Should I Stay or Should I Go?

A quantitative study on how shopping cart design affects spending behavior and customer satisfaction.

Stockholm School of Economics
Retail Management

Authors
Erik Billebjer Ulriksson
Tove Karlén

Supervisor
Wiley Wakeman

Submission
16th of May 2019

Examiner
Jonas Colliander

Abstract

Due to the rapid expansion of e-commerce, online retailers increasingly rely on their websites in the creation of positive shopping experiences. Despite this, crucial website design elements are currently neglected in research. In this thesis, one such element is addressed – the shopping cart design. Shopping cart design refers to the cart icon in the top right-hand corner of the website and the information displayed in it. As of today, the majority of online retailers choose to either display the number of added items and the shopping cart financial total, or solely the number of added items. Yet, little is known about how the presence of shopping cart financial total influences customer satisfaction with online retailers, as well as how it influences outcomes of online retail shopping in terms of spending behavior. Through two experimental quantitative studies, this thesis shows that the presence of shopping cart financial total result in higher customer satisfaction. The mechanisms responsible for this increase in customer satisfaction include higher perceived control, higher levels of benevolence trust and higher perceived usefulness of the website. Furthermore, this thesis finds no evidence that the presence of shopping cart financial total affects total spending. The findings in this thesis provide actionable guidance for online retailers considering various shopping cart designs and also suggests opportunities for future research.

Keywords: Shopping cart design, spending feedback, e-commerce, implicit mental budgets, online satisfaction

Foreword

We would like to extend our sincere gratitude to:

Wiley Wakeman

For always being available, for giving us guidance and support, and for the fact that you with most certainty spent more time with us than you signed up for!

Carl-Philip Ahlbom

For helping us make the interactive survey possible.

Micael Dahlen

For valuable guidance, discussions and advice.

Erik Karlén

For proofreading and helping us with wording.

Table of Contents

1. Introduction

In this section the background to the chosen research subject is presented, highlighting why it is important to examine. Thereafter follows the purpose of this thesis and the research questions to be addressed. Lastly, the expected research contributions, delimitations and disposition are presented.

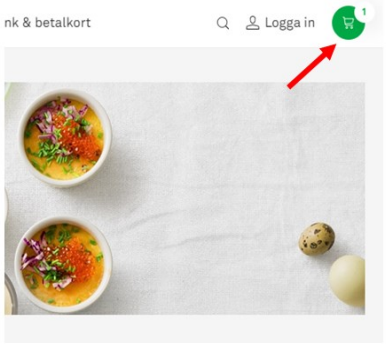
1.1 Background

"We are just guessing what works best.", was what an employee of one of Sweden's largest retailers answered when we asked about the process behind their shopping cart design decision. More specifically, we were asking about the cart icon in the top right-hand corner of the website and the information displayed in it (figure 1 illustrates this). It is evident that this retailer is not the only one guessing. An examination of the top 50 Swedish online retailers (Andersen, 2018) reveals that while 40 percent choose to display both the number of items placed in the shopping cart and the total cost of these items, 56 percent solely display the number of items. The remainder displays only the shopping cart financial total (see Appendix 1). Clearly, there is no consensus among online retailers about which shopping cart design to use. Interestingly, self-scanning devices, or other equivalent spending feedback tools in a physical store, almost exclusively present the amount spent together with the purchased items. Coop, for example, does this. However, they choose to only display the number of products online. This discrepancy strengthens the arguments that retailers do not seem to know how they should design the online shopping cart.

The widespread disagreement on shopping cart design can partly be explained by the fact that retailers often choose to copy successful sites or construct websites that mirror their offline stores (Hausman and Siekpe, 2009). More importantly, however, is that present research has little insight to offer online retailers on how they can optimize their shopping cart. Even though the issue of website design has emerged as a major issue in online retailing (Wang, Minor and Wei, 2011) and important website features contributing to customers' positive assessments have been an extensively researched topic during the recent years (e.g. Wolfinbarger and Gilly, 2003; Hausman and Siekpe, 2009; Muylle, Moenaert and Despontin, 2004), the question of optimal shopping cart design has so far been a neglected topic. Yet, it is highly likely that

consumers pay attention to the information provided in the shopping cart, indicating that making active and thought through decisions about the shopping cart design is of importance.

ICA: Displaying the number of items and the financial total



Coop: Displaying the number of items

Figure 1: An example of the two most common shopping cart designs

1.2. Problem area

Because of the rapid expansion of e-commerce, firms increasingly rely on online retailing to reach their profit objectives (Hausman and Siekpe, 2009). During 2018, the turnover of the sector increased by 15%. In 2019, online retailing is estimated to have a turnover of 88 billion SEK. That is equivalent to an increase of 400% in 10 years (PostNord, 2019). At the very heart of the migration from traditional retailing to online retailing are the interactions between customers and companies' websites. In online retailing, the website is the primary interface for an online retailer during consumers' service encounter (Wang, Minor and Wei, 2011), meaning that retailers heavily rely on their websites to create satisfied customers. Having satisfied customers is, in turn, crucial, as online customer satisfaction is one key determinant of online loyalty (Anderson and Srinivasan, 2003; Balabanis, Reynolds and Simintiras, 2006; Lin and Sun, 2009). The increasing competition within online retailing, with more than 5000 new e-retailers established since 2011 (Svensk Handel, 2018), thus makes website design and online customer satisfaction a top priority for online retailers.

As previously established, prior research has identified several important website features contributing to customers' positive assessments. However, what remains to be understood is how different shopping cart designs affect customers reactions. There are solid reasons to believe that this design decision matters. By choosing a design that presents the financial total, rather than solely the number of items, consumers are given the opportunity to carefully track

their expenses. In accordance with mental accounting theory, this is something that should be appreciated, since consumers want to keep track of spending (Thaler, 1999).

However, even though the presence of shopping cart financial total has the potential to positively affect customer satisfaction, the subsequent question becomes whether this may exert a negative impact on consumers' spending behavior. In fact, retailers considering the adoption of self-scanning devices in physical grocery stores, have remained reluctant specifically because of concerns about how giving financial spending feedback will negatively affect profitability (Van Ittersum et al., 2013). Therefore, it also becomes vital to deepen the knowledge of how financial spending feedback affects spending behavior. Previous studies have shown that financial spending feedback has a diverging impact on spending depending on whether a consumer has a strict budget constraint or no budget constraints (Van Ittersum et al., 2013). What is still unknown is how consumers with an implicit mental budget adjust their spending behavior in response to receiving financial spending feedback. Implicit budgets are spending expectations based on past experiences of spending levels (Stilley, Inman and Wakefield, 2010). Consequently, they do not have a "hard constraint", but rather a "target". This can be seen as an intermediate between strict constraints and no budget constraints. These implicit budgets are commonly found among grocery shoppers, as grocery shopping is a recurring purchase. The grocery market is, therefore, an ideal domain to develop theories regarding the effect of shopping cart design on spending behavior and customer satisfaction.

1.3. Purpose and research question

The aim of this thesis is to examine how the two most commonly encountered shopping cart designs – presenting the financial total and the number of items in the shopping cart (financial spending feedback), and solely presenting the number of items (quantity spending feedback) – affect customer satisfaction in an online context. Building on mental accounting theory and the fact that consumers want to keep spending under control, the aim is further to provide evidence for why and how shopping cart design affects customer satisfaction. The mediating variables investigated are perceived control, benevolence trust, and perceived usefulness of the website. Lastly, building on mental budgeting literature, the aim is to examine behavioral responses to shopping cart design in terms of spending behavior. By this, inferences can be made about how retailers' profitability will be affected.

In summary, the research question this thesis seeks to answer is:
How does shopping cart design affect spending behavior and customer satisfaction?

1.4. Expected research contribution

This thesis expects to make several important theoretical contributions. First, it aims to contribute to the existing literature on website design by examining a design element that previously has been neglected. No prior research has, to our knowledge, specifically investigated the impact of shopping cart design. By linking financial spending feedback to concepts from several research areas, including perceived control, benevolence trust, and perceived usefulness, this thesis intends to provide critical insights on how different shopping cart designs influence customer satisfaction. Moreover, this thesis seeks to broaden the scarce literature on how financial spending feedback influence spending behavior in an online context. By focusing on implicit budgets, rather than explicit budgets, the aim is to introduce novel insights on consumers' spending behavior in response to financial spending feedback.

This thesis also expects to make managerially relevant contributions. Since there is no consensus among online retailers on how to design the shopping cart, this thesis expects to provide guidelines on how to design an optimal shopping cart. This knowledge will be applicable to the myriad of web design bureaus and in-house web designers that create these retailers' websites. Moreover, "Do It Yourself (DIY)"-website builders such as Wix and Squarespace, will benefit as well. These websites have a lot of start-ups as customers. With this thesis's expected contribution of knowledge, they can make it easier for these small e-commerce firms to create an attractive pilot website. Thusly, we foresee that the contributions will help all retailers, regardless of size. With regards to spending behavior, this thesis primarily speaks to online grocery stores and aims to provide insights on how they can expect their profitability to be affected by different shopping cart designs.

These contributions will be done via two main studies using a fictive online grocery store setting. The first study examines how consumers' spending behavior is affected by shopping cart design as well as how shopping cart design affects satisfaction through perceived control. The second study once again examines how shopping cart design has an impact on customer satisfaction through perceived control. Additionally, the second study will look at how

shopping cart design has an impact on satisfaction through the mediators benevolence trust and perceived usefulness.

1.5. Delimitations

This thesis is delimited in several ways. These delimitations are primarily seen as important because they facilitate a concise and in-depth analysis of the examined mechanisms. Firstly, the thesis only examines how the information provided in the shopping cart affects consumers. Therefore, it does not investigate the impact of the cart's graphical design. Secondly, the thesis is delimited to the online grocery market. This is mainly due to that consumers commonly have implicit budgets when shopping for groceries, making it relevant to study spending behavior in the context of online grocery shopping. Moreover, the present thesis is limited to only cover the part of the online shopping journey up until the consumer reaches the check-out, where items usually can be removed. Hence, consumers are assumed to use the shopping cart as a place to store items prior to an immediate purchase, rather than an organizational tool from which they later remove products prior to the purchase (Scheinbaum, Kukar-Kinney and Benusa, 2012). This delimitation had to be made since the development of such an intrinsic function (i.e. where items can be removed in the check-out) within the format of a survey was too challenging.

1.6 Disposition

The structure of this thesis is as follows: First, the theoretical framework and the hypotheses are presented. Following the formulation of the hypotheses, the methodology, results, and discussion of study 1 are presented. Then, the methodology, results, and discussion of study 2 are presented. Thereafter, the results of the two studies are discussed in a general discussion. Lastly, the practical implications and limitations are considered, followed by suggestions for future research.

2. Theoretical framework and hypotheses formulation

In this section, the theories and previous empirical evidence that is relevant to the subject of this thesis are presented. First, previous studies on financial spending feedback are presented. Thereafter, an explanation of how mental accounting is related to shopping cart design is provided. Lastly, hypotheses are formulated based on relevant theories from several research areas.

2.1. Previous studies on financial spending feedback

Financial spending feedback has been defined as the process of showing the total price of the items in the shopping cart while shopping (Van Ittersum et al., 2013). In a retail context, financial spending feedback is operationalized either via self-scanning devices in a physical store or via shopping carts icons in an online store (Van Ittersum et al., 2013). Despite the fact that self-scanning devices have obtained significant attention in research (e.g. Marzocchi and Zammit, 2006; Jia et al., 2012; Weijters et al., 2007), few studies have incorporated financial spending feedback in their conceptual frameworks as a possible antecedent of satisfaction with, or attitude towards, self-scanning devices. Nor has it been widely explored how the usage of self-scanning devices affects spending behavior. There is only one set of studies have specifically examined the influence of financial spending feedback (Van Ittersum et al., 2013). In three studies, whereof one is conducted in an online setting, Van Ittersum et al. (2013) shows how financial spending feedback has diverging effects on budget shoppers and non-budget shoppers. Budget shoppers, who were punished with the task of resolving complex math problems if they exceeded their budget constraint, spent in accordance with their explicit budget when they received financial spending feedback. On the contrary, budget shoppers without financial spending feedback had to build a safety margin into their shopping trip to minimize the risk of breaching their explicit budget. Consequently, they conclude that budget shoppers increase spending when receiving financial spending feedback. Non-budget shoppers, on the other hand, reduce spending when receiving financial spending feedback because it increases the salience of the total price.

2.2. Mental accounting

Related to shopping cart design is the theory of mental accounting. Mental accounting is defined as “a set of cognitive operations used by individuals and households to organize,

evaluate, and keep track of financial activities" (Thaler, 1999, p.183). As an example of how mental accounting works, imagine that you want a coke. If you are at a cinema you may categorize this purchase into the mental account "entertainment". However, at your local grocer, you are likely to categorize the coke as "grocery shopping". In the same manner, all expenditures are assigned to appropriate accounts as money is spent (Thaler, 1999). Individuals may, therefore, have a mental account for expenditures such as food, clothes, entertainment, etc. (Heath and Soll, 1996). People group expenditures into such accounts because they want to trace where their money is going and keep spending under control (Thaler, 1999). Hence, one important component of mental accounting is the process of monitoring spending and according to Thaler (1999), this is something all people engage in.

If a consumer has access to a tool that provides monitoring of how much they are spending, it is reasonable to believe that they find it easier to keep track of expenditures and keep spending under control. As previously established, the majority of online retailers currently provide consumers with spending feedback, either in terms of the number of items placed in the shopping cart and/or the shopping cart financial total. Thereby, most online retailers offer a monitor tool and allow for some sort of monitor process. However, all monitoring tools do not facilitate tracking of spending to the same extent. Krishnamurthy and Prokopec (2009), claim that monitoring is facilitated when there is compatibility between the monitoring unit and the unit of the decision options. This means that if someone, for example, wants to keep track of how many calories they are eating, it is easier if the number of calories is stated on the decision option (e.g. a cookie) rather than the grams of fat. Similarly, as consumers measure spending in monetary terms (Van Ittersum, Pennings and Wansink, 2010), it is easier for the consumer to understand how much he/she has spent when the total amount is presented rather than only the number of items. Accordingly, this thesis builds on the proposition that monitoring of spending is facilitated when a shopping cart shows the financial total.

2.3 System of hypotheses

In the following section, hypotheses are deducted about how the shopping cart design affects consumer behavior and consumer reactions. Figure 2 gives an overview of the conceptual model.

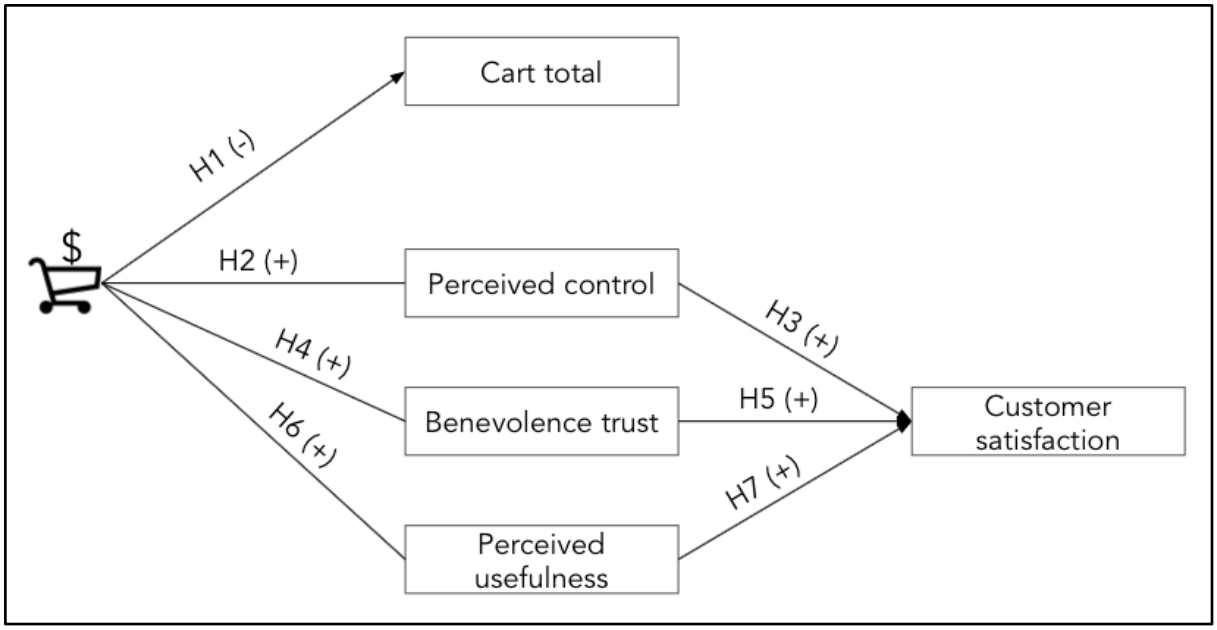


Figure 2: System of hypotheses

2.3.1 Spending

Mental accounts are sometimes constrained by mental budgets (Thaler, 1999). Hence, just as organizations establish budgets to keep track of and limit divisional spending, consumers may limit expenses in their mental accounts by establishing an implicit or explicit mental budget. These mental budgets may be defined over shorter or longer periods (e.g. weekly or monthly) depending on the category and individual preferences (Thaler, 1999). While Heath and Soll (1996) finds that most people have a mental account for food which they monitor against a weekly budget, recent studies have taken this further by proposing that consumers have a mental budget for each specific grocery shopping trip (Stilley, Inman and Wakefield, 2010). According to Stilley, Inman and Wakefield (2010), consumers will either have an explicit grocery budget, or they will have past experiences about spending levels of recent shopping trips, which will shape their spending expectations and function as an implicit budget. This is especially true for grocery shopping which is a routine activity (Stilley, Inman and Wakefield, 2010). Thus, the majority of grocery shoppers are thought to have a mental budget for each grocery trip which they seek to spend in accordance with. However, there is an important difference between an explicit mental budget and an implicit mental budget. The explicitness of a mental budget reflects how tight or strict the mental budget is (Thaler, 1999) and an explicit budget may, therefore, be compared to an upper spending limit which the consumer cannot go above (Larson and Hamilton, 2012). The breaching of an explicit budget should be followed by serious consequences (Van Ittersum et al., 2013). Primarily it is families living near the

poverty level that maintain such strict budgets (Thaler, 1999). Thusly, as few Swedish citizens live near the poverty level (Heggemann and Helgeson, 2017), explicit budgets are expected to be rare. An implicit budget, or spending expectations, is rather like a reference point which people try to spend in accordance with (Stilley, Inman and Wakefield, 2010). Such mental budgets are less binding and less well defined (Thaler, 1999), and should be more prevalent among Swedish citizens. This clearly indicates the relevance of focus attention to implicit budgets, rather than explicit budgets.

