

How Much Does It Cost?



A quantitative study on the impacts of price presence and
choice-set size in Online Grocery Checkout

Authors

Lazar Nestic 50396

Carl Osterman 50441

Stockholm School of Economics

Retail Management

Supervisor

Fredrik Lange

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Examiner

Mariya Ivanova

Abstract

Online Grocery Shopping is currently one of the fastest growing e-commerce sectors, with traditional grocery retailing further by far the largest retail sector in the physical market. While the design of online grocery stores has been the subject of numerous previous studies in retailing, the checkout process has been sorely neglected. In this thesis the choice of delivery options is examined as currently, the majority of OGS retailers do not display the prices of delivery options at the point of decision. Through a quantitative experimental study, varying both the presence of price information and the number of options available to consumers, we show that check-out design affects consumer choices, evaluations, and satisfaction. While the study finds no evidence that the effects of price presence on choice are reduced through increased experience, price presence is found to negatively impact satisfaction and retailer evaluations. Choice-set size is shown to increase customer evaluations of the decision situation, but not impact choice satisfaction. The processes behind these effects include attribute salience, psychological distance, and the psychological cost of trade-offs to consumers. Further, the findings in this thesis have implications for the profitability of online grocery retailers, and for retail academia. Finally, this study raises several future research questions concerning consumer decision-making, check-outs, and sustainability.

Keywords: Consumer behaviour, Online grocery, Checkout, Attribute salience, Choice satisfaction, Choice-process satisfaction.

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Table of Contents

1. Introduction	6
1.1. Background	6
1.2. Problem Area	6
1.3. Purpose & Research Question	6
1.4. Expected Research Contribution	7
1.5. Delimitation.....	7
1.6. Disposition.....	7
2. Theoretical Framework	8
2.1. Choice	8
2.2. Attitudes	11
2.3. Thought Processes.....	13
3. Methodology	14
3.1. Choice of Research Subject	14
3.2. Choice of Research Object.....	14
3.3. Research Approach.....	14
3.4. Research Method	15
3.5. Main Study	15
3.5.1. Study Design.....	15
3.5.2. Survey Design.....	16
3.5.3. Measures	17
3.5.4. Sampling	20
3.5.5. Data Collection.....	21
3.5.6. Assessment of Validity & Reliability.....	22
4. Results.....	25
4.1. Systematic Differences	25
4.2. Systematic Influence.....	26
4.3. Choice	27
4.3.1. Price Effects.....	27
4.3.2. Experience Effects	28
4.3.3. Effects of Car Access	29
4.4. Attitudes	30
4.4.1. Price Effects.....	30
4.4.2. Option Effects	32
4.4.3. Thought Processes	34

4.5. Concurrent Measures	34
5. Discussion	39
5.1. Price	39
5.2. Options	43
6. Conclusions	44
6.1. Implications for managers & practitioners	44
6.2. Limitations & Future Research Questions	45
7. Bibliography	47
8. Appendices	52
8.1. Appendix 1 - Survey Symbols	52
8.2. Appendix 2 - Survey in English	53
8.3. Appendix 3 – Survey: Swedish Translation	59
8.4. Appendix 4 - Technical Appendix	63
8.4.1 Data Cleaning	63
8.5. Appendix 5 - Tables & Figures	65
8.5.1 Tables	65
8.5.2 Figures	79

1. Introduction

In this first part of the thesis, the background (1.1), problem area (1.2) purpose and research question (1.3) that the thesis aims to answer will be presented. It will also describe some expected research contribution (1.4), delimitations for the research (1.5) and lastly the disposition outlining the rest of the thesis.

1.1. Background

Online Grocery Shopping (hereafter OGS) was one of the fastest growing sectors online (in Sweden) experiencing a 22% growth during the year 2019 (Postnord, 2020). While the grocery sector overall stands for close to half of all retail sales nationwide (Svensk Handel, 2017), their online adoption is still among the lowest in the retail industry with only 2% of total grocery sales online (Postnord, 2020). The Covid-19 crisis has further drastically accelerated adoption of OGS among consumers (Svensk Dagligvaruhandel, 2020), with retailers struggling to meet demand (Lund, 2020). Consequently, given the rapid growth and the growth potential, the online grocery sector is of high academic interest.

