to have privacy rights over their personal information (Pan & Zinkhan, 2006). As such, if the information was not collected or used by the company as expected or in a fraudulent way, the contract was violated (Pan & Zinkhan, 2006). If consumers were aware of violations of personal information or privacy made by a specific company, consumers ability to trust a firm would decrease significantly (Alhouti, Johnson & D'Souza, 2016). As a result, when uncertainty of a firm was high, some consumers were not willing to involve themselves with the firm (Gefen & Straub, 2004).

Due to the shift in consumer purchase behavior where more consumers are browsing and making transactions online, trust has been even more challenging to establish (Pavlou & Fygenson, 2006). This phenomenon was explained as a result from consumers buying through a computer rather than face-to-face, and consequently being deprived of physical interaction and signals (Pavlou & Fygenson, 2006). Consumers intention to purchase online was as such correlated by their ability to trust the website over their privacy, transaction security, and product and service concerns (Mousavizadeh, Kim & Chen, 2016). However, according to Alhouti et al. (2016), a firm could cultivate trust to decrease privacy concerns through an established reputation along with consumers past experiences with the firm. Additionally, the more consumers knew about a product, the more they were able to trust it since

consumers cannot experience the physical contact with the product as they would in a brick-and-mortar store (Nepomuceno, Laroche & Richard, 2014).

Building relationships with consumers online has also created several advantages for companies as technology has allowed it to become easier for firms to obtain consumers' personal information (Taylor et al., 2009; Quint & Rogers, 2015). While this information has been useful for firms to help consumers filter through content online, it has been established that it was up to the firm to build trust with consumers by protecting the privacy and security of their personal information in order to create a pleasant and quality online experience (Taylor et al., 2009).

2.1.3 Risk Management

Risk has been linked to subjective factors and objective factors of an individual consumer, such as their individual perceived physical risk or social risk (Solomon, 2017). Solomon (2017) identified groups of consumers who were most likely to be more tactful to risk. These groups consisted of practical consumers who were more aware of functional risk, elderly or ill consumers who were more aware of physical risk and lower income consumers who were more aware of monetary risk. According to Salam, Rao and Pegels (2003), some consumers feared that their money would not be refunded if they would be unsatisfied, that they would not receive the delivery or that fraudulent activity could potentially occur within online transactions. Another risk Solomon (2017) identified was psychological risk where consumers who focused on status were more likely to be aware of the social risk. The last group Solomon (2017) identified were consumers with low self-confidence who were more likely to be aware of the social risks. For example, a consumer concerned with the social risk could be embarrassed if other individuals take notice of a consumer's poor decision with the product they selected while online shopping (Solomon., 2017). On the other hand, the more secure a consumer was, the less that consumer would think about their social acceptance when purchasing online (Solomon, 2017).

This idea is further supported by Taylor (2003), that discussed how risk depended on the individual consumer. Just as Solomon (2017) divided consumers up in different groups, Taylor (2003) classified consumer into three different categories based on the extent of their concern over their privacy rights and the more concerned consumers were, the less risky they were willing to be (Taylor, 2003). This started with fundamentalists as the most concerned, then pragmatists as moderately concerned and they made up the largest group, then lastly the unconcerned consumers which made up the smallest group (Taylor, 2003). It also depended on level of education, as higher educated people were more likely to think more about the products and the privacy implications of shopping online (Punj, 2011).

Further, online shopping has been considered to be more of a risk than traditional shopping methods and these risks have therefore served as the focal barrier for online shopping (Stewart & Pavlou, 2002). Noort, Kerkhoff, and Fennis (2007) found that since online shopping was seen as much riskier than traditional shops, consumers' risk perception was affected as it elicited a prevention-focus from consumers. This prevention-focus always remain the same level even if the consumer was a frequent online shopper, as consumers continued to view online shopping as risky (Noort et al., 2007). Even though it has been expected that consumers would always remain skeptical of this shopping channel, a survey conducted by Kim and Byramjee (2014) revealed that consumers were more risk-averse of an unfamiliar online shop until they were certain it is trustworthy. Thus, 88 percent of consumers would rarely or never purchase from an unfamiliar online shop (Kim & Byramjee, 2014). This remained true even if the consumer discovered a satisfying deal (Kim & Byramjee, 2014).

2.1.4 The Privacy Paradox: Motivational Conflict

Since personalization systems that are based on profiles of individual users built from the systems knowledge of users, including their needs, preferences, interests and backgrounds, research has shown this can cause users to experience discomfort (Micarelli et al., 2007). The gathering of personal data without the user's control had the ability to initiate consumer concerns like intrusion of the individual privacy (Anton, Earp & Young, 2010).

Privacy concerns has been progressing according to the technological advancements happening online (Kobsa, 2007). The initial indicator that privacy concerns started to emerge occurred when websites began adapting to the user visiting it (Kobsa, 2007). What was previously known as a static machine had now become an adaptive system with algorithms that collect information about individual behavior. As these adaptive systems have advanced throughout the years, more precise data could be collected about the user and more data could be analyzed by the systems (Kobsa, 2007; Taylor et al., 2009). Privacy concerns could have also originated restrictions imposed by legislation (Kobsa, 2007). Privacy laws issued by different countries have affected companies and organizations worldwide in regard to how they can legally operate with consumer data (Kobsa, 2007). For example, the General Data Protection Regulation (GDPR) implemented by the EU to protect user's data and privacy for users within the European Union (European Commission, 2018).

This emerging privacy movement could inflict concerns from users stemming from unsolicited marketing, discrimination, access, surveillance (Cranor, 2004), as well as unauthorized access (Cranor, 2004; Toch et al., 2012). Koba (2007) summarized several studies that have been conducted to analyze privacy concerns regarding disclosure of personal data online. These studies showed between 70% to

84% of internet users were concerned about their personal privacy and security, and such concern lead to reluctance of providing personal information online. This could either lead to users refusing to disclose their personal information or users supplying fictitious information (Kobsa, 2007; Quint & Rogers, 2015). The concern about personal privacy and security could stem from 80% to 90% of the respondents concerns with whether the data collected was used for the purpose it was intended to (Kobsa, 2007).

Other research did, however; raise the question of discrepancy between users with privacy concerns and the proceedings to counteract these (Kobsa, 2007). This phenomenon has often been referred to as the privacy paradox. That is, general privacy concerns that user's fret only had a weak effect on the actual behaviors online (Li, Luo, Zhang & Zu, 2017). This has been creating a dichotomy between privacy concern along with the request for personalization from users and while they could be seen as contradictory, it was important that companies were able to protect consumers privacy while simultaneously personalizing their topic of interests (Gauch et al., 2007). The research area of privacy calculus theory has converged with the idea of the privacy paradox, and it has been found that users undergo a form of calculus when faced with privacy concerns (Kokolakis, 2017). When a user perceived the potential gain larger than the presumed loss, the user was willing to disclose personal information (Kokolakis, 2017). For example, in a study conducted by the Harvard Business Review on whether participants valued personalization of advertisements or the privacy of their data, they found that people were less likely to purchase if they disapproved of how their information is being shared (John et al., 2018). Another study also showed that the sharing of consumer information from third-parties created less interest in personalized advertising (John et al., 2018). However, the study also found that participants were likely to accept personalized advertising if the information was shared through first-person such as if the information was obtained by the same website the user was browsing on (John et al., 2018).

As a consequence, regardless of whether privacy has been reported as having a lower effect to the actual behavior than what would be expected, it is still established that users have been experiencing privacy concerns and if these would be perceived as higher than the gain received from the personalized content, it could eventually preclude users from disclosing personal information. However, if properly addressed, these concerns could be prevented, and consequently users would become more comfortable with disclosing their personal information (Xu et al., 2003). More specifically, unauthorized access and secondary usage of data were the main concerns that have shown a major increase in user's unwillingness to disclose personal information (Xu et al., 2003). In different literature reviews and surveys examining research of privacy concerns, it was found that users were willing to disclose personal

information if they would if they had higher control of what information is being gathered, and if they would be informed prior to how the information would be used (Gerber et al., 2018; Kobsa, 2007; Quint & Rogers, 2015), how it was stored, what the information was used for, as well as how the adaptive personalization systems worked to adapt personalized content for the user (Gerber et al., 2018; Kobsa, 2007). Brandimarte et al. (2013) further examined the idea of user control and found that the more control users were given over their data, the more they were inclined to disclose personal information. Additionally, Baek et al. (2014) found that the separation between privacy concerns and the intent to disclose personal information disappeared when consumers were presented with information and arguments for using it. Reducing privacy concerns has also been positively affected by companies' actions to abide by privacy laws, self-regulate and maintain proper information processes of user personalization, and change technical procedures, such as changing the personalization at an individual level to comply with users' desire (Kobsa, 2007).

2.2 Interactive Communication

2.2.1 Website Design and Interface

According to Morath and Münster (2017), the design and interface of a companies' online platform could increase concern amongst users. Many times, firms' websites have been designed to ask consumers to disclose their personal information, including their contact and payment information through an account, which could create a form of registration cost to the consumer (Morath & Münster, 2017). There have been many types of website designs with registration either before the purchase such as requiring consumers to set up an account initially before the consumer could be able to view their offerings, or registration after or only upon checkout when purchasing a good or service and with or without the option of guest checkout (Morath & Münster, 2017). There have also been website designs where firms allowed more access to special features or more information once a consumer had been registered (Morath & Münster, 2017).

In some cases, the website interface has been personalized to the user as well. Depending on the data of the individual user and the device used to interact with the website, the layout could be adaptive based on where and what information has been shown and the construction of the navigation that has been changed (Goy et al., 2007). Research also revealed that the actual design and interface of a website could elevate users' willingness to trust websites. A literature review exploring research of privacy concerns and a report including large quantitative studies found that there was a variety of factors that increased trust in websites (Fogg et al., 2011; Kobsa, 2007). They included absence of error, a professional design, easiness of using the interface, regularly updated information, offerings of online communication chat channels for easier contact (Kobsa, 2007), visibility of contact information, a photograph of a customer

service contact person (Fogg et al., 2011; Kobsa, 2007), as well as a presence of a privacy seal, and presence of a privacy disclosure (Egger, 2000; Kobsa, 2007). While the presence of a privacy disclosure has been established as a vital factor to safeguard users' privacy (Egger, 2000; Kobsa, 2007; Mousavizadeh et al., 2016; Pan & Zinkhan, 2006; Taylor et al., 2009; Wang, Beatty & Foxx, 2004), Pan and Zinkhan (2006) also found that the actual wording of the privacy disclosure affected the trust among the users. The information was as such recommended not be too complex and lengthy, but rather straightforward and adjusted to users' vocabulary level (Pan & Zinkhan, 2006). Another factor that has been important in building trust with consumers as well as reducing privacy concerns was consumer reviews and reputation (Andrade, Kaltcheva & Weitzet al., 2002; Baek et al., 2012; Wang et al., 2004). Research showed that third-party security icons representing a secure website (Chen, Hsu & Lin, 2009; Mousavizadeh et al., 2016; Pan & Zinkhan, 2006; Wang et al., 2004), popup windows informing about transaction statuses (Chen et al., 2009; Pan & Zinkhan, 2006), as well as visible awards from neutral sources including symbols and explanations were factors that protected users' perception of online privacy (Wang et al., 2004). Additional factors that were found to influence user trust were proper communication including a detailed confirmation of all transactions (Chen et al., 2009; Kobsa, 2007) as well as speedy responses to questions from customer service personnel (Kobsa, 2007).

2.2.2 Technical Processes: Recommendation Databases

There have been different procedures as to how personalization systems recommend information to the user. One type of technique included sorting recommendations based on the demographic profile the user was calculated to belong to (Ricci et al., 2015). This technique was based on the premise that users would be interested in specific information that was adapted to their demographic information, such as age, gender, and geographical location (Ricci et al., 2015). Further, the recommendations could also be knowledge-based (Ricci et al., 2015). In this technique, the system was recommending products based on the knowledge the system has about the items offered and how well it matched with the knowledge the system has of the individual user's needs (Ricci et al., 2015). The needs of the user were calculated via the query the user made with the understanding that the user was looking for a solution to fulfill this need. The recommendations were then made on a basis of similarity metrics between the need and the solution (Ricci et al., 2015).

Further, recommendations could also be opinion-based, meaning the recommended information would be based on mining of computational texts (Yun et al., 2018). These texts would be reviews and could be used to enhance specific information recommended based on both reviews made by the individual user and reviews made by other consumers (Li, Wang & Yan, 2015). Similar to the opinion mining technique, recommendations could also be based on ratings of the users' close community (Ricci et al.,

2015). This technique has been referred to as community-based and it gathered information about the user's social network and what information or products that they rated as preferable (Ricci et al., 2015). This was made with the assumption that individuals rely on recommendations from friends more than recommendations from unknown sources (European Commission, 2018).

However, the most common recommendation techniques have been the content-based filtering technique, the collaborative filtering technique, and the hybrid filtering technique (Burke, 2007). The content-based recommendation system presented information deemed satisfactory based on the knowledge the system had gathered on the information queried and how well it matched with the knowledge the system had on the individual user profile (Goy et al., 2007; Ricci et al., 2015). The content-based system could also suggest information that was kindred to information that the user had preferred or purchased before to increase the feasibility of presenting suitable alternatives (Goy et al., 2007; Ricci et al., 2015). In contrast, the collaborative recommendation system presented information that had been preferred by other users that had similar user profiles as the one inquiring the information (Goy et al., 2007; Ricci et al., 2015). The similarities between the different users was established based on rankings of the information and if the recommendations to former users with shared or similar interest have previously been satisfactory, the recommendation would also be made to the current user (Goy et al., 2007; Ricci et al., 2015). When offering recommendations for users, the collaborative filtering technique has been most often used by the systems (Ricci et al., 2015; Yun et al., 2018).

Lastly, the hybrid recommendation system has been seen as a combination of the two recommendation techniques, usually of the content-based filtering and the collaborative filtering recommendation systems (Burke, 2007; Goy et al., 2007). The purpose of the hybrid recommendation system has been to create superior performance by supplementing the weaknesses of the two recommendation systems with the strengths of others (Burke, 2007; Goy et al., 2007). The hybrid system could thus present information based on a combination of the users' access history and the content of visited website pages, along with the connections of the different pages on a website to replicate users simultaneous information needs and create a navigational pattern (Burke, 2007; Goy et al., 2007).

Table 1: Summary of the Literature

Author	Title	Key Findings
Alhouti, S., Johnson, C.M. and D'Souza, G.	The Complex Web of Values: The Impact on Online Privacy Concerns and Purchase Behavior	The results provide the following key findings; that consumers are less willing to trust a company if they are aware that the firm violated personal data and privacy, companies can reduce privacy concerns through an established reputation, and privacy concerns are affected by materialism, which in turn increases consumers online purchases.
Alshibly, H.	Exploring the Key Factors for Establishing Electronic Commerce Loyalty.	Findings show that trust, privacy and interactivity has a positive impact towards consumer commitment and satisfaction. Privacy was also found to be significantly related to trust.
Andrade, E.B., Kaltcheva, V. and Weitz, B.	Self-Disclosure on the Web: the Impact of Privacy Policy, Reward, and Company Reputation	Results show that reviews and reputation of a company increase consumers trust for personal data privacy and security.
Anton, A., Earp, J. and Young, J.	How internet users' privacy concerns have evolved since 2002	The article found that collecting users personal information without their control can increase consumers online privacy concerns and make them feel like it is intrusive. Additionally, they discuss how users concerns have increased in general regarding personalization with tailored browsing experiences, tracked purchasing, and targeted marketing.
Burke, R.	Hybrid Web Recommender Systems	Key findings show that content-based filtering, collaborative filtering and a combination of the two called hybrid filtering recommendation systems.
Baek, H., Ahn, J. and Choi, Y.	Helpfulness of Online Consumer Reviews: Readers' Objectives and Review Cues	The findings from this article focus on how consumer reviews and reputation increase consumer trust and reduce consumers privacy concerns towards a company.
Baek, Y. M., Kim, E. and Bae, Y.	My privacy is okay, but theirs is endangered: Why comparative optimism matters in online privacy concerns.	A key finding indicates that when consumers were presented with more information for what and why the firm needs consumers data as well as an argument for the firms intentions with the users personal data, then users were more willing to share their information with the company online.
Brandimarte, L., Acquisti, A., and Loewenstein, G.	Misplaced Confidences: Privacy and the Control Paradox	Key findings from this article focuses on privacy and control. The article presented that the more control users had over their personal data online as well as the more companies addressed privacy concerns, the more willing they were to share their personal information.
Chen.Y.-H., Hsu, I.C. and Lin, C.-C.	Website attributes that increase consumer purchase intention: A conjoint analysis	Findings support that third-party security icons, popup windows informing consumers about their transaction statuses, and proper communication channels such as detailed confirmation of transactions are all factors that increase users' perception of online privacy.
Cranor, L.F.	I Didn't Buy it for Myself': Privacy and Ecommerce Personalization	Key findings show that there are several approaches that can be used to design a privacy protective e-commerce personalization system, including; a system that is activated by the user, a system that uses data explicitly provided by the user, a system that uses data gathered only from the current session, and a system that personalizes based only on the data the user provides.
Egger, F. N.	Trust me, I'm an online vendor: Towards a model of trust for e-commerce system design	This article provides a model that explains types of design factors that affect consumers trust with online companies', and which was developed to address consumers lack of trust with e-commerce websites. The model includes three categories: Pre-Purchase knowledge, Interface Properties, and Information Content. It also found that a privacy seal and a privacy disclosure both increase consumers trust towards a websites.

Table 2: Summary of the Literature

Author	Title	Key Findings
European Commission, 2018	2018 reform of EU data protection rules	The EU General Data Protection Regulation (GDPR) is a new law that went into effect in 2018. The source provides information about how GDPR influences a firm's ability to collect, store and use an individual's personal information.
EuroStat	E-commerce Statistics for Individuals	The findings from this survey look at consumers within the EU's e-commerce usage. A key statistic relevant for this research highlighted that 60% of EU consumers shopped online in the past month.
Fogg, B. J., Marshall, J., Laraki, O., Osipovich, A., Varma, C., Fang, N., Paul, J., Rangnekar, A., Shon, J., Swani, P. and Treinen, M.	What makes web sites credible? A report on a large quantitative study	The study presents various factors that make a website credible. The most relevant findings for this research found that consumers trust in websites increases when there is visibility of contact information and/or a photograph of a customer service contact person.
Gauch, S., Speretta, M., Chandramouli, A., Micarelli, A.	User Profiles for Personalized Information Access.	There is a connection between privacy concerns and demand for personalization services. As privacy concerns grow, the more personalization services increase in usage. However, consumers are demanding personalization services but in contrast they want privacy over their data. Therefore, there is a need for both.
Gefen, D. and Straub, D. W.	Consumer Trust in B2C E-Commerce and the Importance of Social Presence: Experiments in E-Products and E-Services	The key information presents that people often try to reduce social uncertainty via understanding, anticipating and controlling others behavior, and when people are unable to rely on certain rules or standards, they tend to turn to trust and familiarity to reduce this uncertainty. Findings also indicate that when there is an increase in uncertainty of a company, consumers often are less willing to become involved with the company.
Gerber, N., Gerber, P. and Volkamer, M. (2018)	Explaining the privacy paradox: A systematic review of literature investigating privacy attitude and behavior	Key findings show that while consumers view personalized content through recommendation systems as positive, they still have privacy concerns for their personal data and these concerns lead to the perceived risk involved in not having control over their information.
Goy, A., Ardissono, L. and Petrone, G.	Personalization in E-Commerce Applications	Findings show that the website interface and layout can be personalized to the user based on the information provided and the construction of the navigation. It also discusses differences between the content-based recommendation system and the collaboration-based recommendation system used to personalize information to the preferences of the consumer.
Jahn, J. and Brühl, R.	How Friedman's View on Individual Freedom Relates to Stakeholder Theory and Social Contract Theory.	This article discusses Corporate Social Responsobility and the idea of a social contract theory, which is a theory that is often assumed by consumers that once they engage in an interaction with a company online and share their personal data, they have privacy rights to their data.
John, L.K., Kim, T. and Barasz, K.	Ads That Don't Overstep	Key findings from the study show that consumers online purchasing decreases if they are unhappy about how their personal data is being shared, users interest in personalized ads decrease if third-parties share their personal information, and users are more likely to accept personalized ads if the information was shared through first-person.
Kim, S.H. and Byramjee, F.	Effects of Risks On Online Consumers' Purchasing Behavior: Are They Risk-Averse Or Risk-Taking?	Almost one-third of consumers perceive more risk with online purchasing and this has led to a majority of consumers who have rarely or never shopped on an unfamiliar website. The study found that consumers will even pass up an appealing price or sale of items, due to the amount of risk involved and unfamiliarity.

Table 3: Summary of the Literature

Author	Title	Key Findings
Kobsa, A.	Privacy-Enhanced Web Personalization. In Brusilovsk, P., Kobsa, A. and Wolfgang (Eds.)	As personalization has progressed and is becoming more commonly used on websites, and privacy concerns continue to grow for users, it is likely that privacy will become highly important in the future. That is why privacy-enhanced personalization systems are believed to be more common as they benefit the user more and provide better personalization.
Kokolakis, S.	Privacy attitudes and privacy behaviour: A review of current research on the privacy paradox phenomenon	The research findings present the privacy calculus theory together with the privacy paradox. It was determined that the expected loss and potential gain of disclosing personal data results in a privacy trade-off. Therefore, if there is more gain than loss, the user is likely to disclose their personal information.
Li H., Luo X., Zhang, J. and Zu, H.	Resolving the privacy paradox: Toward a cognitive appraisal and emotion approach to online privacy behaviors	This article discusses the privacy paradox, or when consumers request online personalization, but they are also concerned with sharing their personal data to a company. Also, for an unfamiliar website to be liked by consumers, the consumers needed to have a positive experience and interaction with the website, as well as privacy control on the website. This also shows that once consumers liked a website, then they were more likely to disclose their personal information.
Li X., Wang H., Yan X.	Accurate Recommendation Based on Opinion Mining	The article presented recommendations based on opinion, using opinions from reviews as information for recommendation systems rather than using customer's personal information.
Mcknight, D. H., Choudhury, V., and Kacmar. C.	Developing and Validating Trust Measures for E-Commerce: An Integrative Typology	In order for consumers to adopt e-commerce, they need to be able to trust companies with their personal data. Consumers gauge online firms trust through specific website attributes. Consumers are also capable of believing firms are honest, but not competent enough yet based on one visit to a website. That is an important step for firms can continue to build a trusting relationship with consumers.
Micarelli, A., Gasparetti, F., Sciarrone, F. and Gauch, S.	Personalized Search on the World Wide Web.	Results show that users who turn to websites to satisfy their needs are often impatient and need to find what they need quickly. Therefore, personalization systems that are built for short-term and long-term consumer needs by using browsed documents or past search queries are more likely to satisfy consumers than unpersonalized search engines that use traditional Information Retrieval processes.
Morath, F. and Münster, J. (2018)	Online Shopping and Platform Design with Ex Ante Registration Requirements	Results show that consumers privacy concerns can increase at a cost to the consumer due to the design and interface of a companies' website, such as if the website asks for consumers contact and payment information through a registered account to obtain consumers personal data.
Mousavizadeh, M., Kim, D. J. and Chen, R. (2016)	Effects of assurance mechanisms and consumer concerns on online purchase decisions: An empirical study	The following key findings show that a privacy seal strengthens the impact of a privacy statement on a company's website, and this in turn reduces consumers privacy concerns as well as concerns about products.
Nepomuceno, M.V., Laroche, M., Richard, M.-O. (2014)	How to reduce perceived risk when buying online: The Interactions Between Intangibility, Product Knowledge, Brand Familiarity, Privacy and Security Concerns	The results are related to perceived risk. It shows that if a product is mentally and physically intangible, for example consumers shopping online are unable to physically see and touch or mentally picture a product, then this constitutes as a perceived risk for consumers purchasing the product.

Table 4: Summary of the Literature

Author	Title	Key Findings
Noort, G.V., Kerkhoff, P., Fennis, B.M.	Online versus Conventional Shopping: Consumers' Risk Perception and Regulatory Focus	Findings show that consumers were more focused on risk prevention while online shopping because it is a riskier channel than a traditional physical shop. The study found that this behavior towards online shopping is then redirected to consumers behavior in a domain unrelated to shopping.
Pan, Y., and Zikhan, G.M.	Exploring the impact of online privacy disclosures on consumer trust	The key findings from this study show that consumers shopping online find a short and concise privacy disclosure more understandable, while they find lengthy legal text to be difficult to understand.
Pavlou, P. A. and Fygenson, M. (2006)	Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behaviour	The study found that the following behaviors are connected, including the fact that obtaining information impacts consumers purchasing behavior, and the intention to purchase creates the need to gain more information.
Punj, G.	Effects of Consumer Beliefs on Online Purchase Behavior: The Influence of Demographic Characteristics and Consumption Values.	A key finding from this article indicates that higher educated consumers are more likely to consider privacy implications. The findings from the research show that consumers feel that online shopping saves them time and also assists them in finding difficult to find products.
Quint, M. and Rogers, D.	What Is the Future of Data Sharing?	Key findings from this survey show that consumers are concerned with how companies' handle their personal data, consumers share more data when they trust a brand, and younger generations are more comfortable sharing their personal data online than older generations.
Ricci, F., Rokach, L. and Shapira, B.	Recommender Systems Handbook	The findings indicate that research is lacking in the area of recommendation systems. Personalization systems use different procedures to recommend items to the user such as; sorting recommendations based on the users demographic profile, using knowledge about the items offered and how well it matches the knowledge of the user's needs, as well as ratings of the user's community.
Salam, A.F., Rao, H.R. and Pegels, C.C.	Consumer-perceived risk in E-Commerce transactions	The findings show consumers perceptions of perceived risk involved with online shopping. This includes risk that there is no refund from a company if the consumer is dissatisfied, risk that the product is never delivery, and risk of fraudulent activity with consumers credit card information online.
Stewart, D. W. and Pavlou, P. A.	From Consumer Response to Active Consumer: Measuring the Effectiveness of Interactive Media	This article presents many key findings, but the most relevant for this study is that online shopping is perceived as a riskier channel than shopping at a traditional brick and mortar store.
Solomon, M. R.	Consumer Behavior. Consumer Behavior: Buying, Having, and Being	The following findings put forth six principles that companies' can use to change consumers attitudes towards sharing their personal data online including reciprocity, scarcity, authority consistency, liking, and consensus. The findings also found certain groups of consumers who are more sensitive to risk, including: practical consumers, elderly or ill consumers, lower income consumers, socially aware consumers, and low self-confident consumers.

Table 5: Summary of the Literature

Author	Title	Key Findings
Taylor, D. Davis, D. and Jillapalli, R.	Privacy concern and online personalization: The moderating effects of information control and compensation	The key findings indicate that when consumers perceive that they have more control over their personal information, then this reduces the negative impact of consumers privacy concerns.
Taylor, H.	Most people are "privacy pragmatists" who, while concerned about privacy, will sometimes trade it off for other benefits	The results segment consumers into three different categories based on the extent of their concerns for their privacy rights since risk depends on the individual customer. The categories include; fundamentalists as the most concerned, pragmatists as moderately concerned and unconcerned as the least concerned group.
Toch, E., Wang, Y. and Faith Cranor, L.	Personalization and privacy: a survey of privacy risks and remedies in personalization-based systems	Certain fundamentals can be used to decrease privacy risks and increase consumer trust. These include: a users personalized data profile that remains anonymous through the use of pseudonymous profiles or fake profiles; anonymous aggregation using a community of users computed data, called aggregate profiles; users data that is stored on the clients side for users to be able to better control their data, called client-side profiles.
Wang, S., Beatty, S. and Foxx, W.	Signaling the trustworthiness of small online retailers	The key findings determine that users trust was improved through the use of security icons and awards from objective sources, which are likely to reduce consumers privacy concerns. Additionally, privacy seals and privacy disclosures also influenced consumers willingness to share their personal data.
Xu, Y., Tan, B. C. Y., Hui, K.-L., and Tang, W.-K. (2003)	Consumer Trust and Online Information Privacy	Findings show that if privacy concerns are addressed correctly, then consumers concerns will decrease and they will feel more comfortable sharing their personal data.
Yun, Y., Hooshyar, D., Jo, J., and Lim, H.	Developing a hybrid collaborative filtering recommendation system with opinion mining on purchase review	Findings show that recommendations can be based on the consumers opinions from reviews known as opinion-based. Also, when offering recommendations for users, the collaborative filtering technique is most commonly used by the system.

3 Methodology

The purpose of this chapter is to present and justify each of the methodological choices for this topic. Therefore, this chapter begins with a structural overview of the methodology and method choices, then discusses the basis of the research through the application of the pentagon corners, the research perspective, the research approach as well as the research design and strategy.

3.1 Methodology and Method Choices Overview

In consideration of the various processes utilized in this study, a structural overview for both the methodology and method chapters is summarized in Figure 1 below. Following this model, the methodology and method for this study are presented in detail in the following chapters and subsequent chapters.

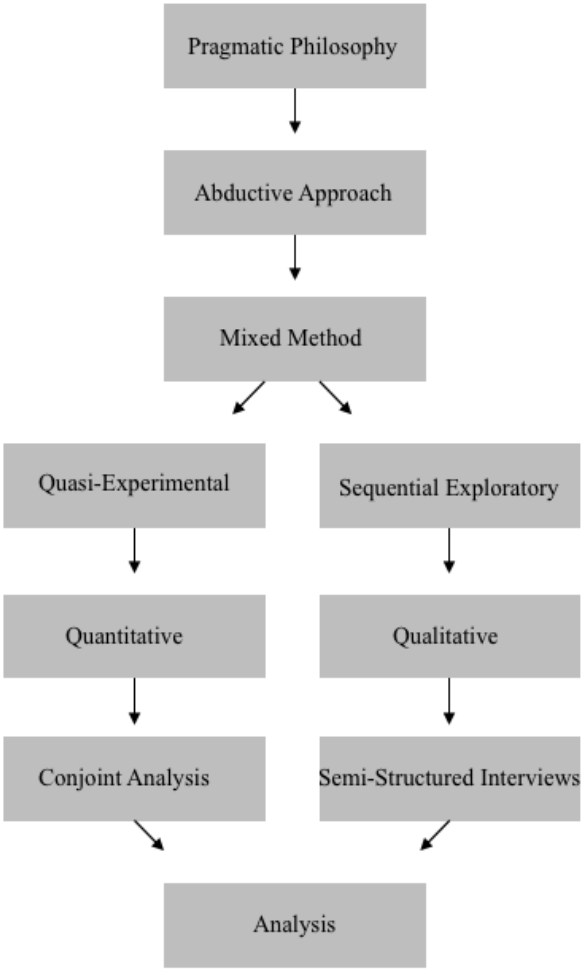

Figure 1: Structural Overview of the Method and Methodology

3.2 The Pentagon Corners

This research founded its structure in the pentagon corners, as proposed by Jørgensen and Rienecker (2017). The pentagon symbolizes the five different elements in the form of cornerstones that ensures the basis of the research is satisfactory (Jørgensen & Rienecker, 2017). While the chapter of methodology further explains the methodological choices in detail, this subchapter explains how the choices made throughout this research were made in relation to each other and how they, in combination, structure the direction of this research in the form of a guiding principle.