One of the main purposes of engaging in mental budgeting is that it can serve as a self-control device to ensure that the person stays within spending limits (Thaler, 1999). However, a mental budget is often fallible (Cheema and Soman, 2006). In fact, an effective self-control mechanism requires three factors to be fulfilled (Baumeister, 2002). First, there must be a clear goal or standard, such as a mental budget (Krishnamurthy and Prokopec, 2009). Second, there has to be a monitoring process in place to keep track of one's behavior in relation to that goal. Third, there must be a capacity to alter one's behavior, such as willpower. If any of these processes are undermined, self-control breaks down, resulting in more buying and more impulse buying (Baumeister, 2002).

So, how can the monitoring process become activated? According to Baumeister (2002), the monitoring process will only be activated if attention is drawn to the individual's behavior through a monitoring mechanism. He exemplifies this by discussing that candy eating is kept under control as long as candy wrappers are put in a place where the amount can easily be seen. However, when attention is not drawn to the individual's behavior through a monitoring mechanism, people stop monitor their behavior and self-control breaks down (Baumeister, 2002). Consistent with this argument, Krishnamurthy and Prokopec (2009) empirically demonstrate that people overconsume relative their mental budgets when the decision environment does not allow for easy monitoring. This suggests that consumers are more likely to overspend on their mental budgets if attention is not drawn to the individual's behavior through an effective monitoring mechanism. As the monitoring of spending is facilitated if the shopping cart displays the financial total rather than the number of items, this shopping cart design should be a more effective monitoring mechanism, meaning that consumers should become more concerned about their spending behavior and monitor it more intensively. This should, in turn, reduce the risk of self-control failures, unplanned purchases, and overspending.

In summary, the majority of grocery shoppers are expected to maintain an implicit mental budget. However, this implicit mental budget will not be an effective self-control device unless complemented with an efficient monitoring mechanism. Consequently, we expect that consumers presented with a shopping cart showing the financial total should spend less than people presented only with the number of items. Thus, we hypothesize that:

H1: The presence of shopping cart financial total and number of items (vs solely the number of items) results in lower spending.

2.3.2 Perceived control

Given that the presence of shopping cart financial total enhances consumers ability to monitor spending, this should also give the consumer a higher sense of control over their spending behavior. Perceived control is, among many other definitions (Skinner, 1996), described as the amount of control that a consumer feels he/she has over the process or outcome (Bateson and Hui, 1987; Langeard et al., 1981 see Dabholkar, 1996). Important to note is that perceived control is not related to self-control, which rather refers to the self's capacity to alter its own states and responses (Baumeister, 2002).

In a retail context, perceived control has in particular been studied in relation to self-service technology (e.g. Bateson, 1985; Dabholkar, 1996; Dabholkar, Michelle Bobbitt and Lee, 2003). For instance, Dabholkar (1996) suggests that consumers experience a higher level of control over the ordering process when using a touchscreen to order a meal, in comparison to ordering the food verbally. In the same way as consumers may experience more or less control over the ordering process depending on if they can see which items they choose (Dabholkar, 1996), we expect that consumer will have varying beliefs about how much control they have over the process of spending depending on shopping cart design. As previously established, monitoring of spending should be facilitated if the shopping cart displays the financial total and monitoring should be interfered by a shopping cart showing the number of items placed in the shopping cart. Consequently, we also expect consumers to perceive a higher degree of control over their spending behavior when being presented with the shopping cart financial total. Thus, we hypothesize that:

H2: The presence of shopping cart financial total and number of items (vs solely the number of items) results in higher perceived control.

A higher sense of control is, in turn, expected to increase customer satisfaction. Numerous studies have demonstrated that control is important to the individual's physical and physiological well-being (Skinner, 1996). While the experience of control is joyful, the loss of control can be devastating (Skinner, 1995). For instance, a study by Hui and Bateson (1991) finds that perceived control in a service encounter exerts a considerable positive effect on pleasure (Hui and Bateson, 1991). Marzocchi and Zammit (2006) also highlights the importance of perceived control on consumers emotional responses and find that the sense of control associated with the use of a self-scanning device has a positive impact on service satisfaction. Similar to these results, we expect that variation in consumer's perceived control, caused by different shopping cart design, will affect customer satisfaction with the online retailer. Since consumers want to keep spending under control (Thaler, 1999), we believe that the sense of control that derives from being presented with a shopping cart showing the financial total will have a positive impact on customer satisfaction. Therefore, we hypothesize that:

H3: The presence of shopping cart financial total and number of items (vs solely the number of items) results in higher customer satisfaction. This relationship is mediated by higher perceived control.

2.3.3 Benevolence trust

Since the shopping cart design decision represents a choice of either concealing or revealing information, the design decision may also influence benevolence trust levels. The importance of trust in online environments has been well documented in previous research (e.g. Roman, 2007; (Kim, Jin and Swinney, 2009; Yoon, 2002; Mukherjee and Nath, 2007). Even though trust also plays a vital role in a bricks-and-mortar context, the issue of trust has been argued to be far more critical in an online context, mainly due to the impersonal nature of online retailing and the lack of face-to-face interaction (Kim, Ferrin and Rao, 2009). In fact, trust has been considered the most important attribute for customers in deciding to consolidate their purchases with a specific online retailer (Reichheld and Schefter, 2000).

While trust has frequently been conceptualized as a unidimensional construct, Singh and Sirdeshmukh (2000) propose that trust is a multidimensional construct consisting of competence trust and benevolence trust. Even though there exist other suggested dimensions of trust in the literature, these two dimensions are the most accepted ones (Garbarino and Lee, 2003). Competence trust is defined as the belief that the trustor will fulfill the promised performance in a reliable and honest way (Singh and Sirdeshmukh, 2000). In the context of online retailing, competence trust is closely associated with the fulfillment/reliability criteria (Garbarino and Lee, 2003), which includes factors such as delivering the right product to the right place within the time frame promised (Wolfinbarger and Gilly, 2003). Thus, competence trust is not a dimension which should be affected by the shopping cart design. Benevolence trust, on the other hand, is "the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive" (Mayer, Davis and Schoorman, 1995, p.718). Hence, benevolence trust represents the belief that the firm holds customers' interest ahead of its own interest (Singh and Sirdeshmukh, 2000). Ways in which such beliefs arise is through sharing of information, demonstrating an understanding and concern for the customer's needs and welfare (Doney, Barry and Abratt, 2007), and avoiding opportunistic behavior (Mayer, Davis and Schoorman, 1995). These are all aspects that may be affected by the design of a shopping cart.

Practices that favor the retailer's best interest, rather than the consumer's, can commonly be observed among online firms. Online firms regularly consider the trade-offs of revealing and concealing different types of information (Granados, Gupta and Kauffman, 2008), and capitalize on their ability to distort, bias, and conceal information in their favor (Granados, Gupta and Kauffman, 2006). For instance, some online firms strategically distort or conceal price information to avoid the price sensitivity that follows from high price transparency online (Granados, Gupta and Kauffman, 2008; Ellison and Ellison, 2009). Others choose to delay information about their shipping policies in order to lock in consumers to purchase and reduce price sensitivity (Dinlersoz and Li, 2006). Such practices are all aimed at serving the online retailer's egocentric profit motive, at the expense of the consumer's welfare. Thus, it does not represent an act of benevolence. Similar to these strategies, an online retailer may hide information about the shopping cart financial total to reduce the degree to which consumer spending awareness hurts firm profitability. In fact, some online retailers may actually make their shopping cart design decisions on the basis of this negative motive, considering the

concern retailers have expressed about how financial spending feedback will influence profitability (Van Ittersum et al., 2013). Yet, benevolence trust will only be affected if consumers judge that the retailer has negative motives, as benevolence trust is concerned with perceived motives (Mayer, Davis and Schoorman, 1995). In order for this to happen, the consumer must notice that information about the financial total is missing in the shopping cart and get suspicious. This is also exactly what one can expect to happen when information varies across situations in a retail context (Johnson and Levin, 1985). In a study by Johnson and Levin (1985), they show that consumers use their past experiences and perceptions to make inferences about missing information, and upon the absence of information, consumers get suspicious. Hence, this suggests that if consumers have past experiences of shopping carts showing the financial total, they will become aware when this information is missing. This, in turn, will make them suspicious about the retailer's positive orientation. Consequently, we expect that consumers presented with a shopping cart showing the financial spending total should have higher levels of benevolence trust than people presented only with the number of items. Thus, we hypothesize that:

H4: The presence of shopping cart financial total and number of items (vs solely the number of items) results in higher levels of benevolence trust.

Trust has been shown to be a strong predictor of satisfaction in online settings. For instance, Yoon (2002) recognizes that website trust and website satisfaction are highly correlated. Similarly, Kim, Jin and Swinney (2009) find that e-trust has a positive impact on e-satisfaction. Furthermore, Kim, Ferrin and Rao (2009) show that pre-purchase trust affects post-purchase satisfaction. Hence, the amount of trust that consumers experience before completing the purchase should positively affect satisfaction. As benevolence is an element of overall trust, this indicates that benevolence trust and satisfaction should be highly related as well. Hence, we hypothesize that:

H5: The presence of shopping cart financial total and number of items (vs solely the number of items) results in higher customer satisfaction. This relationship is mediated by perceived benevolence trust.

2.3.4 Perceived usefulness

Websites can be more or less successful depending on their characteristics. A commonly employed theory for examining the success of a website, or any other information technology, is the technology acceptance model (TAM). TAM is based on two distinct variables which determine the acceptance of new technology; perceived ease of use and perceived usefulness. Perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). In the context of a website, perceived ease of use reflects the perceived ease of navigating the website or making purchases through the website (Flavián, Guinalíu and Gurrea, 2006). Perceived usefulness is defined as the degree to which a person believes that using technology would enhance his or her performance (Davis, 1989) and add value to his/her tasks (Rouibah, Abbas and Rouibah, 2011). In the context of a website, perceived usefulness has been treated as the degree to which consumers believes that using a specific website can improve their shopping performance, productivity, and effectiveness (Hausman and Siekpe, 2009). While perceived ease of use should not be affected by shopping cart design as it deals with the convenience of navigating the website, there are several reasons to believe that perceived usefulness might be.

Hausman and Siekpe (2009) show that computer factors, as well as human factors, are influential on the perception of the usefulness of a website. Among the web interface features they classify as influential computer factors, the presence of a shopping cart is one factor. Thus, the presence of a shopping cart is considered one determinant of the perceived usefulness of a website. However, Hausman and Siekpe (2009) do not provide any details on what type of information the shopping cart should contain in order for it to have an impact on the perceived usefulness of the website. Rather, they just establish that a shopping cart should be present in the web interface. In the present thesis, we suggest that it is not merely the presence of a shopping cart that increases the perceived usefulness of the website but rather the relevance of the information displayed in it. In fact, computer factors are website features that are high task-relevant (Hausman and Siekpe, 2009). These features, therefore, facilitate and enable the consumer's shopping goal attainment (Hausman and Siekpe, 2009; Richard, 2005; Eroglu, Machleit and Davis, 2001). This includes, for example, information content related to the shopping goal, such as descriptions of the merchandise, price, terms of sale, delivery and return policies. The more the information content is specifically related to the shopping goal and completion of the shopping task, the more task-relevant it is (Eroglu, Machleit and Davis,

2001). This clearly indicates that the influence of the shopping cart on the perceived usefulness may differ depending on the task-relevance of the information in the shopping cart. More specifically, we suggest that financial spending feedback is more task-relevant information because people are more concerned about what they have spent than how many items they have purchased. With this information at hand while shopping, consumers can avoid the risk of overspending or having to remove items from the shopping cart when reaching the checkout, hence improving their shopping performance and productivity. Therefore, we hypothesize that:

H6: The presence of shopping cart financial total and number of items (vs solely the number of items) results in higher perceived usefulness of the website.

The impact of perceived usefulness of technology has been widely researched. For instance, Venkatesh and Morris (2000) show that perceived usefulness is a strong predictor of the behavioral intention to use a system. Moreover, Calisir and Calisir (2004) show that perceived usefulness affects end-user satisfaction with ERP systems and Amin, Rezaei, and Abolghasemi (2014) find an effect of perceived usefulness on mobile website satisfaction. Perceived usefulness has also been found to affect the attitude towards a website (Hausman, Siekpe, 2009; Kim, 2012). Hence, there are lots of empirical evidence supporting that a website high in perceived usefulness will contribute to positive assessments of the website. Since the website is the primary interface for an online retailer during consumers' service encounter (Wang, Minor and Wei, 2011), we take this further to propose that perceived usefulness of the website will influence the consumer's satisfaction with the online retailer. Hence, we hypothesize that:

H7: The presence of shopping cart financial total and number of items (vs solely the number of items) results in higher customer satisfaction. This relationship is mediated by perceived usefulness of the website.

3. Methodology

This section will describe the methods used to conduct the two studies. First, the choice of the research subject and research object is discussed. This is followed by an explanation of the research approach and the research method. Then, the study design, survey design, measures, sample, data collection and analytics tools used in study 1 are presented. Lastly, the validity and reliability of this first study are discussed. This structure is later repeated for study 2 in section 6.

3.1. Choice of the research subject

Whilst shopping online, we observed that some retailers displayed the total amount and the number of items put in the shopping cart, while others solely displayed the number of items. This discrepancy awoke our interest. We, therefore, talked to an employee of one of Sweden's largest grocery stores. When asked about why they display only the number of items and not the total amount spent, he said that they were just guessing what works best. His answers in combination with the notion that online shopping has been growing exponentially, made us realize that the subject of shopping cart design is of interest to practitioners. Furthermore, we realized that this is a scarcely explored field of academics. This made the subject interesting from an academic perspective as well. Consequently, we had found a research subject that would contribute to practitioners as well as academics.

3.2. Choice of the research object

In order to measure customer satisfaction through the three psychological mechanisms perceived control, benevolence trust and perceived usefulness, any branch could have been chosen. However, since one of the purposes of study 1 was to examine spending behavior in relation to implicit mental budgets, it was important to choose a branch where respondents were expected to have an implicit budget. Prior research shows that all grocery shoppers maintain a mental budget, either implicit or explicit (Stilley, Inman and Wakefield, 2010). Therefore, the online grocery market was considered suitable. Moreover, the online grocery market is one of the fastest growing branches in e-commerce, and the proportion of online grocery shoppers is expected to continue growing in the coming years (PostNord, 2019), indicating the future relevance of this branch.

3.3. Research approach and research method

Both main studies were based on a quantitative method. A quantitative method allows scientists to examine how widespread the investigated relationships are within the chosen group. It also enables the researches to make generalizations from a small group of people (Eliasson, 2013, p.21). Qualitative studies, on the other hand, are more beneficial when a researcher wants to get an in-depth understanding of relationships. However, qualitative methods are less suitable for generalizations to a larger context (Eliasson, 2013, p.27). As we aimed to generalize our findings, a quantitative method was more beneficial. Furthermore, a quantitative method makes the investigation of multiple relationships possible. In contrast, a qualitative method is more suitable for examining one relationship (Eliasson, 2013, p.30). As we believed that there were multiple things explaining how shopping cart design affects consumers, a quantitative method was perceived as more relevant. In sum, the drawback of us using the quantitative method is that it is harder to get an in-depth understanding of the investigated relationships. However, this is overshadowed by the enhanced ability to generalize findings outside the examined group.

The general approach of this thesis is deductive. This approach was chosen as it is the most common research approach within the social sciences (Bryman, 2018, p.47). It is also closely associated with quantitative research (Bryman, 2018, p.50). Thus, it was in line with our research method. An inductive approach could have been chosen but it is neither the most common research approach nor closely associated with quantitative research. A deductive strategy means that the scientist deduces one or several hypotheses from current theory. These hypotheses are then empirically tested. Lastly, the scientists compare the result of the empirical tests to the literature the hypotheses were created upon (Bryman and Bell, 2011, p.11).

3.4. Main study 1

The aim of this first study was to examine how spending is affected by the shopping cart design. Moreover, this study sought to investigate how shopping cart design affects satisfaction through perceived control.

3.4.1. Study design

This study used an experimental approach. An experiment is the most rigorous way of testing causal claims (Söderlund, 2018, p.16). Since we wanted to test the causal effect of shopping

cart design on the investigated variables, an experiment was the best approach to use. This study used a two-group between-subject design as we investigated two treatment variants (Söderlund, 2018, p.43). The first treatment group was presented with a shopping cart showing only the number of items. The second treatment group was presented with a shopping cart showing both the number of items placed in the shopping cart and the financial total of these items. An example of both is displayed in figure 3.

Figure 3: The two treatments used in study 1

A survey questionnaire was used to measure the psychological reactions, as they are only accessible by asking the respondent about them (Söderlund, 2018). To also capture the behavioral reactions, an interactive online store was created within the survey, using HTML, CSS, and Javascript. This allowed the respondents to freely choose products, which, in turn, enabled the measuring of how much they spend.

The stimulus used was an imitation of an actual online retailers' shopping cart design. All of the 50 examined Swedish online retailers had an illustration of a shopping cart located in the top right-hand corner of the menu bar. Their spending feedback was presented in, or in close proximity to, the icon. Consequently, in this study, the shopping cart was presented in the top right-hand corner of the store's webpage and the spending feedback was displayed underneath the icon. The name of the store was "The Grocer". We chose a fictive and neutral name as previous experiences with a specific retailer may affect the overall evaluation.

To enable different spending patterns, it was important to provide respondents with the task of purchasing ingredients to a course which can be more or less expensive depending on the number of ingredients included. Since hamburgers are modular, in the sense that customers can

choose to use as many, or as few, ingredients as they like, it was considered suitable. Therefore, respondents were given the task of purchasing ingredients to make homemade burgers for him/herself and three family members. Hamburgers are also a dish which the majority of respondents are assumed to be familiar with. Thereby, the respondents were expected to have the ability to easily put themselves in the scenario. The assortment was based on what Swedes usually purchase in order to make homemade burgers. To determine which ingredients are most commonly purchased, ten interviewees were asked to list all ingredients they would purchase in order to make homemade burgers (See Appendix 2). Products were then selected on the basis of this list. The sizes of the packages were chosen so that every product was sufficient for four grown-ups. The product images were borrowed from Swedish online grocery stores and edited to include product information, prices, and comparative prices. Products were priced based on online grocery retailers' actual prices.

3.4.2. Survey design

The survey contained three main sections; 1) introduction with a scenario, 2) three shopping pages followed by a questionnaire, and 3) a check-out page with a second questionnaire and demographics. The order chosen for the questions in the questionnaire was carefully considered in order to avoid undesired influences on the respondents' reactions (Söderlund, 2018). Before the questionnaire was distributed it was pre-tested on three people. The purpose of this pilot study was to get feedback on the survey design and improve the survey accordingly (Eliasson, 2013, p. 44)

On the first page of the survey, respondents were informed about the purpose of the study (bachelor thesis), the contact details to us, and that all responses are anonymous. On the second page, a short explanation of the layout of the survey was presented. In order to make sure that respondents had the same prerequisites, they were given a scenario. The scenario can be found in Appendix 3. Respondents were then asked to estimate how much they expected to spend and how many products they expected to purchase.