1.2. Problem Area

The low adoption of OGS among consumers before the crisis, is in part related to the poor website experience according to Galante, García López & Monroe of McKinsey & Co (2013). The presentation of elements in online retailing has been a fruitful vein of research over the past years, regularly utilising OGS as the research object. Often falling under the umbrella term of online shopper marketing it has time and again aimed to increase satisfaction and improve the customer experience in online channels through tweaks and adjustments to presentation (Ahlbom & Gyllenhammar, 2014; Kolesova & Singh, 2019; Ulriksson & Karlén, 2019). We believe that improvements to presentation with strong support in academic theory could help improve the performance of OGS stores, and thus adoption, as has been the case in their physical counterparts.

1.3. Purpose & Research Question

While numerous aspects of the presentation of products, categories, deals, and more online have been researched, there is a dearth of such research regarding checkouts. E-commerce check-outs in general are of special interest as they involve a number of concrete, unavoidable decisions, such as the choice of delivery option and payment method. Thaler & Sunstein (2008) coined the term Choice Architecture to describe how the presentation and design of

choices can impact consumer decision-making in various ways. For example, Choice Architects can vary the number of attributes ascribed to each option, the ordering of options, or even the number of options available to impact consumers in various ways. Given the potential of Choice Architecture to impact decision-making, retailers may be able to affect customers' choices and evaluations at checkout. This study aims to answer the question: "How do price presence and choice-set size affect consumer behaviour and evaluations in Online Grocery checkouts?".

1.4. Expected Research Contribution

To the authors' knowledge no research has been done from a retail perspective into the presentation of elements in OGS or e-commerce checkouts in general. We aim to contribute to the field of shopper marketing by examining the consumer effects of choice architecture in e-commerce checkouts. More generally we hope to broaden the field of online shopper marketing into checkout design, much as physical store checkouts have been studied in traditional shopper marketing.

We further aim to provide relevant insights for practitioners in OGS and more broadly e-commerce by showing how they may influence customer behaviour, which may have uses for the bottom-line and potentially the environment.

1.5. Delimitation

This research is delimited in a number of ways. Firstly, this study only examines consumers reactions to the checkout process itself. Thus, the study does not consider how different shopper journeys leading up to checkout may affect decision-making. Secondly, the study is limited only to the choice of delivery options and not the whole checkout. This was done to isolate the effects of our manipulations and allow for clear measurement. And finally, the study only measures participant reactions immediately following the choice of delivery options. As such, our measures of satisfaction do not take into account retailer performance in executing the chosen delivery option, only satisfaction with the process of choosing.

1.6. Disposition

In this thesis, we first present a theoretical framework and hypotheses derived thereof. Subsequently, the methodology is described in detail, followed by the results of the study. A discussion of the results follows, culminating in a summary of our conclusions. The conclusions include implications for practitioners, and the study's limitations along with suggestions for future research.

2. Theoretical Framework

We present here the theories underlying this study, separated into three sections. The sections denote the three groups of hypotheses we formulate for respondents' choices, attitudes, and underlying thought patterns. That is, we will study what action respondents take, their attitude toward the choice situation, and potentially glean insight into their reasoning when choosing.

2.1. Choice

The Multiattribute Model

The Multiattribute Model is a cognitive decision-making model used to describe how consumers evaluate and choose between alternatives (Hoyer & MacInnis, 2008). It is based on the idea that products, services, channels etc. are seen as encompassing various attributes at various levels (Levy, Weitz & Grewal, 2014). The multiattribute model in essence takes into account both the differing attributes and levels therein of choice alternatives and the differing levels of importance decision makers place on these attributes known as "Performance Beliefs" and "Importance Weights" respectively (Levy et al., 2014). Therefore, both an alternatives performance within an attribute and the importance of an attribute are key to decision outcome. In order to influence consumer decision-making retailers can then try to either change the performance beliefs or the importance weight of attributes, although changing importance weight is generally believed to be harder as these, to an extent, reflect consumer's personal values (Levy et al., 2014).