The first corner refers to the actual research question of the study, which is the question asked within a problem area identified and acts as a guidance for the structuring of the study (Jørgensen & Rienecker, 2017). This corner should be addressed throughout the research to establish the context of interest (Jørgensen & Rienecker, 2017). As this research identified a gap within the research, the research questions focused on furthering the knowledge within the problem area. While there might not be any conclusive research within this area, there is research methodologies and theories that can be appropriately applied to the context of the problem, which is, according to Jørgensen and Rienecker (2017), a decisive factor in determining whether the research gap can be addressed or not.

The next corner in the pentagon refers to the aim of the research and address the questions of what the research contributes with as well as for whom those contributions are useful for (Jørgensen & Rienecker, 2017). This corner is often given focus within the chapter of perceptive and implication (Jørgensen &Rienecker, 2017). A gap in the understanding of the paradox between consumers' data online privacy concerns and companies' use of consumer data in recommendation systems can lead to theoretical misconceptions, but also to managerial misconceptions. A study within this area would as such provide implications for both theorists, researchers, and practitioners.

The third corner in the pentagon represents the empirical data and substance to address what is asked within the area and this corner is usually confronted in the result and discussion portion of a research (Jørgensen & Rienecker, 2017). As discussed previously, it was ensured that there exists research methodologies and theories that can be appropriately applied to the context of the problem before undertaking the research objective. The third corner thus consisted of a literature review, semi-structured interviews, as well as a conjoint analysis. In the result and the discussion portion of the research, the fourth corner is also encountered (Jørgensen & Rienecker, 2017). This corner is also confronted in the methodology section and refers to the theories and methodologies used to research the phenomenon in question (Jørgensen & Rienecker, 2017). Within this study, a triangulation of a literature review, which included consumer behavior and interactive communication theory, as well as a qualitative and a

quantitative methodology was utilized to provide an opportunity to discuss and evaluate the results in combination in order to understand the research area in a more nuanced direction.

Finally, the fifth corner concerns the research design of the study and similarly to the first corner of the pentagon, this corner should be addressed throughout the research to establish the context of interest (Jørgensen & Rienecker, 2017). This research initiated the study by introducing the research area and the terminology of interest, which was later followed by a problematization of the current situation. Further, an investigation of the current research field was made, which was followed by the analytical methodology that was employed. Next, the analytical tools were implemented and the result of it was presented as well as discussed. This led to a development of a conceptual framework. Finally, the findings were concluded and discussed in relation to reality and implications that could be drawn from it.

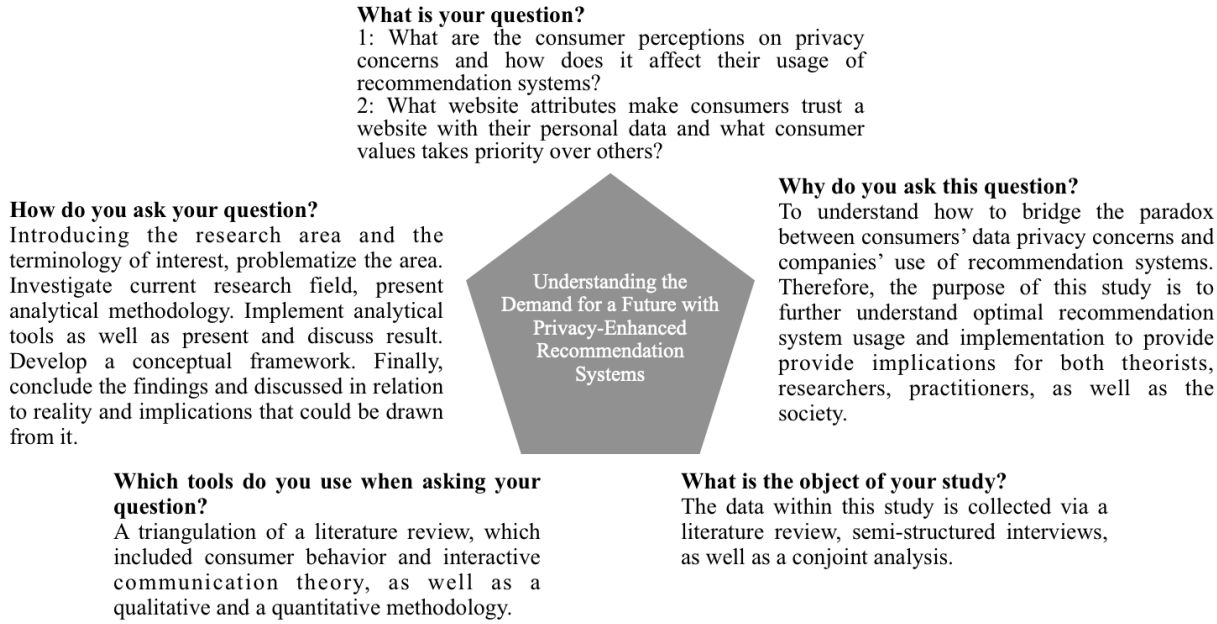

Figure 2: The Pentagon Corners (Modified from Jørgensen & Rienecker, 2017, p.31).

3.3 Research Perspective

A research philosophy describes the origin, essence and development of knowledge of the research (Bajpai, 2011; Saunders, Lewis & Thornhill, 2016). In other words, it is the researcher's idea of how a phenomenon can be analyzed and used (Bajpai, 2011; Saunders et al., 2016). It is important to establish a research philosophy because it allows researchers to ensure their assumptions and views are being developed (Saunders et al., 2016). There are various central research philosophies including

pragmatism, positivism, realism, postmodernism and interpretivism (Brinkmann & Kvale, 2015; Saunders et al., 2016). This study in particular uses a pragmatist research perspective.

A pragmatist research perspective can be referred to as the belief that knowledge is used to deal with the world's changes and that there are various interpretations of the world, hence there is not one viewpoint that can capture everything (Brinkmann & Kvale, 2015; Saunders et al., 2016). Since pragmatists reconcile between both subjective and objective or values and facts, the data collection method that is most commonly used for pragmatists is a mixed method, including qualitative and quantitative (Brinkmann & Kvale, 2015; Saunders et al., 2016). Specifically for this research, the qualitative section focused on using a subjective perspective that searches for new and deeper meanings and perspectives (Saunders et al., 2016). As such, semi-structured interviews were conducted to obtain results that focused on meaningful and in-depth insights into consumers perceptions and experiences with recommendation systems and their online data privacy concerns. In contrast, the quantitative section of this study is an objective perspective that focused on factual based results that were measurable (Saunders et al., 2016). Thus, this study uses a conjoint analysis and it aims at answering the second research question that is focused on understanding if certain website attributes allow consumers to trust a website with their personal data. Therefore, the research strives to further develop knowledge from more than one angle, and that is important from a pragmatist perspective (Brinkmann & Kvale, 2015; Saunders et al., 2016).

Further, according to Saunders et al. (2016), a pragmatist research perspective also emphasizes the importance of reality and the practical outcomes of an idea, and therefore the process begins with a problem and ideally provides a practical explanation. Knowledge is also regarded as significant to pragmatists because it allows processes to successfully be carried out (Saunders et al., 2016). Furthermore, the process of research is generally initiated by the fact that pragmatists are skeptical of something or that something could be wrong (Saunders et al., 2016). As such, the first research question for this particular study aims to address a problem of how privacy concerns are experienced by consumers and if it affects consumers usage of recommendation systems. While the second research question aims to find a practical solution for this problem by studying if website attributes would make consumers trust a website with their personal data.

3.4 Research Approach

The research approach determines the design that is used to describe how the researchers moved between theory and research, with an objective of testing a theory of an approach (Bryman & Bell, 2011;

Neuman, 2013; Saunders et al., 2016). The research approach can be based on either deductive, inductive or abductive reasoning (Saunders et al., 2016). This research was based on an abductive approach.

An abductive approach generally starts by applying various frameworks to theory and data to determine what the result would be, and examines ideas and observations, and as a result the data is redefined and evaluated along the way (Neuman, 2013). According to Wheeldon and Ahlberg (2012), an abductive approach is most commonly used with mixed methods research because it focuses on the researchers' experiences, competences and insights. As different interpretations and explanations surface, researchers are able to use mixed methods to allow a stronger measurement of testing where there is more than one way to arrive at the result (Wheeldon & Ahlberg, 2012).

Furthermore, an abductive research approach can be thought of as a combination of both deductive and inductive reasoning that moves back and forth between theory and data until arriving at the best explanation of a given situation, thus combining the two approaches (Saunders et al., 2016). Therefore, a deductive approach can be defined as a top-down approach that follows a linear process moving from theory to data throughout the research and is generally combined with a quantitative research method (Bryman & Bell, 2011; Saunders et al., 2016; Wheeldon & Ahlberg, 2012). A deductive approach begins with a theoretical premise, mental image, idea or abstract concept and then is compared against evidence (Neuman, 2013). Additionally, the research design takes a deductive reasoning approach by testing existing questions and hypotheses, which are concerns and questions that emerge from the researchers' findings in literature (Gray, 2018). Contrastly, an inductive approach follows a linear process moving from data to theory and is often combined with qualitative research that develops results through individuals' experiences, observations and the way they view the world (Neuman, 2013; Wheeldon & Ahlberg, 2012). An inductive approach is known to start with assumptions and concepts to build theory from the ground and up as the data is collected and analyzed, which allows the valuable ideas from the data to be brought forward (Neuman, 2013; Saunders et al., 2016).

In order to explore the findings of this particular study, the research first focused on the qualitative method as a result of the data that was derived from interviews. The qualitative method was most applicable to gain an understanding of consumers experiences, observations and opinions of recommendation systems used by companies. Thus, it is moving from data to theory and for that reason, an inductive approach was presumed the most appropriate to use for the qualitative method. Thereafter, a quantitative method was used to determine consumers online preferences regarding different security visuals, privacy disclosures, and contact information on a company website. The quantitative method is focused on testing respondents based on questions and theory that the researchers provided in the

literature and highlighted in the literature review located at the beginning of this study. The results were then measured based on the participants responses to the questionnaire. As a result, it is moving from theory to data and for that reason, the most suitable approach for this part of the research was a deductive approach. Therefore, the overall research used a combination of inductive and deductive research via a mixed method approach. For that reason, an abductive research approach was adapted in order to move back and forth between theory and data before arriving at a best explanation (Saunders et al., 2016).

3.5 Research Design and Strategy

The research design provides a plan for how to translate the research objectives into accurate and measurable information and data analysis (Gray, 2018; Nardi, 2013). It is also important to guide the collection and analysis of data and determines how to conduct the research and research strategy as well as how to structure or solve a research problem (Bryman & Bell, 2011; Malhotra, Nunan & Birks, 2017; Saunders et. al, 2016). Depending on the purpose of the research, there are numerous research designs that can be utilized (Bryman & Bell, 2011). The research design deemed most appropriate for this study is a sequential mixed method that is both an exploratory and a quasi-experimental research design (Malhotra et al., 2017; Saunders et al., 2016). A sequential mixed method design is used to adapt more than one method in order to expand on the results of the research even further (Saunders et al., 2016). As such, this study aims to answer two research questions, the first with a qualitative analysis used to determine in-depth insights into consumers perceptions of data privacy and their usage of recommendation systems. The second with a quantitative analysis in form of a conjoint analysis used to determine consumers preferred website attributes that allow them to trust a website with their personal data, and as such reduce their privacy concerns. For that reason, a sequential mixed method design and strategy aligns with the purpose of this study.

Additionally, exploratory research design is most commonly used when there is a new area that is not well known and has not yet been explored thoroughly (Neuman, 2013). It is also used to search for insights of a marketing phenomenon (Malhotra et al., 2017). As mentioned in the literature review of this study, the research area of personalization, and thus online recommendation systems is relatively new, and as a result, exploratory research is an appropriate research design and strategy to use in order to further explore this area. Exploratory research primarily focuses on the “what” of the research (Neuman, 2013). Further, the aim is to generate questions that are more accurate and can be used in future research since there are rarely clear-cut answers that come from this research (Neuman, 2013). It is important to develop enough knowledge once the exploration has been conducted that can lead to a more in-depth and comprehensive study (Malhotra et al., 2017; Neuman, 2013). Therefore, a qualitative research method is most commonly used with an exploratory research design. It is also important for

researchers who choose to do an exploratory study to remain adaptive, receptive to change, able to analyze all information presented, acknowledge all directions of change, and so forth (Neuman, 2013). The qualitative method of semi-structured interviews in this study asked questions that were of an exploratory nature and probed respondents to elaborate and provide more awareness and information in order to develop and explore the area further (Neuman, 2013; Saunders et al., 2016).

Furthermore, to further understand consumer preferences and the trade-off calculation made for an offering, it was deemed as useful to conduct a conjoint analysis, and since the independent variables within a conjoint analysis is manipulated by the researchers, it has the characteristics of an experimental design (Bryman & Bell, 2011; Hair, Black, Babin, Anderson & Tatham, 2006). However, since the conjoint analysis solely utilizes an experimental group and not also a control group, which is the prerequisite for a classical experimental design (Bryman & Bell, 2011; Neuman, 2013; Saunders et al., 2016), a conjoint analysis cannot be fully equated to a regular experimental design. Rather, a conjoint analysis is based in the research design of quasi-experiments. A quasi-experiment is a research designs with characteristics of experimental designs but that do not fully satisfy the internal validity requirements (Bryman & Bell, 2011; Neuman, 2013). However, this does not mean that the internal validity is deprived with the use of quasi-experimental design as conjoint analysis and quasi-experimental designs, just as classical experimental designs, can identify a causal relationship in a certain way (Neuman, 2013). That is, the benefits of the classical experimental design is applied for a conjoint analysis as well since the independent variables are manipulated which provide the researchers with the ability to establish the direction of the causality between the dependent and the independent variables. Quasi-experimental design is as such providing researchers with the opportunity to test causal relationships in situations where the regular classical experimental design would be incongruous in the context (Neuman, 2013), and is as such broadening the application area of the experimental research design. The quasi-experimental research design could as such be applied in this study to provide the researchers with statistical utility estimates to determine a specific direction of the causality between the consumer preferences and the attributes and attributes levels.

3.5.1 Triangulation

Triangulation is referred to as a type of measurement technique that uses multiple methods to solidify the results, and is an important method used in this study (Mertens & Hesse-Biber, 2012). Triangulation is often used in mixed method research (Bryman & Bell, 2011; Gray 2018; Mertens & Hesse-Biber, 2012). Thereby, this research focuses on three different data collection points: a literature review, qualitative research, and quantitative research (see Figure 3 below). The purpose of triangulation in this study is to create a more in-depth and nuanced approach to the research findings as well as clarify the

results by discussing them together (Mertens & Hesse-Biber, 2012). Further, triangulation ensures validity and also supports the pragmatist philosophy that maintains multiple perspectives for a more robust analysis (Bryman & Bell, 2011; Gray, 2018; Mertens & Hesse-Biber, 2012).

Moreover, there are two types of methodological triangulation, including within-method and between method (Bryman & Bell, 2011). Within-method is when the researcher uses the same method but different data collection techniques, whereas the between method uses different methods such as quantitative and qualitative data (Bryman & Bell, 2011). Since there are different data collection techniques used, the reliability of the qualitative data is increased (Bryman & Bell, 2011). For the purpose of this study, the between method was the most suitable as different methods were used for data collection.

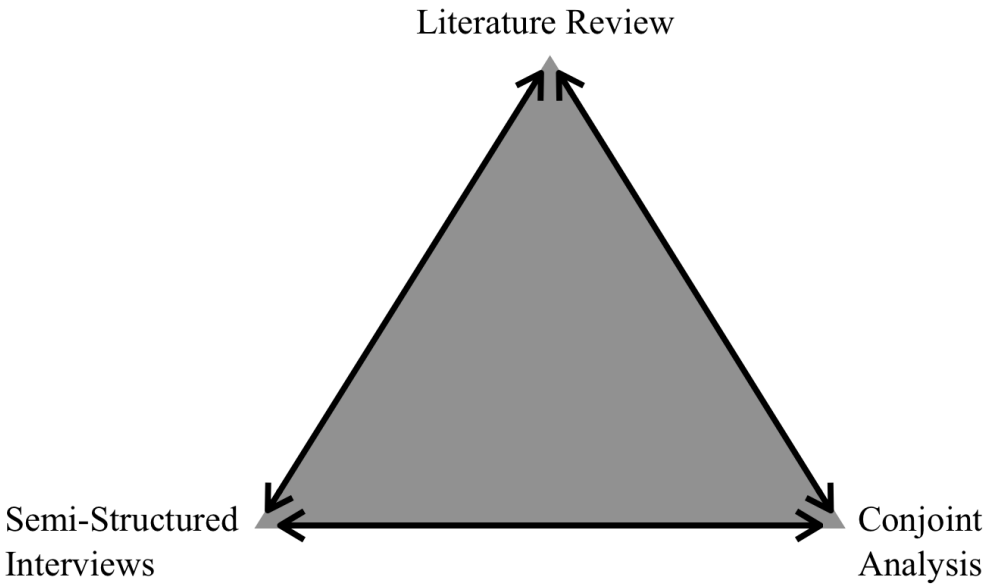

Figure 3: The Triangulation of This Study

3.5.2 Mixed Methods

A mixed method is most commonly defined as when a researcher collects, analyses and integrates the data of at least one quantitative method and at least one qualitative method in the same study that are different in nature or otherwise thought to be incompatible (Bryman & Bell, 2011; Creswell, Plano Clark, Gutmann & Hanson, 2003; Gray, 2018). While there are many differences between the two methods, perhaps the most noticeable is that quantitative is objective, the researcher remains distant

from the participant, the research focuses on collecting the facts, and the data is based on numbers (Gray, 2018). Whereas qualitative is constructivist, the researcher remains close to the participant, the research focuses on meanings and how a person views and interacts with the world, and the data is based on text (Gray, 2018).

Recent literature continues to reference the three schools of thought by Rossman and Wilson (1985), which refers to how a researcher can view mixing or not mixing qualitative and quantitative methods in research; including purist, known for viewing methods as exclusive; situationist, known for viewing methods as complementary depending on the type of research; and pragmatist, known for integrating the methods (Gray, 2018; Madill & Gough, 2008). Therefore, pragmatists will make use of the strengths of each qualitative and quantitative method through the integration of both methods, and as such further supports the mixed method approach utilized in this study.

There are many benefits to using mixed methods, such as allowing researchers to generate more valuable and well-rounded insights into the research. Therefore, a quantitative method adds value because it allows researchers to come to assumptions of a large sample from a particular population based on relationships determined between variables and patterns that generate relevant statistical data (Hanson, Creswell, Plano Clark, Petska & Creswell, 2005). Qualitative research adds additional value because it looks specifically at individuals by observing their language, interactions, reactions, expressions and so forth in a real-world context that enriches the data separately than quantitative data (Flick, 2009; Hanson et al., 2005). Moreover, Bryman and Bell (2011) argue that mixed methods help fill in the gaps and is generally used to supplement research when researchers are not able to rely on qualitative or quantitative methods when they stand alone. Mixed methods can balance the results, for example, if semi-structured interviews are used as qualitative data to add contextualization and explore the results on a deeper, observational and more subjective level, while quantitative data can balance out the results with systematic information or social background information to form the basis for the research (Bryman & Bell, 2011).

Five important benefits from using mixed methods as put forth by Greene, Caracelli, and Graham (1989), which is commonly referred to by recent research (Gray, 2018; Schoonenboom & Johnsen, 2017), are triangulation where different methods are used to collect data in a study that corresponds to one another; complementary that enhances, improves and explains the data with another method; development of using results from one method to develop the other; initiation where a new perspective is sought after; and expansion that seeks to broaden the research. An important benefit of utilizing mixed methods is through triangulation, which focuses on the results of a certain method to cross-check the

results of the other research method that is correlated to the research (Bryman & Bell, 2011; Greene el al., 1989; Webb, Campbell, Schwartz & Sechrest., 2000), and is further discussed in the Triangulation section of this research paper. In contrast, complementarity incorporates different methods to measure the same and different parts of the research (Greene et al., 1989). Complementarity is used to raise the reliability and validity of the results and each aspect of the result through the strengths of each method (Greene et al., 1989; Gray 2018). Lastly, development uses initiation and expansion as it uses the results from one method to offer information to the other method of research in order to reveal inconsistencies, conflicts and so forth through initiation and to increase the scope of the study through expansion (Greene et al., 1989). Development raises the range and distance of the results and understanding of the results by viewing them from a different approach and by assuring the correct method for more than one element (Greene et al., 1989).

3.5.3 Participant Selection and Sampling Technique

Population in a research is referred to a group that is sharing or has something in common, or a group from which a sample is selected (Bryman & Bell, 2011; Gray, 2018). More specifically, a population can be defined as the total number of possible people that could be included in the research (Gray, 2018). This specific study will research people in Scandinavia (Sweden, Norway, and Denmark) and the population is as such all people living within the Scandinavian countries. However, when a population is too large or unattainable to be reached, a sample from the population can be taken, as a sample is considered to be a segment or subset of the population (Bryman & Bell, 2011; Gray, 2018; Zikmund, Babin, Carr & Griffin, 2009). Considering the population within the Scandinavian population would both be too large and unattainable due to the lack of research resources of this study, a sample from the population was taken instead. The basis of how the samples were chosen is presented in the subchapters below.

3.5.3.1 Semi-Structured Interviews

The sample selection for the semi-structured interviews was chosen based on the framework proposed by Saunders et al. (2016) that provides a composition of relevant questions to acknowledge in the sample selection decision. Based on this framework, purposive sampling was determined as a useful sampling methodology for the qualitative interviews. More specifically, the sampling strategy of heterogeneous sampling was utilized. Purposive sampling is a non-probability sampling technique and is commonly used within qualitative research as it provides the researchers with the opportunity to choose participants that will allow them to appropriately address the research questions and the purpose of the study (Saunders et al., 2016). The sample is as such chosen based on the judgement of how informative it can be in relation to the objective of the study (Saunders et al., 2016). The heterogeneous sampling strategy

is a sub-methodology within purposive sampling and refers to the strategy of choosing the participants to ensure maximum variation within the sample (Saunders et al., 2016). This enables the explanation and identification of key themes within the population, which is argued to be a great strength since it provides patterns of interest and of value that can lead to a further understanding of themes (Patton, 2002). To be able to utilize the heterogeneous sampling strategy, the different population characteristics must be identified before the sample participants are selected (Patton, 2002).

In marketing research, some common characteristics to segment a population with are age, gender (Neuman, 2013; Saunders et al., 2016) and occupation (Saunders et al., 2016). As the population included three different countries, the characteristics of the country of residence was also included. The participants for the semi-structured interview were as such chosen depending on what characteristics they had. A total of nine participants were interviewed and each fulfilled different characteristic of the target population. The demographic and geographic information of the interviewees is presented in detail in the analysis chapter of this study.

With general qualitative research, it is important to consider the question of generalizability of the data found (Gray, 2018; Saunders et al., 2016). Since samples for qualitative research often are purposive and the data analyzed is based on a small sample, the question is raised whether they actually can be generalized to the actual population (Gray, 2018). While some claim qualitative research can be generalized if the idea of generalization is regarded as an integral constituent throughout the entire research design (Gray, 2018), most claim generalizations should be treated carefully in qualitative contexts (Bryman & Bell, 2011; Saunders et al., 2016). This study is as such not aiming at making any statistical generalizations from the data gathered via the semi-structured interviews, but rather provide understandings from the sample that potentially can bring forth insights in the population in question.

Furthermore, the number of interviews needed for a study is dependent on when the information gathered is deemed as redundant, also referred to as saturation in the data (Saunders et al., 2017). Once the data retrieved has become saturated during the interviewing process, it indicates that sufficient information has been gathered to properly analyze the research question and the data collection can be stopped (Saunders et al., 2017). For this research, saturation first started to appear after seven participants were interviewed. Key themes of interest had been identified and the responses started to become redundant, specifically when respondents were explaining perceptions, motivations, and background to their answers. It did as such became apparent that there was overlap in the respondents' explanations of their views. As a result, there was little new information that came from the explanations

after these seven participants had answered. However, two more interviews were conducted to confirm the saturation and the data collected thus stopped after the ninth interview had been conducted.

3.5.3.2 Conjoint Analysis

When choosing the sample for a quantitative study, the aim should generally be to have a representative sample of the entire population (Gray, 2018; Zikmund et al., 2009). As such, every characteristic existing in the population must be included (Zikmund et al., 2009). The population is then listed in a sampling frame which is later used to select an appropriate sample (Gray, 2018; Zikmund et al., 2009). However, forming a sampling frame might be a complex task as it can be difficult or even impossible to ensure all individuals of a population can be included (Gray, 2018; Saunders et al., 2016). Without a sampling frame, a probability sampling methodology cannot be implemented as within probability sampling every individual needs to have an equal opportunity of being selected for the research (Saunders et al., 2016).

If the probability sampling cannot be utilized, a non-probability sampling can be utilized instead (Saunders et al., 2016). While non-probability sampling does not allow for any statistical assumption of the population, the results can still be generalized with a non-statistical basis (Saunders et al., 2016). However, while probability sampling has a random sampling procedure and the results from the study should as such qualify to be generalizing the actual population, Gray (2018) discussed the fact that probability sampling still cannot be fully assumed to actually depict an accurate representation. That is, that the randomly represented participants would epitomize the rest of the population.

Considering the quantity of sample participants available within the population of interest for this study, a sampling frame could not be conducted, and a non-probability sampling strategy was deemed as satisfactory for this study. Just as with the sample selection for the semi-structured interviews, the non-probability sample selection for the conjoint analysis was chosen based on Saunders' et al. (2016) framework. Based on this framework, convenience sampling was deemed suitable for this study. Convenience sampling can be defined as when the researcher is able to choose the sample based on accessibility (Adams, Raeside, and White, 2007; Bryman & Bell, 2011; Malhotra et al., 2017). It is one of the most widely utilized sampling technique (Saunders et al., 2016) and is frequently used within quantitative research (Etikan, 2016). It is also the technique often used in research that is afflicted by both resources and time constraints (Malhotra et al., 2017; Nardi, 2013). Out of the non-probability sampling techniques, it is argued that convenience sampling places the most emphasis on the generalizability of the result (Etikan, 2016). This does not mean a convenience sampling strategy can be compared to non-probability sampling strategies in terms of its generalizability, but rather that the convenience sampling technique is more quantitative in nature (Etikan, 2016).

The downside of convenience sampling is however the researcher's lack of control over the sample participants (Saunders et al., 2016). One way of gaining such control is via the use of quotas (Saunders et al., 2016). Quota sampling has a similar methodology to the probability sampling methods in terms of aiming at representing the population (Saunders et al., 2016). That is, quota sampling has certain requirements for the sample selection so that the variability in the sample equals the variability in the population (Saunders et al., 2016). However, the relative cost of utilizing a quota sampling is moderately high and due to the constraints of this paper such a sampling strategy could not be implemented. The ideal quotas of the population being studied in this research was, however; still counted to provide the researchers with the ability to recognize how the ideal sample would look like percentage-wise and ensuring that the questionnaire had the ability of reaching individuals from every quota, and as such gaining a bit higher control. That is, while a convenience sampling strategy was utilized, the control over the sample was reduced and the calculated quotas could provide the researchers with an idea of how well the sample matched the actual population. The quotas were as such only used as a reference point for the ideal sample percentages.

To establish which quotas to use, it is important to acknowledge that the groups have to be useful for dividing up the population in a way where there can be differences between the groups (Saunders et al., 2016). The same characteristics that were utilized for the segmentation of the population within the heterogeneous sampling for the interviews were also used to establish the quotas, namely age, gender, occupation, and geographical location. Usually, occupation is referred to as socioeconomic status (Saunders et al., 2016), but since the convenience sampling strategy was utilized, the questionnaire could reach a large variety of respondents that might not fit into the characteristics of the population of interest. The respondents needed as such to be tested prior to the answering the questionnaire to ensure qualification and that they matched the requirements (Malhotra et al., 2017). That is why these questions were asked in the beginning of the conjoint analysis questionnaire to ensure qualification, and socioeconomic status was asked in terms of occupation class rather than income level since income levels can be seen as sensitive information, and as such it would rather fit in the end of a questionnaire instead (Bryman & Bell, 2011).

To determine the qualifying characteristics and to understand the ideal quotas for the sample, the sample size was needed first. This was done via the rule of thumb formula by Morgan and Wilson Van Voorhis (2007) where the minimum sample size is calculated via the following expression:

$N > 50 + 8m$

Where 'N' is the sample size and 'm' is the number of independent variables.

The independent variables in a conjoint analysis are the levels from each attribute, and this study has nine independent variables. The minimum sample size to reach according to this rule of thumb is as such 122 participants. However, Saunders et al. (2016) claims that statisticians have shown that a sample size of at least 30 people usually results in data that is close to a normal distribution. That is why the absolute minimum was set to 30 participants, but the ideal minimum was 122 participants. This is also in alignment with Eggers and Sattler (2011) that claimed the minimum sample size for Rating-Based conjoint analysis only need a small sample size in order to ensure valuable estimations.

The ideal quotas were also based on the ideal minimum number. The calculations for the actual quota percentages were based on statistics of the Scandinavian population. For age, it was first determined which age groups shop more frequently online and data showed that the ages between 16 to 44 are the most frequent online purchasers (Statista 3, 2018). Due to legal limitations, individuals under the age of 18 were not invited or included to participate in the research. The individuals of interests were as such between ages 18-44, and a logic was set in the questionnaire for respondents answering under the age of 18 or over the age of 44 were immediately skipped to the end and could not participate. The calculations for the ideal age quotas were based on statistics from the Scandinavian population to find the number of individuals belonging to each age group (Statista, 2019; Statista 2, 2019; Statista 3, 2019). The ideal percentage of participants for this research would as such be 20% within the age group 18 to 24, 21% from the age group 25-29, 20% from the age group 30-34, 19% from the age group 35-39 and 20% from age group 40-44.

Similarly, the ideal gender quota was calculated from statistics showing number of individuals in the population belonging to the female or male gender (Statista, 2017; Statista, 2018; Statista 2, 2018). The ideal percentage of gender would thus be 50% males and 50% females. This study also included an alternative option for the gender called "Other/prefer not to state" in order to include individuals that may not identify or feel comfortable to group themselves into a specific gender. However, currently there are no statistics presenting the number of people belonging to such a segment, and as such there is no data to base the ideal percentage for this quota. That is why there was no ideal quota specified for this specific answer alternative. For the ideal occupation quota, the calculations were also based on statistics in the Scandinavian countries of unemployment rate (Statista, 2019; Statista 2, 2019; Statista 3, 2019) and education rate (Statistics Denmark, 2018; Statistics Norway, 2019; Universitetskanslerämbetet, 2017). The ideal percentage would as such be 17% unemployed people,

13% students, and 70% employed people. Finally, to see the ideal quotas for country of residency, data about the number of people living in each country was summed up to find the total number of the population (Statista, 2019; Statista 2, 2019; Statista 3, 2019), and then a percentage could be calculated to find the ideal percentages, which would be 28% from Denmark, 47% from Sweden, and 25% from Norway.