After the first section had been completed, respondents reached the interactive online store. Appendix 4 shows the layout of the shopper interface and the complete survey. The store was divided into three pages. All pages had 16 products. Respondents were asked to choose the ingredients they would like to buy to make burgers. As the subjects chose products, the total amount and/or the number of items in the shopping cart increased accordingly. When the

respondents had chosen their desired products, they were asked to answer questions about their shopping experience thus far. These questions included perceived control and estimation of spending. They were asked prior to the check-out page to avoid that participants reactions were influenced by seeing the cart total in the check-out. After completing questionnaire one, subjects were presented with a check-out page. This contained a summary of all the products that were chosen on the previous shopping pages and the financial total. Thus, this enabled respondents who had only seen the number of products on the shopping page to also see their total spending. The checkout was followed by a second questionnaire containing questions about intentions to remove product and customer satisfaction. The idea was to test reactions after both groups had seen their total amount and a detailed view of the products they had bought. Lastly, the respondents answered a third questionnaire containing questions about demographics, the explicitness of mental budget and an instructional check.

3.4.3. Measures

The answers for most questions were indicated on a seven-point Likert-type scale. In addition, single choice questions were used for some demographic variables. Open questions with text entry were avoided in order to reduce the risk of misinterpretations (Eliasson, 2013, p.37), and were only used for numerical answers, including age, spending expectation and estimation of spending, which is recommended when the intention is not to categorize the answers (Wenemark, 2017, p.141). To ensure reliability we used multi-item measures, where a calculated Cronbach's alpha higher than 0.7 was considered acceptable for further analysis (Söderlund, 2018 p.135-136). In order to ensure that all variables measured what they purported to measure, the majority of the measurements used have been validated in previous studies or were adapted from previous studies (Aidley, 2019, p.59).

It should be noted that the questionnaire contained additional variables that we later chose to not include in the study. Below we will only present the variables that were used in the study and was considered most appropriate for the purpose of this study.

Spending expectations

Spending expectations were measured with the questions "Based on this scenario, how much (in SEK) do you expect to spend on this purchase?" and "Based on this scenario, how many products do you expect to purchase?". The respondents were asked to type in the amount they expected to spend and the number of products they expected to purchase. The first question

had two purposes. First, to obtain information about each respondent's implicit mental budget. Second, to activate this budget in the respondent's mind. Several previous studies show that a mental budget can be initiated simply by asking the respondent about it (Larson and Hamilton, 2012; Krishnamurthy and Prokopec, 2009). This was important since the respondents were shopping in a fictive scenario where they were not using real money. The purpose of the second question was to obtain information about the number of items in the respondents' pre-shopping plan, which consequently shapes their spending expectations.

Estimation of spending

Estimation bias was measured with the question "How much do you estimate that you spent on the previous page?". The respondents were asked to type in the amount they thought they had spent. A similar approach is used by Van Ittersum, Pennings and Wansink (2010) and Van Ittersum et al. (2013). The purpose of this question was to measure the average over- or underestimation of spending.

Perceived control

Perceived control was measured with the questions "I felt that I was able to monitor my spending behavior", "I felt in control of what I purchased" and "I felt in control of how much money I spent", using endpoints "strongly disagree" (1) and "strongly agree" (7). These measures were developed with inspiration from Dabholkar (1996). Cronbach's alpha for this scale was 0.869.

Customer satisfaction

Customer satisfaction was measured with the questions "Overall, I am satisfied with The Grocer" (1 = very dissatisfied, 7 = very satisfied), "To what extent does The Grocer meet your expectations?" (1= not at all, 7 = totally) and "Imagine an online store that is perfect in every aspect, how near or far from this ideal do you find The Grocer?" (1 = very far from, 7 = very close). These questions have previously been used by Söderlund (2006). Cronbach's alpha for this scale was 0.846.

Intentions to remove products

Since the present study is limited to only cover the part of the online shopping journey up until the consumer reaches the checkout, where items usually can be removed, we measured intentions to remove products. Removal of products may especially occur if the respondent has

the character trait of placing items in a shopping cart without the intent to purchase them immediately (Scheinbaum, Kukar-Kinney and Benusa, 2012). Intentions to remove products were measured with a single-item measure using the question "How likely are you to remove products from this shopping cart?", using endpoints "very unlikely" (1) and "very likely" (7). This question has not been used in previous studies.

Demographics

The demographic questions asked had the purpose of verifying that the sample was representative of the population and to ensure that there were no systematic differences between participants in the treatment groups. The demographic questions asked were "I identify myself as (gender)", "How old are you in years?", "What is your disposable income?", "How often do you shop online?" and "How often do you make homemade burgers?". Moreover, the explicitness of the mental budget was measured with the questions "I usually have a budget when shopping for groceries", "I decide beforehand how much money I will spend when shopping for groceries" and "Before starting grocery shopping, I usually know how much I want to spend", using endpoints "strongly disagree" (1) and "strongly agree" (7). The measures used for the explicitness of the budget were adapted from Lynch et al. (2009). However, Cronbach's alpha for this scale was only 0.679. Therefore, we chose to only use the question "I usually have a budget when shopping for groceries", which is similar to the question used by Stilley, Inman and Wakefield (2010) to measure whether a consumer has an explicit budget or not.

Disposable income was measured to ensure that there were no systematic differences between the treatment groups in their motivation to stay within a close distance to the mental budget. Mental budgets tend to be less constraining for higher-income individuals (Thaler, 1999). Further, differences in the familiarity of buying ingredients to homemade burgers (frequent versus infrequent shoppers) may influence individuals' certainty regarding spending expectations, which in turn may affect budget deviations. The explicitness of mental budget was measured because individuals vary in their propensity to plan for money, meaning that the salience of the goal to spend in accordance with the mental budget varies (Thaler, 1985).

Instructional manipulation check

To ensure that the participants actually understood what they were subjected to and did pay attention to the instruction, the question "In the scenario, how many people were you asked to

make dinner for" was asked. This kind of explicit question is recommended by Söderlund (2018, p.95-97).

Hypothesis guessing

In order to establish whether or not the participants managed to find out the main purpose of the study, the question "what do you believe this study was about?" was asked. This type of direct question is recommended by Söderlund (2018, p.132).

3.4.4. Sampling

The total population of this study is considered to be online shoppers. However, due to the difficulty of gathering data from the entire population relevant to the research question, a sample was drawn. Participants were mainly recruited through social media. To get a sample that was not skewed by containing only our network, respondents were asked to share the survey with their friends and relatives. Moreover, some participants were recruited at the central station in Stockholm. Participants then answered the questionnaire using tablets. Hence, a convenience sampling technique was applied, with instances of a snowball sampling technique (Bryman and Bell, 2011, p.190-193). The problem with such a non-probability sampling technique is that the sample is not representative of the whole population, and thus constitutes a limit to generalization (Bryman and Bell, 2011, p.190). However, time and resource constraints made it impossible to secure a probability sample.

A total of 205 respondents completed the survey. After excluding responses where the respondents did not answer the instructional manipulation check correctly (n=37), and responses were the respondents managed to figure out the objective of the experiment (n=3), the number of respondents was reduced to 165. There were 85 respondents in the first treatment group (quantity spending feedback), and 80 in the second treatment group (financial spending feedback). Thus, the groups were big enough to proceed with statistical testing (Söderlund, 2018, p.48). Among the respondents in the final dataset, 95.2% made online purchases at least a couple of times per year. The average age was 35 years, the median age was 29 years and ages ranged from 18-84 years. The proportion of females were 55.2% and the proportion of males were 44.8%. Since females, as well as younger people, are shopping more frequently online (PostNord, 2019), the low average age and the unequal gender distribution should be considered relatively representative for the population.

3.4.5. Data collection

The survey was distributed between the 6th of March and the 26th of March. All questionnaires were distributed and answered online since it was required for the interactivity of the survey. The collection of data was made via Qualtrics. Qualtrics is the online survey tool provided by SSE and had all the necessary features for this experiment. Respondents were randomly assigned to one of the two manipulations using a randomizer tool. In return for taking part in the survey, we donated 5 SEK to Barncancerfonden for each survey response.

3.4.6. Analytics tools

To carry out statistical analyses, SPSS version 25 was used. Independent t-tests were conducted to assess the size of the difference in means between the two treatment groups. Moreover, linear regression was conducted to assess the relationship between certain variables. A significance level of 5% or lower was considered acceptable in this study, as this is the commonly accepted cut-off point (Aidley, 2019, p.180).

3.4.7. Assessment of validity and reliability

In the following section, the validity of the study is being discussed, as well as potential threats to validity. Additionally, the reliability of the study is discussed.

3.4.7.1. Validity

Internal validity refers to the extent to which the treatment explains participant reactions in an experiment (Söderlund, 2018, p.172). Thus, internal validity mainly relates to the issue of causality (Bryman and Bell, 2011, p.42). In order to appropriately infer a causal relationship between independent and dependent variables, the experimenters need to be able to rule out non-chance causes other than the intended treatment as a source of differences between the treatment groups (Söderlund, 2018, p.172). As a first step to ensure internal validity, statistical tests were conducted (Söderlund, 2018, p.173). However, there are other factors unrelated to statistical inference that threats internal validity. For instance, selection effects constitute a threat to internal validity (Söderlund, 2018, p.173). To improve internal validity in this aspect, random allocation of participants to the different treatment groups was ensured. Yet, random allocation does not completely ensure that there are no systematic differences between participants (Söderlund, 2018, p.125). Therefore, a number of demographic variables which may have an effect on the dependent variables were measured. The demographic variables examined were age, gender, disposable income, the familiarity of buying ingredients to

homemade burgers and explicitness of mental budget. Another action taken in order to increase internal validity was that the objective of the study was kept non-obvious for the participants by only sharing the basics of what the study was meant to examine. This was done since the ability to guess the hypotheses of the experiment may affect the outcome (Söderlund, 2018, p.63). All these factors considered, the internal validity is considered acceptable.

External validity is concerned with the question of whether the results of a study can be generalized beyond the specific research context (Bryman and Bell, 2011, p.43). In other words, this concerns to what extent the result from the experiment can be assumed to be valid in other versions of the treatment, in other measurements of the effect, and for other people than the participants (Söderlund, 2018, p.173). External validity is the main reason that quantitative studies have to have a representative sample (Bryman, 2018, p.74). In this study, the sample, therefore, had to be representative of the online shopper population. In order to make the sample as representative as possible, friends and relatives were urged to distribute the survey. Furthermore, we went to Stockholm's Central station, where no one related to us was present. Consequently, this minimized the skewness of the sample being drawn from our own social network. However, we acknowledge that the sample is not perfectly representative. Since we used a non-probability sampling technique, this inarguably limits the generalization of the study result. This is because everyone in the population did not have the same theoretical chance of being included in the sample (Aidley, 2019, p.82). To exemplify this, only Swedish-speaking individuals could participate in this study. On the other hand, these limitations to external validity had to be done due to time- and resource constraints. Essentially, the population was online shoppers and the age- and gender distributions are representative of the population as a whole. Therefore, external validity is considered acceptable.

Ecological validity refers to the extent to which the result of the study is applicable to people's everyday, natural social settings (Bryman, 2018, p.74). The main issue it considers is that scientists can produce results that are technically valid, but has little to do with people's everyday life (Bryman, 2018, p.74). This study's usage of a survey limits the ecological validity, due to the unnaturalness of having to answer a questionnaire (Bryman and Bell, 2011, p.43). Furthermore, respondents could not go back from the check-out and remove products, which they can in a real online store. However, two actions were taken to increase ecological validity. First, the survey was interactive, as opposed to having a static page. The webpage was essentially a real website integrated within a survey. Second, all respondents answered via

internet, instead of on a printed survey. Due to this, the unnaturalness and artificiality of the scenario were substantially decreased. Therefore, ecological validity is considered to be on an acceptable level.

3.4.7.1. Reliability

Reliability is concerned with the question of whether the results of a study are repeatable (Bryman, 2018, p.207). Reliability makes sure that the same results are yielded if someone else tests the exact same thing in the exact same way. Whether a measure is reliable is dependent upon three factors: stability, internal reliability and inter-observer consistency (Bryman, 2018, p.207). Stability refers to if a measure is consistent over time. This study has not been able to test whether the measures used fulfills that criteria, due to lack of time. However, as previously validated measurements primarily have been used, this indicates that there is stability over time. Furthermore, all questions were reviewed by fellow students, as well as a faculty member of SSE, before the survey was distributed. Internal reliability is used to test coherence among multiple indicators. To test this, Cronbach's Alpha with an acceptable level of 0.70 was used (Söderlund, 2018, p.135-136). Inter-observer consistency deals with lack of consistency when multiple observers interpret the same observations (Bryman, 2018, p.158). To minimize this, open-ended questions were only used when necessary (age, estimation of spending, mental budget). In summary, as relevant action was taken, we argue that the reliability of this study is on an acceptable level.

4. Empirical evidence main study 1

In this section, the result of study 1 is presented. First, it is ensured that there are no systematic differences between the two treatment groups. Next, it is ensured that the delimitation regarding removal of products had no substantial effect. Lastly, the hypotheses this study seeks to test are addressed.

4.1. Tests of systematic differences

Initially, we ensure that there are no systematic differences between the treatment groups in terms of age, gender, disposable income, familiarity of buying ingredients to homemade burgers and explicitness of mental budget. Independent t-tests reveals that there are no significant difference in age ($M_{financial}$ = 33.18, SD = 15.49 vs. $M_{quantity}$ = 36.94, SD = 15.43; t(163) = -1.564, $p = .120$) or explicitness of mental budget ($M_{financial}$ = 4.18, SD = 3.039 vs. $M_{quantity}$ = 3.60, SD = 3.001; t(163) = -1.223, $p = .223$) between the two treatment groups. Moreover, Mann-Whitney U tests show that there is no significant difference in disposable income (U = 3276.50, $p = .681$) or familiarity of buying ingredients to homemade burgers (U = 2773.00, $p = .453$). Lastly, a Pearson chi-square test shows that there is no significant difference in gender distribution between the two treatment groups (χ^2 (1) = 2.573, $p = .109$).

4.2. Intention to remove products

Since a limitation of the present study is that respondents were not allowed to remove items after reaching the check-out, we examine if the respondents had any intentions to do so. An independent t-test reveals that there is no significant difference in product removal intentions (t(163) = 0.784, $p = .434$) and that product removal intentions are low ($M_{financial}$ = 2.74, SD = 1.73 vs. $M_{quantity}$ = 2.53, SD = 1.68). Hence, respondents do not seem to use the shopping cart as a place to store and organize options in their considerations set. This suggests that the chosen items and the spending levels should closely reflect actual spending.

TABLE 1
Independent t-tests on intentions to remove products

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Intention to remove items	2.74 (1.73)	2.53 (1.68)	0.21 (0.27)	0.434

4.3. Hypotheses testing

Summary statistics and correlations are reported in appendix 5. H1 suggests that consumers become more concerned about their spending behavior when the monitoring process is facilitated by a shopping cart showing the financial total, and this, in turn, results in lower spending. An initial independent t-test reveals that there is no significant difference in mental budgets between the two treatment groups ($M_{financial}$ = 269.71 SEK, SD = 128.73 SEK vs. $M_{quantity}$ = 273.32 SEK, SD = 128.80 SEK; t(163) = -.180, $p = .857$). Hence, any significant difference in spending should be caused by budget deviations (actual spending - mental budget). An analysis of the budget deviations shows that both treatment groups overspent on their mental budgets ($M_{financial}$ = +8.29 SEK, SD = 101.56 SEK, vs. $M_{quantity}$ = +10.72 SEK, SD = 118.09 SEK). Yet, actual spending is surprisingly close to spending expectations (+3% vs. +4%). To test if there are any significant differences in spending between the two treatment groups, in accordance with H1, an independent t-test is conducted. The result shows that there is no significant difference in spending. Consumers receiving financial spending feedback spend neither more or less than consumers receiving quantity spending feedback ($M_{financial}$ = 278.00 SEK, SD = 99.85 SEK vs. $M_{quantity}$ = 284.04 SEK, SD = 87.38 SEK; t(163) = -.414, $p = .679$). Thus, H1 is not supported.

TABLE 2
Independent t-tests on spending behavior (SEK)

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Mental budget (SEK)	269.71 (128.73)	273.32 (128.20)	-3.61 (20.01)	0.857
Actual spending (SEK)	278.00 (99.85)	284.04 (87.38)	-6.03 (14.58)	0.679
Estimated spending (SEK)	289.88 (102.62)	317 (132.89)	-27.18 (18.56)	0.145
Budget deviation (SEK)	8.29 (101.56)	10.72 (118.09)	-2.43 (17.19)	0.888
Perceived budget deviation (SEK)	20.16 (89.67)	43.74 (111.25)	-23.58 (15.79)	0.137

Budget deviation (SEK) = Actual spending (SEK) - Mental budget (SEK)
Perceived budget deviation (SEK) = Estimated spending (SEK) - Mental budget (SEK)

To further analyze the mechanisms behind the spending pattern, we use the number of items purchased as well as average item price as dependent variables. Independent t-tests shows that there is no significant difference in number of items purchased between the treatment groups ($M_{financial}$ = 8.65, SD = 2.97 vs. $M_{quantity}$ = 8.91, SD = 2.54; t(163) = -.595, $p = .553$), nor any significant difference in average item price ($M_{financial}$ = 33.42, SD = 10.38 SEK vs. $M_{quantity}$ = 32.17 SEK, SD = 6.06; t(163) = .956, $p = .348$). Neither is there any significant difference in the number of unplanned purchases between the treatment groups ($M_{financial}$ = 0.28, SD = 2.30, vs. $M_{quantity}$ = 1.02, SD = 2.65; t(163) = -1.932, $p = .055$) and the number of unplanned purchases are low.