Framing

The way in which decisions are represented, i.e framed, has been shown to impact the importance of choice criteria (Hoyer & MacInnis, 2008), in other words, the importance weights of attributes. For example, by priming certain attributes consumers' judgements can be altered significantly (Bettman & Sujan, 1987). The mechanism behind this, as described by Hoyer & MacInnis (2008), is that priming causes consumers to focus on specific attributes rather than abstract criteria.

Salience

Salient attributes are those attributes that are most prominent, or noticeable, and are subsequently often "top of mind" or important (Hoyer & MacInnis, 2008). Dahlén, Lange & Rosengren (2017) state that "Salient attributes are the attributes consumers consider most before a purchase and that have the greatest impact on the purchase decision". For an attribute to impact decision-making it must display attribute determinance, that is, it must be

both salient and diagnostic (Alpert, 1971). While certain products have broadly accepted salient attributes, such as country of origin in respect to wine, marketers can affect the salience of attributes through repetition (Gardner, 1983), and through the choice of inclusion or omission (Biehal & Dipankar, 1983). By changing the salience of attributes for consumers, marketers can in many situations affect their importance and thereby impact decisions (Shapiro & Spence, 2002).

Price-Convenience

The proliferation of delivery services in the grocery sector fits into what Voli (1998) describes as the growing “convenience industry” consisting of convenient services. Consumers considering such services make a price-convenience trade-off weighing the convenience of a service against its monetary price and subsequently allocating resources to maximise their overall utility (Voli, 1998). Voli further elaborates on the multidimensionality of convenience as presented by Yale & Venkatesh (1986) showing how consumer characteristics influence convenience orientation as well as factors that influence consumers perception of product or service convenience.

Hypotheses

The primary attributes consumers trade-off when making decisions regarding delivery options in the OGS context can be summarised as Price and Convenience. Here convenience encompasses both time spent and level of service received, or the desirability of an alternative. Contrastingly, price represents the feasibility of alternatives. Given the spartan nature of the decision-making environment, presenting consumers with the accompanying price information at the point of decision renders it a focal attribute with increased salience. Due to the increased salience of the price dimension and increased importance weight in the subsequent choice we hypothesise that:

H1a: The presence of price information results in a greater propensity to choose the cheaper, and less convenient, alternatives.

Conversely consumers for whom price information is omitted are expected to base their decision in greater part on convenience as there is no cue to focus on the price dimension. Our hypothesis then is:

H1b: The omission of price information results in a greater propensity to choose the more convenient, and more expensive, alternatives.

Internal vs External Information

When consumers make decisions, they rely on both internal and external sources of information, and external information is primarily employed when consumers believe their internal information is inadequate (Levy et al., 2014). Consumers who have previous experience of OGS should have more internal information regarding delivery alternatives as compared to novices. This experience should result in a decreased reliance on external information sources as past experiences can be drawn on. This, coupled with potentially established preferences regarding delivery alternatives, leads us to hypothesise that:

H2: The impact of price presence in H1 & H2 is lesser for consumers with previous OGS experience.

Consumer characteristics impact the perceived benefits of choice options and thus their importance weight (Levy et al., 2014, p.98). Car owners have greater personal mobility and ease of transport for goods purchased. Therefore, they are expected to value the “inconvenience” of going to the store less, that is to say they place a lesser importance on convenience. This is in line with Voli (1998) and Yale & Venkatesh (1986) arguments regarding the impact of personal characteristics on perception of convenience. Or in other words, the perceived utility of home delivery should be lower for car owners and thus we hypothesise:

H3: Respondents with greater car access are more likely to choose the less convenient alternatives