4 Method

The method chapter presents a description of each of the data collection methods used in this study and the process in which they were analyzed. Further, the chapter explains the reliability and validity of the data collection methods.

4.1 Semi-Structured Interviews

Interviews are one of the most familiar forms of qualitative data collection where a conversation and discussion occurs between two or more people (Brinkmann & Kvale, 2015; Saunders, Lewis & Thornhill, 2012). Having conversations is one of the oldest methods used in order to gather knowledge, and it has been used throughout our history (Brinkmann & Kvale, 2015). Having conversations as an interview originated from this and has since been a widely used methodology in social sciences since the 20th century (Brinkmann & Kvale, 2015). It is a research method aiming to understand the subject in question; their point of views, perceptions, and meaning of experiences (Brinkmann & Kvale, 2015; Bryman & Bell, 2011). It is, as such, using a philosophy of phenomenology where the point of interest is to understand the social phenomena from the subjects' different perspectives and how they understand it via personal experiences (Brinkmann & Kvale, 2015; Bryman & Bell, 2011). The idea is that the important data is what individuals perceive as important as it makes up the perceptions for that person (Brinkmann & Kvale, 2015). This data is subsequently described in a complete way to forward the understanding, rather than explaining or analyzing it (Brinkmann & Kvale, 2015). Furthering of the understanding is explained as qualitative interviews is a learning process for both the interviewer and the interviewee, where both can discover new aspects of the theme discussed (Brinkmann & Kvale, 2015).

During an interview, the researcher asks meaningful questions as the participant(s) answer, and the researcher is able to use that information to investigate their answers further (Saunders et al., 2012). As a result, participants are able to provide researchers with valuable data within their particular field of study that is reliable and valid (Saunders et al., 2012). As interviews are aiming to understand underlying reasoning and meanings, it has been established as a necessity in marketing research in order to understand consumer behavior (Bailey, 2014; Brinkmann & Kvale, 2015). Therefore, this data is important in going further into individuals' meanings by comprehending different text within a real-life setting that can lead to an explanation of individuals behaviors and opinions (Bryman & Bell, 2011; Rynes & Gephart, 2004).

There are various types of qualitative research interviews, but more recent texts often classify them as structured, semi-structured and unstructured, depending on the purpose of the interview (Saunders et al., 2012). In between the spectrum of structured and unstructured interviews, there are semi-structured interviews (Brinkmann & Kvale, 2015). Semi-structured interviews are defined as conducting interviews with the objective of acquiring interviewees' interpretations of real life to understand the meaning of the phenomena in question (Brinkmann & Kvale, 2015). The structure of semi-structured interviews consists of in-depth qualitative research interviews where the researcher has a series of open-ended questions and topics to discuss with an individual or a group (Corbin & Strauss, 2008; Saunders et al., 2012). This allows the interviewer to be open to new insights, rather than having a ready-made plan for categories of analysis (Brinkmann & Kvale, 2015). Having preformulated questions with an aim of analyzing them categorically hinders the openness for new and unexpected ideas that can further the learning process (Brinkmann & Kvale, 2015).

Additionally, according to Newcomer, Hatry, and Wholey (2015), semi-structured interviews use probe and ask open-ended questions regarding a specific topic that is more comfortable to discuss in a one-on-one scenario. Interviewing one-on-one allows the interviewee to discuss more openly and freely about a topic, whereas in a focus group the interviewee potentially would feel timid, which can limit their candid response (Newcomer et al., 2015). That is why semi-structured interviews are helpful in an exploratory study as they add context and background (Saunders et al., 2012). Lastly, there is a range of different forms of semi-structured interviews, as the interview guide and structure are relatively open and flexible and adaptable by nature (Mason, 2004). Therefore, semi-structured interviews use an interview guide to ensure the interview covers topics, themes, and areas, however, the questions must not be scripted or standardized (Mason, 2004).

4.1.1 Interview Guide Design

Semi-structured interviews aim at understanding themes of reality as experienced and perceived by the individual subject (Brinkmann & Kvale, 2015). It is as such a method striving for resembling an everyday conversation, but with a research objective and approach (Brinkmann & Kvale, 2015; Bryman & Bell, 2011). Semi-structured interviews are based on a semi-structured interview guide, which is used to create a more efficient interview with the amount of time given, to stay within the scope of the research and explore the participant in a comprehensive and orderly manner (Bryman & Bell, 2011). This guide focuses on the themes of interest but can also include proposed questions to further the conversation if the respondent touch upon a topic of interest (Brinkmann & Kvale, 2015). The questions in the interview guide are also subject to change depending on the flow of the conversation in each interview (Saunders et al., 2016).

As semi-structured interviews are a relatively unstructured approach to gather data, researchers are not required to formulate highly specific questions beforehand (Bryman & Bell, 2011). As such, after the interviewer introduces the area of research and asks the respondent to describe their perceptions of it, the remaining questions can depart from interviewees' answers (Brinkmann & Kvale, 2015). While it is important to maintain the overall focused on the area of research, the interviewer can let the interviewee speak freely about the aspect and perspective of choice by adapting the questions during the interview to the individual responses (Brinkmann & Kvale, 2015). As a result, it is acceptable to both exclude and include additional questions during an interview, and the questions do not need to be asked in a particular order since it depends on the natural structure of the dialogue (Saunders et al., 2016). Researchers are also able to include comments, cues, or probing questions to further discuss a dimension the respondent has previously mentioned, or if there is an ambiguity the interviewer needs clarification on (Brinkmann & Kvale, 2015; Saunders et al., 2016).

For the purpose of this study, the questions in the interview guide (see Appendix A) were administered in order to gain an understanding of consumers' perceptions of recommendation systems and their concerns for sharing their online personal data with companies. In order to do this, the research guide included open ended question with the intention of avoiding yes or no responses, which is important when conducting semi-structured interviews (Saunders et al., 2016). The questions also focused on interviewees own experiences and opinions. In addition, if the interviewee observed topics related to the literature, probing questions were used as follow-up to the discussion. To begin with, the interview guideline was set up to start with introduction questions. The questions asked about the interviewees background such as their country of residence, age, gender, and occupation, which was intended to ensure they matched the requirements for the interview, while also giving the respondents an opportunity to warm up to the interviewer and feel more comfortable. The requirements for the interview were to ensure the respondents belonged to a specific population in order to have valid results.

Once the requirements were established, the interviewers introduced the research which was followed by questions of consent in order to clarify both that the interviewee still wanted to participate in the interview and that the interviewee allowed audio recording and note taking. This was followed by a question regarding their last experience with recommendation systems. Meanwhile, the interviewer was able to gather information that was relevant and use probing questions to further develop a rich understanding of the interviewees perceptions of online data privacy and recommendation systems.

Additionally, the interview guide contained a subsection of semi-structured interview questions for the purpose of comparing the results from the interviews that provided in-depth insight to the statistical data gained from the conjoint analysis findings that studied the second research question of whether certain website attributes would allow consumers to trust a website with their personal data. Therefore, this part of the interview was also a discussion where the respondents provided their views on the following areas related to security, contact, and privacy disclosures. It is important to note that while the semi-structured interview guide had formulated a structure for the questions beforehand, the interview was rather steered by the respondent's mentioned themes and topics and these were discussed organically depending on the nature of the interview (Bryman & Bell, 2011; Mason, 2004). Following that, the interviewer used probing questions to obtain a more in-depth answer from the respondent regarding this area of research. Thereby, the interviewer was able to compare the answers specifically to the conjoint findings to provide insight, and not only numbers and statistical data, on consumers preferences on types of security, privacy disclosure, contact information and registration as well as to ensure the validity of the results.

4.1.2 Pretest

Even though researchers find their questions to be comprehensible, respondents might not perceive the questions as researchers have intended them to (May, 2011). Therefore, it is important to conduct a pretest on respondents before the actual test to ensure they have a clear understanding of the interview questions, the structure, and so forth to avoid confusion and address any bias (Adams et al., 2007; Bryman & Bell, 2011; May, 2011). Generally, a pretest is administered as an interview (Adams et al., 2007; May, 2011). The participants will first undergo an interview based on the interview guide and then they will be asked questions about their general experience of the questionnaire, including their opinion of the clarity, structure, format, if any adjustments are needed and so forth (Adams et al., 2007; May, 2011). The goal of a pretest is to allow researchers the ability to improve their interview guide and the interviewers approach according to the feedback from respondents (Adams et al., 2007).

Similarly to the interviews conducted for the research of this paper, the pretest also used saturation, or the point when the information provided becomes redundant, to determine the number of interview pretests needed (Saunders et al., 2017). Therefore, once the researchers found that the feedback from respondents was repetitive and when respondents had little to no feedback regarding the improved interview and its items, the pretest was considered ready for interviewing (Saunders et al., 2017).

While administering the pretest for this study, the researchers used an audio recording and asked the interview questions in the interview guide as it would have been conducted during an actual interview. If the interviewee seemed confused, asked for further explanation, or needed a question repeated to

them, the interviewer would take note to revisit for further improvement. Once the interview questioning and answering was completed, the interviewer would then ask for feedback from the interviewee. Specifically for this research, the pretest was conducted on three different respondents before reaching a point of little to no feedback and then exposing the final version of the interview questions for the purposes of the study. Once the pretest results were completed and improvements to the interview guide and its questions were incorporated, the interviews were then conducted. The feedback that was implemented to the interview guide was little as the interview direction was adapted to the interviewee's answer. The only feedback given was to reduce the amount of times the interviewer asked the interviewee to clarify an answer.

The interviewers also included a set of semi-structured questions that focused on interviewees' preferences for the following areas of security, privacy disclosures, contact information, and registration. This subsection is intended to provide additional insight into the conjoint analysis. Feedback from the interviewees during regarding this part of the interview guide included reducing the length of the questions to ensure they are clearer and more comprehensible for the interviewee. As such, the interviewers made sure that these questions were divided up when necessary and incorporated in the interviews as a natural conversation.

4.1.3 Data Collection

Semi-structured interviews can vary from thirty minutes to over an hour (Corbin & Strauss, 2008; Saunders et al., 2016). For this study, the average length of an interview took about thirty minutes, which was a sufficient amount of time given the nature of the questions and the length of the interview guide. The interviews were held in English in order to give consistency to the results and to understand the information clearly.

Additionally, according to Bryman and Bell (2011), the most common interview takes place when an interviewer will stand or sit in front of the respondent while asking the interviewee questions, otherwise known as an archetypal interview. Also, it is important that the interview setting encourages interviewees to feel comfortable and discuss freely about their opinions, experiences, and viewpoints since it is an interpersonal situation (Brinkmann & Kvale, 2015; Bryman & Bell, 2011). Therefore, it is recommended that interviewers conduct interviews in comfortable environment that resembles situations in their real life (Bryman & Bell, 2011). In order to further establish this connection with the interviewee, the interviewer should focus on establishing contact with the interviewee early in the interview stages through active listening, understanding of what is being discussed, interest in the conversation, and so forth (Brinkmann & Kvale, 2015). For the purpose of this study, the interview

questions were non-sensitive as the topics did not observe any issues such as intimate, discrediting, incriminating, or sensitive subjects (Bryman & Bell, 2011). As a result, the interviews were conducted in an informal setting that was comfortable for the interviewee. The interviews were specifically held in a quiet room at a public building or in the living room at the interviewees home to allow the participants to feel safe and freely converse. Additionally, the interviewers divided the number of interviews amongst themselves for efficiency and took turns interviewing participants.

The interviews were audio recorded for more effective results and transcripts, and notes were also taken to identify specific concepts of interest as well as to capture and identify all of the themes and codes (Brinkmann & Kvale, 2015; Creswell, 2007; Saunders et al., 2016). However, it is important to note that before the interviews were conducted, the interviewers asked the interviewees permission to record each of their conversations and ensure the anonymity and confidentiality of each interview.

According to Brinkmann and Kvale (2015, p. 203), the post interview consists of "transcribing, analyzing, verifying and reporting the knowledge produced in the interview conversations". During the transcription process, it can be difficult for the researcher to transform an oral conversation into a written form as it can seem abstract with no facial expressions or emotions, and it can also seem inaudible or incoherent as well as repetitive at times (Brinkmann & Kvale, 2015). Therefore, it is important to remember certain aspects of an interview are considered to be lost in translating from oral to written form (Brinkmann & Kvale, 2015). Additionally, the amount of time and dedication spent to generate a verbatim interview transcript and transcription instructions should be included for transcribers, who often consist of secretaries or research assistants (Brinkmann & Kvale, 2015). There were nine total interviews conducted and each interview recording was roughly thirty minutes long. Once manually transcribed in written form, the interview was then analyzed through a thematic analysis as discussed in the data analysis section below.

4.1.4 Data Analysis

The qualitative data that was collected through semi-structured interviews was analyzed through a thematic approach. A thematic analysis is often used as an approach within qualitative data to identify underlying themes and patterns in order to understand factors of attitudes and explore various interpretations (Maguire & Delahunt, 2017; Saunders et al., 2016; Schwandt, 2007). The thematic approach is seen as exploratory as researchers determine ways in which respondents provide information and data related to an emerging theme (Saunders et al., 2016; Schwandt, 2007). This is accomplished through coding or marking areas of the text where there is an obvious theme (Saunders et al., 2016; Schwandt, 2007). Then, the thematic approach uses these themes found in certain areas of the text to

demonstrate overlapping and important ideas that have emerged (Saunders et al., 2016; Schwandt, 2007). The importance of finding particular themes and patterns in the data is to discover interesting and important information that is relevant and valuable to the research as it can uncover or indicate an area within the research that should be addressed (Maguire & Delahunt, 2017). Moreover, a thematic analysis is used to understand and analyze the data further than using the interview questions for themes and patterns as well as merely creating a summary of the findings (Clarke & Braun, 2013; Maguire & Delahunt, 2013). By doing so, the researcher is able to point to problems concerning the area of research (Clarke & Braun, 2013; Maguire & Delahunt, 2013).

For this study, the purpose of conducting each semi-structured interview was to understand individuals' perceptions of privacy concerns and if it affected their use of recommendations. Therefore, a thematic analysis was the most suitable option to analyze the results because it uncovered factors of the individual's attitudes on the subject and explored their interpretations. The process of analyzing the data from the interviews were examined by both researchers. The researchers thoroughly read and analyzed each interview and their results were compiled by reading the transcriptions of each interview. Codes were then used to create an understanding of the results and to identify the most valuable information, which summarized and interpreted the responses from each interviewee (Saunders et al., 2016). Following that, the codes were then separated into their appropriate themes (Saunders et al., 2016). Specifically for this study, after a thorough investigation of the interview transcripts, four apparent themes emerged, and 28 codes were distributed into the themes that they correlated with. The types of themes and codes that were found during the analysis is discussed further in the analysis section of this study.

Furthermore, according to Clarke and Braun (2006), there are two different types of themes within a thematic analysis, including semantic, otherwise known as a researcher's approach that does not further analyze the data that the respondent has provided them beyond surface level. However, latent, otherwise known as researcher's approach to going beyond to search for the meanings, inferences and perceptions of the data provided by the respondent (Clarke & Braun, 2006). This research paper specifically focused on a thematic analysis that used a latent approach in order to not only identify themes and patterns in the data provided by respondents, but also to interpret and understand relevant ideas connected to the research question.

However, the second part of the data analysis was conducted on the subset of interview questions related to the conjoint analysis questions for the purpose of comparing deeper insights gained from the interviews to the statistical data obtained from the conjoint analysis. As a result, the data analysis was

used to supplement the findings from the quantitative analysis, and this supports the use of triangulation (Mertens & Hesse, 2012). According to Mertens and Hesse-Biber (2012), triangulation is used at the stage of data analysis in a mixed method research to combine quantitative and qualitative data. Therefore, during the data analysis the findings from the conjoint analysis and this subset of semi-structured interviews were combined in order to strengthen the findings. Thereby, as already established in the mixed method section of this study, qualitative research adds additional value because it looks specifically at individuals by observing their language, interactions, reactions, expressions that enriches the data differently than quantitative (Flick, 2009; Hanson et al., 2005). Therefore, according to Gray (2018), quantitative research can identify the most important areas and themes to focus on in research, and qualitative data is able to deepen this research in a different way and understand why these consumer preferences exist. As such, the qualitative data analysis for this subset of the semi-structured interviews was used to find and compare the results to strengthen the findings of the most relevant information from the discussion regarding the website attributes, specifically including consumers preferences for types of security, privacy disclosure, contact information and registration that were found in the literature review to reduce consumers privacy concerns and were tested on consumers in a quantitative conjoint analysis questionnaire.

4.2 Conjoint Analysis

Conjoint analysis is a decompositional methodology of marketing research often used to understand consumers likes and dislikes (Louvier, Flynn & Carson, 2010; Rao, 2014; Rao, Kartono & Su, 2015; Wilcox, 2016). Specifically, the research methodology attempts to discover consumers perceptions of an offering and determine the compromises consumers make regarding the various attributes that form the offering (Wilcox, 2016).

There are several different conjoint methodologies, and two main techniques are the Rating-Based conjoint analysis which is the traditional technique introduced in 1970 by Paul Green, and the Choice-Based conjoint analysis which was introduced in 1990 and is today a widely used technique (Orme, 2009; Orme, 2010). The Rating-Based technique interprets the extent to which a consumer values an attribute through their rating scores (Rao et al., 2015; Wilcox, 2016). The Choice-Based technique, on the other hand, is presenting respondents with two offerings and asks them to choose the most preferred one rather than rating them (Orme, 2002; Orme, 2009). Although there are advantages and disadvantages to both these two techniques, research has shown there is no justification for choosing one or the other in terms of practical usefulness and valuable outcomes (Moore, 2004). This study is utilizing the Rating-Based conjoint methodology, which also is by far the most commonly used variant in conjoint studies throughout its history (Hair et al., 2006). It has also been found that consumers may find it difficult to

make thoughtful choices within choice sets provided by Choice-Based conjoint analysis (Rao, 2014) and that the Rating-Based technique can provide more information about the subject's preferences than what the Choice-Based technique can since the Rating-Based technique allow the respondents to assess each alternative explicitly (Eggers & Sattler, 2011; Lusk, Fields & Prevatt, 2008). Additionally, it has even been argued that it is in fact an error to call Choice-Based techniques a conjoint analysis since it is a random utility theory rather than a conjoint measurement, which is where the conjoint analysis originally stems from (Louviere et al., 2010).

Further, the Rating-Based technique investigates attributes through manipulation of certain attributes of an offering and asks subjects to rate the attributes on a numerical Likert scale based on their individual preference (Rao et al., 2015; Wilcox, 2016). In other words, a subject's overall evaluation of a certain set of attributes is broken up to assign utilities for every variable, and each level of every variable (Chen et al., 2009; Rao et al., 2015; Schaupp & Bélanger, 2005). To address these attributes and levels, an experimental design and a parameter estimation method is often used to incorporate the attributes and their values (Rao, 2014; Wilcox, 2016). In order to do this, it is important to differentiate an attribute and a level that will be tested (Wilcox, 2016). For example, an attribute of a product can be the price, color, size, and so forth that make up the product, but a level can be all the different sizes such as small, medium, or large, offered as a product, or it can be an opinion of a specific attribute, for example, a yes or no to pockets (Wilcox, 2016).

Conjoint analysis is referred to as a realistic data collection process (Agarwal et al., 2015) and a useful methodology to assess attribute importance among consumers because consumers are usually inclined to answer that every attribute is important when asking them about each attribute level individually (Dobney, Ochoa & Revilla, 2017; Wilcox, 2016). This is explained as a result from the consumers not having to make a trade-off between the different attributes (Dobney et al., 2017). When using the conjoint analysis methodology, consumers are required to make such a trade-off since the subjects are presented with a complete offering with combinations of different attribute levels (Agarwal et al., 2015; Dobney et al., 2017). In turn, the importance of each attribute and each level can thus be quantified (Dobney et al., 2017) and overt or covert assessments, preferences, and choices of the subjects for a specific offering can be discovered (Agarwal et al., 2015).

Conjoint analysis can be applied in various ways and some of the more frequently used are trade-off analysis, predicting market share and detecting the importance of the attribute (Wilcox, 2016). In terms of trade-off analysis, utilities are used to determine in general what a consumer is willing to trade-off for a product or service (Wilcox, 2016). Specifically, if a consumer is willing to lower an attribute-level

utility to upgrade another attribute-level utility (Wilcox, 2016). Thereafter, conjoint analysis can also be used for predicting the market share, which a company can accomplish by understanding their competitors' products as well as by measuring the utility of the competitors most valuable product features (Wilcox, 2016). Lastly, conjoint analysis is used to understand consumer behavior by detecting the significance of each particular attribute during the decision-making process (Wilcox, 2016).

The first step of conducting a conjoint analysis is to identify the prominent attributes making up an offering. While there does not exists a general standard for how attributes should be identified (Louviere et al., 2010), research has claimed these can be identified via a questionnaire (Chen et al., 2009), discussions, interviews, or literature reviews (Ighomereho, 2011). This study utilized the latter, a literature review, to identify the relevant attributes for the website designs. The conjoint methodological approach is often used to determine what attributes of a product are most desired by consumers (Wilcox, 2016), but it is widely utilized throughout different marketing projects as well, including industrial goods, other products, financial services, transportation, and other services (Rao, 2014). Conjoint analysis has also been used in research to determine what website attributes are preferred in different contexts (Chen et al., 2009; Schaupp & Bélanger, 2005). It is as such a successful method for addressing many different marketing decisions (Rao, 2014).

4.2.1 Conjoint Analysis Design

With a Rating-Based conjoint methodology, a Full-Profile Approach can be used (Hair et al., 2006; Rao, 2014). A Full-Profile Approach is a method that presents profiles that are described in terms of all factors and then collects evaluations on the specific profiles presented (Hair et al., 2006). In other words, a full profile is defined by one level of each factor/attribute (Hair et al., 2006). A Full-Profile Approach is as such a simple way for respondents to visualize the offering concept before submitting their evaluations, since all attributes are included (Rao, 2014). However, with a large number of attributes and levels, all the combinations that make up all the different offering profiles in a Full-Profile Approach can become too multitudinous (Hair et al., 2006; Ighomereho, 2011; Rao, 2014). Since a Full-Profile Approach includes all the different combinations of the attribute levels, a Full-Profile Approach for this study would result in 27 different profiles (three levels in the attribute Contact * three levels in the attribute Security * three levels in the attribute Privacy Disclosure = 27 different combinations of profiles). There is no consensus to how many profiles are ideal to be included in a conjoint analysis, but research has shown that respondents find it difficult to maintain interest in a self-administered conjoint questionnaire if the number of profiles is 20 or above (Hair et al., 2006; Kotri, 2006). It was as such deemed as valuable to ensure the questionnaire avoided the problematic that can arise with a higher number of profiles, as well as ensuring the questionnaire was as easy as possible to respond to, meaning the aim was also to

have as few profiles as possible, while still maintaining the validity of the questionnaire. Thus, a Fractional Factorial Design was deemed as suitable in this context.

A Fractional Factorial Design uses a sample of all the different possible profiles with the objective of reducing the number of profiles needed and still upholding a high validity by maintaining the orthogonality and balance in the number of attribute and its levels (Hair et al., 2006). This can be designed via the experimental design of orthogonal selection (Hair et al., 2006; Ighomereho, 2011; Louviere et al., 2010; Rao, 2014). Orthogonal selection, also known as orthogonal main effects plan, is a version of Fractional Factorial Design with particularly valuable properties (Rao, 2014). The advantage of using an orthogonal design is that it allows all main effects of the attributes to be estimated, and the subjects can give their preferences from a balanced subset of alternatives (Malhotra et al., 2017; Rao, 2014). In addition, it permits measurement of all main effects in an uncorrelated basis (Malhotra et al., 2017). The design also produces good predictions even if all the combinations are not fully presented (Rao, 2014). As each attribute in the conjoint for this study has an equal number of levels, the orthogonal main effects plan is symmetric and the condition for such a design is the proportionality rule which is that each level for an attribute should be shown the same number of times (Rao, 2014). An orthogonal selection to reduce the number of combinations needed can be done via the Statistical Package of Social Science (SPSS) (Isa & Pun, 2013; Rao, 2014). For this study, the orthogonal selection reduced the profiles from 27 profiles to nine profiles, and it as such helped reduce the number of profiles needed while at the same time ensured a high validity. By reducing the number of profiles, two holdout profiles, also referred to as validation profiles, was also included in the study to further ensure the validity of the predictive ability of the conjoint analysis (Haaijer & Wedel, 2003; Herrmann, Schmidt-Gallas & Huber, 2003). The holdout profiles are further discussed under the chapter discussing quality of the research.

Furthermore, in addition to the number of profiles shown for the respondents, it is also important to carefully consider both the numbers of the attribute and the amount of levels used to avoid validity complexities (Agarwal et al., 2015; Rao et al., 2015). Research has shown that the Rating-Based conjoint analysis should consists of up to six (Ighomereho, 2011; Orme, 2009) or ten attributes (Hair et al., 2006). As this study had three attributes, it did not exceed the maximum of six or ten attributes and as such it was deemed as appropriate for the Rating-Based methodology. Similarly, as with the importance to consider the number of attributes, the number of levels used for each attribute also needs to be considered as too many levels can lead to the number-of-levels effect (Agarwal et al., 2015). The number-of-levels effect is an explanation of the phenomena where changes in measurement procedures can have an effect on the importance of attributes (De Wilde, Cooke & Janizewski, 2008). In other words, attributes with

more levels than other attributes are inclined to be perceived as more important (De Wilde et al., 2008). There is numerous research trying to obliterate this effect via numerous techniques and approaches, but this can be a complicated objective to realize (De Wilde et al., 2008). The goal should not necessarily be to structure the conjoint design with attributes having an equal number of levels, but an approach could be to ensure minimal overlap where each level is shown as seldom as possible, level balance where each level is shown a corresponding amount of times, and orthogonality where each level is selected autonomously (De Wilde et al., 2008). In Rating-Based conjoint analysis, each attribute typically has between two to five levels (Hair et al., 2006; Orme, 2002). As this study has three levels for each of the attributes, the profiles were determined via orthogonal selection, and all levels were shown an equal amount of times, the number of levels followed the directions for the Rating-Based conjoint analysis as well as avoided the problems that can arise from the number-of-levels effect.

In this study, there were various parts that were important in designing the questionnaire. To start with, the attributes used in the questionnaire were based on the literature review in order to provide an academic basis, and to ensure the relevance and importance of the attributes that were chosen to be displayed on each website design. The main objective of designing the attributes levels was to ensure the respondent could easily identify the meaning of each and to create a realistic website that was familiar and easily readable by respondents in order to prevent respondents from becoming distracted from their preferences of attribute levels. In order to achieve this, the attribute levels used images, pictures and icons that were designed with the help of a Graphic Designer.

The first attribute concerned contact, with the levels contact information, photograph of customer care person, and an online chat channel. Each of the contact levels included the word “Contact” for clarity. The visibility of contact information was designed in the most commonly used font and color with the address, the telephone number and email address of the company. The researchers created contact information based on the name of the company to ensure the attribute level seemed as realistic as possible, even though the information is not used by any company. The offering of the online chat channel was designed using an image of the universal chat bubble. The text at the bottom clearly states “Chat with us.” The customer service person level was designed with a stock photograph of a person with a headset on to represent a generic customer service person.

The second attribute concerned security attributes, with the levels third-party privacy seal, award from neutral source, and customer reviews. The security levels were designed by using real brands to also create more of a realistic website design. For example, a third-party privacy seal was represented by an online awards company called the Computing Security Awards (Computing Security Awards, n.d.). For

the purpose of this study, the text on the design of the award was concise and relevant as it stated in bold, “Awarded for Security & Privacy of Users Information” and underneath, the name of the neutral source was presented as “Computing Security 2019.” The award icon was designed with a generic image of a computer and an award over the computer to create a clear understanding of its meaning. The level of third-party privacy seal was designed based on the actual privacy seal logo used by EuroPriSe with the text in big letters stating “European Privacy Seal 2019” for the purpose of creating a realistic privacy seal that is commonly used on websites (EuroPriSe, 2019). For customer reviews, the design was of a logo from a company called TrustPilot (TrustPilot, n.d.). The TrustPilot logo includes green stars with the words “Trustpilot” at the top. Underneath the logo, the text states “MyStyle has a five star Review” as it would be presented on a realistic website. It is important to note that MyStyle is a fictitious retailing company used for the purposes of this website design. Furthermore, the TrustPilot logo was designed to give the company a five star review for this website attribute level to ensure that a lower rating would not affect respondents’ preferences for this attribute level.

The final attribute concerned the privacy disclosure, with the levels content-based filtering, collaborative filtering, and hybrid filtering. While the contact and security attribute levels were designed with the help of a Graphic Designer, the disclosure attribute levels were formulated in text. Privacy disclosures are typically not present on a website’s frontpage and they are usually formulated via a general text with no explicit explanation and via complex and lengthy paragraphs when the consumer is searching for more information about it, making it difficult for consumers to actually understand the implications of the disclosure (Pan & Zinkhan, 2006). Research has also shown that consumers actually would be willing to disclose personal information if they are told early and explicitly what type of information is collected and how it will be used (Gerber et al., 2018; Kobsa, 2007). Additionally, these explanations should be straightforward and adjusted to consumers’ vocabulary level (Pan & Zinkhan, 2006). Consequently, the privacy disclosures for this study were formulated according to these findings. Therefore, the privacy disclosures were presented on the front page with simple bold text that used a generic font and color to create easy readability. The first privacy disclosure explained to the respondent the type of personal data the company was collecting from the user in order to “compare it with other user’s data to recommend items that have been preferred by users with similar interests as you.” Then the text prompted the users to click on the full privacy policy. The second privacy disclosure also presented the type of personal data the company was collecting from the user in order to “recommend items that we believe are of interest to you.” The text again prompted them to click on the full privacy policy. The last privacy disclosure is a hybrid of the two texts above as it uses the data to recommend items of interest to the user and to compare it with other user’s data that is similar. Lastly, the text prompted users to click on the full privacy policy.

The actual website that the attributes were presented on was designed with the help of the same Graphic Designer that created the design for the attribute levels. Both Adobe Photoshop and Adobe InDesign were used to develop the different website designs needed. The design of the website resembled an average homepage of an e-commerce apparel company so that the actual website design did not stand out in a way that would affect the participants' responses. The reasoning for choosing an apparel company was based on statistics showing that it is the most popular internet retailing category with the highest retail value in both Sweden, Denmark, and Norway (Passport 1, 2019; Passport 2, 2019; Passport 3, 2019). The website designs used for the conjoint analysis can be seen in Appendix B.