TABLE 3
Independent t-tests on spending pattern

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Actual spending (SEK)	278.00 (99.85)	284.04 (87.38)	- 6.03 (14.58)	0.679
Actual spending (number of items)	8.65 (2.97)	8.91 (2.54)	-0.26 (0.430)	0.553
Average item price	33.42 (10.38)	32.17 (6.06)	1.26 (1.26)	0.348

Average item price = Actual spending (SEK) / Actual spending (number of items)

TABLE 4
Independent t-tests on spending behavior (number of items)

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Pre-shopping plan (number of items)	8.38 (3.73)	7.88 (3.10)	0.49 (0.53)	0.356
Actual spending (number of items)	8.65 (2.97)	8.91 (2.54)	-0.26 (0.43)	0.553
Unplanned purchases (number of items)	0.28 (2.30)	1.02 (2.65)	-0.75 (0.39)	0.055

Unplanned purchases (number of items) = Actual spending (number of items) - Pre-shopping plan (number of items)

Moreover, we investigate perceived budget deviations (estimated spending - mental budget) in each treatment group and compare these with actual budget deviations. The result shows that perceived budget deviation is closely consistent with actual budget deviation among respondents receiving financial spending feedback (3% vs. 7%). However, respondents receiving quantity spending feedback has a less accurate perception of their budget deviation (4% vs. 16%).

TABLE 5
Actual budget deviation vs. perceived budget deviation

	Financial spending feedback		Quantity spending feedback	
	Budget deviation (%)	Perceived budget deviation (%)	Budget deviation (%)	Perceived budget deviation (%)
SEK	3%	7 %	4%	16%

H2 suggests that the presence of shopping cart financial total (vs the number of items) result in higher perceived control. An independent t-test between the two treatment groups shows that there is a significant effect of shopping cart design on perceived control, such that receiving financial spending feedback result in higher perceived control ($M_{financial} = 5.05$, SD = 1.74) than solely receiving quantity spending feedback ($M_{quantity} = 4.49$, SD = 1.64; $t(163) = 2.115$, $p = .036$). This provides support for the assumption that the enhanced ability to monitor spending increases the perception of control over spending behavior. Thus, we find support for H2.

H3 suggests that the presence of shopping cart financial total (vs the number of items) result in higher customer satisfaction and that this positive effect is mediated by higher perceived control. An independent t-test shows that there is no significant difference in the level of satisfaction between the two treatment groups. Whether the shopping cart displays the financial total ($M_{financial} = 4.40$, SD = 1.25) or the number of items ($M_{quantity} = 4.62$, SD = 1.25) created

comparable level of satisfaction (t(163) = -1.127, *p = .261*). As a necessary condition for testing mediation is a significant relationship between the independent variable and the dependent variable (Barron and Kenny, 1986), we do not proceed with mediation analysis. Hence, we find no support for H3. However, an analysis of the relationship between perceived control and customer satisfaction shows that perceived control has a significant positive effect on customer satisfaction (b = .263, *p = .001*).

TABLE 6
Independent t-tests on perceived control and customer satisfaction

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Perceived control	5.05 (1.74)	4.49 (1.64)	0.56 (0.26)	0.036
Customer satisfaction	4.40 (1.25)	4.62 (1.25)	-0.22 (0.19)	0.261

TABLE 7
Regression analysis of the relationship between perceived control and customer satisfaction

Independent variable	Dependent variable	Beta (b)	P-value	n
Perceived control	Customer satisfaction	0,263	0,001	164

$r^2 = 0.069$; $F(1, 163) = 12.112$; $p = 0.001$

5. Discussion main study 1

In this study, the effect of shopping cart design on spending behavior was initially investigated. H1 suggests that the enhanced ability to monitor spending behavior when receiving financial spending feedback makes a shopping cart showing the financial total a more effective monitoring mechanism. That is, consumers should become more concerned about their spending behavior, resulting in fewer self-control failures, unplanned purchases, and overspending. Surprisingly, the result shows that the amount consumers spend is extremely close to their spending expectation (i.e. mental budget), regardless of shopping cart design. Thus, overspending is not evident in any of the settings, resulting in comparable levels of spending. Moreover, the result shows that consumers did not purchase fewer items in response to financial spending feedback, nor did they purchase less expensive items. Consumers closely adhere to their pre-shopping list and their spending expectations correspond well to the cost of these planned items, resulting in neglectable budget deviations. Accordingly, no support for the prediction in H1 is found.

There are several plausible explanations for why the shopping cart design did not affect consumers' spending behavior as predicted. First, despite the fact that quantity spending feedback interferes with monitoring of spending, the number of items in the shopping cart might still be an effective monitoring mechanism. Hence, displaying the number of items in the shopping cart may still draw attention to the individual's spending behavior, making consumers equally concerned about their spending behavior regardless of shopping cart design. Therefore, all consumers closely adhere to their pre-shopping list and their mental budget. Given this argument, the result would not contradict Baumeister's (2002) research. However, a pressing issue is that consumers receiving quantity spending feedback perceive that they substantially overspend on their budgets. This can, in one way, indicate that consumers receiving quantity spending feedback are less concerned about overspending as they are shopping with an understanding that they exceed their budget. On the other hand, as they do not actually overspend, this may suggest that they feel uncertain about their spending level. In response to this spending uncertainty, they may restrict their purchases, which eventually lead them to spend close to their actual budget. This would be in line with Van Ittersum et al. (2013), who demonstrates that the absence of financial spending feedback results in higher spending uncertainty among consumers shopping with an explicit budget. This uncertainty would then also apply to less strict budgets. However, unlike Van Ittersum et al. (2013) findings, the

absence of financial spending feedback did not result in underspending in this study. Instead, consumers spend within a close distance to their mental budget regardless of spending feedback.

Another possibility is that financial spending feedback actually constitutes a more effective monitoring mechanism, and that consumers receiving financial spending feedback are more concerned about their spending behavior, but that the effect of self-control failures could not be detected. There are several things supporting this notion. First, an impulse purchase must be 1) unplanned, 2) the result of exposure to a stimulus, 3) decided “on-the-spot”, and 4) inducing an emotional and/or cognitive reaction (Piron, 1991). Piron (1991) argues that retailers can affect the second characteristic, exposure. This can be done via the retailer's suggestions and reminders (e.g. "don't forget to buy", “others purchased these”) or environmental manipulations (e.g. point-of-purchase exposure). The fictive grocery contained neither of these. Therefore, the likelihood of impulse purchases was reduced. Second, unplanned purchases may also be influenced by the retailer. The more items a consumer is exposed to, the higher is the probability of an unplanned purchase (Inman, Winer and Ferraro, 2009; Stilley, Inman and Wakefield, 2010). In this survey, there were only 48 products in the assortment, meaning that the retailer held a very limited assortment. Consequently, consumers were not exposed to the same variety of items as they would have been if they were shopping in a real grocery store holding a full assortment. The implication of this is that the likelihood that the consumer encountered products (s)he might want was lower. This is also believed to have reduced the likelihood of unplanned purchases. In sum, the assortment and layout of the store might have impeded on impulse/unplanned purchasing. Therefore, consumers might not have been inclined to do more purchases even if their self-control was broken down. Thus, this could be yet another explanation of why consumers receiving quantity spending feedback do not spend more than those receiving financial spending feedback. However, since any underlying psychological mechanism that might explain the effect of financial spending feedback on spending were not examined, it is not possible to make any definite inferences about what reactions and/or study design aspects that may be responsible for the observed effect.

With regards to H2, this study shows that the increased ability to monitor spending when receiving financial spending feedback results in a higher sense of control over spending behavior. This is in line with the prediction in H2. Thus, in the same way as consumers may experience more or less control over the ordering process depending on if they can see which

items they choose (Dabholkar, 1996), this study finds that consumers experience more control over the process of spending when they can see how much they are spending. Notably, however, is that quantity spending feedback also generates quite high perceptions of control (M=4.49). Again, this may suggest that the number of items still gives consumers an idea of their spending behavior. This, in turn, makes consumers feel that they have acceptable control over the spending process. However, since there was no group of participants who did not receive any spending feedback, it is not possible to rule out that consumers experience this level of control even when they do not receive any spending feedback.

Further, this study provides proof that higher perceived control over spending results in a more pleasant shopping experience, evidenced by the positive relationship between perceived control and customer satisfaction. This result is consistent with previous research which repeatedly has shown that perceived control positively affects emotional responses (E.g. Hui and Bateson, 1991; Marzocchi and Zammit, 2006). This study extends these findings by showing that perceived control over spending is another important control process affecting customer satisfaction. However, it should be noted that the present study finds no significant main effect of financial spending feedback on customer satisfaction. Thus, there is no evidence for the prediction in H3. The absence of a significant main effect may be explained by customer satisfaction being a global evaluation, compromising all attribute-level "satisfactions" (Söderlund, 2010). The shopping cart is only one of many elements on a website which may impact the consumers' overall evaluation of an online retailer. For instance, navigation, graphics style, and product information content are all website design dimensions which have been shown to affect overall satisfaction with the online retailer (Montoya-Weiss, Voss and Grewal, 2003; Szymanski and Hise, 2000). Moreover, factors such as range of assortment and price level may also influence customers' assessment of an online retailer. In this first study, respondents had the possibility to evaluate all these different dimensions of the online store, beyond the design of the shopping cart. Hence, when taking other factors in account, shopping cart design appears to not be a strong predictor of overall evaluations. However, shopping cart design may still have an effect on customer satisfaction when considered exclusively. To further investigate the exclusive effect of shopping cart design on customer satisfaction, a second study is conducted where the aforementioned factors are minimized and the cause variable (shopping cart design) is isolated.

6. Methodology main study 2

The aim of this second study was to examine the effect of shopping cart design on customer satisfaction when the effects of other factors influencing the shopping experience are minimized. Moreover, this study sought to address the variables benevolence trust and perceived usefulness. Furthermore, this study enabled us to try to replicate the result in the first study, where perceived control increased as a result of a shopping cart displaying the financial total.

In this second study, the opportunity was also taken to investigate to what extent people consider themselves to generally pay attention to the shopping cart. Even though the respondents' estimation accuracy in the first study (Appendix 6) indicates that people pay attention to the information displayed in the shopping cart, it was in a fictive setting with an unusually large shopping cart. Therefore, this study sought to measure to what extent consumer consider themselves to pay attention to the information in the shopping cart when shopping in real life. Not knowing that people actively pay attention to the shopping cart when shopping online was a shortcoming in the preliminary work of this thesis, which is why this was an important question to address.

6.1. Study design

Similar to the first main study, this study used a two-group between-subject design. Also, similarly, the first treatment group was presented with a shopping cart showing only the number of items placed in the shopping cart. The second treatment group was presented with a shopping cart showing both the number of items and the total spending. An example of the two treatments is depicted in figure 4 below.

Figure 4: The two treatments used in study 2

To isolate the shopping cart, this study did not consist of an interactive online store, but instead a picture of an online grocery store's shopper interface. The shopper interface was borrowed

from the grocery store Sainsbury's. All information associated with Sainsbury's (e.g. logos) were removed from the shopper interface by changing the source code (HTML) of the website. This was done in order to ensure that all participants adopted a neutral stance and had no prior attitudes towards the retailer which could affect the outcome.

The stimulus was designed similarly to the first study's. The shopping cart was located in the top right-hand corner of the menu bar with an illustrative icon of a shopping cart. Unlike the first study, the content in the shopping cart was presented within the illustrative icon and on the right-hand side of it. This was because Sainsbury's webpage had that layout. Whether the spending feedback is placed within or just outside the shopping cart is not expected to have had any impact. Appendix 7 shows how this webpage was designed. As this was not an interactive store, unlike study 1, there was no purchase task and the visible assortment was just a random screenshot of the webpage.

6.2. Survey design

This survey was distributed through Prolific Academic. After an initial text describing the purpose of the study, a question asked the respondent to confirm that he/she was not a robot. This was done since there are increasing concerns that bots are completing studies on crowdsourcing platforms (Dreyfuss, 2018). Then, respondents were asked to recall the last time they were shopping online and indicate how much attention they paid to the shopping cart during that shopping trip. This question was asked at the beginning of the survey to ensure that the answer was not biased by the participation in the experiment. On the next page, respondents were presented with a scenario accompanied by a picture of the shopper interface (Appendix 7).

After reading the scenario and examining the picture, the respondents were faced with a questionnaire. Thereafter followed an attention check question which the respondents had to answer correctly in order to proceed to the last part of the questionnaire. Respondents who failed to follow the instructions in the question, and indicated the wrong answer, were later eliminated from the survey. This was done because previous studies find mixed results on attentiveness on crowdsourcing platforms (Hauser and Schwarz, 2016). The last part of the survey consisted of questions about demographics, hypothesis guessing and a question measuring respondents' attentiveness to the content of the shopping cart.

6.3. Measures

Similar to study 1, the majority of answers were indicated on a seven-point Likert-type scale. Further, multi-item scales were used for all dependent variables, where a calculated Cronbach's alpha higher than 0.7 was considered acceptable for further analysis (Söderlund, 2018, p.135-136). Additionally, all measurements have been validated in previous studies or were adapted from previous studies. As in study 1, it should be noted that the questionnaire contained additional variables that we later chose to not include in the study.

Attention

To measure how much attention consumers pay to the information provided in the shopping cart, the procedure used by Kim and Huh (2017) was applied. Respondents were asked to recall their most recent online shopping experience and think about this experience when they answered the following questions: "How much attention did you pay the information in the shopping cart?", "How much did you notice the information in the shopping cart?" and "How much did you concentrate on the information in the shopping cart?". Responses were indicated on a seven-point Likert-type scale using endpoints "None/Not at all" (1) and "Very Much (7)". The attention measures were adapted from the message attention measures used by Laczniak and Muehling (1993). Cronbach's alpha for this scale was 0.925.

Perceived control

The items used to measure perceived control in the first main study were also used in this study. However, since the respondents were not interacting in the shopping process in this study, they were not able to indicate how much control they *felt* that they had. Therefore, we measured expected control instead of perceived control, as suggested by Dabholkar (1996) when using a scenario and questionnaire approach. According to Dabholkar (1996), consumers can judge how much control they *would have* over the process just as well as they judge how much control they experience when they are "in" the process. Following this procedure, respondents were asked to answer the following questions: "When shopping on this website, how much control do you feel that you will have over the money you spend?", "When shopping on this website, how much control do you feel that you will have over what you purchase?" and "When shopping on this website, how closely do you feel that you will be able to monitor your spending behavior?". Responses were indicated on a seven-point Likert-type scale using

endpoints “Little control” (1) and “A lot of control” (7). Cronbach’s alpha for this scale was 0.910.

Benevolence trust

Benevolence trust was measured with the questions “The online retailer has practices that indicate respect for the customer”, “The online retailer has practices that favor the customer’s best interest” and “The online retailer considers the customer’s welfare when making important decisions”, using endpoints “Strongly disagree” (1) and “Strongly agree” (7). These measures have previously been used by Garbarino and Lee (2003). Cronbach’s alpha for this scale was 0.937.

Perceived usefulness

Perceived usefulness of the website was measured with the questions “Using this website can improve my shopping performance”, “Using this website can increase my shopping productivity” and “Using this website can increase my shopping effectiveness”, using endpoints “Strongly disagree” (1) and “Strongly agree” (7). These measures have previously been used by Hausman and Siekpe (2009). Cronbach’s alpha for this scale was 0.957.

Customer satisfaction

Similar to study 1, customer satisfaction was measured using Söderlund (2006) three-item seven-point Likert scale. Cronbach’s alpha for this scale was 0.888.

Demographics

As in study 1, the demographic questions asked had the purpose of verifying that the sample is representative for the population and/or to ensure that there were no systematic differences between participants in the treatment groups. The demographic variables measured were age, gender, disposable income and frequency of online shopping. Since this study did not examine spending behavior, there was no purpose of asking about the familiarity of buying ingredients to homemade burgers or the explicitness of the mental budget.

Instructional manipulation check

To ensure participants attentiveness, the respondents were asked to indicate what information the shopping cart on the website displayed. The options given were “Only the number of items placed in the shopping cart“, “The total amount and the number of items placed in the shopping

cart" or "Nothing". This type of explicit question is recommended by Söderlund (2018, p.95-97).

Hypothesis guessing

Similar to study 1, we followed the recommendation by Söderlund (2018, p.132) and asked respondents to summarize what they believed the study was about.

6.4. Sampling

Similar to study 1, the total population of this study is considered to be online shoppers. Due to the difficulty of collecting data from the entire population relevant to the research question, a sample was drawn. Participants were recruited via Prolific Academic – an online crowdsourcing platform where participants answer surveys in exchange for a small payment. Thus, similar to study 1, a convenience sample technique was used. We chose to use Prolific Academic because of time constraints. Collecting responses via Prolific takes significantly less time than traditional methods since they have over 45000 potential responders (Prolific Academic, 2019). Furthermore, Prolific enabled us to recruit participants from a variety of countries, thus increasing the generalizability of the results.

Using crowdsourcing platforms has been a debated way of recruiting participants, which is why we present a short summary of the literature on the subject. Hauser and Schwarz (2016) illuminate that previous studies have mixed results on the attentiveness of crowdsourced participants. However, in their own study, they show that crowdsourced participants are more attentive than colleges students (which are often used instead). This indicates that using crowdsourced participants may be more beneficial than using non-crowdsourced participants. Paolacci and Chandler (2014) raise the concern that workers choose tasks that are similar to what they have done before, which suggest that their prior experience may influence their responses. However, in their own study, crowdsourced participants and traditional participant show few differences in data quality. Lastly, Peer, Vosgerau and Acquisti (2014) show that high-reputational workers' (i.e. workers that have higher than 95% approval rating) responses result in higher reliability scores as well as lower rates of socially desirable responding (Peer, Vosgerau and Acquisti, 2014). Therefore, if a researcher uses workers with high reputation, he/she can expect reliable results. In sum, studies on the subject suggest that crowdsourced participants are not better or worse than traditional sampling techniques.

In recruiting participants, we chose to use workers that had completed more than 100 previous studies. Unlike Mturk, which aforementioned studies examined, Prolific has no approval rating system to discern high-reputational workers from others. Consequently, we used 100 completed studies as an estimate of high approval rating. Although not perfect, participants that frequently are reported as dishonest are banned from using Prolific. Therefore, we can expect that participant completing more than 100 surveys are not dishonest in general. Moreover, we chose to only use participants that had indicated that they had purchased online before to ensure that participants were recruited from the population we were interested in.

128 respondents completed the survey. 19 of them did not answer the manipulation check correctly, and one managed to figure out the objective of the experiment. Thus, 108 valid responses remained. There were 50 respondents in the first treatment group (quantity spending feedback), and 58 in the second treatment group (financial spending feedback). Among the respondents, 99.1% made online purchases at least a couple of times per year. The average age was 39 years, the median age was 36 years and ages ranged from 19-74 years. There were 52% men, 47% women and 1% non-binaries. 53% were from Great Britain, 20% from the US, and the rest from Canada, New Zealand, Australia or European countries. Besides the uneven nationality distribution, the average age was relatively low and the gender distribution was comparably even. Consequently, the sample can be seen as an acceptable approximation of the population as a whole.

6.5. Data collection

The survey was distributed on the 13th of April. Similar to study 1, the survey was created using Qualtrics and respondents were randomly assigned to one of the two manipulations using a randomizer tool.