2.2. Attitudes

Construal Level Theory of Psychological Distance

Construal Level Theory (hereafter CLT) states that we can think about (or construe) something such as products, actions, or decisions, in terms of high-level or low-level construals (Trope, Liberman & Wakslak, 2007). High-level construals involve greater levels of abstraction and big-picture thinking whereas low-level construals are more concrete and detail-oriented in nature (Trope & Liberman, 2010). In terms of decisions, high-level construals focus on desirability, while low-level construals consider feasibility to a greater degree (Hoyer & Macinnis, 2008). CLT is inherently tied to the concept of psychological distance, which is defined as how far removed a subject is from the self, with some contemporary research even treating it as a special case in the general theory of psychological distance (Trope & Liberman, 2010). The distance can be in the form of temporal (Trope & Liberman, 2011), spatial (Henderson et al., 2006), social (Liviatan, Trope & Liberman, 2008), or hypothetical distance (Wakslak et al., 2006). High-level construal with its increased abstraction is tied to greater psychological distance, whereas low-level construal due to their concretisation and focus on feasibility concerns correlate with lower psychological distance (Trope & Liberman, 2010).

Decision-making and Psychological Distance

Consumers can often experience difficulty making decisions, and such difficulty is exceedingly prevalent where trade-offs need to be considered (Luce, Payne & Bettman, 1999). Choice difficulty has been shown to result in among other things choice-deferral, negative feelings, and reduced confidence in the choice made (Thomas & Tsai, 2012). Thomas & Tsai (2012) also found that increased psychological distance to a decision decreases the feeling of difficulty in decision-making.

Choice-Process Satisfaction

Choice-Process Satisfaction describes how satisfied decision-makers are with the process through which the decision was made, rather than the actual choice made (Zhang & Fitzsimons, 1999). This Choice-Process Satisfaction has been shown to lead to increased Choice Satisfaction (Heitmann et al., 2007). Simply: when consumers are more satisfied with the process by which a choice is made, their satisfaction with the choice itself also increases. Choice-Process Satisfaction further leads to increased positive post-purchase behaviour both directly, and indirectly through increased Choice Satisfaction (Heitmann et al., 2007).

Hypotheses

We believe that by omission of the price element in choosing delivery options, the choice is made more abstract and construal level is raised. Conversely, inclusion of the price element, lowers construal level. Crucially, low-level construals in CLT are psychologically closer and involve greater focus on feasibility and trade-offs, while high-level construals are more psychologically distant and tend to focus on desirability with lesser concern for feasibility. The difference in psychological distance and focus on trade-offs should result in divergent difficulty of choice and as such we hypothesise that:

H4: Choice-Process Satisfaction is higher (lower) when respondents do not (do) have the price information

Furthermore, abstraction lends itself to a greater number of possibilities. Therefore, we believe the inclusion of a third delivery alternative will increase abstraction and subsequently increase psychological distance also. As such:

H5: Choice-Process Satisfaction is higher (lower) when respondents have three (two) options

The increased Choice-Process Satisfaction in H4 & H5 should furthermore result in increased Choice Satisfaction and as such we hypothesise:

H6: Choice Satisfaction is higher (lower) when respondents do not (do) have the price information

H7: Choice Satisfaction is higher (lower) when respondents have three (two) options

2.3. Thought Processes

As stated in the section on salience, attribute salience is a factor in the degree to which attributes are taken into consideration in decision-making. According to Alpert (1971) salience by itself is not enough. Instead attribute determinance, both salience and diagnosticity, are required. Price, when all products are not priced the same, is a prime example of a prototypical diagnostic attribute (Hoyer & MacInnis, 2008, p.201) Thus, when price is salient, consumers can be expected to more heavily focus on price related attributes, or place a higher importance weight on them. As stated in the section on CLT, psychological distance and CLT affect the degree to which desirability and feasibility are considered in making decisions. Low-level construals increased focus on feasibility and trade-offs, while high-level construal increased focus on desirability (Hoyer & MacInnis, 2008). Thus, as price salience should result in lower construal level, this further supports the argument that consumers should place higher importance weight on price related attributes in these cases. Furthermore, the increased focus on price, and the trade-off between price and performance can be summarised as a greater focus on value for money. Thus, we hypothesise that:

H8a: Price is relatively more (less) important when respondents are (are not) presented with price information

H8b: Value For Money is relatively more (less) important when respondents are (are not) presented with price information

By the same reasoning, the absence of salient price information, conversely, should increase the relative importance weight of other attributes, especially those related to desirability. A key attribute that falls under desirability is the level of performance or, in the case of OGS, convenience. This is further in line with Voli's (1998) description of a price-convenience trade-off. Given the above we hypothesise that:

H8c: Convenience is relatively more (less) important when respondents are not (are) presented with price information

3. Methodology

In this part, the way in which this study has been conducted will be described and explained.