The questionnaire was designed in Qualtrics, a program for conducting quantitative surveys that assists in collecting, analyzing and presenting the data. Qualtrics had many important features, including the ability to screen respondents that did not qualify (Qualtrics, n.d.), such as individuals living outside of Scandinavian countries and respondents who were under 18-years-old or over 44-years-old. Even though questions requesting personal information should be placed in the end of a questionnaire since they can be perceived as sensitive (Bryman & Bell, 2011), these questions also functioned as filtering questions for this questionnaire to ensure only respondents that met the population in interest could answer the questionnaire, and was thus needed to be placed in the beginning to avoid having respondents fulfill the questionnaire for no use. To avoid any potential uncomfortableness among consumers, it was clearly stated that these questions were asked to ensure he or she qualified for the questionnaire.

Before the actual questionnaire started, there was also an introduction presenting the research. Initially, the participants were thanked for taking their time to respond to the questionnaire. Then a short purpose of the study and a short presentation of the researchers followed. The respondents' anonymity was also assured via a confidentiality assurance and an estimated time of completion was stated. Finally, contact information to the researchers was displayed if any of the respondents would have a question or needed further clarification. Such information has shown to improve the response rate in questionnaires (Bryman & Bell, 2011) and was therefore deemed as an important part in the design of the questionnaire. Once the respondent got through the introduction and the qualifying questions, the instructions for the questionnaire was shown. This was to ensure respondents' understanding of how they would be asked to rate the different websites according to their preferences.

When the different profiles were provided simultaneously (Rao, 2014), the actual questions for the preference ratings were the same throughout the 11 different websites, but the question was formulated in a way where it would be easily understandable to avoid any confusion (Bryman & Bell, 2011). The

question was also written in a way that would not lead any of the participants to a specific answer and did not have any double-barreled meaning (Bryman & Bell, 2011). Since it can be argued that privacy concerns is a conceptualization within consumer behavior, it might be difficult for consumers to actively consider their privacy concerns in terms of preferences of a specific website when answering the questionnaire, and it was thus decided to ask the question in terms of trust instead of privacy concerns as consumer's privacy concerns are linked to their trust in a website over the privacy (Mousavizadeh et al., 2016). This is also supported by research, which claim that consumer trust in online vendors directly leads to a decrease in privacy concerns (Alshibly, 2015; Bergström, 2015; Das, Echambadi, McCardle & Luckett, 2003; Lutz, Hoffmann, Buche & Fieseler, 2018; McKnight et al., 2002; Milne & Boza, 1999; Nam, Song, Lee & Park, 2006; Pavlou, Liang & Xue, 2007; Xie, Hock-H & Wen, 2006).

The question was as such formulated "On a scale from 0-10, how much do you trust this website with your personal information?". The 11-point scale was used as this is a commonly used scale within conjoint analysis (Hair et al., 2006). The alternative zero represented "Strongly Do Not Trust" and 10 represented "Strongly Trust". This information was also provided for the respondents for each question to avoid confusion. In the end, the questionnaire had an open-ended question that allowed participants to add any additional comments they might have. This was included since open-ended questions can provide depth and further insights that might not have been considered by the researchers (Bryman & Bell, 2011; Saunders et al., 2016).

4.2.2 Pretest

As previously stated in the Pretest section under semi-structured interviews, pretesting the questionnaire and its questions on respondents before distributing the actual test is important to ensure respondents perceive the questions and its items as the researchers intended (May, 2011). Pretesting allows researchers to locate areas that are unclear to respondents including, the design, the structure, and so forth to avoid invalid and unreliable results (Adams et al., 2007; Bryman & Bell, 2011; May, 2011; Nardi, 2013; Zikmund et al., 2009). Then, the researchers are able to adjust the questionnaire and its structure as necessary until the feedback from respondents is redundant, or saturated, or when there is little to no feedback regarding the improved questionnaire and its questions (Saunders et al., 2017).

Specifically for this study, the pretest was tested on ten different respondents before reaching saturation. Any questions, concerns, feedback and comments were all taken into consideration and implemented when deemed appropriate. The individuals pretesting the questionnaire were both regular consumers from the population of interest, as well as professionals within the field of marketing, communication, website building, and graphic design to ensure the questionnaire made sense both from a consumer and

professional perspective. The professional website developer found that the websites designed might not be optimal for a website i.e. enlarged chat bubble icon, but since the focus of this questionnaire and is for the optimal attributes, the design will likely not affect an average person's response since all attributes are located where they usually are on a website. Also, the two graphic designers gave feedback as to the design and after some improvements were made, they verified the placement, colors and so forth of the attributes.

All of the respondents' feedback was recorded and implemented when necessary. To begin with, the amount of text in the introduction was reduced to ensure respondents actually read the text to understand the purpose of the questionnaire and what they could expect to see in the questionnaire. Respondents feedback also included that it was unclear as to what was going to change throughout the website designs even though there was a text clarifying what areas of the websites was subject to change. Therefore, the text clarifying what will change in the instructions was bolded for emphasis and an example website design with highlighted areas was implemented to ensure coherence on where the content and images will change throughout the alternatives. Thereafter, all attributes were enlarged to increase visibility on each website design and specifically the privacy disclaimer attribute font size was increased, and the text was bolded to ensure readability. However, it was important to keep the attributes where they are usually shown on a website, so respondents were not distracted by the design and to reduce unreliable results because this study is not to give optimal design of a website, just to analyze the attributes. Furthermore, respondents expressed confusion regarding a button labeled "done" at the bottom of each page of the questionnaire and it was therefore removed.

4.2.3 Data Collection

Data for a conjoint analysis can be collected in different ways (Louviere et al., 2010; Wilcox, 2016) and the practice is as such differing widely, causing there to be no true consensus on how to actually conduct a conjoint analysis (Louviere et al., 2010). It is however considered a less complicated form of data collection because it can be used with the assistance of computers and software to provide the respondents the questions via a questionnaire (Wilcox, 2016). After the conjoint attributes has been established, researchers can add their design for the questionnaire to a software that provides scenarios of an offering description (Wilcox, 2016). The presentation of the offerings made up by the different attributes to the actual subjects can either be via text, verbally or via pictures (Ighomereho, 2011). Finally, these can be distributed either via personal interviews or via TMT, meaning via technology, media, or telecommunication (Rao, 2014).

As discussed before, the conjoint design for this study was created via SPSS through an orthogonal design, which in the end generated 11 different website designs that the respondents would evaluate via preference scores (see Appendix C). These 11 website designs were later inputted into Qualtrics and presented to the respondents via a questionnaire on the internet. The respondents were invited to participate via different social media sites. The questionnaire was posted both via general feeds with the aim to attract a large number of respondents, via specific social media groups and sub-groups, as well as via direct messages or emails to people to ensure the questionnaire had the ability of reaching individuals that belonged from each of the characteristics that were used to segment the population. The questionnaire was active for about 3 weeks, between March 15th 2019 to April 9th 2019 and collected 266 responses, where 122 of them were valid for the use of this study. The responses are further presented in the results chapter.

4.2.4 Data Analysis

To appropriately interpret the results of the data, it is important to understand the attribute-level utilities (Wilcox, 2016). To begin with, the utilities, or otherwise known as the part-worth, correlates with the level of attributes that respondents prefer and if done correctly, the utilities will add to zero (Wilcox, 2016). Therefore, utilities that are positive numbers are generally more preferred than utilities that are negative numbers (Wilcox, 2016).

A basic conjoint model is: $Y = B_1 + B_2 + B_3 + \ldots + B_n + \text{constant} + \varepsilon$, where the Y depicts the total utility of the subject's preference, and the B_i depicts beta weights (part-worth for the features) and ε is the error term (Hair et al., 2016; Rao, 2014; Schaupp & Bélanger, 2005).

The conjoint model is a hybrid type of multivariate technique and resembles methodologies such as regression and ANOVA but is unique due to its decompositional nature (Hair et al., 2006). One way of calculating a conjoint analysis is via the statistical program Microsoft Excel (Ighomereho, 2011; Janssens, Wijnen, De Pelsmacher & Van Kenhove, 2008) and SPSS (Janssens et al., 2008; Norusis, 2011; Rao, 2014; SPSS, 1997).

The first step in the data analysis of the conjoint study was to transcribe all the valid answers from Qualtrics into a Microsoft Excel file, which was later exported to SPSS. Since SPSS does not have a conjoint analysis tab automatically offered as a data analysis option, the click-method cannot be used (Janssens et al., 2008). Instead, the conjoint must be coded as a command in the syntax mode, which allow you to run the statistics manually (Janssens et al., 2008; Norusis, 2011; SPSS, 1997). First of all, the profile combinations generated via the orthogonal design were coded as the CONJOINT PLAN, and

the preference scores transcribed from Qualtrics were coded as the DATA file. The SCORE subcommand was also used to specify that the preference data was recorded via scores/ratings. Finally, the optional subcommands SUBJECT and PRINT were used. The SUBJECTS subcommand allowed SPSS to specify the variable name 'ID' (that ran through all the valid responses numbering one to 122) as an identifier for the subjects and as such avoided that SPSS assumed that all of the cases in the Excel file came from one subject (Norusis, 2011). The PRINT subcommand was also used to control the output table to where only the summary results were shown. This was done to avoid having SPSS display detailed output for every individual participant (Norusis, 2011).

The optional subcommand called FACTOR can also be used to define expected relationships between the factors/attributes and the scores (Janssens et al., 2008; Norusis, 2011). However, when the attributes are described via verbal descriptions, as in the case within this study, they are classified as categorical attributes that are measured via a nominal scale (Rao, 2014). When the attributes are categorical, the factors should be calculated as discrete (Janssens et al., 2008; Norusis, 2011; SPSS, 1997). However, if the FACTOR is not specified in the syntax command, SPSS will by default specify the factors as discrete (Janssens et al., 2008; Norusis, 2011; SPSS, 1997). This means that the FACTOR subcommand did not need to be specified in the syntax within this study since SPSS calculated the factors as discrete by default anyways.

It is also possible to calculate the relative importance of each attribute (Chen et al., 2009; Rao, 2014; Wilcox, 2016). This measurement is called RIMP (relative importance measure) where the attribute measurements are rescaled in percentages where all of them are adding up to 100% (Rao, 2014). By taking the average ratings of all profiles and comparing it to the mean of each attribute level, the relative importance is shown (Hair et al., 2006). The attribute level that deviates the most from the mean is as such the attribute that has the greatest impact on the dependent variable.

Further, the standard error of the utility estimates provides information on whether the conjoint design is balanced or imbalanced, meaning an efficient and well-balanced design have a lower standard error for the utility estimates (Rao, 2014). In other words, the lower the standard means are, the less the means are spread, meaning it is a reflection on how well the conjoint design can estimate the utilities (Orme, 2007). Additionally, as the standard error also reflects upon the dispersion of the sample mean and the population mean, the lower the standard mean is, the more accurate the utility estimates are of the overall population (Malhotra et al., 2017; Orme, 2007). For a conjoint analysis, this means that if the standard error is lower than 0.05, the sample size is deemed as sufficient in order to attain acceptable measurements (Orme, 2007). In addition to checking the balance of the design and the sample size

sufficiency, the accuracy of the model should also be checked. To check the accuracy of the model, the correlation was analyzed both from the correlation table, as well as via Pearson's R and Kendall's tau, which ranges from -1.0 to +1.0 with zero meaning no association (Neuman, 2013). The Pearson's R and Kendall's tau is further discussed in the chapter of quality of the research and the results from these tests are presented in the result and data analysis chapter.

4.3 Quality of the Research

This study employs a mixed method strategy where both qualitative and quantitative methods are utilized, and the quality of the research must as such be considered for both of the data collection procedures (Creswell & Plano Clark, 2011). In addition to different data collection procedures, different data analysis techniques are also used and the integration of both these factors has to be ensured via quality assurance to avoid compromises of the conclusions derived from the study (Creswell & Plano Clark, 2011).

Further, both reliability and validity are crucial factors to consider ensuring adequacy and quality of a research (Bryman & Bell, 2011). Reliability refers to the dependability or consistency of the research and how well the results perform under identical conditions (Neuman, 2013). Validity, on the other hand, refers to the truthfulness of the research and how well the results correspond to reality (Neuman, 2013). As such, validity and reliability considerations are presented and discussed in the following subchapters to ensure the quality criteria within both semi-structured interviews and conjoint analysis.

4.3.1 Semi-Structured Interviews

4.3.1.1 Validity

Validity in qualitative research refers to the data gathered and whether it appropriately represents and explains what the participant intended to convey in the interview (Bryman & Bell, 2011; Gray, 2018; Saunders et al., 2016). To ensure the participant's true perception is captured, it is important that the interviewer is conducting the interview in a way where the respondents can ask for clarification if needing additional explanations (Saunders et al., 2016). The interviewer also must ask for clarification or probe the meaning of a response if something is unclear (Saunders et al., 2016). For this study, the questions were formulated in a way, so they would be easily understandable to avoid any potential confusion. Before the interview even started, the interviewers also established that the interview was aimed at being a normal conversation where the respondent was allowed to interrupt or ask any questions that came to mind, including questions for clarification. If the respondent answered vaguely or in a way that would need further explanation, they were probed or asked questions to further elaborate on their views.

Validity in qualitative interviews is also established via discussing the topic of theme from a diversity of angles (Saunders et al., 2016), meaning the data gathered comes from a sample with variety. Considering this study utilized purposive heterogeneous sampling as the sampling strategy for the semi-structured interviews, the aim was also to ensure the participants in the interviews all came from a wide variety within the population to assess data that was non-discriminatory towards any type of background. As such the participants included in the interview were from all three locations in Scandinavia, belonged to different age groups, had different genders, as well as had different occupations. In addition, internal validity in a qualitative study can be ensured via internal replication, meaning other researchers examine the research processes (Gray, 2018). This can be done either via external researchers or if multiple researchers cooperate in one study (Gray, 2018). Since this research was undertaken by two researchers, both also safeguarded the procedures taken to conduct the research by double-checking each other's work and methods.

4.3.1.2 Reliability

Reliability in qualitative research refers to the consistency of the data identified throughout replications (Easterby-Smith, Thorpe, Jackson & Lowe 2008). That is, that a replication of the research design would yield the same results (Saunders et al., 2016). However, since there does not exists any true standard in the process of qualitative data collection, the presumption should not necessarily be to ensure consistency in the data, but rather to explore reflections of reality in a complex and changing environment (Bryman & Bell, 2011; Saunders et al., 2016). What constitutes the value in non-standardized qualitative data is the possibility to investigate and understand a topic from a complex vantage point and focusing on ensuring replication would thus compromise the possibilities of such a research approach (Saunders et al., 2016). However, even though replication should not be in focal point in a qualitative research, it is still vital to properly describe the research design, the strategies and methodologies used, and the data acquired (Saunders et al., 2016).

Further, reliability in qualitative interviews is not solely relating to the replication ability, but also to the issues of potential bias effects (Bryman & Bell, 2011; Saunders et al., 2016). Biases that are especially important to consider since they can affect the outcome of interviews are interviewer bias and interviewee/response bias (Saunders et al., 2016). Interviewer bias refers to both the verbal and nonverbal behavior of the interviewer as comments, tone, or general behavior can affect an interviewee's answers to a question (Saunders et al., 2016). It is a bias where the interviewer's personal opinions can frame the answers retrieved from the interviewee, or the interviewer manifest a lack of credibility which can limit the information revealed by the interviewee (Bryman & Bell, 2011; Saunders et al., 2016). It

is as such important to understand how the interviewee interprets the purpose of the interview (Brinkmann & Kvale, 2015). For this study, the interviewers conducting the interviews were also the researchers of this paper, indicating interviewer knowledge of the subject under investigation. The interviewers also strived for objectivity via the use of a semi-structured interview guide that adapted depending on the interviewee's answers. This ensured the idea that the important data is what the respondents perceive and bring up as important (Brinkmann & Kvale, 2015), meaning the interview guide did not have any pre-established directions of where the interviewer wanted the interview to go, except for introducing the area of research and probing to remain within the boundaries of the subject. Remaining within the boundaries of the subject can be done via prompting in-depth answers from the interviewee, otherwise interviews could include meaningless conversations (Brinkmann & Kvale, 2015).

Interviewee or response bias refers to the interviewee's responses that might not reflect the reality of their perceptions (Saunders et al., 2016). This bias can be caused by the fact that interviews can be perceived as invasive (Saunders et al., 2016) as it aims to understand underlying motivational factors, sometimes requiring the participants to participate in a learning process about themselves (Brinkmann & Kvale, 2015). The participant might be sensitive to the unstructured approach to understand their views or be sensitive to disclose personal information, which in turn can lead to the interviewee only partly discussing a theme or discussing it in a way that portrays them as they would be perceived as socially accepted (Saunders et al., 2016). Interviewee bias can also be present when sampling participants as reluctant to participate can emerge when the requested time is perceived as time-consuming (Saunders et al., 2016). This can result in lack of participation which in turn can lead to bias in the data due to the sample selection (Saunders et al., 2016). The interview should be brief as the interviewer knows what they need to ask for, why they should ask it, and how they should ask it (Brinkmann & Kvale, 2015). For this study, the interviewers aimed at understanding the perceptions of privacy concerns and personal recommendations and did not ask any particularly personal questions that would cause the respondent to feel uncomfortable. Again, since the interview guide allowed the respondents to steer the direction of the conversation, the respondents could decide themselves whether to observe any specific personal opinions or perceptions. The interviews were also short, meaning the potential bias originating from the time-consumption factor was not considered a problem.

4.3.2 Conjoint Analysis

4.3.2.1 Validity

Similarly to validity in qualitative research, validity in quantitative research refers to whether a concept actually measures what it is intended to measure (Bryman & Bell, 2011; Gray, 2018; Saunders et al.,

2016). Gray (2018) explain this further by dividing the subject of a study into three zones: Zone of Neglect, Zone of Validity, and Zone of Invalidity. The Zone of Neglect refers to the operationally defined subjects that have not been identified in the research, while Zone of Invalidity refers to irrelevant subjects for the specific study (Gray, 2018). Zone of Validity is as such the zone the study has to stay within to ensure validity, and it refers to the subject area identified and the correspondence between the research instrument subject area and the operationally defined subject area (Gray, 2018). For this study, the conjoint analysis was designed based on the problem formulation and intended as such to explore consumer preferences of website designs that increases trust. To measure this, the measurements were the actual consumer ratings of website design profiles in terms of trust in the website.

Further, validity can be defined in face validity, construct validity, and criterion validity (Bryman & Bell, 2011; Gray, 2018; Neuman, 2013; Saunders et al., 2016). Face validity refers to the extent a research instrument correctly measures all aspects of a construct (Neuman, 2013). That is, if the measurement appropriately reflects the concept of concern (Bryman & Bell, 2011). The first step to establish face validity is for the researchers of the study to critically evaluate the instrument developed (Gray, 2018). The next step is to consult with professionals or other individuals with experience in the field that can inspect and judge the relevance of the measurement (Bryman & Bell, 2011; Gray, 2018; Neuman, 2013; Saunders et al., 2016). For this study, face validity was ensured by first basing the instrument on previous research that was critically evaluated by the researchers, and then via the pretest of the questionnaire. In the pretest, five professionals within the fields of marketing, communication, website building, and graphic design were asked to evaluate and give feedback on the questionnaire in order to ensure that the instrument was clear and that it represented the concept in question.

Construct validity refers to whether it is possible to draw conclusions from the test scores related to the concept in question (Bryman & Bell, 2011; Gray, 2018; Saunders et al., 2016). Since the subject needs to operationally be defined before it can be measured (Gray, 2018), it is recommended that the researcher conclude premises based on theory relevant to the concept in question (Bryman & Bell, 2011; Gray, 2018). This would ensure the measurement does not measure any theoretically unrelated issues (Gray, 2018). Finally, criterion validity refers to criterions, which is other instruments that measure the same variable (Neuman, 2013). A subconcept within criterion validity, but also a type of evidence that can be used to demonstrate the construct validity, is concurrent validity (Neuman, 2013). Concurrent validity is used to determine whether a measurement is similarly compared to other standards (Neuman, 2013). If the measurements are comparable to other measurements that have previously been established as valid, they are considered as valid as well (Neuman, 2013).

As such, to ensure both construct and criterion validity, the conjoint instrument utilized within this study was based on previous literature. Conjoint analysis has also been widely used in other research to study consumer preferences of products or services. Although there is a lack of research employing conjoint analysis for evaluating consumer preferences of website design, there are a few measuring increased purchase intentions (Chen et al., 2009) as well as customer satisfaction (Schaupp & Bélanger, 2005). This manifests the research instrument and the test scores inferred from them to be applied to the concept in context, as well as demonstrate how other valid instruments measured the same variable.

Criterion validity can also be evaluated via predictive validity, which is when the researchers uses a future criterion measure (Bryman & Bell, 2011; Neuman, 2013; Saunders et al., 2016). Predictive validity ensures the measurement can make accurate predictions for the future that are logically related to the construct (Neuman, 2013; Saunders et al., 2016). A way to test the predictive ability of a conjoint analysis is via the use of holdout tasks (Haaijer & Wedel, 2003; Herrmann et al., 2003), also known as validation profiles (Hair et al., 2006). From a literature review, it has been established that the use of holdout tasks is the most common practice in conjoint studies to ensure validity (Kamakura & Ozer, 2003). Holdout tasks are explained as a stimulus, where the respondents are presented with additional profiles that are evaluated by the respondent, but not included in the research (Hair et al., 2006; Herrmann et al., 2003; Orme, 2010; Orme, 2015). The responses for the holdouts are as such not used to estimate, but rather used to predict (Haaijer & Wedel, 2003; Hair et al., 2006). The main idea is that the estimated conjoint model should be able to predict the results for the holdouts (Haaijer & Wedel, 2003). That is, the estimated part-worth's are used to predict preference for the holdouts to evaluate the validity and reliability of the estimates (Hair et al., 2006). The correlation in the holdouts are calculated statistically via The Kendall's tau measure of quality (Gustafsson, Herrmann & Huber, 2013), which ranges from -1.0 to +1.0 with zero meaning no association (Neuman, 2013). To ensure the predictive and cross-validity within this research, two holdout tasks were included in the questionnaire. The holdouts had a value of 1.00 and had a perfect relationship. The data is further presented and discussed in the result and analysis chapter.

4.3.2.2 Reliability

Reliability in quantitative studies is explained as whether the study is consistent, meaning if it can be replicated by other researchers in a different context, and still yields the same results (Bryman & Bell, 2011; Gray, 2018; Saunders et al., 2016). Ensuring reliability can be done via different measurements and one of these measurements is inter-observer reliability, which is a quality assurance that determines the agreement between two or more observers to ensure consistency within the research (Bryman & Bell, 2011). Subjectivity is always a prevalent factor that needs to be considered within quantitative

research since reliability issues are often related to researcher subjectivity (Wilson, 2010). If subjectivity is intermingled in the research, the reliability criteria is conclusively compromised, and the results are as such unreliable (Wilson, 2010). However, as supported by Bryman and Bell (2011), objectivity is generally high within quantitative research. The usage of the statistical software programs Microsoft Excel and SPSS, as well as the survey software program Qualtrics utilized within this study has supported the objectivity as the conjoint analysis questionnaire has been identical for all participants. The invitations to participate in the study as well as the instructions of the actual questionnaire were identical to everyone being contacted, and the text was formulated to be as objective as possible to ensure no subjectivity biases have affected neither the participants, nor the researchers.

Reliability can also be ensured via internal consistency, often referred to as equivalence, which can be evaluated via inter-rater reliability (Gray, 2018). Inter-rater reliability is examining the correlations between the responses to each question with those to other questions in the questionnaire (Saunders et al., 2016). It is as such measuring the consistency of responses (Saunders et al., 2016). It is as such advisable to conduct booth a Pearson's and a Kendall's tau correlation test within conjoint analysis (Hair et al., 2006; Janssens et al., 2008). Within this study, the reliability for the data was examined via the usage of the statistical software programs Microsoft Excel and SPSS, where the correlations between the observed and the estimated values were analyzed. Through this correlation, a value between 0 and 1 is produced where it is more desirable if the value is closer to 1 (Janssens et al., 2008). The results of this study had a value of ,995 with a significant level of ,000 in the Pearson's value of overall statistics, and the Kendall's tau had a value of ,800 with a significance level of ,002, and both measurements were as such significant. The data is further presented and discussed in chapter of result and data analysis.

4.4 Ethics in Marketing Communication Research

In every study when human interaction occurs and human subjects are involved, ethical-moral issues become evident (Greenfield & Greener, 2016). As such, ethical considerations always have to be made when conducting research since ethical concerns are prevalent in every aspect of the study (Greenfield & Greener, 2016; Neuman, 2013). Ethics within research is therefore defined as "...how we formulate and clarify our research topic, design our research and gain access, collect data, process and store our data, analyze data and write up our research findings in a moral and responsible way" (Saunders et al., 2016, p. 184). These considerations need to be prepared and evaluated before the study is initiated to ensure it is incorporated in the actual design of the study (Neuman, 2013). The considerations comprise of concerns, dilemmas, and conflicts that surface when pursuing the right way to manage the research (Neuman, 2013).

Ethics in research can be evaluated from various perspectives and it can as such be classified into four main areas, namely the issue of harmfulness, the issue of lack of informed consent, the issue of invasion of privacy, and the issue of deception (Bryman & Bell, 2011). The first area of harmfulness refers to whether the research can cause harm to the respondent in any way, either physically or psychologically (Bryman & Bell, 2011; Neuman, 203). It is, therefore, vital to assess possibilities of harm and conduct the study with the aim of minimizing such potential harm (Bryman & Bell, 2011). Violating confidentiality assurances is one way that can cause ethical harm to individuals participating in the study and is as such a crucial requirement to fulfill if requested or assured (Bryman & Bell, 2011; Neuman, 2013; Saunders et al., 2016). That is why this research has ensured anonymity, and while it is easier in quantitative research (Bryman & Bell, 2011), it has also been ensured in the qualitative research by assigning all interviewee's pseudonyms in form of ID letters as well as avoiding asking or including information that can be connected to a specific individual.

Further, lack of informed consent refers to the idea that all prospective participants must be given enough information prior to the data collection so that the individual has the opportunity to make an informed decision of their willingness to participate (Bryman & Bell, 2011; Neuman, 2013; Saunders et al., 2016). Since this study is an overt research, all participants in both the interviews and the conjoint analysis were given information and instructions to clarify what the research is about. Contact information was also presented and the participants were encouraged to make contact if there were any questions or doubts about the research objective. Further, the researchers expressed gratitude for the participants giving their time voluntarily. The issue of invasion of privacy refer to the individual right to privacy and conducting research should not foster transgressions of that right (Bryman & Bell, 2011; Saunders et al., 2016). Since it was not possible for the researchers to identify any participants within the conjoint analysis, this issue was especially considered in interviews since those rely on the social relationship between the interviewer and the interviewee (Brinkmann & Kvale, 2015). Interviews are creating knowledge via the interaction between the two individuals and the interviewer must as such acknowledge the interviewee's personal limits in order to avoid overstepping them in an unethical infringement (Brinkmann & Kvale, 2015). As such, an equilibrium needs to be reached where the objective of retrieving useful information is balanced with the ethical considerations for the integrity of the subject (Brinkmann & Kvale, 2015).

Finally, the issue of deception occurs when the research is presented in a misleading way (Bryman & Bell, 2011). Honesty should be the focal point of the code of ethics in a study and it must be a central feature of every step of the research progression (Greenfield & Greener, 2016). Deception includes scientific misconduct and research fraud, which depicts falsifying or distortion of data as well as false

reports of how the data was gathered (Neuman, 2013). In other words, the issue of deception promotes the deontological view within research that proclaims that research can never rationalize the use of unethical means to reach an end goal (Neuman, 2013; Saunders et al., 2016). It is as such the researchers' or the interpreters' responsibility to be aware of personal presuppositions in the data in a way where it does not hamper the individual's descriptions of reality (Brinkmann & Kvale, 2015).

However, it is argued that ethical concerns can never be fully eliminated within research, but that the aim should rather be to build a consciousness of them in order to be able to make decisions that can facilitate ethics and counteract concerns whenever possible (Bryman & Bell, 2011). Since this research aimed at understanding consumer perceptions and preferences surrounding privacy concerns stemming from online personal recommendations in order to help companies communicate appropriately to their consumers, it is possible that the research may have caused unintentional privacy concerns. That is, having consumers consider their privacy concerns could inadvertently cause the participant to be more aware of their personal data and how it actually is utilized by companies, potentially making them more concerned about the practice.

5 Result and Data Analysis

The purpose of this chapter is to present the findings from each of the data collection methods. First, the results from the semi-structured interviews are presented and an analysis is provided based on the themes and codes identified in the results. Thereafter, the results from the conjoint analysis is presented and an analysis is provided.

5.1 Findings From Semi-Structured Interviews

5.1.1 Descriptive

In order to gain insights into the feelings, beliefs, and motivations of the population of interest, nine individuals were chosen based on their demographic and geographic backgrounds. However, the interviews were also limited to respondents' availability and willingness to participate. Specifically, there were four males and six females; two respondents who belonged to the 18-24 age group, four respondents who belonged to the 25-29 age group, two respondents who belonged to the 30-34 age group, no respondents who belonged to the 35-39 age group, one respondent who belonged to the 40-44 age group; three respondents with a student occupation, five respondents with an employment occupation, one respondent with an unemployment occupation; as well as four respondents residing in Denmark, four respondents residing in Sweden and one respondent residing in Norway. Collectively, the participants fulfilled all of the criteria of the target population, with the exception of the age group 35-39. A summary of the respondents who participated in an interview for this study is outlined in Table 6.

Participant	Gender	Age	Occupation	Residence
A	Male	26	Student	Denmark
B	Female	44	Working	Sweden
C	Male	23	Unemployed	Denmark
D	Male	29	Working	Sweden
E	Female	26	Working	Sweden
F	Male	30	Working	Denmark
G	Female	31	Student	Denmark
H	Female	25	Student	Norway
I	Female	24	Working	Sweden

Table 6: Semi-Structured Interviews Demographics

5.1.2 Themes and Codes

A total of four categories of underlying themes and patterns emerged from 28 codes that were identified during the analysis. The themes consisted of 'Privacy Concerns', 'Perception of Recommendation Systems', 'Recommended Additional Items of Interest', and 'Knowledge of How Companies Track Personal Data'. Each theme included various relevant codes that ranged from five to nine codes within each theme depending on the amount of times a theme was discussed during the collective interviews. The codes were taken from the transcript once it was determined that there was a common pattern threaded within the interviews, in which case a theme would be added to the results (Saunders et al., 2016). Further, the process of applying the thematic analysis was as followed; first the transcripts were read thoroughly to uncover the patterns in the interviews and the themes were then identified, afterwards the patterns that were found in the transcripts were subsequently summarized, interpreted, and dispersed into their relevant and corresponding theme (Saunders et al., 2016). The themes and the correlated codes that were discovered during the analysis are outlined in Table 7, Table 8, Table 9, and Table 10.