6.6. Analytics tools

Similar to study 1, SPSS version 25 was used. Independent t-tests were conducted to assess the size of the difference in means between the two treatment groups. Furthermore, bootstrap analysis (Model 4; Hayes, 2017) was used to test mediation models. We also ran a two-way between-groups multivariate analysis of variance (MANOVA) to control for covariates. A significance level of 5% or lower has been considered acceptable throughout all statistical tests.

6.7. Assessment of validity and reliability

In the following section, the validity and reliability of the study is being discussed.

6.7.1. Validity

Similar to study 1, we used statistical tests to ensure internal validity. We also made sure that participants were randomly allocated between the two treatment groups. Furthermore, we measured a number of demographic variables which potentially could influence the outcome. The demographic variables examined were age, gender, and disposable income. Upon finding systematic differences between the two treatment groups, we ran a two-way between-groups multivariate analysis of variance (MANOVA) to ensure that the result did not change when including the demographic variable as a covariate. By considering these factors, the internal validity is considered acceptable.

Also consistent with study 1, the sample aimed to be representative of the online shopper population. In order to get in close proximity to this, we used Prolific Academic to further our reach outside Sweden. This also meant that there was no risk of our social networks skewing the results. However, British citizens were overrepresented. Contrary, all things considered, by extending the population to being more than Swedish, our results should be somewhat generalizable. However, the non-probability sampling technique lowered generalization. For example, only Prolific Academic members were able to answer the survey. This limitation had to be made, as there was no other way for us to distribute the survey globally. Taken together, the most important thing was that the sample consisted of online shoppers and the age- and gender distributions were representative of the population as a whole. Therefore, we argue that external validity is acceptable.

As previously established, the use of a survey lowered ecological validity. Furthermore, as opposed to study 1, this study was not interactive. This decreases the ecological validity of this study but was a necessary action in order to isolate the effects of shopping cart design. However, the survey was distributed online, which increases ecological validity. In general, the ecological validity of this study can be seen as relatively low.

6.7.2. Reliability

As previously discussed, reliability contains three elements: stability, internal reliability and inter-observer consistency (Bryman, 2018, p.207). As in study 1, this study has not been able to test whether the measures used fulfilled the stability criteria. However, previously validated measurements were used. Furthermore, all questions were reviewed by fellow students, and a faculty member of SSE, before the survey was distributed. Internal reliability was ensured by using Cronbach's Alpha higher than 0.7 and inter-observer inconsistency was reduced by only having open-ended questions with text entry when necessary (i.e. for age). In sum, as relevant actions were taken, we argue that the reliability of this study is on an acceptable level.

7. Empirical evidence main study 2

In this section, the results of study 2 are presented. Firstly, the result concerning general attention paid to the information in a shopping cart is presented. Then, the existence of any systematic differences between the two treatment groups is investigated. Lastly, the hypotheses this study seek to test are addressed.

7.1. Attention to shopping cart

Beyond the purpose of testing H2-H7, this study sought to explore how much attention consumers generally pay to the information provided in a shopping cart when shopping online. In recalling their most recent online shopping experience, the respondents indicate that they pay high attention to the information provided in the shopping cart (M = 5.22, SD = 1.42). This provides proof for the relevance of the research question addressed in this study and clearly emphasizes the importance of considering what information to display in the shopping cart, regardless of the shopping situation.

7.2. Tests of systematic differences

As an initial step, before testing the hypotheses, we examine if there are any systematic differences between the treatment groups in terms of age, gender and disposable income. An independent t-test reveals that there is a significant difference in age between the two treatment groups ($M_{financial}$ = 35.93, SD = 12.00 vs. $M_{quantity}$ = 41.62, SD = 13.36; t(106) = -2.331, $p = .022$). A Mann-Whitney U test shows that there is no significant difference in disposable income (U = 1189.50, $p = .102$). Lastly, a Pearson chi-square test shows that there is a significant difference in gender distribution between the two treatment groups (χ^2 (2) = 1.172, $p = .556$).

7.3. Hypotheses testing

Summary statistics and correlations are reported in appendix 8. To address H2-H7, the direct effects of financial spending feedback is initially tested using independent t-tests. As depicted in table 8, the presence of shopping cart financial total has significant main effects on perceived control, benevolence trust, perceived usefulness, and customer satisfaction. Supporting H2, the presence of shopping cart financial total generates higher levels of perceived control ($M_{financial}$ = 6.05, SD = 0.96 vs. $M_{quantity}$ = 5.53, SD = 1.32; t(87.802) = 2.272, $p = .026$). Levene's test is violated, so degrees of freedom are adjusted accordingly. Respondents receiving financial

spending feedback also report higher levels of benevolence trust ($M_{financial}$ = 4.91, SD = 1.08 vs. $M_{quantity}$ = 4.25, SD = 1.24; t(106) = 2.964, p = *.004*), supporting H4. Furthermore, consistent with H6, the presence of shopping cart financial total result in higher perceived usefulness ($M_{financial}$ = 4.99, SD = 1.26 vs. $M_{quantity}$ = 4.19, SD = 1.41; t(106) = 2.964, p = *.003*). Lastly, we find a significant main effect on customer satisfaction ($M_{financial}$ = 5.21, SD = 0.98 vs. $M_{quantity}$ = 4.61, SD = 1.08; t(106) = 2.995, p=*.003*)

As age is related to technology adoption and comfort (Venkatesh and Morris, 2000), and there is a difference in age between the two treatment groups ($M_{financial}$ = 35.93, SD = 11.00 vs. $M_{quantity}$ = 41.62, SD = 13.36; t(106) = -2.331, p = *.022*), we conduct a two-way between-groups multivariate analysis of variance (MANOVA) with our manipulation as the independent variable (1 = Quantity spending feedback, 2 = Financial spending feedback), perceived control, benevolence trust, perceived usefulness, and customer satisfaction as our dependent variables, and age as a covariate. The analysis shows that the result does not change after including the covariate (F(4, 102) = 2.768, p = *.031*).

TABLE 8
Independent t-tests on investigated variables in study 2

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Perceived control	6.05 (0.96)	5.53 (1.32)	0.51 (0.22)	0.026
Benevolence trust	4.91 (1.08)	4.25 (1.24)	0.66 (0.22)	0.004
Perceived usefulness	4.99 (1.26)	4.19 (1.41)	0.80 (0.26)	0.003
Customer satisfaction	5.21 (0.98)	4.61 (1.08)	0.59 (0.20)	0.003

To explore the indirect effect of financial spending feedback on customer satisfaction through the mediators perceived control, benevolence trust, and perceived usefulness, we test three distinct mediation models using bootstrap analyses (Model 4; Hayes, 2017). Hence, we run each mediation pathway as a separate mediation model. In these models, the manipulation (financial spending feedback vs. quantity spending feedback) is the independent variable; perceived control, benevolence trust, and perceived usefulness are mediators; and customer satisfaction is the dependent variable.

To address H3, we run a mediation model with the manipulation as an independent variable, perceived control as mediator and customer satisfaction as a dependent variable. The mediation analysis shows a significant mean indirect effect of financial spending feedback on customer satisfaction through the mediator perceived control of 0.3409 (5000 bootstrap samples, 95% CI: 0.0479 to 0.6544). The direct effect coefficient is insignificant, suggesting full mediation. Hence, perceived control mediates the relationship between financial spending feedback and

customer satisfaction, so that higher perceived control leads to higher customer satisfaction. Thus, in contrast to study 1, we find support for H3. The result is depicted in Figure 5.

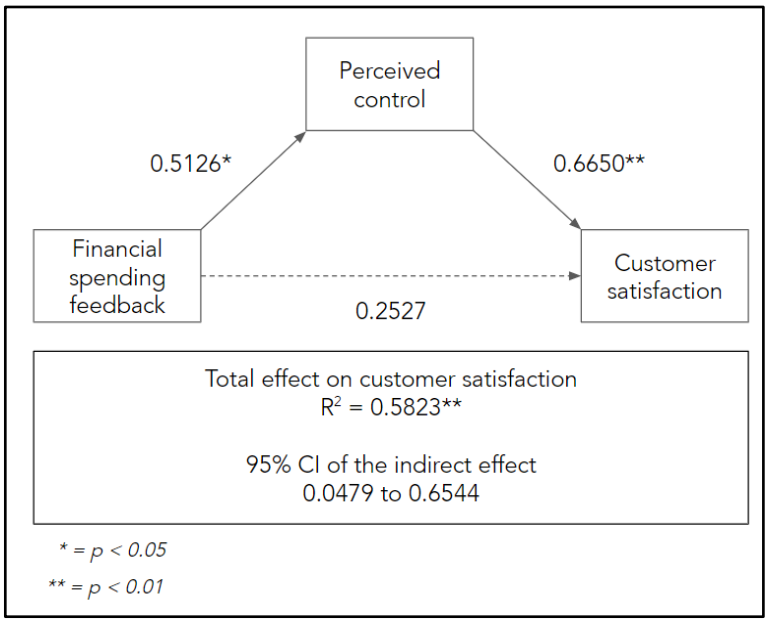


Figure 5: Test of mediation of perceived control on customer satisfaction

To address H5, we run a mediation model with the manipulation as an independent variable, benevolence trust as mediator and customer satisfaction as a dependent variable. The analysis shows a significant mean indirect effect of 0.4325 (5000 bootstrap samples, 95% CI: 0.1582 to 0.7053). Further, the effect of financial spending feedback on customer satisfaction is no longer significant, suggesting full mediation. Thus, in support for H5, we find that the presence of shopping cart financial total increases customer satisfaction, and this effect is mediated by increased benevolence trust. The result is depicted in Figure 6.

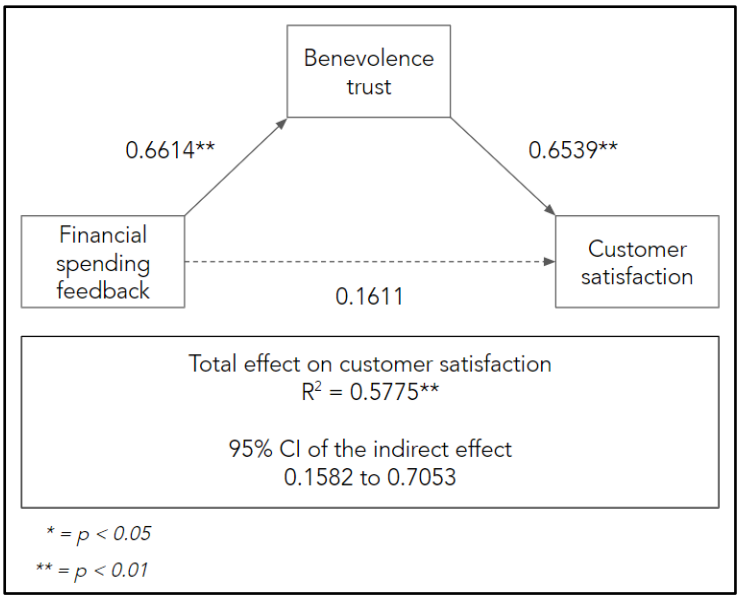


Figure 6: Test of mediation of benevolence trust on customer satisfaction

To address H7, we run a mediation model with the manipulation as an independent variable, perceived usefulness as mediator and customer satisfaction as a dependent variable. The analysis shows a significant mean indirect effect of 0.3694 (5000 bootstrap samples, 95% CI: 0.1262 to 0.6548). Again, the effect of financial spending feedback on customer satisfaction is no longer significant, suggesting full mediation. This provides support for H7, which suggests that perceived usefulness mediates the relationship between financial spending feedback and customer satisfaction so that higher perceived usefulness leads to higher customer satisfaction. The result is depicted in Figure 7.

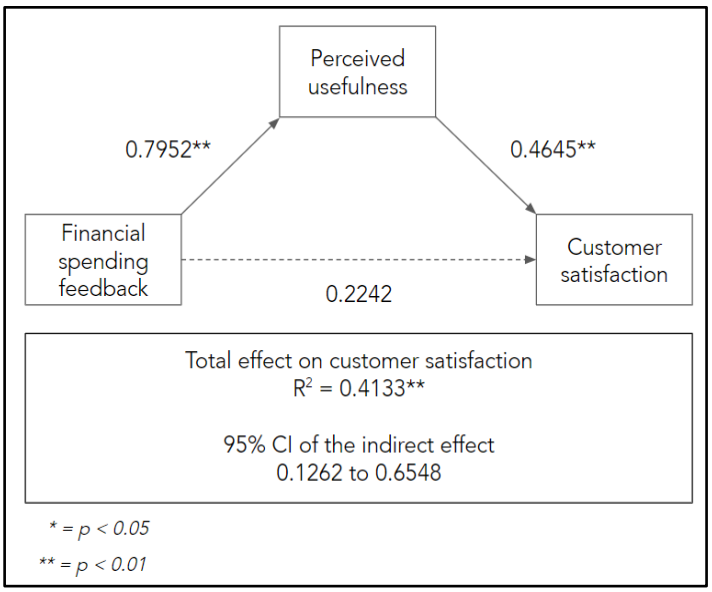


Figure 7: Test of mediation of perceived usefulness on customer satisfaction

8. Discussion main study 2

This study compared the reactions of shopping cart design when the effect of other factors influencing the shopping experience are minimized. The study provides several findings. First, the result from Study 1 is replicated and once again it is shown that financial spending feedback increases perceived control over spending. Even though the respondents were not active in the shopping process in this study, they are able to judge that perceived control would be higher if they would be shopping on the website. Second, this study extends the findings in Study 1 to include benevolence trust and perceived usefulness. Consistent with the prediction in H4, the result shows that financial spending feedback results in higher benevolence trust. Hence, consumers judge that the retailer is more concerned about his/her welfare and best interest when information about the financial total is provided. This finding is in line with research that shows that consumers get suspicious when a retailer leaves out valuable information which they have previous experiences of receiving (Johnson and Levin, 1985). Thus, upon the absence of financial spending feedback, consumers appear to become more suspicious about the retailer's positive orientation since they are not receiving the information they have previous experiences of receiving. Further, it is demonstrated that financial spending feedback enhances consumers perception of the usefulness of the website, supporting our prediction in H6. When consumers have financial spending feedback at hand while shopping, they judge that their shopping productivity and performance is higher, indicating that the enhanced ability to monitor spending makes it easier for consumers to achieve their shopping goals. Thereby, this study extends Hausman and Siekpe's (2009) findings by showing that different shopping cart designs influence perceived usefulness differently. Thence, financial spending feedback appears to be more related to the shopping goal and thus more task-relevant. This is in line with Eroglu, Machleit and Davis (2001), who suggest that information content specifically related to the completion of the shopping task, such as price information, is more task-relevant.

Contrary to study 1, this study also finds a positive and significant main effect of financial spending feedback on customer satisfaction. Hence, even if shopping cart design does not have a strong impact on customer satisfaction when other elements of the shopping experience are taken into account, it still constitutes an important antecedent to customer satisfaction. Thereby, this study extends the current literature on website design by showing that shopping cart design is an important website design element contributing to customer positive assessments. However, it is not the financial spending feedback per se that cause increased customer

satisfaction. Rather, financial spending feedback causes the consumer to experience higher control, higher levels of benevolence trust and higher usefulness of the website. This, in turn, positively affects customer satisfaction.

The finding that perceived control mediates customer satisfaction, so that higher perceived control leads to higher customer satisfaction, provides support for H3 and extends the findings in study 1. Further, this study shows that the presence of shopping cart financial total increases customer satisfaction through increased benevolence trust. This is consistent with the prediction in H5 and is in line with the vast amount of previous studies which have shown that trust is an important antecedent to customer satisfaction (Yoon, 2002; Kim, Ferrin and Rao, 2009; Kim, Jin and Swinney, 2009). Additionally, this study extends these findings by showing that benevolence trust, as a dimension of overall trust, also has a positive impact on customer satisfaction. Lastly, in support for H7, it is shown that perceived usefulness mediates the relationship between financial spending feedback and customer satisfaction, with the result that higher perceived usefulness leads to higher customer satisfaction. Several previous studies have shown that perceived usefulness contributes to positive assessments of the website (Amin, Rezaei and Abolghasemi, 2014; Hausman and Siekpe, 2009; Kim, 2012). This study adds to these studies by showing that perceived usefulness also affects satisfaction with the online retailer. Hence, when a consumer judge that a website can improve his/her shopping performance and productivity, it has a positive spillover on the consumer's assessment of the online retailer.

In sum, this study shows that by providing financial spending feedback, perceived control as well as benevolence trust and perceived usefulness increases. This, in turn, results in higher customer satisfaction. Any means that can increase customer satisfaction is of high value for an online retailer because online satisfaction is a natural antecedent to e-loyalty and repeated purchase behavior (Anderson and Srinivasan, 2003).

9. Summary of results

In summary, the results from the two studies show that six out of seven hypotheses are supported. A summary of the result is depicted in figure 8 below.

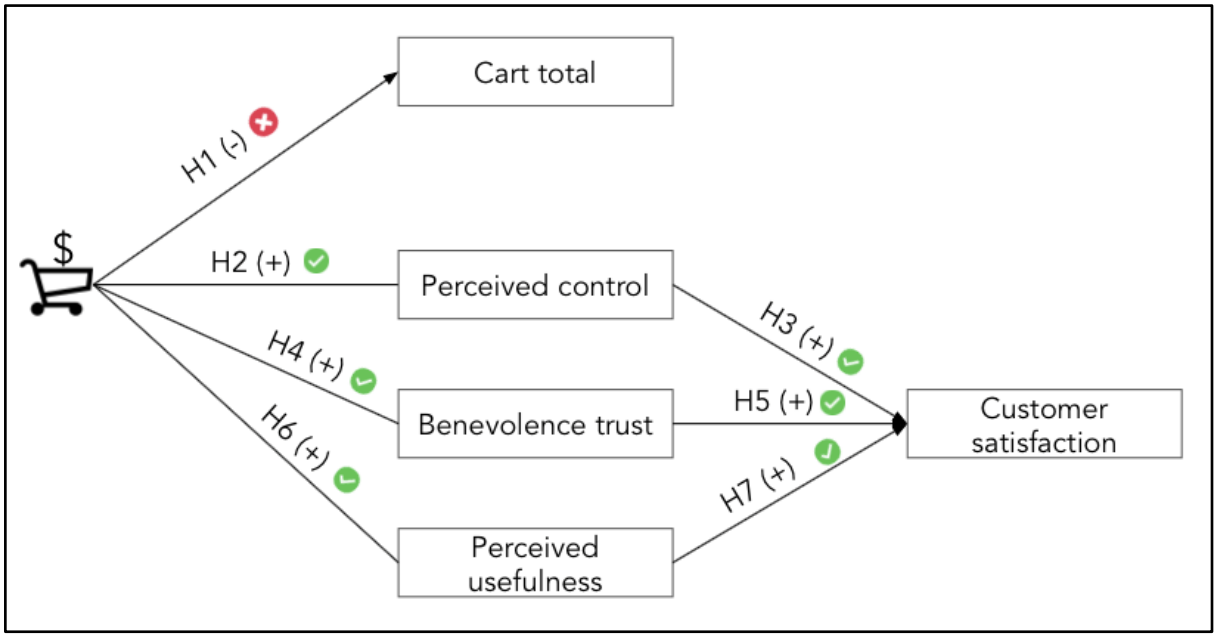


Figure 8: Overview of the study results

10. General discussion and conclusion

Since the website is the primary interface for an online retailer during consumers' service encounter, online retailers are concerned about how different website characteristics will influence the shopping experience. One feature of website design that has received little attention in prior research is the design of the shopping cart, reflected by the widespread disagreement among retailers regarding shopping cart design. Still, online shoppers generally pay high attention to the information provided in the shopping cart, as shown in our second study, indicating the importance of considering what information to display. While some online retailers may not have reflected on the fact that shopping cart design can be an important website characteristic, others may feel concerned about how financial spending feedback will influence their overall profitability. To address this, this thesis sought to examine both the behavioral and psychological reactions to the two most commonly encountered shopping cart designs, i.e. showing the number of items and the financial total, or solely showing the number of items placed in the shopping cart. Across two studies, it is shown that the presence of shopping cart financial total has a number of positive outcomes.