3.1. Choice of Research Subject

While studies into the structure and layout of e-commerce stores had been conducted regarding for example shelf-management (Ahlbom & Gyllenhammar, 2014), product display (Kolesova & Singh, 2019), and shopping cart design (Ulriksson & Karlén, 2019), there is to the authors' knowledge no academic research from a retail perspective into the presentation of elements in e-commerce checkouts. As checkouts require customers to make unavoidable choices regarding for example delivery and payment methods, studying the ability of retailers to potentially influence behaviour at virtually no cost is of both academic and practical interest.

3.2. Choice of Research Object

The research subject may be of particular interest to OGS retailers, as website design and delivery options have caused problems with adoption (Galante, García López & Monroe, 2013). OGS checkouts currently require consumers to choose between home delivery and in-store pickup as a distinct separate step of the checkout process. Thus, by using OGS in our study we can both measure behaviour and increase ecological and internal validity. Further we can isolate part of the checkout, minimising statistical noise and strengthening any claims of causality for reactions. Finally, as OGS is still only a burgeoning sector, it is not unlikely that retailers will wish to add more delivery alternatives in the future. We can therefore realistically vary choice-set size, and measure the potential effects of this on consumers, providing valuable insight for practitioners as well as academics.

3.3. Research Approach

This thesis has taken a deductive approach rather than an inductive approach. In other words, we have derived hypotheses based on existing theories that we test via the study, rather than conduct a study and theorise based on the results. This approach is closely linked to the quantitative method, not least within social sciences which further explain the choice of approach (Hausman, 2015). In this case we derive hypotheses around behaviour, attitudes, and thought processes within the OGS checkout context, based on existing theories in concordant and related fields of research.

3.4. Research Method

The study is based on a quantitative method, considered most suitable because of the ability of researchers to generalise to a larger group based on the results of a sample. A quantitative approach can also be justified by the aim in the study to find out about attitudes toward an object or phenomenon (Eliasson, 2013 p.31). Moreover, the quantitative method is appropriate when testing several variable relationships and allows for statistical significance testing. While qualitative research can allow for more in-depth and follow-up questioning of respondents, it is more often used to investigate questions of a “why” character, when no clear previous theory can be found (Eliasson, 2013 p.27). Given the lack of previous research done on checkouts, especially within OGS, an argument could be made for the qualitative method due to its adaptability and investigative quality. However, given that existing theories from the more general fields of consumer choice and behavioural psychology were applicable, the benefits of the quantitative method to quantify variable relationships were considered central.

3.5. Main Study

The aim of this study is to investigate how presenting price alongside delivery options, and the number of delivery options themselves, affects consumer behaviour, attitudes, and thought processes in OGS.

3.5.1. Study Design

The study used to answer the hypotheses employed an experimental approach. This was considered the best way to execute the project since we were looking to test the causal effects of the checkout decisions on the investigated variables (Söderlund, 2018, p.16; Aronson et al, 1985, p.443). Each participant was exposed to only one treatment so as to enable inferences about causation (Söderlund, 2018, p.43), known as a between-subjects design. Furthermore, we investigated two factors at two levels, constituting a factorial design, in this case 2X2 (Söderlund, 2018, p.46). The two factors investigated in the study are: the presence or absence of price information, and whether two or three alternatives were presented. The study therefore covers four different treatment groups in order to identify differences between them in the following four scenarios: 1) two different options without price information; 2) two different options with price information; 3) three different options without price information; and 4) three different options with price information. A questionnaire was used to measure psychological reactions and designed in such a way as to allow measurement of certain behavioural reactions. This is labeled a multi-reaction approach and is advantageous as it “(...) provides a richer picture of the effects of a particular treatment (...)” as stated by Söderlund (2018, p.110).