Themes	Codes
Privacy Concerns	I am most concerned about giving my credit card information when purchasing online, otherwise I am not too concerned about privacy online
	Companies cannot really do anything with your data due to General Data Protection Regulation (GDPR), but I am an emotional person and am therefore hesitant towards sharing my data
	I would not think it would be OK to collect personal information, such as social security numbers or addresses or such
	I am worried about sharing my credit card information, or like sensitive information
	It is difficult to answer the type of data that is OK to collect because companies want it to extract as much money as possible from me as a consumer, and that triggers some kind of resistance from me
	I cannot be bothered thinking about how companies gather my data since all companies are doing it. I do not know how much you can trust all companies. But, I rely on the law to ensure my informations is not used in a wrong way
	I would not want any company to have access to all my search queries I have ever done. But when I'm actually on a website shopping, I do not mind it. As long as the information I search for stays in the website, it is OK
	I am not sure if I prefer my behavior to be tracked, I think I just do not care if it is tracked or not
	When I have a pretty good sense of the store I visit, I assume the level of privacy and security is upheld

Table 7: Coding - Privacy Concerns

Theme	Codes
Perception of Recommendation Systems	I mostly find the recommendations helpful, but it sometimes feels uncomfortable to know how much information companies have about you
	I perceive companies that include recommendations as professional and customer-oriented
	To me personally, such recommendations are uninteresting
	I feel like companies want to sell you more. It is a form of advertisement. Recommendations can be both good and bad, but it depends on the context
	Recommendations are nice because they helped me narrow down my options
	In some ways recommendations are useful for me to narrow down what I wanted
	I do not personally think about recommendations when I visit websites. I do not mind the recommendations, but I cannot remember if I have ever used them

Table 8: Coding - Perception of Recommendation Systems

Theme	Codes
Recommended Additional Items of Interest	If I would buy glasses, I might not think about a glasses case, so it could be positive to have recommendations help with that
	Recommendations presented related products, such as different colors or slightly different designs in the product I am interested in
	The website recommended certain items to me that other people had also looked at
	If you, as a consumer, buy a camera then recommendations could propose additional tools to use the camera properly
	The website recommended to me related items based on the items I viewed

Table 9: Coding - Recommended Additional Items of Interest

Theme	Codes
Knowledge of How Companies Track Personal Data	I believe companies can track your previous purchases from that website, and can probably get or buy information from Facebook
	I think companies are tracking my movement on their page and historical purchases, and using my IP address to locate where I live
	I guess companies can collect data about what I am searching for
	Companies that are storing information cannot really see who have been looking at this product, they can only see that it is one user looking at this product
	I do not know really how the companies work with my personal data. I guess they save my searches or what I press
	I do not know how companies work to give you these recommendations but I guess it is via some type of coding based on what I am looking at and others are looking at
	I think the cookies are saved to a pretty large extent, but from my knowledge certain search queries are not saved

Table 10: Coding - Knowledge of How Companies Track Personal Data

5.1.2.1 Themes: Observed Similarities

After analyzing the themes and codes from the transcripts of the interviews, the similarities in responses from the interviewees, otherwise referred to as codes, for each theme were analyzed. It was important to analyze the similarities of each theme in order to further determine the general assumptions and commonalities from the respondents based on the research topic of this study. There were many more similarities than differences among the codes within their respective theme.

To begin with, the majority of the findings from the codes within the first theme of Privacy concerns, as shown in Table 7, expressed online privacy concerns in one way or another. More specifically, there were similarities in the codes related to respondents concerns for sharing sensitive information with companies, such as, credit card information, home address, and social security number. While two respondents communicated concerns for sharing credit card information, one of these respondents further expressed that she was otherwise not concerned with the privacy of her information online. Although, another respondent, as shown in the code, expressed skepticism over sharing his data online due to his lack of ability to trust companies, he also reflected on the recent General Data Protection Regulation (GDPR) as a reason for why some consumers might be less concerned with data privacy. Additionally, one respondent elaborated that data collection is ethically incorrect and his concerns were focused on the main purpose for companies' use of recommendation systems, as he believes it is used to extract more money from consumers, and this provoked an emotional action of resistance from him against sharing his data online. However, it is important to consider that during the progression of the interviews, a couple of respondents reflected further on their initial privacy concerns that prompted conflicting behaviors. This is because respondents also expressed a lack of concern towards data privacy due to the number of regulations in place to protect their data from misuse, or because they mostly only shop from companies' websites that they are familiar with and as such trust that the company would not misuse their data.

Thereafter, the second theme of Perception of Recommendation Systems, as shown in Table 8, presented similar responses as over half of the codes perceived recommendations displayed on companies' websites as a positive encounter. More specifically, half of the codes consider recommendations to be beneficial while shopping online as they were used to narrow down individuals' options as well as personalize the options to the consumers interests, meaning they also regularly interacted with recommendations provided on various websites. One respondent revealed that he would find a website unprofessional if companies did not provide recommendation to consumers, but the respondent further explained that recommendations should also have restrictions for displaying recommendations, and should exclude, for example, pop-up windows or aggressive methods for displaying the advertising content as it can be seen as a nuisance as well as intrusive. However, there were also a couple of codes that were similar due to their indifference towards recommendations and this is a result of their lack of experience with using recommendations and their lack of knowledge for what they do and how they work. After the respondents were probed into elaborating on their neutral perception of recommendations further in detail during the interview, the respondents confirmed that they were unsure whether they would find recommendation systems useful or not.

The third theme of Recommended Additional Items of Interest, as seen in Table 9, exhibited a majority of similar codes that mainly focused on online recommendation systems capability to refer consumers to other items based on their interests. More specifically, half of the codes were similar due to the fact that respondents' individual experiences with online recommendation systems were particularly based on recommendations that displayed different varieties of the same item they were currently viewing or additional items that were related and could be purchased together with the items they were currently viewing. A couple of codes used examples to recall their experience with recommendation systems that recommended items of interest. For example, one code from a respondent recalled an experience he had while shopping glasses, where a recommendation provided options for different glasses cases that were often bought with those particular glasses he was viewing. While another code similarly recalled an experience he had while shopping for a camera, where a recommendation proposed additional tools that were needed to use the camera properly, whereas the respondent might otherwise not have known or likely not considered to think about purchasing with the camera. Additionally, another respondent also discussed a recommendation that provided additional colors, sizes, and styles to the item he was currently viewing that allowed him to recognize other relevant options that were personalized to his specific taste, which ultimately assisted in helping him make the correct purchase decision based on his wants and needs.

Lastly, the fourth theme of Knowledge of How Companies Track Personal Data, as shown in Table 10, revealed a significant amount of codes related to respondent's knowledge of how companies' track consumers personal data online. As such, the codes were similar as the majority of the responses started with a disclaimer such as "I do not know how", "I think", "I guess", or "I believe", which acknowledges that respondents were ultimately unclear of how companies track personal data. Although, majority of the codes also provided an attempt from respondents to share how companies' track information through their online movement based on their past knowledge and experiences. For example, the codes revealed that respondents individually asserted at least one or more of the following movements for predicting how companies track consumers personal data online, and those included search queries, coding, IP addresses, registered accounts such as Facebook, cookies and history online.

5.1.2.2 Themes: Observed Differences

The differences of the codes, or responses from participants were also analyzed within each theme. It was important to analyze the differences between the codes that belonged to their respective themes in order to further determine the various types of perspectives that respondents had regarding recommendation systems and privacy concerns. While the answers were mostly unanimously similar,

there was at the very least one or two codes that differed from the rest of the codes related to each of the four themes.

Even though the majority of the codes were similar within the first theme of Privacy concerns, shown in Table 7, several codes, or aspects of codes, differed from the others. Therefore, a response from one specific code focused on the additional effort and time-consuming aspect of privacy concerns. As such, the respondent admittedly stated that she "cannot be bothered" with evaluating companies' data gathering techniques to collect her personal data. Another code revealed that a respondent admitted that he was unclear on whether he did have any online privacy concerns. However, upon further reflection during the interview, the respondent concluded that he ultimately was not worried about sharing his information with companies' online because he trusted companies to comply with the standards that are currently in place, as previously mentioned in the similarities section for Privacy Concerns. Lastly, another code uncovered a differing viewpoint from a respondent who affirmed that he was only concerned about his data privacy online if his information was used elsewhere such as a third-party site that was different from the website, he initially provided the information to.

Furthermore, while a significant amount of codes within the second theme of Perception of Recommendation Systems, shown in Table 8, similarly considered recommendation systems to be beneficial, one codes response differed toward his perception of recommendations. The respondent of this code believed that depending on the context, recommendation systems could be interpreted as both positive, as discussed in the similarities section of the Results chapter, and negative for consumers. The code also included the response from the negative point of view that affirmed his position that recommendation systems are also a form of advertisement and are generally implemented to benefit the company using them. During the interview, the respondent further explained the negative point of view, where he believed recommendation systems could fall flat if they merely focused on only one specific consumer interest.

Moreover, the Recommended Additional Items of Interest theme, as shown in Table 9, largely contained codes with similar explanations for recommendations, although one code differed. While the majority of the codes were based on examples of experiences the respondents had with recommendation systems providing additional items based on the product the consumer was viewing, the opposing response specified that the items of interest recommended to her were based on what other consumers had previously viewed on the website.

Finally, the theme of Knowledge of How Companies Track Personal Data, as shown in Table 10, provided several distinct responses. For example, one code included a response explaining that companies' who tracked and stored data were unable to detect information about the consumer viewing the product, and further clarified that companies were only able to recognize that there was a consumer viewing the product. Meanwhile, the other codes suggested that companies were able to detect more than just a consumer, because they specified that companies tracked user's data through search queries, coding, IP addresses, registered accounts such as Facebook, cookies and/or history online. Additionally, another code provided a contradicting justification regarding his knowledge for how companies tracked personal data, where the respondent explained that companies do not save search query information, although, this contrasted with other respondents as they expressed that companies do save query information in order to track consumers personal data.

5.1.2.3 Observed Similarities and Differences Across Demographics

As the participants' data was collected in terms of characteristics within the population, they were also be segmented accordingly in order to identify any similarities or differences across demographic factors. It was apparent from the results for the theme of Privacy Concerns that the majority of respondents had at the very least a few privacy concerns. However, it was also apparent that the respondents who were less concerned with sharing their personal data belonged to a younger age group segmentation. For example, a respondent who belonged to the 18-24 age group explained that she could not be bothered with evaluating data gatherings because of the amount of time and effort involved in doing so. However, some consumers expressed that they relied on the law to protect their data. Another respondent who belonged to the 18-24 age group did not mind sharing his personal data through a company website, but only if it did not leave the website. Additionally, a respondent who belonged to the 25-29 age group was also unclear about his privacy concerns, and as such he remained neutral on the topic of privacy concerns.

Specifically the theme Perception of Recommendation Systems, the majority of the respondents who belonged to the age groups 25-29 and 30-34 perceived recommendation systems as professional and beneficial for narrowing down their product options on a company website. However, in contrast, almost half of the female respondents also observed negative issues concerning recommendation systems, while the other half of female respondents argued for the contrary, and recognized recommendation systems as beneficial. Additionally, a few female respondents described recommendations as "uninteresting" or "not relevant" to them due to their lack of knowledge and experience in using recommendation systems.

The results from the theme of Recommended Additional Items of Interest suggested that the male segmentation as well as the Danish resident segmentation put more emphasis on the fact that recommendation systems provided consumers with additional items that could be interesting to the consumer. These respondents discussed examples of how recommendations were used to provide more items to the consumer. While this opinion seemed to be the general consensus of the majority of the interview respondents, there were also males and Danish resident participants two disagreed and rather claimed that they experienced recommendation systems as intrusive and unwanted.

Moreover, for the theme of Knowledge of How Companies Track Personal Data, the majority of respondents who belonged to the age groups 18-24, 25-29 and 30-34, provided a direct explanation concerning how companies could be tracking their personal data online. The majority of these respondents acknowledged that they were not fully aware of how companies track their data online. However, a couple of employed females residing in Norway and Sweden belonging to the age group segmentation of 18-24 and 25-29 acknowledged that they were fully unaware of how personal data was tracked online.

5.1.3 Observed Similarities and Differences of Conjoint Attributes

As discussed in the methodology, the interviewees were also asked about their perceptions of the attributes analyzed in the conjoint analysis. This was done in order to further understand respondents' reasonings and interpretations of the different options beyond the numerical data gathered from the conjoint analysis. For the Contact attribute, many participants claimed it was dependent on the circumstances, but for an online fashion store, more than half of the respondents preferred having regular contact information. The argument was that most companies provided it and it was seen as an important attribute to provide consumers with in an easily available way on their website. Providing an email address was emphasized as especially important to be able to contact the company directly at any time. Additionally, it was discussed that a physical address was valuable for transparency, but that an email address was more important since customers often are too inhibited to visit a physical address and would rather visit an online store. This also goes for the phone number, where a few respondents claimed they preferred to call via phone so that they did not have to formulate their question in writing, but that it is dependent on where the company's phone number was geographically located as they would not call international phone numbers.

Having an online chat channel was, however, preferred by the other half of respondents, and all of those claiming to prefer having contact information also discussed the value of having a chat function available on the website. The preference choices were all based on the idea of receiving help in a fast

and convenient way, meaning a chat would only be useful if the customer service personnel operating the chat would answer quickly to any questions or concerns. It was compared with a physical interaction with a company where consumers could directly get help with any concerns. A few of the respondents also brought up having a bad experience with chat functions and would as such only prefer the function if there was a physical service personnel answering the inquiry rather than a robot, and if the questions or concerns would be answered directly rather than redirecting them to a Frequently Asked Questions site. One person also brought up the concern of opening hours for the chat function and that she would value if a company provided extended opening hours beyond the normal 8AM to 4PM, because it would show the company actually cared about their customers and their needs. One person even claimed a good experience from chatting with customer service would make her feel as though the company put both resources and interest into actually wanting to help their customers. Regarding the photograph of a customer care person, no one preferred this attribute level over the others. Most of the respondents just argued that it does not make any difference for them and that they do not see any additional value in it. One person even argued that the photograph of a customer care person was negative, meaning it built presuppositions of who the person is and how they will act, which was seen as a negative condition as she preferred objectivity in the customer service contact.

For the Security attribute, more than half of the respondents tended to prefer having customer reviews due to the ability of reading about and seeing other consumer experiences and as such being able to determine if it is a viable online store or not. Two of these respondents even explained that they were aware that reviews are not always fully reliable due to the potential of companies paying for good reviews or paying to delete bad reviews, as well as really negative customers who lie or leave undeservingly negative reviews. However, they both still preferred reviews due to their personal tendency to rely on other individuals' experiences. Another person brought up the idea that she trusted reviews, but that she only used it to evaluate a company's quality of products, delivery time, or general customer service, and not for data handling or gathering. Almost the rest of the other half of participants preferred the attribute level award from neutral source because that meant the company had been evaluated by an objective organization. Only one person preferred the third-party privacy seal due its look as though the company followed general directives and regulations of data handling. However, many of those preferring reviews did argue against both award from neutral source and third-party privacy seal since they did not know of any organizations that provided such certificates, and thus did not understand what it actually represented or what the company did to deserve them. Consequently, it did not provide them with any additional value or additional feeling of security.

Finally, for the Privacy Disclosure attribute, the respondents had a bit more problems arguing for their preference choices. Most of them discussed that privacy disclosures and data gathering techniques did not cause any greater difference in their preference, as long as the data gathering was used in their favor. One person claimed if the company believed they could provide him with a better service by tracking and saving his data in a specific way, he would trust that they did so to provide him with a better experience on their website. Another person argued in a similar way and claimed his preference depended on the service the company provided, in other words what he would receive in return for the data the company collected. A few of the respondents also claimed that they only had a general idea and as such not enough knowledge to evaluate how companies gathered and saved consumers personal data. More importantly, they claimed they had no personal interest to understand how companies operated and as such they were not interested in being able to appropriately decide what data gathering technique worked best for them.

5.2 Findings From Conjoint Analysis

5.2.1 Descriptive

The number of people participating in the conjoint analysis was 266 people, where 122 of them were valid for the use in the analysis. The numerous invalid responses can be explained by Qualtrics coding where everyone opening or starting the questionnaire are counted towards the total number of participants. This also includes participants not meeting the sample characteristics that was initially asked, and as a result they were skipped to the end of the questionnaire and could not participate any further. While many individuals may also open the questionnaire without the intention of finishing it, conjoint questionnaires can also be considered as a difficult questionnaire to answer (Hair et al., 2006), which could further explain the high number of invalid and unfinished responses.

From the 122 responses, 62 of them were females, 59 were males, and only 1 was other or preferred not to state. The age distribution showed almost half of the sample (58 respondents) belonged to the 25-29 age group, whereas 31 of them belonged to the 18-24 age group, 19 of them belonged to the 30-34 age group, 10 of them belonged to the 35-39 age group, and 4 of them belonged to the 40-44 age group. The average age was as such 27 years old, which is part of the age-group with the highest share of online shoppers in Scandinavia (Statista 3, 2018) and should as such be able to appropriately evaluate and assign preferences to different website designs in terms of trust for their personal data.

Regarding the distribution of the sample, 53 of the respondents lived in Sweden, 38 of them lived in Denmark, and 31 of them lived in Norway. Finally, for the occupation, 56 of the respondent's main occupation was working, 57 was studying, and 9 was currently unemployed. The demographic variables

are presented in the table below (Table 11) via frequencies and percentages. The ideal percentage is also presented, which is the ideal percentage the study aimed at having based on the quota calculations done of the population. The calculations for these quota percentages can be seen in detail in the methodology chapter of participant selection and sampling technique. As seen in the table, the gender and location had a relatively realistic distribution, while some of the age groups and the occupational groups were a bit over- or under represented.

Control Variable	Frequency	Percentage	Ideal Percentage
Gender			
Man	59	48 %	50 %
Woman	62	51 %	50 %
Other	1	1 %	
Age			
18-24	31	25 %	20 %
25-29	58	48 %	21 %
30-34	19	16 %	20 %
35-39	10	8 %	19 %
40-44	4	3 %	20 %
Location			
Sweden	53	44 %	47 %
Denmark	38	31 %	28 %
Norway	31	25 %	25 %
Occupation			
Working	56	46 %	70 %
Studying	57	47 %	13 %
Unemployed	9	7 %	17 %

Table 11: Conjoint Analysis Demographics

5.2.2 Correlations

To evaluate the significance of the model and the results from it, the correlations table (as seen below in Table 12) should be analyzed. As both Pearson's R and Kendall's tau are significant at a 95% confidence level, the model has a high predictive ability meaning that there is a strong correlation between the observed and the estimated preferences. Further, the Kendall's tau for holdouts has the

value of 1, meaning there is a perfect relationship between the predicted scores of the holdout cases and the observed data. This ensures the validity of the utilities produces via the conjoint analysis.

Correlations[a]	*Value*	*Sig.*
Pearson's R	,995	,000
Kendall's tau	,800	,002
Kendall's tau for Holdouts	1,000	.

a. Correlations between observed and estimated preferences

Table 12: Correlations

5.2.3 Attribute Utilities

The utility estimates and the standard error is presented in Table 13 below. First, the standard error bar shows the standard error is low throughout the utility estimates, meaning the conjoint design is well-balanced and reflects that the design is able to estimate the utilities appropriately, as well as supports the sample size of 122 participants is sufficient. Further, the utilities are scaled so that the sum is zero within each utility, meaning the individual utilities for each of the levels within one attribute add up to zero. Taking the attribute of Contact as an example, it can be seen that the utility estimates of contact information, photograph of a customer care person, and online chat channel equal zero. Although the attribute levels contact information and photograph both have a negative utility estimate, it does not necessarily indicate that a consumer perceives these two attribute levels as undesirable, but rather that the attribute level online chat channel is perceived more desirable out of the three options.

Specifically, from examining Table 13, it is possible to discover that online chat channel is valued 0.816 utils higher than photograph and 0.834 utils higher than information. Additionally, the photograph is valued 0.018 utils higher than the contact information. For the Security attribute, the reviews are valued 0.082 utils higher than the third-party privacy seal and valued 0.11 utils higher than the award from neutral source, while the third-party privacy seal is valued 0.028 utils higher than the award from neutral source. Finally, for the Privacy Disclosure attribute, hybrid filtering is valued 0.073 utils higher than the collaborative filtering and 0.083 utils higher than the content-based filtering, while collaborative filtering is valued 0.01 utils higher than the content-based filtering. These utility estimates show that there is a clear preference in the ratings for the online chat channel within the Contact attribute, and then smaller preferences towards reviews and hybrid filtering within the Security and Privacy Disclosure attributes.

	Utility Estimates	Std. Error
Contact		
Contact Information	-,284	,038
Photograph	-,266	,038
Online Chat Channel	,550	,038
Security		
Third-Party Privacy Seal	-,018	,038
Award from Neutral Source	-,046	,038
Review	,064	,038
Privacy Disclosure		
Content-based Filtering	-,031	,038
Collaborative Filtering	-,021	,038
Hybrid Filtering	,052	,038
(Constant)	5,440	,027

Table 13: Overall Statistics

5.2.4 Attribute Importance

As pictured in Table 14, the attribute importance for each of the individual attributes are presented. The score sums up to 100% and the values are as such presenting the importance percentage out of those attributes set forth. Security attribute was considered the most important attribute, accounting for almost 43% of the overall importance. The second most important attribute was as such Contact with an importance score of 39%, and finally the least important attribute was Privacy Disclosure with almost 18%.

Importance Values	
Contact	39,330
Security	42,797
Privacy Disclosure	17,872

Averaged Importance Score

Table 14: Importance Values

5.2.4.1 Attribute Similarities and Differencess Across Demographics

By segmenting the respondent by their demographic characteristics, it is possible to analyze whether there is a difference in the attribute utilities and attribute importance across the different segments. It should be noted, however, that due to the small sample size in some of the segments, some of the data cannot enable meaningful statistical analysis. This goes for the age groups 30-34, 35-30, and 40-44 as well as for the occupation segmentation group unemployed due to the sample size within each of these categories being less than 30 participants (Saunders et al., 2016). The data presented for these groups are as such not referred to as meaningful statistical findings, but rather as an auxiliary means to visualize the participants' answers. For the gender segmentation, the group other/prefer not to state have been excluded due to only having one participant.

The segmentation showed marginal effects on the overall result, but there are some differences of interest that are further investigated below (see Appendix D for details). For the Contact attribute, most of the segments still preferred the online chat channel at various utilities. Swedish residents, unemployed, and younger people tended to prefer the online chat channel at a higher rate (.636, .630 and .610 respectively), while Norwegian residents and older people preferred it to a lower rate (.361 and .296 respectively). More specifically for the age groups, the older generations of 35-39 preferred online chat channel at the lowest rate of all respondents with a utility of .185 and the 40-44 age group even preferred having the photograph of a customer care person over both online chat channel and contact information.

For the Security attribute, the results were a bit more varied. While the majority of the groups preferred reviews, both award from neutral source and third-party privacy seal came closely after. More specifically, while males, Swedish and Danish residents, as well as employed and older people preferred the reviews, females, unemployed, and younger people from the age group 18-24 preferred the award from neutral source. Finally, the Norwegian residents and students preferred the third-party privacy seal. Looking at the specific age groups, 18-24 and 40-44 were the only age groups preferring the third-party privacy seal, while the rest preferred the reviews. Similarly to the Security attribute results, the Privacy Disclosure attribute results were also varied across the demographics. While most groups preferred the hybrid filtering, employed people preferred the collaborative filtering instead. Most of the age groups preferred the hybrid filtering, but there were some differences as the age group 25-29 actually preferred the content-based filtering while 40-44 that the same utility (.111) on both content-based filtering and hybrid filtering.

Finally, for the attribute importance, the results across the demographics were fairly similar to the overall result, where most groups rated the Security attribute as the most important, with the results showing somewhere around 42% to 48% level. The only contrasting groups showing the Contact attribute were deemed as most important were Swedish residents and unemployed people at 40% and 39% respectively. The groups showing the greatest variance in the attribute importance was the age group of 35-39 which rated Security as being the most important at 60%, and the Contact attribute as being the least important at 19%, and lastly the age group 40-44 rated Security as being the most important at 57% and the Privacy Disclosure as being the least important at 14%. In contrast, the unemployed respondents showed the least variance in their answers where Contact was perceived as most important at 40%, Security as being second most important at 35%, and Privacy Disclosure as being least important at 25%.

6 Discussion

The purpose of this chapter is to combine the findings from the semi-structured interviews, the conjoint analysis, and the theories from the literature review. The discussion aims to analyze the findings further as well as answer the research questions presented in this study.

6.1 General Discussion

Both the qualitative interviews and the quantitative conjoint analysis provided insights and further understandings to help fulfill the purpose of this study as well as answer the two research questions of this study. The research questions are answered in the following subchapter, but first the empirical findings presented under the chapter of result and data analysis are compared to both each other and theories from the literature review in order to recognize and discover what the data and insight findings imply.

Starting with the most important attribute, Security, and its three levels of third-party privacy seal, award from neutral source, and reviews, the statistics from the conjoint analysis indicate a slight preference for reviews over the other levels. Similarly, from the interviews, reviews were also slightly more preferred but there was still an incongruity in the answers and explanations for it. Some justified their answer by claiming they generally tended to trust other individuals experience and as such felt more willing to disclose personal information, which is in alignment with the findings of Alhouti et al. (2016) that a firm can cultivate trust via an established reputation to decrease privacy concerns.

However, one participant raised the idea that, while trusting reviews, she only used it mainly to evaluate a company's quality of products, delivery time, or general customer service. This idea goes beyond the theory and findings of Andrade et al. (2002) and Baek et al. (2012) that good reviews facilitate trust for personal privacy and security and builds on it with the underlying assumption that the reputation of a company can increase overall trustworthiness. This conceptualization seems to indicate that reputation is as such not necessarily immediately linked to one's privacy concerns, but rather the overall feeling of comfortableness to interact with a company. This does not mean that the privacy concerns are not reduced among consumers, but rather that reputation also increases this overall feeling of trustworthiness and as such it also increases the trust for one's personal privacy. One participant from the interviews referred to it as "When I have a pretty good sense of the store I visit, I assume the level of privacy and security is upheld", meaning the overall sense of trustworthiness in some way also provides a feeling of security. When analyzing the interviews in its entirety, there was further indication that this overall reputation played an important role in the actual intention to purchase, as some

respondents claimed they only purchased from a website if they had heard about it before or if they knew someone that had a prior experience with the specific company. This finding is in alignment with Kim and Byramjee (2014) findings that consumers are more risk-averse of unfamiliar online stores and that many even avoid purchasing from unfamiliar online stores.

Interestingly, some participants, while still trusting reviews, also acknowledged the fact that reviews can be misleading. While this seems like a direct contradiction, Solomon (2017) explained that consumers strive for consensus and as such observes others' actions before making a decision. So, the idea that participants still trust reviews even though they are aware of potential manipulation of falsifying techniques from both the company and the consumer side indicates that the consensus in the end is most important. This also further supports the findings in the conjoint analysis that good reviews are the most preferred attribute level in terms of security.

For the remaining attribute levels of award from neutral source and third-party privacy seal, the conjoint analysis and the interviews showed a somewhat different result. While the conjoint analysis indicated that consumers prefer the third-party privacy seal slightly more than the award from neutral source, the interviews indicated that the award from neutral source was far more preferred than third-party privacy seals. Specifically, almost half of the participants claimed they would prefer a website having an award from neutral source and only one who preferred the third-party privacy seal. What many of the interviewees, especially those preferring reviews, did have in common though was the idea that many did not know of a single organization that actually provided either an award from neutral source or a third-party privacy seal, meaning they had a hard time actually evaluating the credence of them. The ones in support of either the award from a neutral source or a third-party privacy seal, on the other hand, claimed such certifications provided a sense of confidence that the company ensured a level of privacy and security that allowed them to trust the company. This idea is in coherence with Solomon (2017) that authority usually makes individuals often trust a person with more authority, and while consumers might not be inherently familiar with the organizations that provide the awards from neutral sources or third-party privacy seals, they can symbolize a form of authority due to the idea that these organizations should be experts in evaluating personal data handling. As such, they should be able to be trusted by the consumer.

However, when analyzing the results from both the conjoint analysis and the interviews in an aggregated way, the lack of ability of being able to evaluate the credibility of the certifications in the end supports the conjoint analysis result. While the conjoint analysis did not provide a strong preference priority for reviews, the reviews were still preferred out of the three attributes and the interviews also seemed to

agree with those findings. However, due to the discussion of unfamiliarity, the question is raised whether the results would have been displayed differently if any of the certifications were to be recognized by consumers. This opens up a direction of conversation to where some of the Security attributes seem to rather be evaluated in terms of familiarity, especially in terms of the certifications.

For the least important attribute Privacy Disclosure, the conjoint analysis showed the hybrid privacy disclosure was slightly more preferred than the others. However, in the interviews, the answers were mixed where some respondents argued that they indeed felt a resistance to provide personal information, while other respondents claimed that even though they still had some privacy concerns, they relied upon regulations and the company in context to treat their data ethically. As such, this latter group did not have enough concerns to actually worry about it or to actively consider it when engaging with an online store. When analyzing the codes from the interviews, it is possible to divide the different perceptions up into the data-sharing mindsets as proposed by Quint and Rogers (2015), which provides additional manifestation of the different types of mindsets among the consumers. While Defenders are supposed to represent the majority of the consumers (Quint & Rogers, 2015), only three of the codes, including code three, four and five, could be categorized as a defender. While code three is not necessarily referring to all types of data in their answer, it solely mentioning taking defensive actions and unhappiness towards providing personal data. Further, the second code can be categorized as Resigned since the respondents are not showing any defensive actions, and this is explained by referring to the knowledge that the data is protected by regulation, but consumers are still unhappy to disclose their personal data. For the Savvy and In Control group, the first code and the seventh code can be clustered into this group as they show the willingness of taking defensive action while they are still happy to provide their data. Finally, for the Happy Go Lucky group, code six, eight and nine can be categorized in this group as neither of them show any type of defensive actions, nor unhappiness towards sharing their personal data.

The question of legality, where consumers relied upon regulations and companies to treat data ethically, were brought up often throughout the majority of the interviews as many directed the conversation one way or another to the growing regulated aspect of handling personal data. While some referred to the laws as general rules and regulations, others mentioned the specific law of GDPR that went into effect in Europe in 2018. Many stated they felt like they could trust the established laws to ensure their personal data was not misused or mishandled in any way. However, after reviewing the interviews in further detail, it was also obvious that many consumers experienced a lack of knowledge for how and to what type of personal data is actually handled by companies. That is, that they only had a general idea and not sufficient knowledge to actually be able to evaluate how companies gather and save their data. When

explaining their current knowledge, respondents used words such as “I guess”, “I do not know”, “from my knowledge”, etcetera, which demonstrated a lack of confidence in their response.