First, this thesis shows that customer satisfaction is positively affected by a shopping cart showing the financial total. The mechanisms that explain this increase in customer satisfaction include higher perceived control, benevolence trust, and perceived usefulness. When a consumer receives financial spending feedback the perception of control over spending behavior increases. This sense of control exerts a positive effect on customer satisfaction. Moreover, the online retailer is thought to be more benevolent when financial spending feedback is present. That is, consumers perceive that the retailer is motivated by a genuine concern to place their interests ahead of its own manifest profit motive. This increase in benevolence trust is yet another mechanism that explains the observed positive relationship between financial spending feedback and customer satisfaction. Lastly, financial spending feedback increases the perceived usefulness of the website, meaning that the website is believed to be more advantageous to use because it can enhance the consumers shopping performance and productivity. This, in turn, increases satisfaction with the online retailer.

Second, this thesis finds no effect of shopping cart design on spending behavior. In fact, regardless of shopping cart design, average spending levels closely approximate spending expectations for the shopping trip, resulting in comparable spending levels. However, this non-

significant result does not put us in a position to conclude that shopping cart design does not have an impact on spending levels (Söderlund, 2018, p.165). To assess this, further research will be necessary. However, we speculate that there may be two conflicting explanations for the null result. One possible explanation is that a shopping cart showing solely the number of items is a less effective monitoring mechanism, in line with the prediction, but that the limited assortment in the survey impeded the possibility of unplanned purchases. This would suggest that in a real-life scenario, there might be differences in spending levels. In contrast, another explanation might be that both shopping carts designs are sufficiently effective monitoring mechanisms. Hence, displaying the number of items in the shopping cart may still draw attention to the individual's spending behavior, making consumers equally concerned about their spending behavior regardless of shopping cart design. This would then suggest that shopping cart design actually does not have an effect on spending behavior.

In sum, this thesis set out to answer the question "*How does shopping cart design affect spending behavior and customer satisfaction?".* We conclude that shopping cart design has an impact on customer satisfaction, in the sense that the presence of shopping cart financial total increases customer satisfaction through higher perceived control, benevolence trust, and perceived usefulness. With regards to the effect of shopping cart design on spending behavior, it is not possible to make any inferences within the scope of this thesis.

11. Practical implications

From a managerial perspective, the result of this thesis suggests that online retailers will be better off by showing the financial total. This enhances consumers' perception of being in control of their spending behavior as well as the perceived usefulness of the website and the perceived benevolence of the retailer. All of these aspects have a positive impact on customer satisfaction. Moreover, there is no evidence that the presence of shopping cart financial total effects retailers' revenues. These findings imply that this thesis has found a new "best practice". Consequently, a majority (56%) of all online retailers have to rethink their website designs, as they currently do not display the shopping cart financial total. If online retailers choose not to adhere to this suggestion, there is an imminent risk that customers become more satisfied with competing online retailers. As satisfaction is a natural antecedent to loyalty, and competition within online retailing becomes more intense, having satisfied customers is pivotal to survive in the long run.

Another crucial insight for all retailers is to make an active decision about the shopping cart design and not only mirror successful websites. One arguably successful website is Amazon (Amazon, 2019). If retailers choose to mirror their layout, they will end up with a shopping cart not displaying the financial total. Hence, even the best retailers are not perfect, and each retailer therefore carefully needs to consider how different website design decision may have an impact on their consumers' reactions.

Lastly, if retailers do not wish to change the design of the shopping cart in accordance with the provided suggestions, the next-best option may be to make it easy for customers to retrieve the spending information when desired. This could be done, for example, via a pop-up that is temporarily displayed every time the customer adds a product to his/her shopping cart. This is a technique used by Zalando (Zalando SE, 2019) and Clas Ohlson (Clas Ohlson, 2019). Another possible solution is to display the spending total if the customer clicks on the shopping cart icon. This can be done by having the spending total as a hidden element that is only activated when called upon (i.e. via the click). A similar solution is used by Coop (Coop, 2019). Importantly, there should not be any hassle to receive the spending information and it should feel like a natural part of the shopping experience.

All the above suggestions are applicable to the myriad of in-house web designers, web design bureaus, and "DIY"-website builders such as Wix and Squarespace. Consequently, the findings in this thesis are expected to have a significant impact on the online retail market, regardless of firm size.

12. Limitations

This thesis is not without limitations. Criticisms that can be directed towards the first study are threefold. First, there were consequences of creating a shopping site within the format of a survey. In the shopping site, we were not able to integrate a function that allowed respondents to go back and forth between the shopping pages without the spending feedback function crashing. This limitation may have impacted consumers shopping decisions, as it is reasonable to believe that some respondents wanted to go back and forth if they forgot to purchase a product. Moreover, the study only covered the part of the shopping journey up until the consumer reached the check-out. Hence, respondents were not able to remove items from their shopping cart after reaching the check-out. We acknowledge that this is a limitation since some respondents might have planned to remove items at a later stage. Second, consumers had no previous experiences of the retailer, as it was fictive. This meant that respondents were unfamiliar with the assortment and the price levels when they reported their spending expectations and number of items in their pre-shopping plan. However, the prices and products used were adopted from an actual retailer. Consequently, price levels should not have been significantly different from what they could have expected. Moreover, the assortment was limited to 48 products. It is, therefore, reasonable to believe that all respondents could not purchase exactly all the products they had planned to purchase. On the other hand, before creating the assortment, 10 individuals were asked what they usually purchase in order to make home-made burgers and the assortment was created on the basis of this input. Therefore, most respondents should have been able to purchase the products they set out to. However, we acknowledge the limitation this put on this thesis. Third, the questions regarding perceived control were previously untested. It could be established that the items used measure the same thing, as they have an acceptable Cronbach's Alpha. However, there are some uncertainties regarding if the items measure what they purport to measure since they are previously untested. However, they were adopted with inspiration from similar previously tested questions, which should create an acceptable level of reliability.

Criticism against the second study is that it intervened in natural settings and created a more artificial “pretend situation”. For instance, instead of receiving real-time spending feedback, with a continuously updated running total, the respondents had to imagine that the information was continuously updated, as stated in the scenario description. This unnaturalness may make the findings less ecologically valid. However, as the sample only consisted of people that had

indicated that they had purchased online before, their ability to imagine the described scenario should have been high. Yet, we recognize the limitation of using a hypothetical scenario instead of conducting the experiment in a real setting.

A general shortcoming of this thesis is that it should have tested all mediating variables in both studies. Benevolence trust and perceived usefulness were only tested in the second study. By including these measured in both studies, the internal validity of the findings could have increased. Lastly, the first study and the second study used different measures for perceived control. This had to be done as perceived control was irrelevant to measure in study 2, due to the shoppers not interacting in the shopping process. Hence, expected control was the applicable measure in the second study. The consequence of this change in measures is that it potentially undermines the reliability of the findings on perceived control.

13. Future studies

Future research can extend our efforts in this thesis in a number of ways. First, this thesis cannot find any effect of shopping cart design on spending behavior. This offers opportunities for future research to confirm that financial spending feedback actually does not affect spending levels when a consumer maintains an implicit budget. As previously discussed, the limited assortment and lack of environmental cues in the fictive grocery store may have impeded the occurrence of unplanned purchases. Future research could, therefore, extend our efforts by A/B testing the effect of shopping cart design on spending behavior in a real online grocery store holding a full assortment, and examine if the result found in this thesis remains unchanged.

Further, this thesis focuses on the effect of shopping cart design on spending behavior in the context of grocery shopping. Within the domain of grocery shopping, consumers are thought to have an implicit, or explicit, mental budget for each specific shopping trip. However, it is yet to be investigated how spending feedback affects spending behavior within domains where consumers do not have an implicit budget. Even if consumers do not have an implicit budget, towards which a monitoring mechanism can focus attention, the salience of the financial total may influence consumers spending behavior. Hence, there is clearly a significant opportunity to further explore the effect of financial spending feedback on spending behavior in other domains.

Future studies should also investigate if shopping cart design has diverging effects depending on if a consumer is shopping with a hedonic orientation, as opposed to a utilitarian orientation which this thesis focuses on. Grocery shopping is likely to be considered a utilitarian purchase for most consumers since it is of a functional character (i.e. need to eat) (Batra and Ahtola, 1991). A hedonic purchase, on the other hand, is associated with sensory and experiential product attributes (Batra and Ahtola, 1991). Such purchases could be when shopping for clothes or electronics. The main point is that consumers can be expected to behave differently when their purchase is of a hedonic or utilitarian character (Batra and Ahtola, 1991). Shopping cart design may, therefore, have divergent effects. Furthermore, it would also be of interest to examine if consumers perceive the shopping experience as more or less entertaining (“fun”) when receiving financial spending feedback. It might be that consumers perceive the shopping experience as less entertaining if they are constantly reminded of how much they are spending.

Lastly, future research should investigate if it is beneficial to include all extra charges connected to the purchase (e.g. shipping costs, administration fees, etc.) in the running total of the shopping cart. Currently, it is common that online retailers do not show consumers the "end-of-shopping" total cost until the consumer reaches the check-out. If a consumer has been monitoring its spending whilst shopping and have spent the amount it is willing to spend, but later learns about extra charges just before completing the purchase, it is likely that this sudden increase in total cost affects customer satisfaction as well as shopping cart abandonment rates.

All of the aforementioned suggestions would increase the understanding of how shopping cart design affects consumers in an online context. Since research within this area currently is limited, we look forward to following the progress in this field of study.

14. Bibliography

Aidley, D. 2019, *Introducing Quantitative Method A Practical Guide,* 1st edn, Red Globe Press, London.

Amazon 2019, , *Amazon.com* [Homepage of Amazon], [Online]. Available: https://www.amazon.com/ [2019, 5/9].

Amin, M., Rezaei, S. & Abolghasemi, M. 2014, "User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust", *Nankai Business Review International,* vol. 5, no. 3, pp. 258-274.

Andersen, J. 2018, 2018-01-31-last update*, Topplista: Sveriges 100 största e-handlare* [Homepage of Ehandel.se], [Online]. Available: http://www.ehandel.se/Sveriges-100-storsta-e-handlare,11857.html [2019, 1/28].

Anderson, R.E. & Srinivasan, S.S. 2003, "E-satisfaction and e-loyalty: A contingency framework", *Psychology & marketing,* vol. 20, no. 2, pp. 123-138.

Balabanis, G., Reynolds, N. & Simintiras, A. 2006, "Bases of e-store loyalty: Perceived switching barriers and satisfaction", *Journal of Business Research,* vol. 59, no. 2, pp. 214-224.

Barron, R. & Kenny, D. 1986, "The moderator-mediator distinction in social psychology: Conceptual, strategic and statistical considerations", *Journal of personality and social psychology,* vol. 51, pp. 1171-1182.

Bateson, J.E. 1985, "Self-service consumer: An exploratory study.", *Journal of Retailing,* .

Batra, R. & Ahtola, O.T. 1991, "Measuring the hedonic and utilitarian sources of consumer attitudes", *Marketing Letters,* vol. 2, no. 2, pp. 159-170.

Baumeister, R.F. 2002, "Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior", *Journal of consumer Research,* vol. 28, no. 4, pp. 670-676.

Bryman, A. 2018, *Samhällsvetenskapliga metoder,* 3rd edn, Liber AB, Malmö.

Bryman, A. & Bell, E. 2011, *Business Research Methods,* 3rd edn, Oxford University Press Inc., New York, US.

Calisir, F. & Calisir, F. 2004, "The relation of interface usability characteristics, perceived usefulness, and perceived ease of use to end-user satisfaction with enterprise resource planning (ERP) systems", *Computers in Human Behavior,* vol. 20, no. 4, pp. 505-515.

Cheema, A. & Soman, D. 2006, "Malleable mental accounting: The effect of flexibility on the justification of attractive spending and consumption decisions", *Journal of Consumer Psychology,* vol. 16, no. 1, pp. 33-44.

Clas Ohlson 2019, , *Clas Ohlson* [Homepage of Clas Ohlson], [Online]. Available: https://www.clasohlson.com/se/ [2019, 5/9].

Coop 2019, [Homepage of Coop], [Online]. Available: https://www.coop.se/handla-online/ [2019, 5/8].

Dabholkar, P.A. 1996, "Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality", *International Journal of research in Marketing,* vol. 13, no. 1, pp. 29-51.

Dabholkar, P.A. 1996, "Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality", *International Journal of research in Marketing,* vol. 13, no. 1, pp. 29-51.

Dabholkar, P.A. 1996, "Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality", *International Journal of research in Marketing,* vol. 13, no. 1, pp. 29-51.

Dabholkar, P.A., Michelle Bobbitt, L. & Lee, E. 2003, "Understanding consumer motivation and behavior related to self-scanning in retailing: Implications for strategy and research on technology-based self-service", *International Journal of Service Industry Management,* vol. 14, no. 1, pp. 59-95.

Davis, F.D. 1989, "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS quarterly,* , pp. 319-340.

Dinlersoz, E.M. & Li, H. 2006, "The shipping strategies of internet retailers: Evidence from internet book retailing", *Quantitative marketing and Economics,* vol. 4, no. 4, pp. 407-438.

Doney, P.M., Barry, J.M. & Abratt, R. 2007, "Trust determinants and outcomes in global B2B services", *European Journal of marketing,* vol. 41, no. 9/10, pp. 1096-1116.

Dreyfuss, E. 2018, 2018-last update*, A Bot Panic Hits Amazon's Mechanical Turk* [Homepage of Wired], [Online]. Available: https://www.wired.com/story/amazon-mechanical-turk-bot-panic/ [2019, 5/1].

Eliasson, A. 2013, *Kvantitativ metod från början,* 3:1 edn, Studentlitteratur AB, Lund.

Ellison, G. & Ellison, S.F. 2009, "Search, obfuscation, and price elasticities on the internet", *Econometrica,* vol. 77, no. 2, pp. 427-452.

Eroglu, S.A., Machleit, K.A. & Davis, L.M. 2001, "Atmospheric qualities of online retailing: A conceptual model and implications", *Journal of Business research,* vol. 54, no. 2, pp. 177-184.

Flavián, C., Guinalíu, M. & Gurrea, R. 2006, "The role played by perceived usability, satisfaction and consumer trust on website loyalty", *Information & management,* vol. 43, no. 1, pp. 1-14.

Garbarino, E. & Lee, O.F. 2003, "Dynamic pricing in internet retail: effects on consumer trust", *Psychology & Marketing,* vol. 20, no. 6, pp. 495-513.

Granados, N.F., Gupta, A. & Kauffman, R.J. 2006, "The impact of IT on market information and transparency: A unified theoretical framework", *Journal of the Association for Information Systems,* vol. 7, no. 3, pp. 7.

Granados, N., Gupta, A. & Kauffman, R.J. 2008, "Designing online selling mechanisms: Transparency levels and prices", *Decision Support Systems,* vol. 45, no. 4, pp. 729-745.

Hauser, D.J. & Schwarz, N. 2016, "Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants", *Behavior research methods,* vol. 48, no. 1, pp. 400-407.

Hausman, A.V. & Siekpe, J.S. 2009, "The effect of web interface features on consumer online purchase intentions", *Journal of Business Research,* vol. 62, no. 1, pp. 5-13.

Hayes, A.F. 2017, *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach,* Guilford Publications.

Heath, C. & Soll, J.B. 1996, "Mental budgeting and consumer decisions", *Journal of consumer research,* vol. 23, no. 1, pp. 40-52.

Heggemann, H. & Helgeson, T. 2017, 2017-12-11-last update*, Att mäta fattigdom* [Homepage of Statistiska centralbyrån], [Online]. Available: https://www.scb.se/hitta-statistik/artiklar/2017/Att-mata-fattigdom/ [2019, 04/19].

Hui, M.K. & Bateson, J.E. 1991, "Perceived control and the effects of crowding and consumer choice on the service experience", *Journal of consumer research,* vol. 18, no. 2, pp. 174-184.

Inman, J.J., Winer, R.S. & Ferraro, R. 2009, "The interplay among category characteristics, customer characteristics, and customer activities on in-store decision making", *Journal of Marketing,* vol. 73, no. 5, pp. 19-29.

Jia, H., Wang, Y., Ge, L., Shi, G. & Yao, S. 2012, "Asymmetric effects of regulatory focus on expected desirability and feasibility of embracing self-service technologies", *Psychology & Marketing,* vol. 29, no. 4, pp. 209-225.

Johnson, R.D. & Levin, I.P. 1985, "More than meets the eye: The effect of missing information on purchase evaluations", *Journal of Consumer Research,* vol. 12, no. 2, pp. 169-177.

Kim, D.J., Ferrin, D.L. & Rao, H.R. 2009, "Trust and satisfaction, two stepping stones for successful e-commerce relationships: A longitudinal exploration", *Information systems research,* vol. 20, no. 2, pp. 237-257.

Kim, H. & Huh, J. 2017, "Perceived Relevance and Privacy Concern Regarding Online Behavioral Advertising (OBA) and Their Role in Consumer Responses", *Journal of Current Issues & Research in Advertising,* vol. 38, no. 1, pp. 92-105.

Kim, J.B. 2012, "An empirical study on consumer first purchase intention in online shopping: integrating initial trust and TAM", *Electronic Commerce Research,* vol. 12, no. 2, pp. 125-150.

Kim, J., Jin, B. & Swinney, J.L. 2009, "The role of etail quality, e-satisfaction and e-trust in online loyalty development process", *Journal of retailing and Consumer services,* vol. 16, no. 4, pp. 239-247.