3.5.2. Survey Design

The survey itself was composed broadly of three parts: introduction & scenario, treatment & choice, and a questionnaire. The survey was made and distributed in equivalent and interchangeable English and Swedish versions. All further description of the survey will be in English. The survey may be found in its entirety in Appendices 2 & 3.

On the first page of the survey, respondents were presented with an introduction and background information about the study. Here respondents were informed about the study's availability in both English and Swedish, and how to switch between them.

Subsequently a scenario was presented so that respondents would have similar prerequisites when continuing into the interactive part of the survey.

The study used a text-based role-play design, advantageous as it is relatively cheap to conduct, yet robust in the assurance that all participants in a given group receive the exact same treatment (Söderlund, 2018, p.82). This method is highly established in contemporary research and reactions have been shown to be reliable outside the experimental context (Bateson & Hui, 1992).

Respondents were specifically asked to act as they would have done prior to the ongoing COVID-19 crisis. This due to the shift in consumer behaviour caused by the pandemic in favour of home-delivery specifically as consumers wish to avoid crowded stores (Allhorn, 2020). The scenario was designed to isolate the choice of delivery option in OGS. Respondents were presented with a scenario detailing a shopping experience up to that point. In order to avoid the influence of a specific purchasing occasion (e.g birthday party) on choice, the scenario was based on routine shopping for ordinary consumption over the next few days. Respondents were informed that they had selected their items and decided to proceed to the checkout.

Upon doing so, each respondent was presented with one of four randomised treatments as per the study's 2x2 design above. Figure 1 shows one set of options that was available to respondents, treatment group 4 in this case. Treatment group 2 differs only in that the Collection Point was not shown. Treatment groups 1 and 3 were identical to groups 2 and 4 respectively, with the only difference being that the price was not present. The order of alternatives within each treatment (i.e. left to right) was also randomised for each respondent in order to negate the influence of any ordering bias on the results. Here respondents chose one of the available delivery options before proceeding.

The treatment was followed immediately by a questionnaire in which we first measured various dependent variables, followed by a number of demographic variables.

Finally, respondents were asked to enter their email-address if they wished to enter into a lottery for two free movie tickets. A checkbox was also available for those who wanted to be notified via said email when the research was later published.

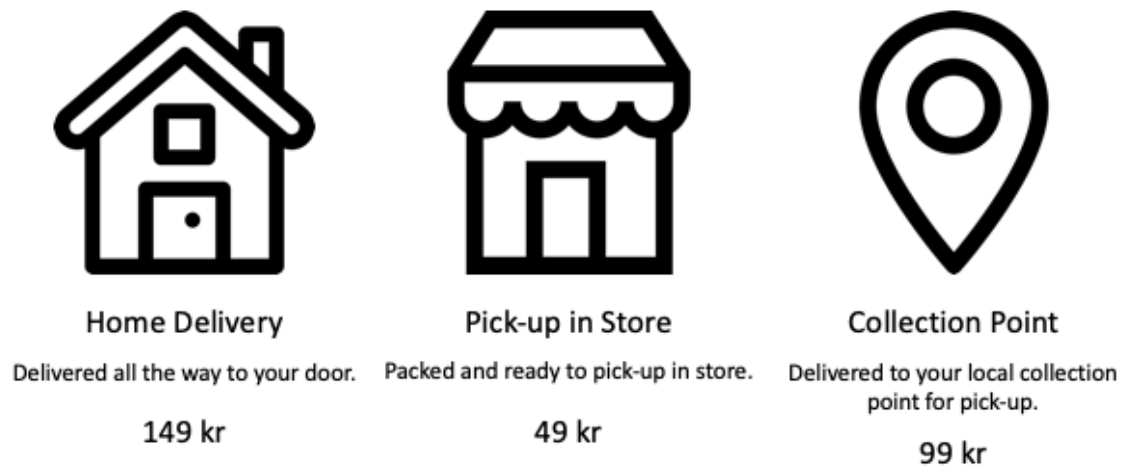


Figure 1 – The choice displayed to respondents in treatment group 4, 3 options available with prices present.