Some of the respondents also claimed that recommendations could feel both helpful, yet uncomfortable, otherwise described as both good and bad. These contrasting views indicate confusion within respondents view of recommendation systems. These different types of uncertainties, both regarding the actual knowledge of data gathering as well as regarding the view of recommendation systems, might explain the reason why the attribute Privacy Disclosure was rated as the least important within the conjoint analysis. This finding is also in alignment with Kokolakis (2017) and Toch et al. (2012) that discusses the information asymmetry that often exists between a user and a company, where many consumers are not aware as to how or what type of data companies actually gather. Additionally, the consumers indicating a form of confusion about or even leaning towards recommendation systems as being perceived as an unfavorable service still claimed in their interviews that they shopped online. Some even recognized the value that recommendations systems also could provide. This supports Li et al. (2017) findings that privacy concerns in fact only have a weak effect on the actual behavior of the person, meaning, as explained by Kokolakis (2017), the calculus between the perceived potential gain from sharing personal data is ultimately seen as larger than the presumed loss.

Regarding this value aspect of recommendation systems, most consumers tended to focus on the additional items that were recommended. As key themes in the interviews was identified as “Recommended Additional Items of Interest”, it was clear that this was the main value proposal of recommendation systems, in terms of the consumers perception of it. Consumers’ idea of the recommended additional items of interest concerned not only related or associated items, but also items that were related to their interest profile or items that other users also viewed. As these consumers are as such acknowledging these recommendations and a few even acknowledged how they are created, especially in terms of how some of the recommendations are based on other consumers’ data, it is interesting to see that none of the respondents are reflecting over it when discussing their knowledge of how companies gather information.

An interesting point that many consumers seemed to mention was the idea that they had no interest in understanding how companies worked with data handling. A feeling of carelessness could be sensed via the argumentations. Not because the consumers did not experience any privacy concerns, but more because they tended to be somewhat negligent to the idea of actually gaining a sufficient understanding to be able to evaluate different data gathering techniques. Again, they were inclined to refer back to the safety of current regulations in place to protect their personal data. Similarly, some mentioned the

assumption that companies take the necessary efforts in order to provide a minimum level of privacy and security, and as such they can take it for granted when visiting online stores. This ties back to Jahn and Brühl (2018) and Pan and Zinkhan (2006) discussions of the social contract theory for interaction, where consumers assume to have privacy rights over their personal information when engaging in an interaction with an online store. It also goes hand in hand with Taylor et al. (2009) finding that it is up to the firm to use consumer data in a rational way to protect their privacy and security. This means the consumers seem to be of the belief that companies should have, and maybe more importantly consumers assume the company has, a form of responsibility in terms of data handling. While none of the consumers who were interviewed seemed to have had any undesirable experience as of yet, theory has found that breaching of such an assumption can lead to severe lack of trust (Alhouti et al., 2016), and this further supports the importance of companies ensuring a high level of security in their data gathering systems.

This assumption of privacy reassurance can also help explain why the attribute Privacy Disclosure was deemed as the least important attribute of the three offered. In other words, if consumers assume that companies should have enough responsibility to ensure an accepted level of privacy and security, it would explain why it was rated in the bottom. Consumers are already convinced that their privacy is secured and are as such not as bothered to evaluate how their data is gathered. Furthermore, regarding the preference to the hybrid filtering over the content-based and collaborative filtering, this could be explained via the idea of reciprocity. Some of the respondents seemed to discuss that different data gathering techniques did not cause any larger concerns as long as they were in their favor, meaning they trusted companies to actively work towards offering the best possible online experience with the data they gathered. While the consumers tended to solely mention identifiable data as worthy of concern, such as social security number and credit card information, behavioral data did not seem to be brought up as much. Although this might be explained via the lack of knowledge previously discussed, some of the arguments seem to indicate that respondents have more or less a general idea of how it works, and as such reciprocity plays a vital factor to how they perceive the techniques in the end. Considering that hybrid filtering gathers and utilizes the most amount of data, it can also provide the most amount of suitable recommendations possible for the user, meaning a form of mutual benefit is created between the company and the consumer. Going back to the previous discussion of the privacy calculus, it seems as if consumers' calculus of the perceived potential gain versus the perceived potential loss in the end are in favor of the potential gain as the consumers actually perceives companies as providing more value than causing more harm.

The favoring of the hybrid privacy disclosure could also be argued as in accordance with Baek et al. (2014), Gerber et al. (2018), and Kobsa's (2007) findings that privacy concerns seem to be reducing when consumers are presented with information of the use of personal data. While the hybrid filtering does gather the most amount of data, the privacy disclosure also provides the most amount of explanations, and as such the most amount of information, to the consumer. Since more complex practices are used to provide the consumers with the recommendations, more explanations and information also needs to be included. Since theorists are then claiming providing information is a vital parameter to offer in order to reduce privacy concerns, a connection can be seen where consumers might prefer the hybrid filtering because the privacy disclosure offered the most information out of the three. The amount of information to provide in a privacy disclosure available on the front page of a web page is, however, limited and needs to be carefully considered before implementation. There is a balance between what information is needed to be provided on the front page, and what information can be presented in a separate privacy policy site. Since Gerber et al. (2018) and Kobsa's (2007) findings claimed that consumers wanted information as soon as possible and the conjoint analysis might indicate that consumers preferred more information rather than less, the results point towards having a few relatively short and concise sentences available. This allows consumers to easily see and evaluate the condition early on and does not force the consumers to actively find all information of the privacy policies themselves by hiding it somewhere at the bottom of the page.

Furthermore, the attribute located in between the most and the least preferred one was the Contact attribute. While the conjoint analysis showed the online chat channel was the most preferred, the interviews showed the online chat channel and the regular contact information to be almost preferred at the same rate. In the conjoint analysis, contact information was even preferred the least of all three, even though the difference between the contact information and the photograph were marginal. In the interviews, more than half of the consumers were in favor of the regular contact information such as a physical address, phone number, and email address. The explanations between this preference choice was that consumers were used to being provided with such information, and it was as such an important factor to include in a website. This goes back to the discussion of familiarity since it seems as if the consumers want what they are used to, otherwise it could cause uneasiness which in turn could potentially decrease trust in the company.

The remaining consumers preferred, in agreement with the conjoint analysis, the online chat channel. If a company would offer a well-operated chat, then that would demonstrate a caring position as the company is willing to invest in resources to satisfy any potential consumer needs. Some consumers brought up the difference between interacting with a company via physical stores versus online stores

and the different expectations a consumer might have on an online store. A chat, as explained by one of the participants, would be “similar to the idea of walking into a physical store where you can ask one of the personnel for help”. Pavlou and Fygenson (2006) discuss the fact that trust is an even more important factor in online stores as it loses the trustworthiness from a face-to-face interaction, but it seems as if the online chat channel could counteract such a deprivation. While the interviews indicated that regular contact information was slightly more preferred over the online chat channel, all of those preferring the contact information also recognized the value of a chat function. This could as such explain why the online chat channel had a higher preference rate than the contact information. That is, while the contact information is seen as a necessity for a company to provide, the online chat channel is seen as an additional value offering. Considering this value seems to be highly appreciated throughout the interviewees, it could explain why consumers tended to rate this higher, even though the contact information is also seen as an essential factor.

Regarding the photograph of a customer care person, the conjoint analysis showed, as discussed earlier, only a marginal preference over the contact information. In the interviews, however, the discussions tended to be rather neutral or even negative towards the attribute level. They could not see any additional value or any additional sense of security with it, going against the literature review of Kobsa (2007) claiming a photograph of a customer service contact person would increase trust in a website. This could be evaluated from a psychological viewpoint to where a photograph of a person could, similarly to the online chat channel, resemble a physical interaction with an actual person. However, the results from both the conjoint analysis as well as the interviews seem to point towards both an online chat channel and regular contact information as more preferred over a photograph.

Finally, by analyzing the results based on the demographic information, the researchers are able to identify differences in behavior and attitudes of the respondents depending on their age, country of residence, gender, and occupation. The results from the interviews showed the differences between the demographic variables that were generally not straightforward as the perceptions among the groups tended to vary despite what demographic segmentation they belonged to. The conjoint analysis on the other hand provided data that could more easily separate the different preferences, but these numbers were only marginal, and they would need further examination before it can be stated as absolute.

For the demographic variables of occupation and geographical location, no substantiate insights could be identified in the interviews to how these different demographic groups differ. The conjoint analysis on the other hand showed that for the Security attribute, students preferred the third-party privacy seal over the reviews, which most other groups tended to prefer. The level of education of the students was

not asked, but if it is assumed that most students in this study are undergoing university studies due to the age having to be 18 years old or above, a link could be made between this finding and the findings of Punj (2011) that argued higher educated people are more likely to consider privacy implications. That is, that the students might have considered their privacy concerns to a higher degree and as such preferred the security of a third-party privacy seal over the reviews. Further, unemployed people preferred the award from neutral source and also deemed the Contact attribute to be the most important attribute of all, while most others deemed the Security attribute to be the most important. However, the unemployed segment did not reach the minimum number of participants to be able to statistically calculate the utilities in a meaningful way, and as such this data cannot be evaluated as necessarily true. For geographical location, the Danish consumers seemed to be a bit more positive towards recommendation systems, while Swedish and Norwegian consumers were more unaware of data tracking. Again, there were some consumers with contradicting views as well. From the conjoint analysis, just as the students, Norwegian residents seemed to prefer the third-party privacy seal for the Security attributes. Furthermore, the Swedish residents were also one of the few that deemed the Contract attribute as the most important attribute of all.

Regarding gender, it seemed as if females were generally a bit more unaware of the data tracking practices and tended to have a more negative perception of recommendation systems. Again, it is important to note that there also were female participants who recognized the value in the recommendations and as such no conclusive insight can be seen. Same goes for males, as male consumers seemed to be a bit more positive in their perceptions of recommendation systems, but there were still contrasting views in these perceptions as well. The conjoint analysis showed some difference between the genders. In the preferences for Security attributes, females actually preferred the award from a neutral source, while the rest of the population preferred the reviews.

The demographic group where differences actually could be identified in were the age groups. The results showed a connection to a survey conducted by Quint and Rogers (2015) on how attitudes and behaviors towards sharing personal data with companies online differed from generation to generation. In summary, Quint and Rogers (2015) found that there was a demographic shift in the mindsets between the younger generations and the older generations. The statistics show that millennials are the most comfortable sharing their personal data with companies online, then Generation X are the second most comfortable but still skeptical, while the Boomer Generation and Silent Generation are the least comfortable (Quint & Rogers, 2015).

The aforementioned survey supported the findings for this study in both the semi-structured interviews and the analysis. While the interviews revealed that the majority of respondents had at least some privacy concerns, the findings also showed that the younger age groups expressed less concern than the older age groups about sharing their personal data with companies. Specifically, the youngest age group segmentation of 18-24 expressed that while they were still weary of sharing their data online, they ultimately were fine with doing so. Also, the results uncovered that even though the majority of the age group of 25-29 and 30-34 had specific concerns with online data privacy, there were a couple of respondents who also shared similar viewpoints with the younger age group segmentation. Therefore, these results support the survey findings conducted by Quint and Rogers (2015), that as the age group segmentations became older, the less comfortable they are with sharing their data online and the more privacy concerns they had than the younger age group segmentations.

Additionally, results from the conjoint analysis also supported the survey by Quint and Rogers (2015). As some of the age groups did not have enough participants to ensure meaningful statistical analysis, the data below cannot be perceived as definite but more as a direction of insights. The findings presented that the older respondents, including the 35-39 age group segmentation and the 40-44 age group segmentation, rated the Security attribute as being the most important attribute. Since security rated so highly amongst the older age groups, it can be interpreted that they emphasize security to protect, for example, credit card data, addresses, and other sensitive information. This also can be interpreted as the older age group segmentation emphasize the importance of being able to trust that a company will not misuse their personal data, and ensure their data is secure. This also suggests that older age groups are more concerned with the possibility of something happening to their personal data. Therefore, it is most important for the older age group segmentation of respondents that their personal data is kept safe and secure. As a result, this increases their privacy concerns for sharing their personal data online with companies. Overall, the statistics from both the Quint and Rogers (2015) survey as well as the findings from this study provided insights showing that the older generations might be less comfortable with sharing their data.

6.2 Purpose and Research Questions

With a point of departure from the general discussion, the literature review, the semi-structured interviews, and the conjoint analysis are all facilitating the achievement of the between method of triangulation to where the findings from this study are used to appropriately address and answer the following two research question.

Research Question 1: What are the consumer perceptions on privacy concerns and how does it affect their usage of recommendation systems?

There were 28 codes identified in the qualitative interviews that later were categorized into the four themes named 'Privacy Concerns', 'Perception of Recommendation Systems', 'Recommended Additional Items of Interest' and 'Knowledge of How Companies Track Personal Data'. After analyzing the codes, the findings suggest that consumers themselves are relatively aware of both their personal privacy concerns as well as their own perceptions of recommendation systems as these were found to be two of the themes of commonality throughout the interviews. Although there are differing knowledge levels within the answers, it seems that consumers do have some kind of general understanding of companies' practices with data handling. This indicates that there is a growing group of informed consumers, but from the outcome of the analysis, it does not necessarily mean privacy concerns are an inherently growing problem. While the awareness of data gathering and the growing privacy concerns indeed can be seen as consonant, the analysis clearly showed there were different types of perceptions toward privacy concerns. While some took a defensive standpoint and claimed they were hesitative to provide personal data due to the company's objective to earn money, others took a supportive standpoint and claimed that they trusted companies to provide some sort of reciprocity for the use of their personal data. There were also indicators that some respondents can be seen as in-betweeners. This is not solely because they both had privacy concerns and an acknowledgement for why companies gather their data, but also because they had a trust in legislations and trust in the social contract that would protect their privacy, and/or a lack of knowledge and lack of interest in companies' data gathering, and as such did not bother evaluating them.

Therefore, while the awareness is widely established across different consumer segments, the privacy concerns do not seem to be proliferated. Although privacy concerns do exist, they mainly seem to situate around very sensitive information such as social security number or credit card information and they appear not be as visible for behavioral data. Obviously there are consumers expressing their hesitancy towards behavioral tracking as well, but there were not any active actions these consumers tended to take to actually avoid being tracked.

This also helps explain the second portion of the question of how the privacy concerns affect consumers' usage of recommendation systems. While a few consumers articulated a form of hesitancy towards recommendations, there was never any true opposition made towards them. Further, the respondents who would rather focus on the usefulness of recommendations also did not mention any specific action taken to decrease the data gathering. This also goes for the respondents who did not care about recommendations and the respondents relying on legislation. Neither groups mentioned nor seemed to

be interested in actively performing any actions that withdrew any consent for data gathering. Regarding the actual utilization of the recommendations, only the respondents recognizing the value of them seemed to actually interact with them as well. The only group who seemingly avoided to acknowledge or utilize the recommendation systems was the group that did not care for recommendations. While they did not perceive recommendations as something negative, they just could not see any value in them personally and as such they did not care to interact with them either. It is important to note, however, that while there seems to be a connection between the different privacy concerns and the utilization of recommendations, the aim of the qualitative study was not to analyze the relations between the two factors of privacy concerns and usage of recommendation systems and it is therefore not possible to know the full extent to how these are statistically intercorrelated.

Research Question 2: What website attributes make consumers trust a website with their personal data and what consumer values take priority over others?

The conjoint analysis reviewed the attributes levels including contact information, online chat channel, photograph of customer care person, third-party privacy seal, award from neutral source, reviews, content-based filtering, collaborative filters, as well a hybrid filtering. These levels were categorized into three attributes referred to as Security, Contact and Privacy Disclosure. While these attributes were identified via the literature review to reduce privacy concerns, this study aimed at understanding whether consumers identified these factors as facilitating trust towards the company for handling their personal data, as well as what attributes and attribute levels were prioritized in terms of preference ratings.

From the conjoint analysis, the most important attribute was the Security attribute with almost 43%, followed by the Contact attribute with 39%. Finally, the privacy disclosure had an importance rating of almost 18%. As could be expected, this means that website attributes demonstrating security on a website is the most important attribute for consumers in terms of trusting a company with consumers personal information. Interestingly, the Contact attribute was a close runner up, meaning consumers also evaluate their trust for a company by their contact options. It is worth addressing the fact that from the interviews, the contact attributes were discussed from a convenience aspect, meaning the contact options only provided more value and a higher trust if they operated appropriately and quickly. On the last place of importance was the Privacy Disclosure, which initially can seem somewhat contradictory as these provide the consumer with information of the data gathering techniques and should potentially as such count towards a higher importance rating in terms of trust for data handling. However, after analyzing the interviews it became apparent that the actual data gathering techniques might not have been as important as expected. Instead, as discussed under research question one, almost none of the consumers claimed they actively took actions to preserve their behavioral data.

For the most preferred attribute levels from each attribute in terms of trusting a website with personal data, the utility estimates from the conjoint analysis showed that it was the online chat channel, the customer reviews, and the hybrid filtering privacy disclosure. These would, in combination, create the ideally preferred profile with a utility of 6.106. In contrast, the attribute levels that were the least preferred were contact information, award from neutral source, and content-based privacy disclosure and this would, in combination, create the least preferred profile with a utility of 5.076. Between the most preferred profile and the least preferred profile, there is a difference of 1.03 utils. Consumer priority did as such take place where the online chat channel, the customer reviews, and the hybrid filtering privacy disclosure were preferred over the other attribute levels presented. The qualitative study also supports most of these findings. The only real disparity between the interviewees and the conjoint respondents were regarding the Contact attributes. While both studies seemed to disregard the photograph of a customer care person as a vital factor to include in a website, the interviewees raised the importance of regular contact information. This importance was justified with the basis in familiarity; that most, if not all, online vendors provide contact information and it would be perceived as unconventional if an online vendor did not provide it. Therefore, while the conjoint analysis implies that the online chat channel is the most preferred Contact attribute, the interviews did raise the consideration that it does not necessarily mean regular contact information should be disregarded. The online chat channel would rather provide even larger trust in the company, but this is probably in combination with regular contact information.

7 Developing a Conceptual Model

This chapter presents a conceptual model based on the main findings from the literature review, semi-structured interviews and conjoint analysis, as highlighted in the discussion of this study. First, the development of the model is discussed, then the actual model is presented, which is later followed by a discussion explaining the model in detail.

7.1 Development of the Conceptual Model

As this research used a triangulation method, the conceptual model (as seen in Figure 4) was built on the basis of the findings from all three methods including the literature review, the qualitative research findings and the quantitative research findings. As already mentioned, the goal of this research was to understand consumer perceptions of privacy concerns and how it affects consumer usage of recommendation systems, as well as to investigate which website attributes make consumers trust a website with their personal data, and if some website attributes are more preferred than others. Therefore, the purpose of this conceptual model is to apply the research findings in order to present them in a simpler form that represents the optimal recommendation system usage and implementation, benefitting the communication strategy for companies through privacy-enhanced recommendation systems.

At the center of this conceptual model is Privacy Concerns. Connected to Privacy Concerns are the various attribute levels from the literature review that were tested in the conjoint analysis as well as other aspects from the findings of the interviews that reduce privacy concerns among consumers. The model also includes factors that negatively and positively affect the attribute levels and other aspects for reducing privacy concerns. These attribute levels and other aspects from the interviews include: Online Chat Channel, Contact Information, Photograph of a Customer Care Person, Customer Reviews, Third-Party Privacy Seal, Award from Neutral Source, Hybrid Privacy Disclosure, Content-Based Privacy Disclosure, Collaborative Privacy Disclosure, Social Contracts, Legislation, Overall Trust, Familiarity, Reciprocity, Information, Lack of Knowledge and Lack of Interest.

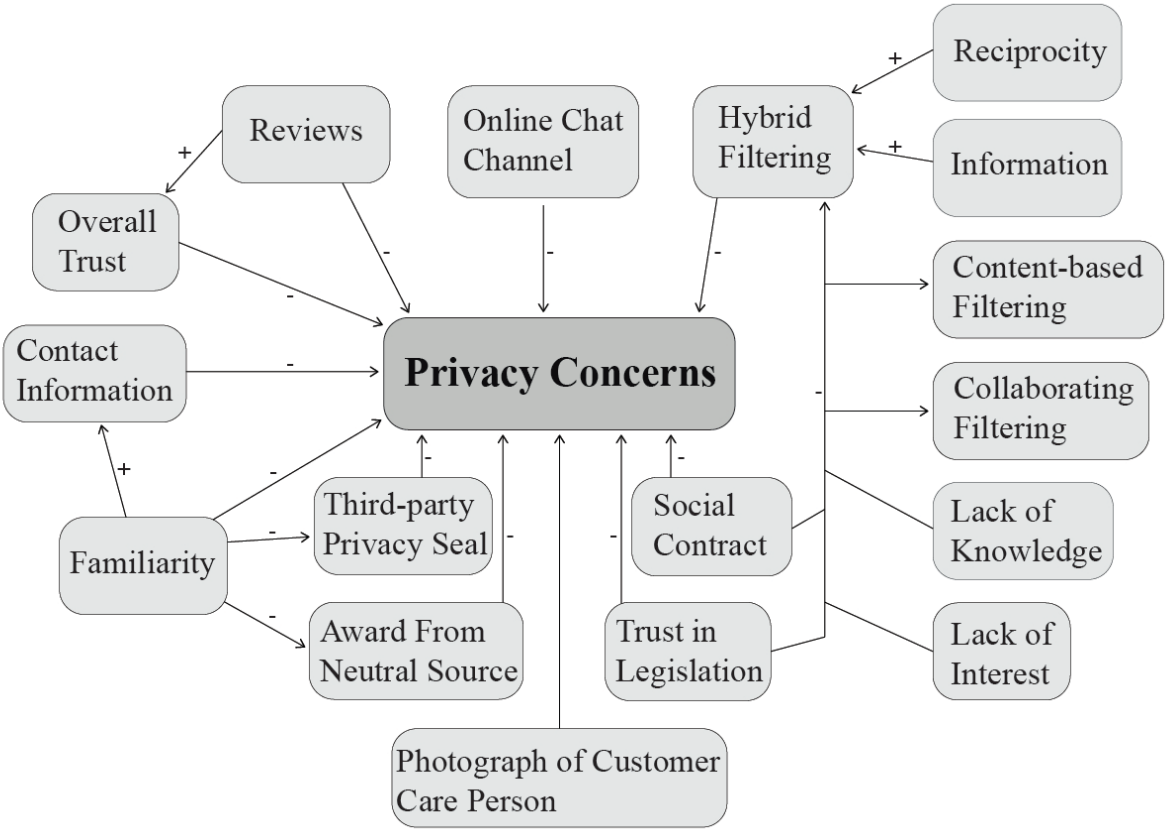

Figure 4: Ideal Marketing Communication Strategy

7.2 Explanation of the Conceptual Model

The conceptual model uses arrows to connect the various parts of the model. The arrows from the attribute levels and aspects to the Privacy Concerns represent a connection between the attribute levels and the impact they have on privacy concerns. A negative symbol displayed with each arrow indicates that the attribute level or aspect reduces privacy concern, and a positive symbol signifies that it increases privacy concern, while no symbol represents an unidentified impact on privacy concerns. Additionally, certain attribute levels and aspects are also connected towards each other by arrows. These arrows are used to show that an attribute level or aspect can impact another, depending on where the arrow is pointing. A negative symbol signifies that one attribute level or aspect reduces the amount of impact that another attribute level or aspect has towards a privacy concern. In contrast, a positive symbol displayed with an arrow indicates that one attribute level or aspect increases the amount of impact that another attribute level or aspect has towards a privacy concern.

The three main attribute levels that were proven from the conjoint analysis to have the most impact in reduce privacy concerns were Customer Reviews, Online Chat Channel and Hybrid Privacy Disclosure.

They are placed at the top of the conceptual model. First, the Online Chat Channel includes an arrow pointing towards Privacy Concerns with a negative symbol, meaning it reduces privacy concerns. Further, Customer Reviews has two arrows, one pointing from Customer Reviews towards Privacy Concerns, and another pointing from Customer Reviews and towards Overall Trust. The arrow pointing from Customer Reviews toward Privacy Concerns contains a negative symbol, meaning that it reduces privacy concerns. The arrow pointing from Customer Reviews toward Overall Trust contains a positive symbol, meaning as identified from the interviews it also has a positive impact on Overall Trust which also reduces privacy concerns.

Lastly, Hybrid Privacy Disclosure have six arrows connected to it. The first arrow has a negative symbol that is pointing from Hybrid Privacy Disclosure towards Privacy Concerns, meaning it reduces privacy concerns, as seen from the conjoint analysis. Additionally, the arrow pointing from Reciprocity towards Hybrid Privacy Disclosure includes a positive symbol. This means that Reciprocity has a positive impact on hybrid privacy disclosure towards privacy concerns, as seen from the interviews. Further, another arrow with a positive symbol pointing towards Hybrid Privacy Disclosure is Information. This impact was identified within the literature review. Hybrid Privacy Disclosure also has an arrow pointing towards it with a negative symbol from Lack of Knowledge. This impact was identified within the interviews, meaning it reduces Hybrid Privacy Disclosures impact on reducing privacy concerns. Similarly, Hybrid Privacy Disclosures also has an arrow pointing towards it with a negative symbol from Lack of Interest. This impact was also identified in the interviews, meaning Lack of Interest reduces the impact the Hybrid Privacy Disclosure has on reducing privacy concerns. Social Contract is another aspect identified within the interviews and the literature review that has a negative arrow pointing towards the Hybrid Privacy Disclosures since it reduces the impact of reducing privacy concerns. Social Contract also points directly to Privacy Concerns with a negative symbol, as it reduces the privacy concerns directly as well. Similarly to the Social Contract, there is an arrow from Trust in Legislation as identified from the interviews, with an arrow pointing to Privacy Concerns containing a negative symbol, meaning Trust in Legislation reduces privacy concerns. Additionally, this aspect also has a negative impact on the Hybrid Privacy Disclosures to reduce privacy concerns.

All four of these aspects not only have a negative impact on the Hybrid Privacy Disclosure, but also on the other privacy disclosures of Content-Based Filtering and Collaborative Filtering. That is, while Lack of Knowledge, Lack of Interest, Social Impact, and Trust in Legislation are all impacting the hybrid privacy disclosures impact on reducing privacy concerns negatively, these aspects impacted it in a way where the perceptions and beliefs take priority over the evaluation of the privacy disclosures. This means they are also impacting the other privacy disclosures impact negatively, but since the conjoint analysis

showed the Hybrid Privacy Disclosure was the most preferred and the interviews did not provide any additional insights in whether, and in that case how, the Content-Based and the Collaborative Privacy Disclosures impact privacy concerns, no direct arrows were made between these two privacy disclosures and the Privacy Concerns.

Furthermore, as identified in the interviews, the Third-Party Privacy Seal and the Award from Neutral Source attribute levels both contain an arrow pointing towards Privacy Concerns with a negative symbol to indicate that they both reduce privacy concerns. However, the interviews also identified the aspect of Familiarity, which has an arrow with a negative symbol pointing towards these attributes as well, symbolizing it has a negative impact on both Third-Party Privacy Seal and Award from Neutral Source reduce on privacy concern. This signifies that if there is a lack of familiarity, this negatively affects the impact that Third-Party Privacy Seal and Award from Neutral Source have on reducing privacy concerns. Familiarity, on the other hand, also has a positive impact on Contact Information as identified in the interviews and is as such increasing the impact Contact Information has on reducing privacy concerns. As seen in the interviews, the Contact Information was deemed an important option to provide in this context, which is indicated via the arrow pointing from Contact Information towards Privacy Concerns with a negative symbol.

Lastly, the Photograph of a Customer Care Person is represented in the conceptual model with just an arrow pointing from the attribute level towards Privacy Concerns with no symbol. Since the literature review showed a Photograph of a Customer Care Person would decrease privacy concerns, the findings for this attribute level was inconclusive. That mean that while the Photograph of a Customer Care Person seemed to have some kind of connection to privacy concerns, no identifiable direction of impact could be found, which is why the Photograph of a Customer Care Person only has an arrow pointing towards Privacy Concerns, without any symbol indicating its impact on it.

8 Conclusion, Perspective, and Implications

This chapter provides the conclusion of the purpose of this research, followed by the perspective of the theoretical and managerial implications of this study.

8.1 Conclusion

The purpose of this study is to further the knowledge of optimal recommendation system usage and implementation. More specifically, it addresses the problem of growing privacy concerns stemming from recommendation systems based on behavioral advertising. To realize this research purpose, a mixed method approach employing both a literature review, qualitative semi-structured interviews, as well as a quantitative conjoint analysis. The data retrieved from these methodological procedures supported the researchers of this paper to fulfil the purpose and the acknowledgement of the two research questions.

The research initiates the study with an introduction to the area, followed by the problematizing of the current situation. This problematization also acts as a discussion of motivation for why a study with this specific research focus needs to be undertaken. In the next chapter, a scrutinization of the theoretical landscape within personalization and recommendation systems was presented in form of a literature review. The results from this review facilitate the primary data collection process, especially within the conjoint analysis where the attributes could be determined based on prior research findings.

After preceding research findings within the research area had been introduced, theory of the methodology techniques was discussed and presented in the following chapter. The theory was also accompanied with discussions of justifications for every methodological choice made throughout this study. Further, the results of the two primary data methodologies were presented in the following chapter, and these results were later discussed in combination with one another in order to appropriately address the research questions. The final result from the analysis and the discussion demonstrates that while many consumers experience some sort of privacy concern over personal data, it does not seem as most consumers are actively inhibiting companies to gather their data to provide recommendations. However, only those consumers recognizing the value of recommendations seem to actually engage with the actual recommendations. Further, the results show that consumers perceive security attributes as the most important attribute of a website when evaluating one's trust for a website to handle personal information. More specifically, consumer reviews are the most preferred attribute within security, especially for increasing general trust in a company, which in turn can also translate into an increase in trust in the company to handle personal information. The second most important attribute is contact

attributes, that offer consumers different alternatives to contact a company. An online chat channel provides the most value in terms of trust for data handling because it provides a perception of a consumer-centered company that is willing to invest resources for the consumers sake. However, the result also indicate that regular contact information should be provided on a website as it is expected due to customary assumptions. Finally, the least important attribute is the privacy disclosure. This is due to the lack of interest or lack of knowledge in evaluating the alternatives, but also because of the trust in legislation to protect personal data regardless of what data gathering techniques that are utilized and the expected social contract that companies uphold a certain level of consumer privacy. Within the privacy disclosures, the hybrid data gathering technique is the most preferred because of the idea of reciprocity and the fact that it provides the most amount of information to the consumer. Although this study did not focus on the differences between the demographic groups, the analysis still provides some insights of value. Specifically, as supported by previous research, that older generations might be less comfortable with sharing their data online to companies than the younger generations.