Krishnamurthy, P. & Prokopec, S. 2009, "Resisting that triple-chocolate cake: Mental budgets and self-control", *Journal of Consumer Research,* vol. 37, no. 1, pp. 68-79.

Laczniak, R.N. & Muehling, D.D. 1993, "The relationship between experimental manipulations and tests of theory in an advertising message involvement context", *Journal of Advertising,* vol. 22, no. 3, pp. 59-74.

Larson, J.S. & Hamilton, R. 2012, "When budgeting backfires: how self-imposed price restraints can increase spending", *Journal of Marketing Research,* vol. 49, no. 2, pp. 218-230.

Lin, G.T. & Sun, C. 2009, "Factors influencing satisfaction and loyalty in online shopping: an integrated model", *Online information review,* vol. 33, no. 3, pp. 458-475.

Lynch Jr, J.G., Netemeyer, R.G., Spiller, S.A. & Zammit, A. 2009, "A generalizable scale of propensity to plan: the long and the short of planning for time and for money", *Journal of Consumer Research,* vol. 37, no. 1, pp. 108-128.

Marzocchi, G.L. & Zammit, A. 2006, "Self-scanning technologies in retail: determinants of adoption", *The Service Industries Journal,* vol. 26, no. 6, pp. 651-669.

Mayer, R.C., Davis, J.H. & Schoorman, F.D. 1995, "An integrative model of organizational trust", *Academy of management review,* vol. 20, no. 3, pp. 709-734.

Montoya-Weiss, M.M., Voss, G.B. & Grewal, D. 2003, "Determinants of online channel use and overall satisfaction with a relational, multichannel service provider", *Journal of the academy of marketing Science,* vol. 31, no. 4, pp. 448-458.

Mukherjee, A. & Nath, P. 2007, "Role of electronic trust in online retailing: A re-examination of the commitment-trust theory", *European Journal of Marketing,* vol. 41, no. 9/10, pp. 1173-1202.

Muylle, S., Moenaert, R. & Despontin, M. 2004, "The conceptualization and empirical validation of web site user satisfaction", *Information & management,* vol. 41, no. 5, pp. 543-560.

Paolacci, G. & Chandler, J. 2014, "Inside the Turk: Understanding Mechanical Turk as a participant pool", *Current Directions in Psychological Science,* vol. 23, no. 3, pp. 184-188.

Peer, E., Vosgerau, J. & Acquisti, A. 2014, "Reputation as a sufficient condition for data quality on Amazon Mechanical Turk", *Behavior research methods,* vol. 46, no. 4, pp. 1023-1031.

Piron, F. 1991, "Defining impulse purchasing", *ACR North American Advances,* .

PostNord 2019, *E-barometern Årsrapport 2018*, Postnord - Svensk Digital Handel - Hui Research.

Prolific Academic 2019, [Homepage of Prolific Academic], [Online]. Available: https://prolific.ac/ [2019, 5/8].

Reichheld, F.F. & Schefter, P. 2000, "E-loyalty: your secret weapon on the web", *Harvard business review,* vol. 78, no. 4, pp. 105-113.

Richard, M. 2005, "Modeling the impact of internet atmospherics on surfer behavior", *Journal of business research,* vol. 58, no. 12, pp. 1632-1642.

Roman, S. 2007, "The ethics of online retailing: a scale development and validation from the consumers' perspective", *Journal of Business Ethics,* vol. 72, no. 2, pp. 131-148.

Rouibah, K., Abbas, H. & Rouibah, S. 2011, "Factors affecting camera mobile phone adoption before e-shopping in the Arab world", *Technology in Society,* vol. 33, no. 3-4, pp. 271-283.

Scheinbaum, A.C., Kukar-Kinney, M. & Benusa, K. 2012, "Towards a Theory of Consumer Electronic Shopping Cart Behavior: Motivations of E-Cart Use and Abandonment", *ONLINE CONSUMER BEHAVIOR: THEORY AND RESEARCH IN SOCIAL MEDIA, ADVERTISING, AND E-TAIL, Angeline G.Close, ed., Routledge,* .

Singh, J. & Sirdeshmukh, D. 2000, "Agency and trust mechanisms in consumer satisfaction and loyalty judgments", *Journal of the Academy of marketing Science,* vol. 28, no. 1, pp. 150-167.

Skinner, E.A. 1996, "A guide to constructs of control.", *Journal of personality and social psychology,* vol. 71, no. 3, pp. 549.

Skinner, E.A. 1995, *Perceived control, Motivation & Coping,* SAGE Publication Inc, Thousand Oaks, CA, US.

Söderlund, M. 2018, *Experiment in Marketing,* 1st edn, Studentlitteratur AB, Lund.

Söderlund, M. 2010, *Consumer Behavior A Nordic Perspective,* 1st edn, Studentlitteratur AB, Lund.

Söderlund, M. 2006, "Measuring customer loyalty with multi-item scales: A case for caution", *International journal of service industry management,* vol. 17, no. 1, pp. 76-98.

Stilley, K.M., Inman, J.J. & Wakefield, K.L. 2010, "Planning to make unplanned purchases? The role of in-store slack in budget deviation", *Journal of consumer research,* vol. 37, no. 2, pp. 264-278.

Svensk Handel 2018, *Det stora detaljhandelsskiftet 2018*, Svensk Handel.

Szymanski, D.M. & Hise, R.T. 2000, "E-satisfaction: an initial examination", *Journal of Retailing,* vol. 76, no. 3, pp. 309-322.

Thaler, R. 1985, "Mental accounting and consumer choice", *Marketing science,* vol. 4, no. 3, pp. 199-214.

Thaler, R.H. 1999, "Mental accounting matters", *Journal of Behavioral Decision Making,* vol. 12, no. 3, pp. 183-206.

Van Ittersum, K., Pennings, J.M. & Wansink, B. 2010, "Trying harder and doing worse: How grocery shoppers track in-store spending", *Journal of Marketing,* vol. 74, no. 2, pp. 90-104.

Van Ittersum, K., Wansink, B., Pennings, J.M. & Sheehan, D. 2013, "Smart shopping carts: How real-time feedback influences spending", *Journal of Marketing,* vol. 77, no. 6, pp. 21-36.

Venkatesh, V. & Morris, M.G. 2000, "Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior", *MIS quarterly,* , pp. 115-139.

Wang, Y.J., Minor, M.S. & Wei, J. 2011, "Aesthetics and the online shopping environment: Understanding consumer responses", *Journal of Retailing,* vol. 87, no. 1, pp. 46-58.

Weijters, B., Rangarajan, D., Falk, T. & Schillewaert, N. 2007, "Determinants and outcomes of customers' use of self-service technology in a retail setting", *Journal of Service Research,* vol. 10, no. 1, pp. 3-21.

Wenemark, M. 2017, *Enkätmetodik med respondenten i fokus,* 1st edn, Studentlitteratur AB, Lund.

Wolfinbarger, M. & Gilly, M.C. 2003, "eTailQ: dimensionalizing, measuring and predicting etail quality", *Journal of Retailing,* vol. 79, no. 3, pp. 183-198.

Yoon, S. 2002, "The antecedents and consequences of trust in online-purchase decisions", *Journal of interactive marketing,* vol. 16, no. 2, pp. 47-63.

Zalando SE . Available: https://www.zalando.com [2019, 05/08].

15. Appendix

15.1. Appendix 1 - An examination of retailers' shopping cart design

		Was the number of items displayed?	
		Yes	No
Was the financial total displayed?	Yes	20 (40%)	2 (4%)
	No	28 (56%)	0 (0%)

All the examined retailers:

Number	Name of retailer	Shopping cart design (spending feedback)
1	Dustin / Dustin home	Financial + Quantity
2	Cdon.com	Quantity
3	Ellos	Quantity
4	Adlibris	Quantity
5	Komplett.se	Financial + Quantity
6	Nelly.com / NLY Man	Financial + Quantity
7	Gymgrossisten.com / Bodystore.com / Milebreaker.com	Financial + Quantity
8	Boozt.com	Quantity
9	Tretti.se	Quantity
10	Bygghemma.se	Financial + Quantity
11	MatHem	Quantity
12	SkånskaByggvaror.se	Financial + Quantity
13	Linas Matkasse	n.a.
14	Apotea / Vitaminvaruhuset.se	Financial + Quantity
15	Sportamore	Quantity
16	Bokus.com	Quantity
17	InkClub / Dammsugarpåsar.nu	Financial + Quantity
18	Lekmer	Quantity
19	RoyalDesign	Quantity
20	Cellbes	Quantity
21	Jollyroom	Quantity
22	24MX / Xlmoto / Sledstore	Financial
23	Furniturebox	Financial + Quantity
24	Lyko.se	Financial + Quantity
25	Outnorth	Quantity
26	Skruvat.se	Financial + Quantity
27	CyberPhoto	Quantity
28	NordicFeel	Quantity
29	Fyrklövern	Quantity
30	Junkyard.se	Quantity
31	Kellfri	Quantity
32	CarpetVista / Rugvista	Quantity
33	Misco.se	Financial + Quantity
34	Mat.se	Financial + Quantity
35	Jotex	Quantity
36	Bythjul.com	Financial + Quantity
37	Halens	Quantity
38	Babyshop.se	Financial
39	Lenson	Quantity
40	Ginza.se	Financial + Quantity
41	Design OnLine AB	Quantity
42	Footway / Brandos	Quantity
43	CoolStuff	Quantity
44	Engelsons postorder ab	Quantity
45	Ateljé Margaretha / Knittingroom / Åshild / Linea	Financial + Quantity
46	Caliroots	Financial + Quantity
47	Dinprint	Financial + Quantity
48	CareOfCarl.com	Financial + Quantity
49	Snusbolaget	Financial + Quantity
50	Stayhard.se	Quantity
51	Infotheek	n.a.
52	Rapunzel	Quantity

15.2. Appendix 2 - The assortment of the fictive grocery retailer in study 1

Respondents (n = 10) were interviewed about what ingredients they like to purchase when cooking homemade burgers. The interviewees were chosen to represent different diets (vegetarian, vegan, carnivore). This made sure that the assortment would not be biased by our' diets. The question was open-ended, and all respondents received the same question. The question was, *"When you are going to make homemade burgers, which ingredients would you like to purchase and what quantities?"* If the answer wasn't sufficient, follow up questions were asked. For example, if a respondent answered "meat", he or she was then asked what type of meat, how much, etc., until an adequate answer was received. The ingredients included in the assortment of the study was then selected on the basis of this list. An extensive list of all ingredients can be found below.

Category	Product	Price	Comparison price
Vegetables	Tomat 3 st (ca 300 gram)	11.7	Jfr-pris 39.90 kr/kg
	Cocktailtomater plommon 250 gram	26.95	Jfr-pris 107.80 kr/kg
	Lök gul ca 220 gram/st	4.83	Jfr-pris 21.95 kr/kg
	Avokado 2 st (360 gram)	29.8	Jfr-pris 82.78 kr/kg
	Isbergssallad ca 400 gram/st	13.98	Jfr-pris 34.95 kr/kg
	Kruksallad ca 210 gram/st	22.95	Jfr-pris 109.29 kr/kg
	Gurka ca 350 gram/st	14.9	Jfr-pris 39.21 kr/kg
	Silverlök 2 st (ca 140 gram/st)	15.38	Jfr-pris 54.90 kr/kg
Fries	Potatis lösvikt 1kg	12.9	Jfr-pris 12.90 kr/kg
	Sötpotatis lösvikt 1 kg	37.9	Jfr-pris 37.90 kr/kg
	Pommes Strips Fryst Felix 900 gram	17.5	Jfr-pris 19.44 kr/kg
	Sötpotatis strips Fryst ICA 1 kg	74.00	Jfr-pris 74 kr/kg
Accessories	Rödlök ca 160 gram/st	3.83	Jfr-pris 23.95 kr/kg
	Strösocker 1kg	16.5	Jfr-pris 16.50 kr/kg
	Ättiksprit 12 % 50 cl	15.9	Jfr-pris 31.80 kr/l
	Skivad Saltgurka Felix 715 gram	25.9	Jfr-pris 58.86 kr/kg
	Jalapeño skivad Santa Maria 215 gram	27.5	Jfr-pris 250 kr/kg
	Skivad saltgurka ICA 520 gram	15.9	Jfr-pris 53 kr/kg
	Jalapeño Skivad Sevan 320 gram	15.9	Jfr-pris 49.69 kr/kg
	Rostad lök 150 g	9.95	Jfr-pris 99.95 kr/kg
Protein	Nötfärs 1kg	87.8	Jfr-pris 87.80 kr/kg
	Högrevsfärs 2 stycken (á 500 g)	149.8	Jfr-pris 149.80 kr/kg
	Bacon 3-pack (420 gram)	32.9	Jfr-pris 78.33 kr/kg
	Hamburgare Nötkött 2 stycken 4-Pack (á 500 g)	85.8	Jfr-pris 94.91 kr/kg
	Hamburgare Frysta s stycken 4-Pack (a 520 g)	84.9	Jmf-pris 84.90 kr/kg
	Vegoburgare 12-Pack 880 gram	62.5	Jfr-pris 71.03 kr/kg
	Halloumiburgare 60g 4-p 2st	91.8	Jfr-pris 11.48 kr/st
	Kycklingburgare Fryst 8-p 760g Guldfågeln	84.9	Jfr-pris 10.61 kr/st
Sauces	BBQ sås Honung 510g Sweet Baby Rays	42.95	Jfr-pris 84.22 kr/kg
	Amerikansk dressing Orginal 230 gram	19.9	Jfr-pris 86.52 kr/kg
	Ketchup Heinz 1kg	26.9	Jfr-pris 26.90 kr/kg
	Ketchup Felix 1kg	22.95	Jfr-pris 22.95 kr/kg
	Senap Original Johnnys 500 gram	19.9	Jfr-pris 39.80 kr/kg
	Senap Original Slotts 490 gram	16.9	Jfr-pris 34.49 kr/kg
	Bearnaisesås Eriks Såser 230 ml	24.5	Jfr-pris 106.52 kr/l
	Bearnaisesås ICA 200 ml	18.9	Jrf-pris 94.50 kr/l
	Coleslaw Rydbergs 400 gram	33.5	Jfr-pris 83.75 kr/kg
	Hamburgerdressing Green & Garlic 220 ml Max	23.95	Jfr-pris 108.87 kr/l
	Sås BBQ Sweet & Smokey 370ml Felix	26.9	Jfr-pris 72.70 kr/l
	Majonnäs Sriracha 250ml	27.9	Jfr-pris 111.60 kr/l
Cheese	Fetaost Original 150 gram	25.5	Jfr-pris 170 kr/kg
	Hushållsost skivad 300 gram	45.5	Jfr-pris 151.67 kr/kg
	Cheddar lagrad ca 500 gram	74.5	Jfr-pris 149 kr/kg
	Cheddarost Slices 10-p 200 gram	23.9	Jfr-pris 119.50 kr/kg
Bread	Hamburgerbröd Bistro Brioche 2 stycken 4-Pack	57.00	Jfr-pris 101.79 kr/kg
	Hamburgerbröd 8-Pack	31.5	Jfr-pris 70.31 kr/kg
	Hamburgerbröd Fiberrika 8-Pack	32.9	Jfr-pris 68.54 kr/kg
	Hamburgerbröd Frisco 2 stycken 4-p	49.8	Jfr-pris 76.85 kr/kg

15.3. Appendix 3 - Scenarios

Study 1
This scenario is translated from Swedish to English.

"You're purchasing dinner for you and three family member an ordinary weekday. You've decided to cook home-made hamburgers, and you have to purchase ingredients for the four of you. You decide to buy these ingredients at the online store "The Grocer". The only ingredients you have at home are salt, pepper, oil, and butter. Please note that you are only supposed to purchase ingredients for the hamburgers - no drinks, snacks or other groceries"

Study 2
"*Imagine that you are shopping groceries at the fictive online grocery store "The Grocer". You've now been shopping for a while and you've put some items in your shopping cart. Every time you've been adding an item to the shopping cart, the shopping cart has been updated with the information shown in the picture below (the shopping cart/trolley/basket is all the information provided in the top right-hand corner of the website). Please pay close attention to the picture before answering the questions. Note that the purpose of the picture is to show you the shopper interface, i.e. the products shown are not the products in your shopping car*t."

15.4. Appendix 4 - Survey study 1

Introduktion

På nästa sida kommer ett köpscenario att presenteras för dig. I scenariot handlar du i en matbutik online. Vänligen försök sätta dig in i scenariot så gott du kan, baserat på den informationen som du får.

Fortsätt

Scenario

Du ska handla middag för dig och tre familjemedlemmar för en vanlig vardag. Du har bestämt dig för göra hemmagjorda hamburgare och behöver därför handla ingredienser som räcker till er fyra. Du bestämmer dig för att köpa dina matvaror på onlinebutiken "The Grocer". De enda ingredienserna du har hemma är salt, peppar, olja och smör.

Notera att du bara ska köpa ingredienser för själva middagen - ingen dryck, snacks eller andra varor.

Baserat på det du nyss läste, hur mycket tror du (i kronor) att du kommer att lägga på köpet?

Baserat på det du nyss läste, hur många produkter tror du att du kommer att köpa?

Fortsätt

Vänligen tryck på de produkter du vill ha. Du får välja så många (eller få) som du vill.

Butik Om Kontakt

0 st
0.00 kr

PROTEIN

Nötfärs 1 kg
87,80 kr
Jfr-pris 87,80 kr/kg

Högrevsfärs 1 kg
149,80 kr
Jfr-pris 149,80 kr/kg

Burgare frysta 8 st.
47,90 kr
Jfr-pris 66,53 kr/kg

Nötburgare 8 st.
85,80 kr
Jfr-pris 94,91 kr/kg

Bacon 3-pack
32,90 kr
Jfr-pris 84,42 kr/kg

Kycklingburgare 8 st.
84,90 kr
Jfr-pris 106,10 kr/kg

Vegoburgare 12 st.
62,50 kr
Jfr-pris 71,03 kr/kg

Halloumiburgare 8 st.
91,80 kr
Jfr-pris 111,48 kr/kg

BRÖD

Bistro Brioche 8 st.
57,00 kr
Jfr-pris 101,79 kr/kg

Hamburgerbröd 8 st.
31,50 kr
Jfr-pris 70,31 kr/kg

Fiberbröd 8 st.
32,90 kr
Jfr-pris 68,54 kr/kg

Friscobröd 8 st.
49,80 kr
Jfr-pris 76,86 kr/kg

OST

Fetaost 150 g
25,50 kr
Jfr-pris 170,00 kr/kg

Cheddarost 10 st.
23,90 kr
Jfr-pris 119,50 kr/kg

Cheddar 500 g
74,50 kr
Jfr-pris 149,00 kr/kg

Hushållsost skivad 300 g
45,50 kr
Jfr-pris 151,67 kr/kg

Avdelningar: **Protein, bröd & ost** → Strips & såser → Grönsaker & tillbehör

Gå till Strips & Såser →

Vänligen tryck på de produkter du vill ha. Du får välja så många (eller få) som du vill.