3.5.3. Measures

3.5.3.1 Dependents

Dependent variables were measured using a 7-point Likert-scale, commonly used in questionnaires to measure attitudes (Likert, 1932). Only endpoints were labelled, 1 - Strongly Disagree and 7 - Strongly Agree hereafter unless otherwise specified.

Choice Satisfaction

Choice satisfaction was measured using questions commonly used in national satisfaction barometers and adapted from Söderlund (2006). These were: i) How satisfied or dissatisfied are you with your chosen delivery option? (Endpoints: 1 - Very dissatisfied and 7 - Very satisfied); ii) To what extent does your choice meet your expectations? (Endpoints: 1- Not at all and 7 - Totally); iii) Imagine a perfect delivery option. How near or far from this ideal do you find your choice? (Endpoints: 1 - Very far from and 7 - Could not get any closer).

Cronbach's alpha for this scale was .886.

Choice-Process Satisfaction

Choice-Process Satisfaction was measured with the questions: i) I found the process of deciding frustrating; ii) Several good options were available for me to choose between; iii) I am satisfied with my experience of deciding which option to choose. iv) I thought the choice selection was good; v) I would be happy to choose from the same set of options on my next purchase occasion; vi) I found the process of deciding which option to choose interesting. These were developed by Fitzsimons, Greenleaf & Lehmann (1997) and have been further used in their subsequent research on the topic (Zhang & Fitzsimons, 1999; Heitmann et al., 2007). Cronbach's alpha for this scale was .839.

Importance Weight

The Importance Weight assigned to attributes was assessed using a four-attribute matrix of respondents stated importance. The question was formulated: "When choosing a delivery option how important are the following attributes to you?". The four attributes were: "Price", "Convenience", "Sustainability", and "Value for Money", with sustainability being a dummy variable. For this question, the endpoints were "Not at all important" and "Extremely Important" for 1 and 7 respectively.

3.5.3.2. Concurrent Measures

Choice Confidence

A two-question battery was developed to measure how sure respondents were in the choice they had made. This as theory shows it is correlated to Choice-Process Satisfaction (Thomas & Tsai, 2012).

i) I am sure of my decision; ii) I would make the same decision again.

Cronbach's alpha for this scale was .868 and the variable was correlated to Choice-Process Satisfaction, $r(921) = .44, p < .001$.

Retailer Attitude

Respondents' attitudes toward the retailer were measured using three questions employing a 7-point Osgood scale. The Osgood scale is a semantic differential commonly used to measure attitudes (Hogg & Vaughan, 2013, p.163) and this particular battery is recommended by Söderlund (2001; 2018, p.135) and has seen extensive use in his subsequent research. Retailer attitude is correlated with consumption satisfaction, in this case Choice Satisfaction. It was formulated: Based on the purchase experience you just had, how would you describe your attitude toward the retailer? i) Bad - Good; ii) Dislike - Like; iii) Negative - Positive.

Cronbach's alpha for this scale was .961 and the variable was correlated to Choice Satisfaction, $r(921) = .62, p < .001$.

Option Realism

To ensure the Clarity, Understandability, and Realism of Collection Points which were new to respondents, three questions were posed.

i) The difference between alternatives was clear; ii) I understood the options; iii) I would be surprised if I came across these options.

Retailer Attributes

As stated in the theoretical framework, CLT is inherently linked with psychological distance. Eyal & Liberman (2012) posit that judgements of morality, for both moral and immoral acts, increase in strength as psychological distance increases. This as low-level construals increase focus on context-specific mitigating circumstances, and high-level construals result in increased focus on the abstract moral virtues (Eyal & Liberman, 2012). In order to further assure that participant reactions were indeed correlated with change in psychological distance, we measured moral judgements of fairness attributed to the retailer.

Participants were asked how well they felt these attributes matched the retailer:

i) Transparent; ii) Fair; iii) Honest; iv) Innovative; v) Expensive; vi) Sustainable.