In conclusion, this research provides insights into consumers perceptions and preferences of online recommendation systems. The findings can be applied in many different contexts and situations where consumer data is extracted and utilized by companies or organizations. More specifically, the information can support practitioners to discern how consumers understand and reflect on recommendation systems. Thereby, the concept of privacy-enhanced recommendation systems can progress, and development or initiation of communication and marketing strategies can be implemented accordingly. The findings are also furthering and updating the theoretical understanding of the relationship between companies and consumers, as well as building on the idea of reconciling the relation where personalization can lead to a two-way accommodation to maximize value for both parties.

8.2 Perspective and Implications

8.2.1 Theoretical Implications

While previous research exists within the area of personalization, it is still a relatively new area of interest for the academic community which supports the theoretical implications from this study of furthering the scientific environment. This study is based on previous research and builds on it by introducing a conceptual framework encompassing consumer perceptions and preferences in terms of privacy concerns, recommendation systems, consumer behavior theory, as well as interactive communication theory.

It is important to continuously re-evaluate all scientific theories and hypotheses to corroborate the findings for the time being. As the internet is an ever-growing phenomenon and the behavior, from both

a consumer and a company side, and as online platforms is changing and evolving over time, the importance of updating and retesting theoretical findings becomes even more significant. That is, there needs to be a focus on continuous development within research that can develop concurrently with the changing perceptions of reality. Such research can then provide theories addressing current marketing conditions and further the understanding of implementation and utilization of online practices in an online context. As the literature review is manifesting, there is a rising problem of privacy concerns within the market of online shopping and there is as such a growing demand for a holistic perspective of the research area that can further the understanding of it.

This study is not only furthering the research area with such a perceptive, but it is also contributing to the methodological area within personalization research. While conjoint analysis is a modern marketing research methodology, few or no research has previously utilized it in the context of website design with the aim of increasing trust in a website for handling personal data, and in turn decreasing consumer privacy concern. This methodology is also combined with a literature review and qualitative semi-structured interviews to facilitate a triangulation of the three methodologies, which in combination could arrive at an updated pragmatic view of the knowledge within this marketing communication research area.

8.2.2 Managerial Implications

For practitioners of personalization services and recommendation systems, the result of this study can provide support into decision making processes and managerial judgements. Marketing in online platforms is forcing companies to face a continuously changing environment, which leads to the need of streamlining current marketing directives that are reconditioned to contemporary consumer behaviors. Additionally, the competitive environment within online marketing is becoming more intense as many more companies are realizing the opportunities and the increasing demand for it. This is why it is important for companies and organizations to be acknowledge research within this area of interest, and to recognize and potentially adapt to recommendations made by them. Not only would this allow companies to be up to date of perceptions and preferences online and as such provide the best possible offerings to the consumers, but also allow them to be a legitimate player in the field and realizing the potential of optimizing the market share.

The findings from this research help practitioners to understand how their consumers evaluate and perceive their recommendation offers, as well as allow them to realize what attributes consumers are actually preferring in terms of website design. In turn, this can give rise to a foundation that could work as a basis for future adaptation. This adaptation could lead to either modification of current strategies or

to implementation of new strategies that would provide an improvement in the communication with consumers.

As the results indicated, most consumers tend to have some kind of privacy concern when interacting with an online store or when purchasing online. While it does seem as most of them are authorizing behavioral data gathering, it is still important to acknowledge that some users are trying to interfere with the permission. Additionally, the idea that most consumers also are expressing concerns for their privacy further impose the importance for companies to actively address these and to ensure an ongoing dialogue with the consumers over it, regardless of whether the concerns are causing actions of withdrawing consent for data gathering or not. While the results of this study point towards a movement of lack of interest or lack of knowledge in evaluation of data gathering techniques, future external factors such as legislations or increased awareness could change this development. It is already seen that consumers have a generally high awareness of companies' exercising behavioral tracking and it is as such becoming more important for companies to provide justifications for it and to ensure consent. This is to ensure consumers feel secure enough to trust the company with their personal data, but also to ensure consumers perceive recommendations as valuable. The study showed only those recognizing the recommendations as valuable are actually interacting with them, meaning companies must communicate the valued aspects of it successfully.

For the actual design of the website, it is recommended to focus on the security attributes as the most important factor for consumers to evaluate their trust in a company with their personal data. Closely after, the attributes for contact alternatives are the second most important factor. Finally, the privacy disclosure is the least important factor in evaluation. However, it is still important to consider that even though privacy disclosures are the least important factor, it still accounts for almost 18% of the overall importance. This means companies should consider all of these three attributes when designing their website to optimize consumer trust. More specifically, it is recommended for companies to offer customer reviews on the website, given that these reviews are highly rated on a widely recognized consumer review site such as Trustpilot. This means it also becomes important for companies to ensure high quality service and products to facilitate good customer reviews. Next, it is recommended for companies to provide both regular contact information and an online chat channel on the website, with an emphasis on the consumer demand that it is expected of companies to provide quick and helpful customer service if providing a chat function. Finally, it is recommended for companies not to limit their data gathering, but rather utilize a hybrid data gathering technique to be able to provide the best possible recommendations. It is also recommended that the privacy disclosure should be easily available on the

website frontpage and that it should include short and concise sentences with explanation to how it is used and why it is used.

For companies focusing on specific consumer segments within the Scandinavian population, both the general recommendations and recommendations for the website design attributes vary. For companies marketing solely to students or the Norwegian population, it is recommended to provide a third-party privacy seal rather than consumer reviews. For companies marketing towards solely to a female population, it is recommended to provide an award from a neutral source rather than consumer reviews. Finally, for companies marketing towards the older generation (from 35 to 44 years old), it is recommended to focus on ensuring trust and to also focus on providing trust-building security attributes on the website.

9 Limitations, Delimitations, and Future Research

The limitations, delimitations, and future research is the final chapter in this study. This chapter presents the limitations, followed by suggestions for future research based on the findings of this study.

9.1 Limitations and Delimitations

Throughout the study, there were several limitations and delimitations that were identified and acknowledged by the researchers and should be taken into consideration while reviewing the findings. This research focuses on companies' use of recommendation systems on their website that provide consumers with products that are personalized to their interests. As a result, e-commerce websites are deemed the most appropriate platform to focus on and as such they are the only type of platform that are studied in this research. This research also focuses on a specific target population of Swedish, Danish and Norwegian residents between the ages of 18 and 44 with occupations including students, employed or unemployed. As such, since non-probability convenience sampling is used, the results from the research should not be generalized to a larger population due to certain limitations. Therefore, as the study focuses on a target population, it is important to take into consideration that the findings can only be viewed as an auxiliary means to envision insights specific to residents of the three countries within the age range listed above. Additionally, the researchers used quota calculations to understand the extent to which the entire population is represented, and while the results show that the sample of the population is relatively acceptable, assumptions should not be made about the entirety of the population.

Furthermore, it is also important to note that cookies are not included as an attribute within the conjoint analysis of this study. The intent is to investigate consumer evaluations of websites after all cookies already have been accepted. This is done with the condition that consumers could evaluate the websites once all behavioral tracking has been allowed, meaning they are in a position where their data is being gathered. The idea is to measure how to reduce privacy concerns in a setting where privacy concerns can arise. With the current legislation in the European market where companies are forced to offer consumers control over their cookie settings, the conjoint analysis cannot include the option of changing cookie preferences since the privacy disclosures will have to be adapted to the potential choice of the consumer and this study did not utilize an interactive website that can allow for such coding. The results also point at consumers seldom actively engaging to change cookies preferences, but it is not possible to know if there is a direct correlation between what the consumers say and what they actually do without a further examination of experiments.

Another limitation is that while the semi-structured interviews and conjoint analysis are both conducted in English, the target populations are individuals residing in Sweden, Denmark, and Norway, and as such the native languages are all different. However, in order to limit language barriers as much as possible, the researchers developed the questions for the conjoint analysis with this population in mind. Therefore, they adapted the questions to be as comprehensible and concise as possible. The researchers also provided their both of their email addresses for additional questions, concerns, and comments. The researchers also explained before the interviews started, that the respondents were encourages to ask any questions or to ask for further clarification at any time throughout the interviews to ensure no misunderstandings occurred.

Lastly, the researchers also made the conscious decision to provide one type of website design to respondents during the conjoint analysis to create consistency as well as to provide a design that is easy to determine when attributes have changed. Even though the researchers included an explanation at the beginning of the conjoint analysis stating that the purpose of the evaluation of each website design was not to rate their preferences based on the actual design, but rather the various attributes that were presented on each website. However, it is impossible to know whether some consumers evaluated the website design and the design of the attributes rather than the meaning of the attributes.

9.2 Future Research

This research focuses on consumer perceptions and consumer preferences in terms of privacy concerns and websites attributes for trust with personal information. The findings from this research show there are different perceptions of privacy concerns that affect the perception and usage of recommendation systems differently, and it does as such provide an opportunity to investigate how to ideally communicate with these different groups. While the conjoint analysis aimed at understanding consumer preference weight in terms of importance and utility, it did not consider preference differences across different privacy concern groups.

Further, this study provides a conceptual framework of consumers within the Scandinavian population. However, since this conceptual framework has yet to be tested, it is currently seen as a pending theory awaiting tests and verification before it can be validated for the time being. Future research should as such test and retest the framework to ensure its application to reality. Once the conceptual framework has been tested and potentially adapted to represent the reality of behavior, it can be tested on different populations and in different context to further the understanding of decreasing privacy concerns online.

As discussed within the former chapter of limitations, cookies are not included as an attribute in this study and a suggestion for further research would as such be to conduct a conjoint analysis on an interactive website where the actual behavior can be examined which would further the knowledge of behavior online and whether the website preferences will change due to it. Such an interactive website will allow for the inclusion of cookie attributes, and it will as such also be interesting to analyze why some consumers would actively change their cookie preferences and how companies can operate to eliminate that activity, potentially via a conjoint analysis to measure consumer preferences within the cookie banner.

The results also show that only the consumers recognizing the value of recommendations are actually the ones engaging with them, which provides an opportunity to further research by evaluating how to identify relevant value propositions and how companies can communicate these appropriately to increase the likeliness of consumers actually using them. Finally, this study also identifies the possibility of the certifications being evaluated and rated due to consumers perceived familiarity with them. When creating the website designs for the conjoint analysis, real brands are used for the security attribute designs to represent a realistic website. The third-party privacy seal is represented by the European Privacy Seal, the security award is represented by the Computing Service Excellence Awards and the consumer reviews are represented by TrustPilot. The results show many articulated a problem of evaluating the credibility the European Privacy Seal and the Computing Service Excellence Awards because they do not previously know the organizations. This leads to the next recommendation for future research, where it is recommended to further examine whether the idea of third-party organizations can provide or even hinder trust building on websites, and in that case how and why such an evaluation is made by consumers.

Finally, while this study does not focus on the differences between the demographic groups, the findings still point towards there being some differences between the groups. As such, there is an opportunity to conduct additional research to corroborate these findings in a statistical manner. It will allow both practitioners and theorists to further understand how these groups can differ and if there are certain marketing communication strategies that should be implemented depending on what demographic group is in context.

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Appendices

Appendix A Interview Guide

Semi-Structured Interview Guide

Demographics

Male	Female	Other/Prefer not to state		
18 to 24	25 to 29	30 to 34	35 to 39	40 to 44
Employed	Unemployed	Student		
Denmark	Norway	Sweden		

Introduction

Length: 5 minutes

Primary Goal: present topic, establish agenda, ensure anonymity, inform about ability to ask questions, ensure there are no incorrect answers and it is rather a conversation of experience, opinions, thoughts, and feelings of the topics covered.

Consent

Would you like to participate in this interview?
Yes No

Are you okay with me audio recording and taking notes of this interview?
Yes No

Interview Questions

Length: 25-30 minutes

Primary Goal: allow the respondent to steer the direction of the conversation, ask probing questions when necessary for clarification or further explanation.

1. Can you explain the last experience you had with recommended items from a website (ex. "Other people also viewed this" or "These are similar items to what you previously viewed".

Topics

Primary Goal: if respondent touch upon any of these topics, ask further questions.

Privacy Concerns/Trust
2. What kind of personal data do you think it is OK for companies to use to offer you recommendations?

3. What kind of personal data do you not think is OK for companies to use to offer you recommendation?

Data Gathering
4. Can you tell me more about what you currently know about how companies are working to give you recommendations online?

5. How do you feel about sharing your data online?

6. Can you tell me any positive and negative impacts sharing your information with an e-commerce website has on you, if any?

Privacy Paradox
7. Can you explain how you perceive the balance between your privacy concerns and the desire to purchase online?

Website Attributes

Primary Goal: understand the preference choices and the trade-off evaluation made by the respondents.

8. What is your preference of contact information: visibility of contact information on the website, a photograph of a customer service contact person, or an online chat channel?
8b. Why is that?

9. What is your preference of security: third-party privacy seal, customer reviews, or an award from a neutral source?
9b. Why is that?

10. What is your preference for the privacy disclosure: based on your individual data to provide personal recommendations that a website believe is of interest for you, based on your individual data and compare it with other users data to provide personal recommendations that have been preferred by other users with similar interest as you, or a combination of these two?
10b. Why is that?

Wrap Up

Length: 2 minutes

Primary Goal: ensure the respondent is thanked for their participation, open up for any last-minute questions or withdrawal of consent, as well as provide contact information if the respondent would like to get in touch after the interview.

Appendix B Conjoint Analysis

Thank you for taking your time to participate in this study. Please read the following text before starting the survey.

We are two students writing our Master Thesis at Copenhagen Business School. The purpose of conducting this study is to understand consumer preferences to different types of website designs.

This survey will show you 11 different website designs. Further instructions will follow once you start the survey. The survey will take about 5 minutes to answer and your answers will be anonymous.

Once again, thank you for your participation.

Anna Elkins - anel17ab@student.cbs.dk
Johanna Jevinger - joje17ag@student.cbs.dk

CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

Before the websites are presented, please fill in the information below to ensure you qualify for this survey.

What is your gender?

- Male
- Female
- Other/prefer not to specify

What is your age?

- Younger than 18
- 18 to 24
- 25 to 29
- 30 to 34
- 35 to 39
- 40 to 44
- Older than 44

What is your main occupation?

- Working
- Studying
- Unemployed

Where do you live?

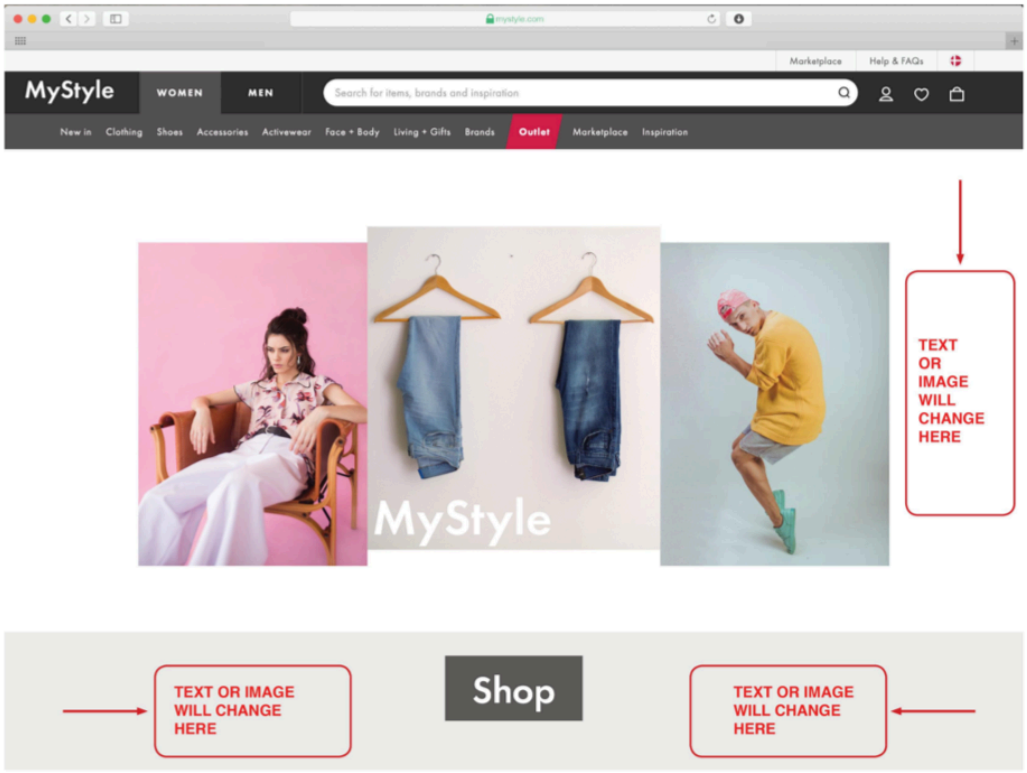
- Denmark
- Sweden
- Norway
- Other country

We will now show you 11 different website designs and ask you to rate each of them from 1-10 according to how much you trust the website with your personal information.

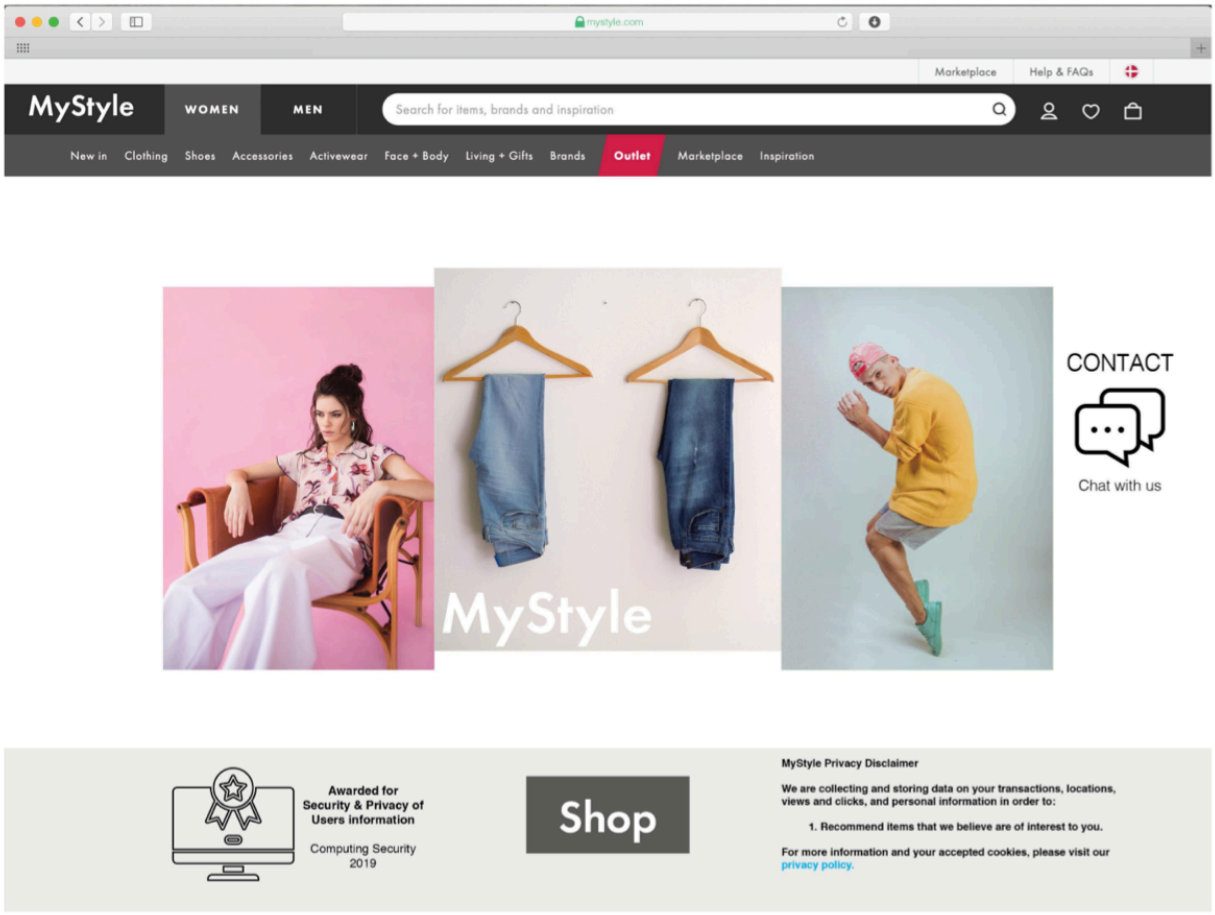
The website designs portrays a fictive retail company called MyStyle and the different websites will be in the context where you have already accepted the cookies. Please be aware that it is not an interactive website, so we only want you to reflect on the actual design attributes.

Please consider the 3 red highlighted areas shown on the picture below when making your choice. Only the highlighted areas will change throughout the different websites. Some changes will be repetitive, but the combinations of them will be different.

*Note: If you are taking this questionnaire on a mobile device, we recommend you rotate your screen horizontally to be able to read the small text.