Butik Om Kontakt

0 st
0 kr

STRIPS

Potatis lösvikt 1 kg
12.90 kr
Jfr-pris 12.90 kr/kg

Sötpotatis lösvikt 1 kg
37.90 kr
Jfr-pris 37.90 kr/kg

Pommes strips frysta Felix 900 g
17.50 kr
Jfr-pris 19.44 kr/kg

Sötpotatis strips frysta ICA 1 kg
74.00 kr
Jfr-pris 74.00 kr/kg

SÅSER

Ketchup Heinz 1 kg
26.90 kr
Jfr-pris 26.90 kr/kg

Ketchup Felix 1 kg
22.95 kr
Jfr-pris 22.95 kr/kg

Senap Slotts 490 g
16.90 kr
Jfr-pris 34.49 kr/kg

Senap Johnnys 500 g
19.90 kr
Jfr-pris 39.80 kr/kg

Bearnaisesås Eriks såser 230 ml
24.50 kr
Jfr-pris 106.52 kr/l

Bearnaisesås ICA 200 ml
18.90 kr
Jfr-pris 94.50 kr/l

Majonäs Sriracha 250 ml
27.90 kr
Jfr-pris 111.60 kr/l

Coleslaw Rydbergs 400 g
33.50 kr
Jfr-pris 83.75 kr/kg

BBQ-sås honung 510 g
42.95 kr
Jfr-pris 84.22 kr/kg

BBQ-sås sweet & smokey 370 ml
26.90 kr
Jfr-pris 72.70 kr/l

Amerikansk dressing 230 g
19.90 kr
Jfr-pris 86.52 kr/kg

Hamburgedressing Green & Garlic 220 ml
23.95 kr
Jfr-pris 108.87 kr/l

Avdelningar: Protein, bröd & ost → **Strips & såser** → Grönsaker & tillbehör

Gå till Grönsaker & Tillbehör →

Vänligen tryck på de produkter du vill ha. Du får välja så många (eller få) som du vill.

Butik Om Kontakt

0 st
0.00 kr

GRÖNSAKER


Tomat 3 st. (300 g)
11.70 kr
Jfr-pris 39.90 kr/kg


Cocktail 250 g
26.95 kr
Jfr-pris 107.80 kr/kg


Gul lök 1 st. (220 g)
4.83 kr
Jfr-pris 21.95 kr/kg


Silverlök 2 st. (140 g)
15.38 kr
Jfr-pris 54.90 kr/kg


Isbergssallad 400 g
13.98 kr
Jfr-pris 34.95 kr/kg


Kruksallat 210 g
22.95 kr
Jfr-pris 109.29 kr/kg


Gurka 1 st.
14.90 kr
Jfr-pris 39.21 kr/kg


Avokado 2 st.
29.80 kr
Jfr-pris 82.78 kr/kg

TILLBEHÖR


Rödlök 1 st.
3.83 kr
Jfr-pris 23.95 kr/kg


Socker
16.50 kr
Jfr-pris 16.50 kr/kg


Ättika 50 cl
15.90 kr
Jfr-pris 31.80 kr/kg

Rostad lök 150 g
9.95 kr
Jfr-pris 66.33 kr/kg


Santa Maria Jalapeño 215 g
27.50 kr
Jfr-pris 250 kr/kg


Sevan Jalapeño 320 g
23.90 kr
Jfr-pris 119.50 kr/kg


Felix Saltgurka 720 g
25.90 kr
Jfr-pris 58.86 kr/kg


ICA Saltgurka 520 g
15.90
Jfr-pris 53.00 kr/kg

Avdelningar: Protein, bröd & ost → Strips & såser → **Grönsaker & tillbehör**

Fortsätt

I vilken utsträckning instämmer du med följande påstående?

	Instämmer inte alls	2	3	4	5	6	Instämmer helt
Det var svårt att välja produkter	○	○	○	○	○	○	○
Det tog lång tid att välja produkter	○	○	○	○	○	○	○
Det var krävande att välja produkter	○	○	○	○	○	○	○

I vilken utsträckning instämmer du med följande påstående?

	Instämmer inte alls	2	3	4	5	6	Instämmer helt
Jag kände att jag hade möjlighet att övervaka mitt spenderande	○	○	○	○	○	○	○
Jag kände att jag hade kontroll över vad jag köpte	○	○	○	○	○	○	○
Jag kände att jag hade kontroll över hur mycket jag spenderade	○	○	○	○	○	○	○

Hur känner du dig?

	Inte alls	2	3	4	5	6	Väldigt
Nöjd	○	○	○	○	○	○	○
Entusiastisk	○	○	○	○	○	○	○
Frustrerad	○	○	○	○	○	○	○
Nedstämd	○	○	○	○	○	○	○
Hungrig	○	○	○	○	○	○	○

Hur mycket (i kronor) uppskattar du att du spenderade i onlinebutiken?

Hur många varor uppskattar du att du handlade i onlinebutiken?

Fortsätt

KASSA

Antal produkter	*0*
Totalbelopp (i kr)	*0*

Fortsätt till betalning

I vilken utsträckning instämmer du med följande påstående?

	Väldigt otroligt	2	3	4	5	6	Väldigt troligt
Jag kommer att handla matvaror på The Grocer de kommande 6 månaderna	○	○	○	○	○	○	○

I vilken utsträckning instämmer du med följande påstående?

	Väldigt låg	2	3	4	5	6	Väldigt hög
Sannolikheten att jag kommer att handla på The Grocer de kommande 6 månaderna är:	○	○	○	○	○	○	○

I vilken utsträckning instämmer du med följande påstående?

	Instämmer inte alls	2	3	4	5	6	Instämmer helt
Det är troligt att jag kommer att handla på The Grocer inom de kommande 6 månaderna	○	○	○	○	○	○	○

Utifrån hur du kände när du handlade i butiken, vänligen besvara dessa frågor:

Hur nöjd är du med The Grocer totalt sett?

Mycket missnöjd ○ ○ ○ ○ ○ ○ ○ Mycket nöjd

Hur väl motsvarar The Grocer dina förväntningar?

Inte alls ○ ○ ○ ○ ○ ○ ○ Helt och hållet

Föreställ dig en onlinebutik som är perfekt i alla avseenden. Hur pass nära eller långt ifrån detta ideal tycker du The Grocer är?

Mycket långt ifrån ○ ○ ○ ○ ○ ○ ○ Väldigt nära

Fortsätt

Jag identifierar mig som:

- Man
- Kvinna
- Icke-binär

Hur gammal är du (ex. 22, 45, 75)?

Vad är din månadsinkomst?

- Under 10 000
- 10 001 till 20 000
- 20 001 till 30 000
- 30 001 till 40 000
- 40 001 till 50 000
- 50 001 till 60 000
- 60 001 till 70 000
- Över 70 000

Hur ofta handlar du kläder, mat, elektronik eller annat online?

- Flera ggr i veckan
- En gång i veckan
- En gång i månaden
- Några ggr om året
- En gång om året
- Aldrig

Hur ofta lagar du hemmagjorda hamburgare?

- Flera ggr i veckan
- En gång i veckan
- En gång i månaden
- Några ggr om året
- En gång om året
- Aldrig

I vilken utsträckning instämmer du med följande påståenden om dig?

	Instämmer inte alls	2	3	4	5	6	Instämmer helt
Jag har vanligtvis en budget när jag handlar matvaror	○	○	○	○	○	○	○
Jag bestämmer på förhand hur mycket jag ska spendera innan jag handlar matvaror	○	○	○	○	○	○	○
Innan jag börjar handla vet jag ungefär hur mycket jag vill spendera	○	○	○	○	○	○	○

Vad tror du att den här studien handlar om?

Fortsätt

Hur många personer (inklusive dig själv) skulle du köpa middag för enligt scenariot som presenterades för dig i början av enkäten?

1

2

3

4

5

6

Fortsätt

15.5. Appendix 5 - Summary statistics and correlations (study 1)

Study 1: Descriptive statistics and correlations

Variable	M	SD	1	2	3	4	5	6	7
1. Perceived control	4.76	1.70	(0.869)						
2. Customer satisfaction	4.52	1.25	0.263*	(0.846)					
3. Mental budget (SEK)	271.57	128.08	−0.080	0.221**	(~)				
4. Pre-shopping plan (number of items)	8.12	3.42	0.025	0.190*	0.564**	(~)			
5. Actual spending (SEK)	281.11	93.39	−0.070	0.077	0.544**	0.499**	(~)		
6. Actual spending (number of items)	8.78	2.75	−0.036	0.116	0.536**	0.689**	0.817**	(~)	
7. Estimated spending (SEK)	303.88	119.60	−0.080	0.179*	0.664**	0.339**	0.630**	0.549*	(~)

** = p <0.05*

*** = p <0.01*

( ) = Cronbach's alpha value

15.6. Appendix 6 – Analysis of estimation bias (study 1)

To test how much attention respondents paid to the information in the shopping cart, we compare estimation biases, which represent the average absolute difference between estimated spending and actual spending (estimated spending - actual spending). The absolute value is used since we are interested in the magnitude of the discrepancy, rather than the mean value of under- and overestimations. Since both treatment groups were presented with the number of items placed in the shopping cart, both treatment groups should be equally accurate when estimating the number of items chosen. However, since only the second treatment group were presented with the shopping cart financial total, they should suffer less estimation bias in terms of financial spending. The result shows that there is no significant difference in estimation bias regarding the number of items and that there is a significant difference in estimation bias regarding financial spending. This indicates that respondents paid sufficient attention to the information provided in the shopping cart.

Independent t-test on estimation bias

	Financial spending feedback M (SD)	Quantity spending feedback M (SD)	Mean difference (SE)	p-value
Estimation bias (SEK)	38.66 (48.84)	81.88 (89.70)	-43.22 (11.16)	0.000
Estimation bias (number of items)	1.23 (2.22)	1.07 (1.16)	0.15 (0.27)	0.574

Estimation bias (SEK) = ABS (Estimated spending - Actual spending)
Estimation bias (number of items) = ABS (Estimated number of items - Actual spending (number of items))

15.7. Appendix 7 – Survey study 2

Thank you for participating in this study!

This study is about online purchasing behavior. It is estimated to take 5 minutes. All answers are anonymous.

In order to make sure that you're paying attention, there will be control questions. If they're not answered correctly, you'll not receive your credit.

If you have any questions regarding this survey, please contact 50514@student.hhs.se or 50510@student.hhs.se

---

Please enter your Prolific ID here:

Continue →

Please answer this question correctly to confirm you're not a robot.

What is 12 minus 5?

Try to recall the last time you were shopping online...

Note: A shopping cart is an icon in the top right-hand corner of the website. It usually shows you how much you've purchased

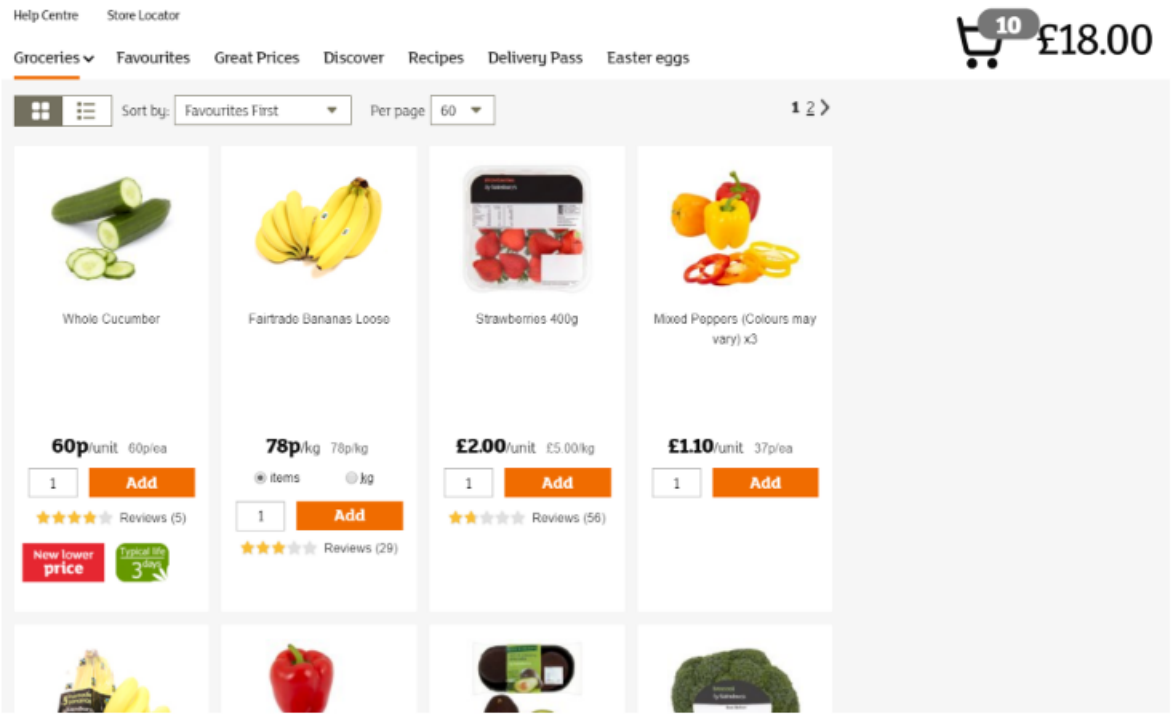
	Not at all/None	2	3	4	5	6	Very much
How much attention did you pay to the information in the shopping cart?	○	○	○	○	○	○	○
How much did you notice the information in the shopping cart?	○	○	○	○	○	○	○
How much did you concentrate on the information in the shopping cart?	○	○	○	○	○	○	○

Continue →

Scenario

Imagine that you are shopping groceries at the fictive online grocery store “The Grocer”. You've now been shopping for a while and you've put some items in your shopping cart. Every time you’ve been adding an item to the shopping cart, the shopping cart has been updated with the information shown in the picture below (the shopping cart/trolley/basket is all the information provided in the top right-hand corner of the website). Please pay close attention to the picture before answering the questions.

Note that the purpose of the picture is to show you the shopper interface, i.e. the products shown are *not* the products in your shopping cart.



When I saw the information in the shopping cart, I felt that the information in it..:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
Was worth paying attention to	○	○	○	○	○	○	○
Was relevant to my needs	○	○	○	○	○	○	○
Was useful to me	○	○	○	○	○	○	○

The amount of information provided in the shopping cart is...:

Insufficient	○	○	○	○	○	○	○	Sufficient
Not enough	○	○	○	○	○	○	○	Enough
Inadequate	○	○	○	○	○	○	○	Adequate

When shopping on this website..:

	Little control	2	3	4	5	6	A lot of control
How much control do you feel that you'll have over the money you spend?	○	○	○	○	○	○	○
How much control do you feel that you'll have over what you purchase?	○	○	○	○	○	○	○
How closely do you feel that you'll be able to monitor your spending behavior?	○	○	○	○	○	○	○

Based on the information provided in the shopping cart, I feel that using this website can...:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
Improve my shopping performance	○	○	○	○	○	○	○
Increase my shopping productivity	○	○	○	○	○	○	○
Increase my shopping effectiveness	○	○	○	○	○	○	○

Please answer the following questions:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
The website is annoying	○	○	○	○	○	○	○
The website is frustrating	○	○	○	○	○	○	○
The website is irritating	○	○	○	○	○	○	○

Based on the information provided in the shopping cart, I feel that:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
The online retailers withholds information	○	○	○	○	○	○	○
The online retailer conceals information	○	○	○	○	○	○	○
The online retailer hides informations	○	○	○	○	○	○	○

Continue →

Please answer the following questions:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
In general, the online retailer is fair	○	○	○	○	○	○	○
Overall, I consider that the online retailer follows a moral code	○	○	○	○	○	○	○
Overall, I consider the online retailer to be ethical in its dealings with consumers'	○	○	○	○	○	○	○

The website is:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
Enjoyable	○	○	○	○	○	○	○
Pleasing	○	○	○	○	○	○	○
Entertaining	○	○	○	○	○	○	○

Based on the information provided in the shopping cart, I feel that:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
The online retailer has practices that indicate respect for the customer	○	○	○	○	○	○	○
The online retailer has practices that favor the customer's best interest	○	○	○	○	○	○	○
The online retailer considers the customer's welfare when making important decisions	○	○	○	○	○	○	○

Please express your attitudes toward the online retailer:

Negative	○	○	○	○	○	○	○	Positive
Unfavorable	○	○	○	○	○	○	○	Favorable
Bad	○	○	○	○	○	○	○	Good

Please answer the following questions:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
I trust this online retailer	○	○	○	○	○	○	○
This online retailer can be trusted more than the average online retailer	○	○	○	○	○	○	○

Please answer the following questions:

	Strongly Disagree	2	3	4	5	6	Strongly Agree
Overall, I am satisfied with this online retailer	○	○	○	○	○	○	○
Imagine an online retailer that is perfect in every aspect, how or near or far from this ideal to you find this online retailer?	○	○	○	○	○	○	○
To what extent does this online retailer meet your expectation?	○	○	○	○	○	○	○

Continue →

When answering the following question, please ignore the grocery items. Instead, mark the "other" box.

- Tomato
- Potato
- Lettuce
- Pepper
- Burger
- Fries
- Honey
- BBQ-sauce
- Cucumber
- Other

Continue →

I identify myself as:

- Male
- Female
- Non-binary

How old are you (e.g. 22, 45, 67)?

How often do you shop online?

- Several times per week
- Once a week
- Once a month
- Several times per year
- Once a year
- Never

What's your annual income?

- < £10000
- £10001 - £20000
- £20001 - £30000
- £30001 - £40000
- £40001 - £50000
- £50001 - £60000
- £60001 - £70000
- > £70000

What do you think this survey is about?

Continue →

The shopping cart on this site showed me:

- Nothing
- The number of products I had chosen
- The total amount and the number of products I had chosen

Continue →

15.8. Appendix 8 - Summary statistics and correlations (study 2)

Study 2: Descriptive statistics and correlations

Variable	M	SD	1	2	3	4
1. Customer satisfaction	4.93	1.06	(0.888)			
2. Perceived control	5.81	1.17	0.754**	(0.910)		
3. Perceived usefulness	4.62	1.39	0.635**	0.429**	(0.957)	
4. Benevolence trust	4.60	1.20	0.756**	0.576**	0.606**	(0.937)

** = p < 0.05*

*** = p < 0.01*

( ) = Cronbach's alpha value