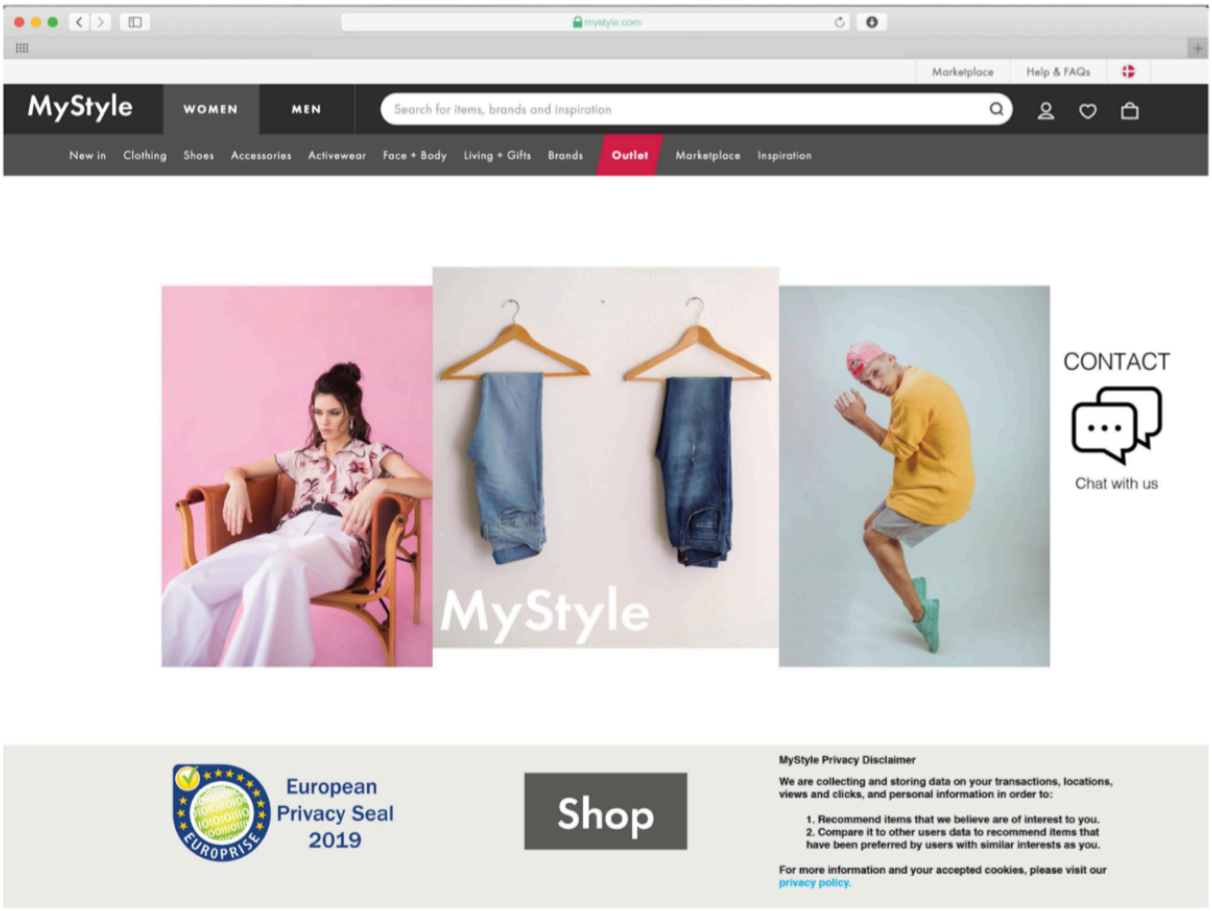
Website 1



Website 1: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

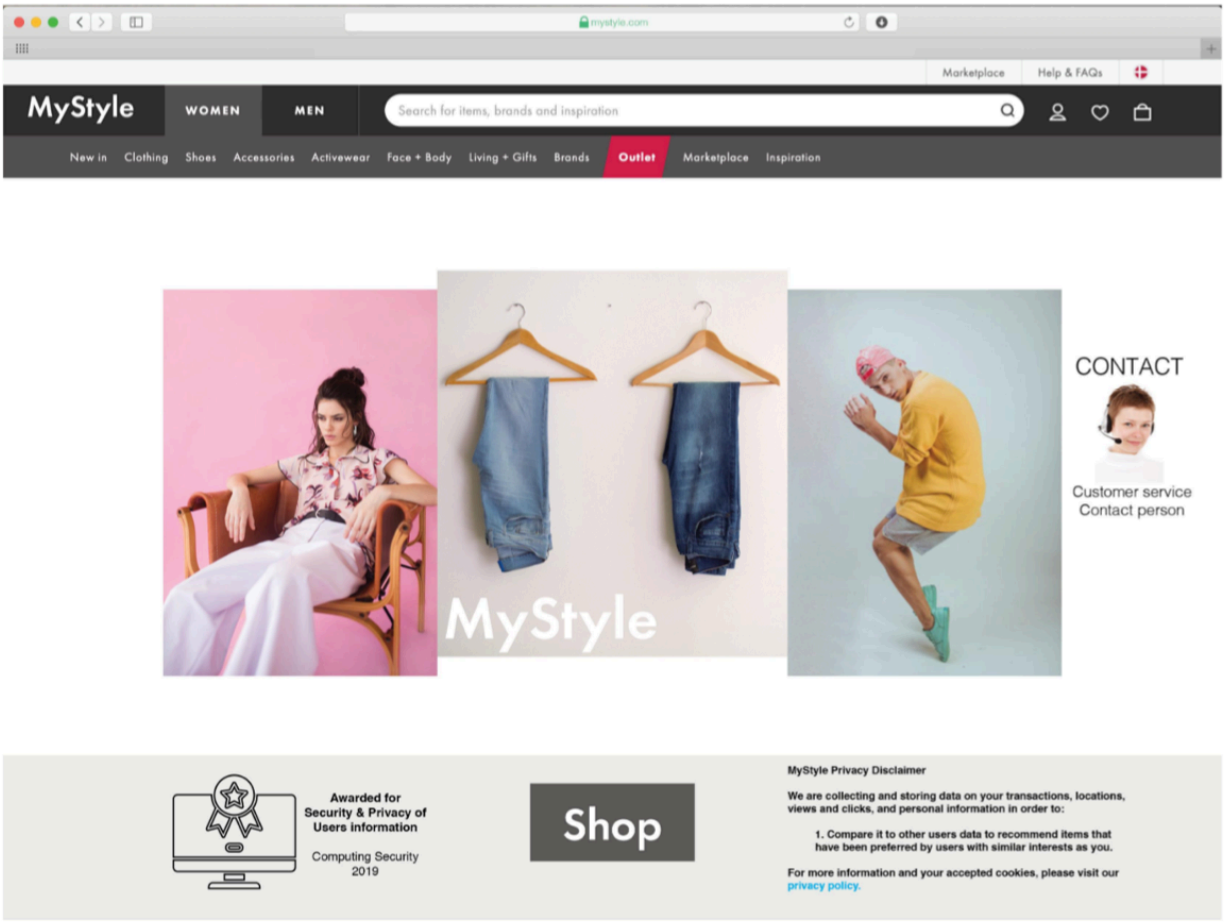
Website 2



Website 2: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

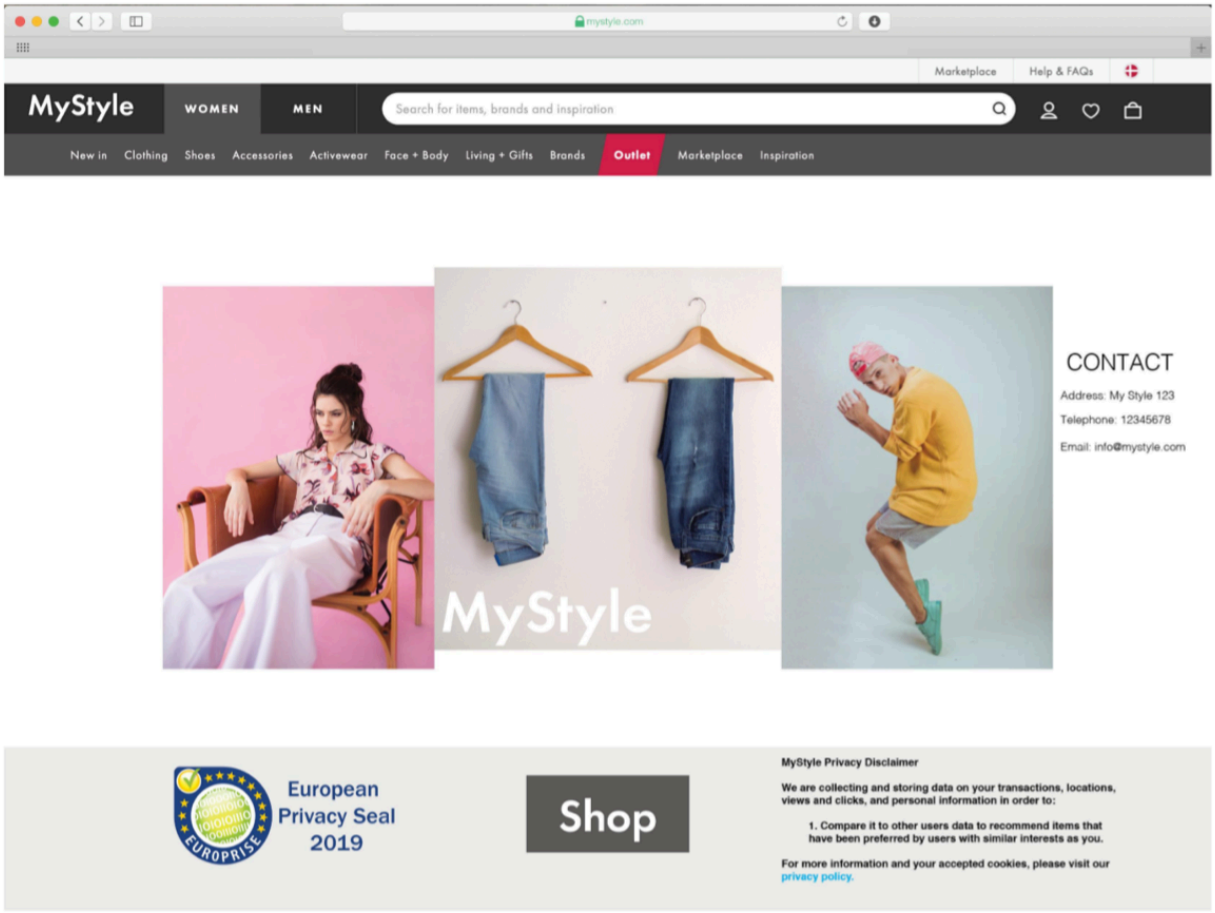
Website 3



Website 3: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

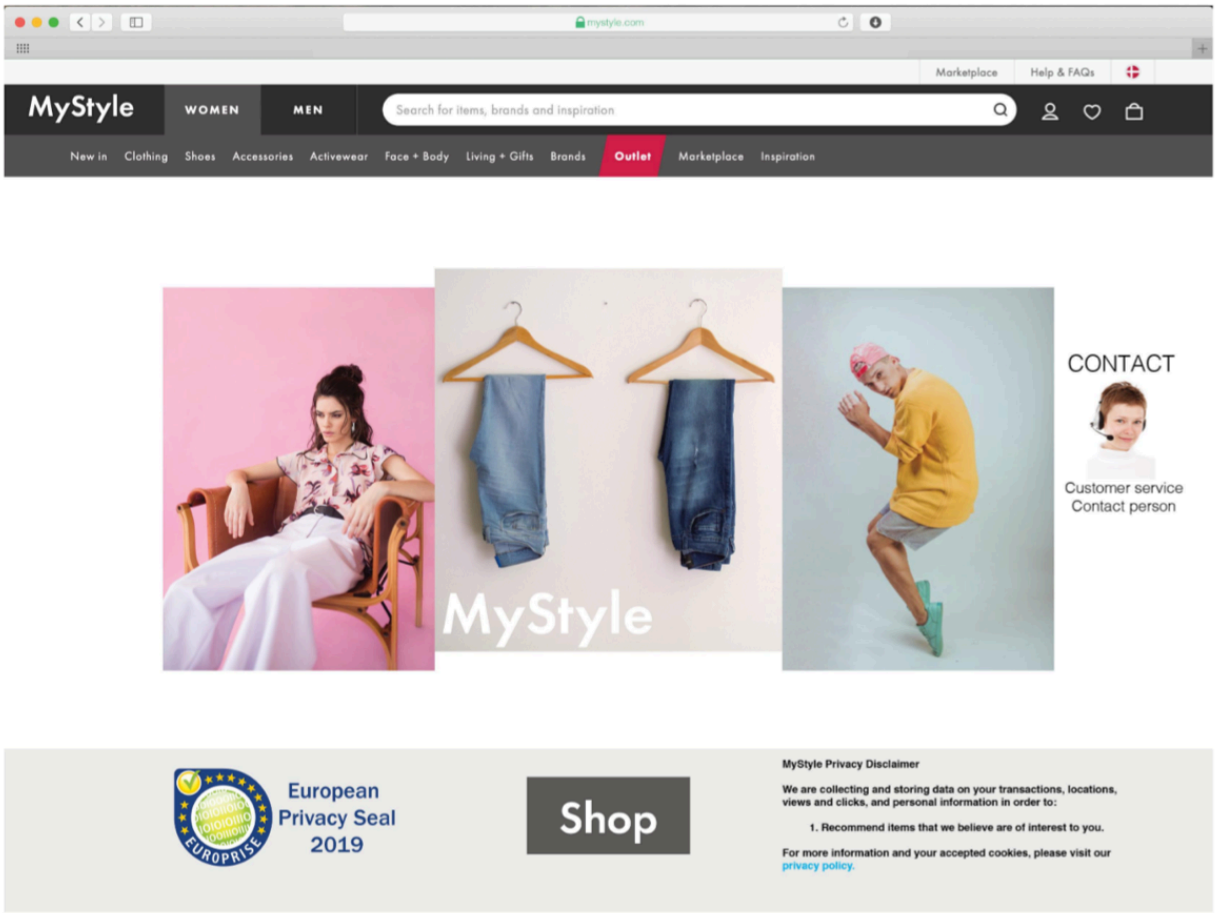
Website 4



Website 4: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

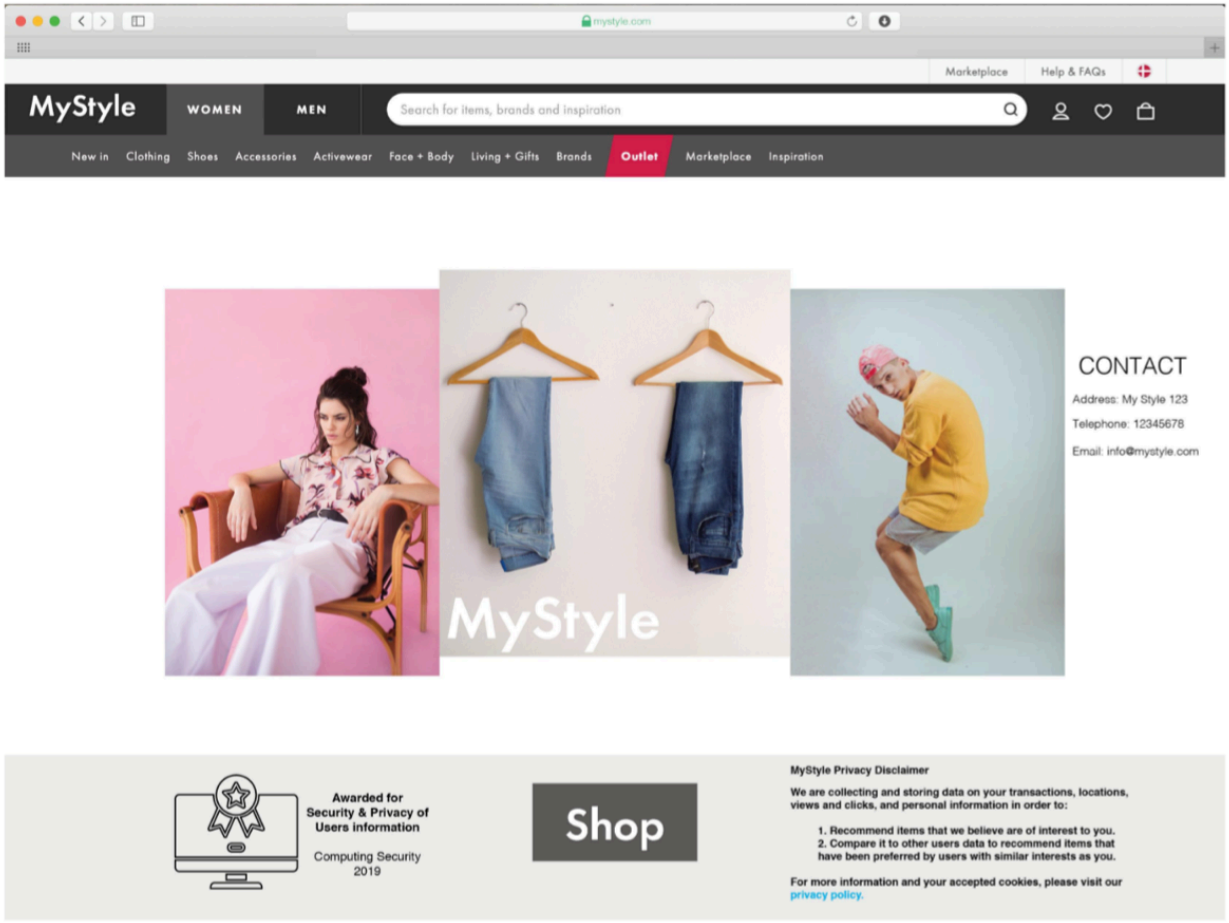
Website 5



Website 5: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

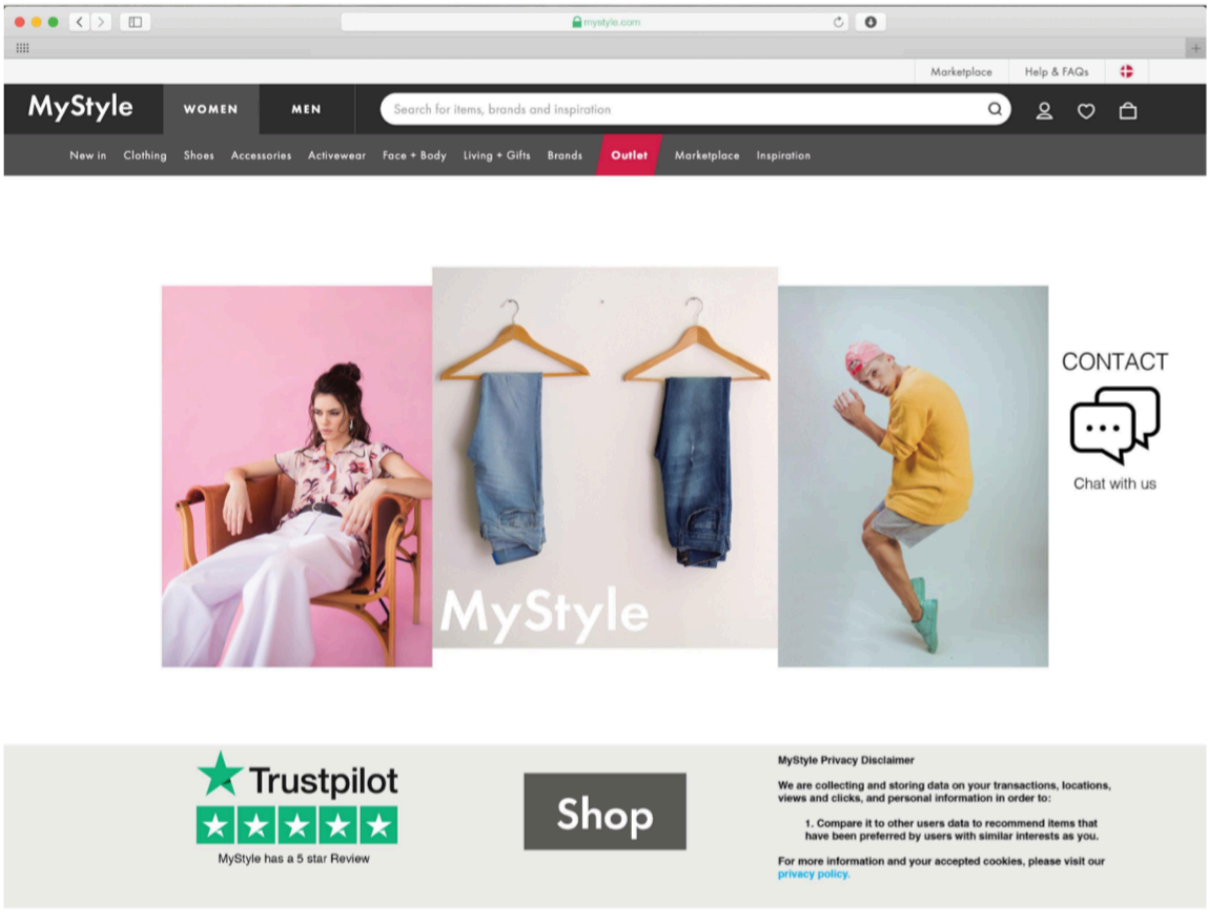
Website 6



Website 6: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

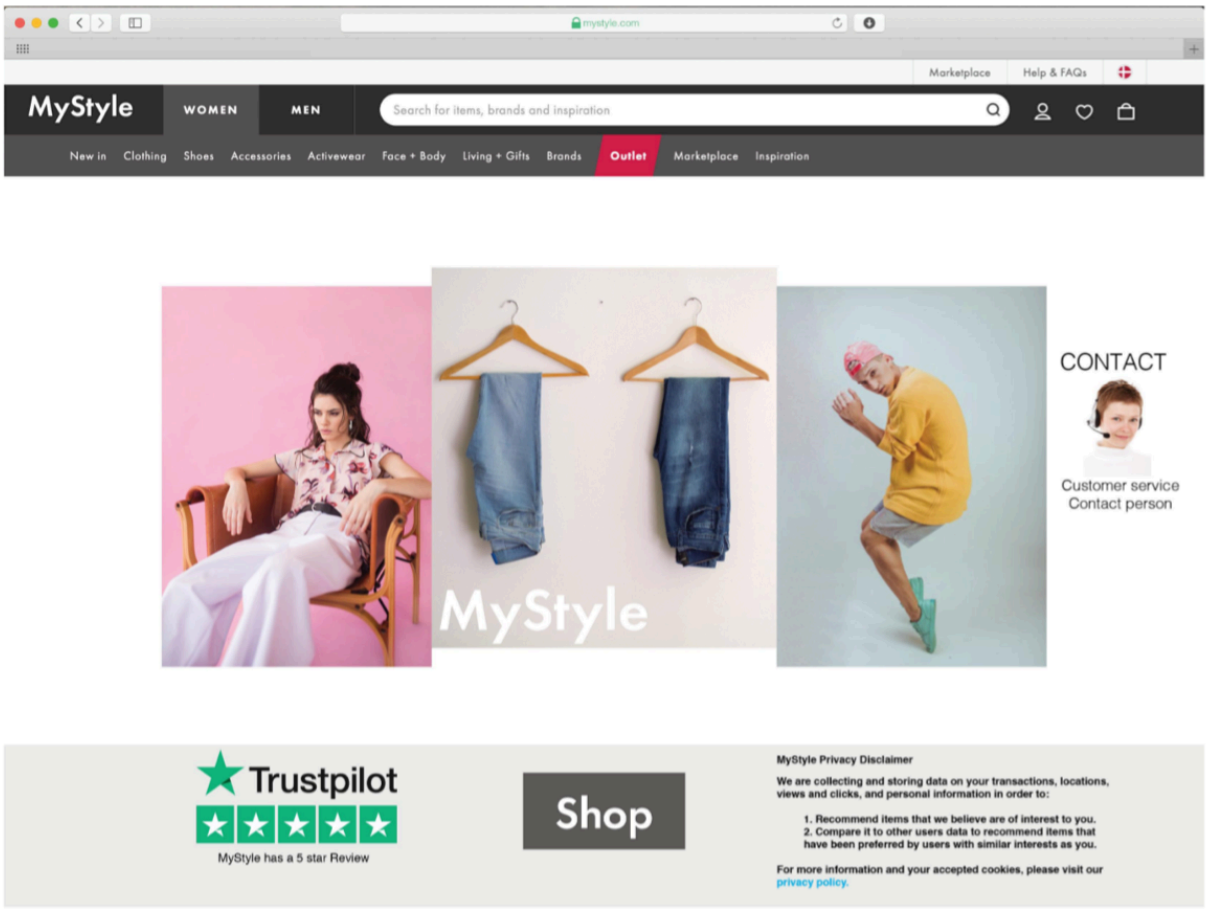
Website 7



Website 7: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

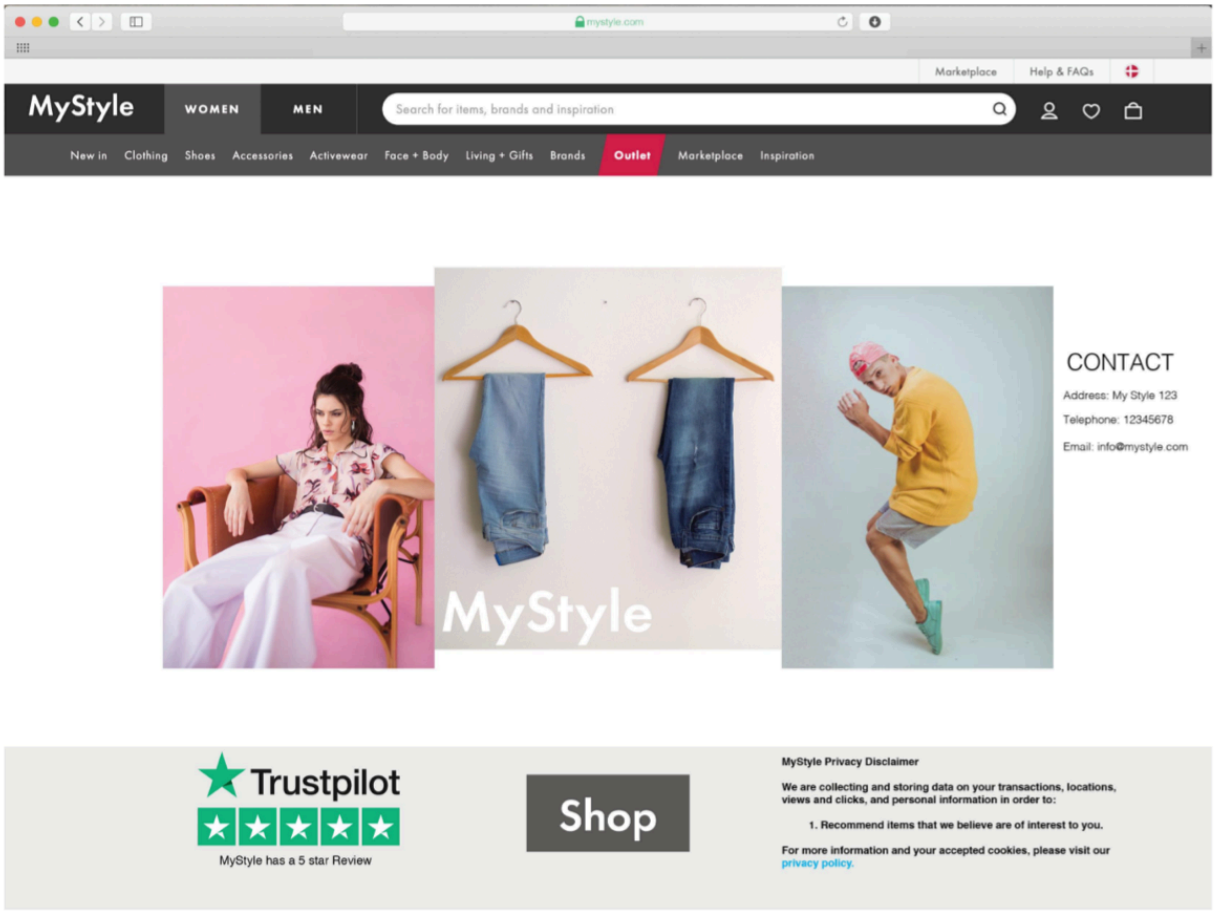
Website 8



Website 8: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

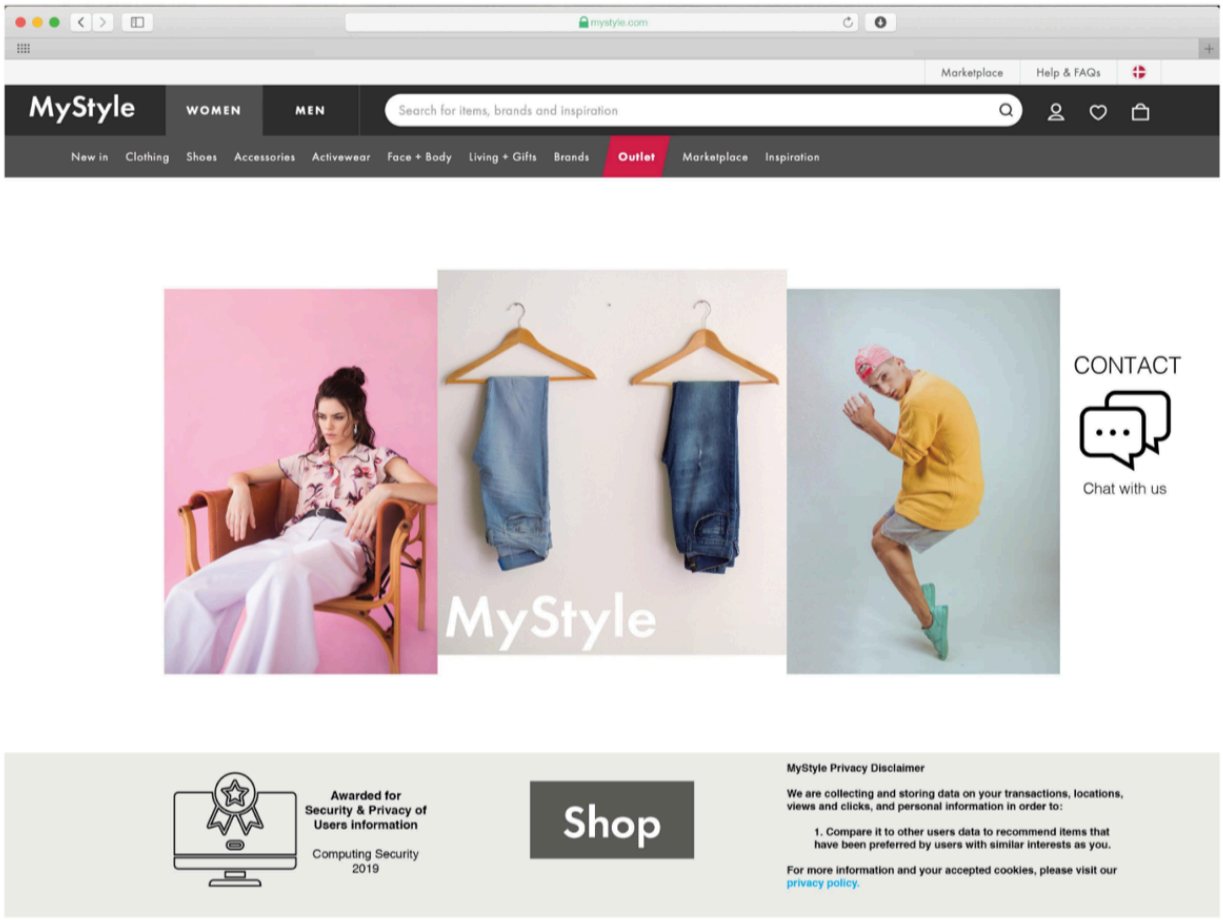
Website 9



Website 9: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

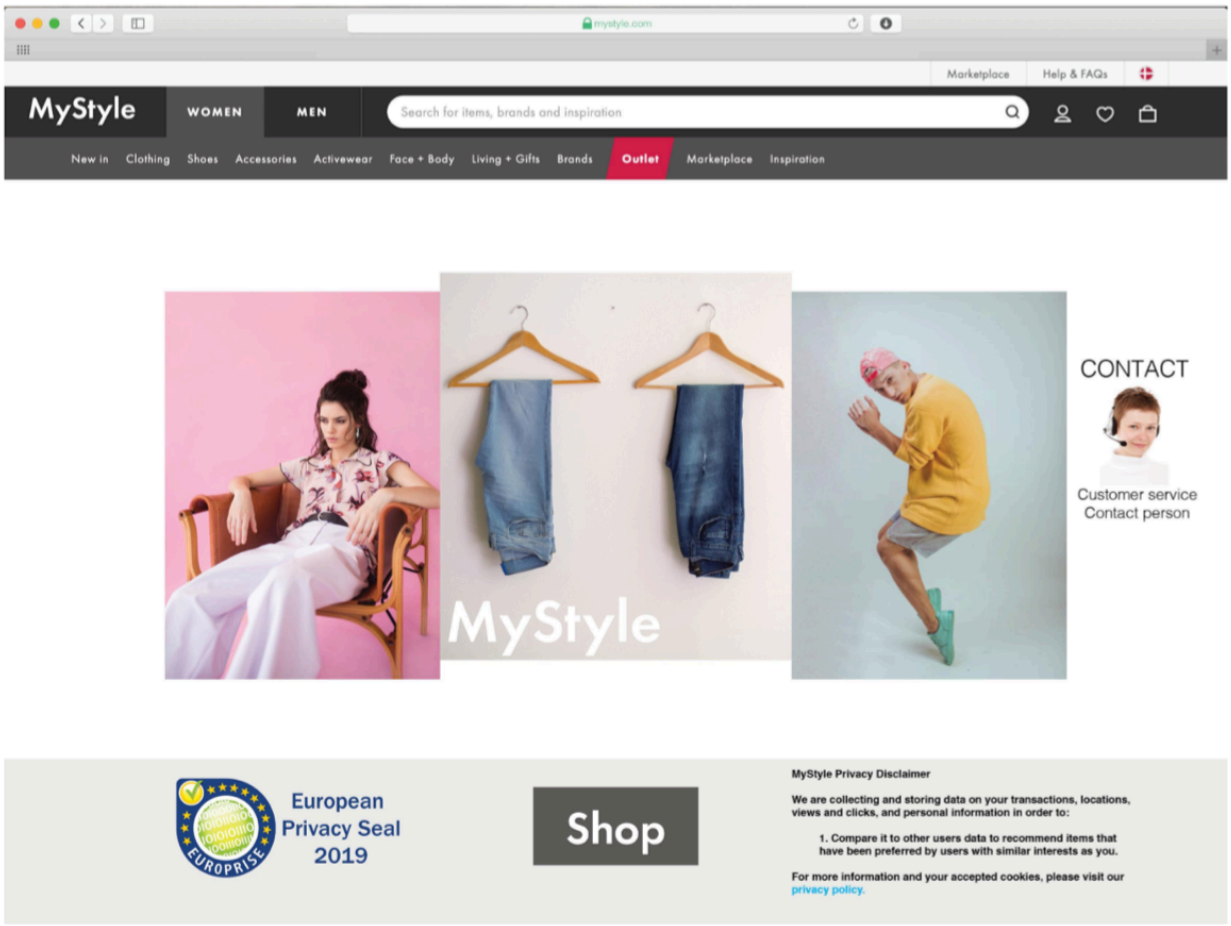
Website 10



Website 10: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

Website 11



Website 11: On a scale from 0-10, how much do you trust this website with your personal information? (see above)

Strongly do not trust					Neutral					Strongly trust
0	1	2	3	4	5	6	7	8	9	10

Please let us know if you have any additional comments

We thank you for your time spent taking this survey.
Your response has been recorded.

Appendix C Orthogonal Design

Card ID	Contact Attribute	Security Attribute	Privacy Disclosure Attribute
1	Online Chat Channel	Award From Neutral Source	Content-based Filtering
2	Online Chat Channel	Third-Party Privacy Seal	Hybrid Filtering
3	Photograph of Customer Care Person	Award From Neutral Source	Collaborative Filtering
4	Contact Information	Third-Party Privacy Seal	Collaborative Filtering
5	Photograph of Customer Care Person	Third-Party Privacy Seal	Content-based Filtering
6	Contact Information	Award From Neutral Source	Hybrid Filtering
7	Online Chat Channel	Reviews	Collaborative Filtering
8	Photograph of Customer Care Person	Reviews	Hybrid Filtering
9	Contact Information	Reviews	Content-based Filtering
10a	Online Chat Channel	Award From Neutral Source	Collaborative Filtering
11a	Photograph of Customer Care Person	Third-Party Privacy Seal	Collaborative Filtering

a. Holdout

Appendix D Attribute Utilities and Attrbute Importance Across Demographics

	Females		Males		Sweden		Denmark		Norway	
	Utility Est.	Std. Error	Utility Est.	Std. Error	Utility Est.	Std. Error	Utility Est.	Std. Error	Utility Est.	Std. Error
Contact										
Contact Information	-,371	,059	-,179	,013	-,336	,074	-,295	,131	-,167	,118
Photograph	-,207	,059	-,336	,013	-,300	,074	-,269	,131	-,194	,118
Online Chat Channel	,578	,059	,515	,013	,636	,074	,564	,131	,361	,118
Security										
Third-Party Privacy Seal	-,066	,059	,045	,013	-,109	,074	-,181	,131	,417	,118
Award from Neutral Source	,064	,059	-,179	,013	-,109	,074	-,041	,131	,069	,118
Review	,002	,059	,134	,013	,217	,074	,222	,131	-,486	,118
Privacy Disclosure										
Content-based Filtering	-,060	,059	,005	,013	-,038	,074	-,085	,131	,069	,118
Collaborative Filtering	,030	,059	-,098	,013	-,009	,074	,038	,131	-,153	,118
Hybrid Filtering	,030	,059	,093	,013	,047	,074	,047	,131	,083	,118
(Constant)	5,936	,042	4,825	,009	5,400	,053	6,208	,092	4,306	,083

	Employed		Studying		Unemployed	
	Utility Est.	Std. Error	Utility Est.	Std. Error	Utility Est.	Std. Error
Contact						
Contact Information	-,189	,039	-,340	,076	-,593	,214
Photograph	-,329	,039	-,233	,076	-,037	,214
Online Chat Channel	,518	,039	,572	,076	,630	,214
Security						
Third-Party Privacy Seal	-,169	,039	,145	,076	-,204	,214
Award from Neutral Source	-,082	,039	-,038	,076	,185	,214
Review	,251	,039	-,107	,076	,019	,214
Privacy Disclosure						
Content-based Filtering	-,016	,039	-,069	,076	-,093	,214
Collaborative Filtering	,018	,039	-,025	,076	-,037	,214
Hybrid Filtering	-,002	,039	,094	,076	,130	,214
(Constant)	5,229	,028	5,560	,054	6,148	,152

	18-24		25-29		30-34		35-39		40-44	
	Utility Est.	**Std. Error**	**Utility Est.**	**Std. Error**	**Utility Est.**	**Std. Error**	**Utility Est.**	**Std. Error**	**Utility Est.**	**Std. Error**
Contact										
Contact Information	-,274	,062	-,363	,038	-,167	,058	-,204	,183	-,222	,831
Photograph	-,252	,062	-,292	,038	-,214	,058	,019	,183	,444	,831
Online Chat Channel	,526	,062	,655	,038	,381	,058	,185	,183	-,222	,831
Security										
Third-Party Privacy Seal	,204	,062	-,143	,038	,167	,058	-,315	,183	,778	,831
Award from Neutral Source	,081	,062	-,012	,038	-,357	,058	-,148	,183	-,556	,831
Review	-,285	,062	,155	,038	,190	,058	,463	,183	-,222	,831
Privacy Disclosure										
Content-based Filtering	-,085	,062	,048	,038	-,095	,058	,241	,183	-,222	,831
Collaborative Filtering	-,096	,062	-,018	,038	,024	,058	-,315	,183	,111	,831
Hybrid Filtering	,181	,062	-,030	,038	,071	,058	,074	,183	,111	,831
(Constant)	5,496	,044	5,292	,027	5,952	,041	4,815	,130	7,556	,588

Importance Values	Females	Males	Sweden	Denmark	Norway
Contact	40,565	37,966	43,247	38,466	33,027
Security	42,158	43,987	39,873	44,059	46,527
Privacy Disclosure	17,277	18,047	16,880	17,474	20,446

Averaged Importance Score

Importance Values	Employed	Studying	Unemployed
Contact	41,154	37,551	39,852
Security	43,286	43,197	35,196
Privacy Disclosure	15,560	19,252	24,952

Averaged Importance Score

Importance Values	18-24	25-29	30-34	35-39	40-44
Contact	39,991	40,219	44,955	19,114	28,571
Security	42,650	40,608	41,796	60,957	57,143
Privacy Disclosure	17,359	19,173	13,250	19,930	14,286

Averaged Importance Score