We were only interested in the measures Transparent, Fair, and Honest. The judgements of Innovative, Expensive, and Sustainable were included as dummy questions as suggested by Söderlund (2018, p.121). As having participants guess the purpose of a question influences their responses, this is a common form of deception employed to mislead them.

Cronbach's alpha for this measure (i-iii) was .878.

3.5.3.3. Demographics

Demographic questions were asked primarily to ensure respondents constituted a representative sample of the population, and further in order to assess H2 and H3.

Previous Experience

Respondents were asked about their previous experience with OGS. This was done in the form of an open question with text entry rather than multiple choice as per the personal recommendation of Magnus Söderlund.

The question was formulated: How many times would you estimate you have bought groceries online in the last 6 months? (in numbers).

This question was posed in order to segment participants for assessment of H2.

Car Access

Respondents were asked about their access to a car in the form of a multiple-choice question. A multiple-choice approach was chosen as access to a car may be interpreted differently by participants and therefore threaten quantifiability.

The question was formulated: How often do you have access to a car: i) Don't Have Driver's License; ii) Daily; iii) 4-6 times a week; iv) 2-3 times a week; v) Once a week; vi) Less than weekly.

This question was posed in order to segment participants for assessment of H3.

Demographics

Respondents were asked about their age and size of household in the form of open questions. "Your age (in numbers)"; "How many people live in your household (in numbers)".

Gender was assessed using a multiple choice with the options: Male; Female; Other / Prefer not to answer. Finally, respondents were asked about their occupation in the form of a multiple choice question with the options: Employed full time; Employed part time; Unemployed looking for work; Unemployed not looking for work; Retired; Student; Disabled.

3.5.3.4. Checks

Attention Check

The survey contained a control question in the form of an attention check to minimise the likelihood of respondents breezing through inattentively. This was done with a simple math problem and is a commonly employed method to reduce respondent straightlining (Liu & Wronski, 2018).

It was formulated simply: $5 + 8 = ?$ with the options i) 9; ii) 13; iii) 17; iv) 6; v) 10.

Instructional Manipulation Check

Respondents were asked a second control question regarding the subject of the survey to ensure they had paid attention and understood. This is particularly important when participants are recruited using commercial research companies (Söderlund, 2018, p.96). Respondents were asked: In this survey you: i) compared insurance providers; ii) purchased groceries online; iii) purchased airline tickets.

3.5.4. Sampling

The respondents in the survey were intended to constitute a representative slice of the population. The respondents were collected via both social media and using Norstat Sverige AB, a market research firm specialising in data collection, for help with acquiring paid survey respondents.

While the study investigates OGS checkouts, no specific group has been targeted in this study, as we were investigating the effects of our variables in a between-groups design. As the predicted effects are based on psychology and consumer behaviour, and only a minority of consumers have experience with OGS (PostNord, 2020).

True random probabilistic sampling was not employed due to the infeasibility given population size, time, and resource limitations. Instead, convenience and snowball sampling techniques were used in our personal networks (Bryman & Bell, 2011). This was subsequently complemented by a judgemental sampling with the help of Norstat in order to acquire an overall representative sample.

The social media snowball method yielded a sample skewed primarily toward respondents under 25, and therefore when Norstat were enlisted they were instructed to gather respondents aged 26 and older only. 348 participants responded via our networks and Norstat gathered a further 593 respondents, for a total of 941 respondents. Of the 941 respondents five failed to answer the first control question correctly, and another eleven respondents failed the second control question. A further two respondents didn't state their age, and all of these were consequently removed from the dataset, leaving 923 respondents for consideration.

Of the 923 respondents, 46.6% were male ($N = 430$), 52.8% female ($N = 487$), and 0.7% ($N = 6$) other or preferred not to answer. The mean age of respondents was 45.49 ($SD = 18.73$) and the median was 46 years old with ages ranging from 17-93. Household size ranged from 0-44 ($M = 2.35$, $SD = 2.06$) indicating that at least one respondent misunderstood the question. Notably only seven respondents lived in households larger than six persons, and unless some of these lived in large collectives, it is likely they made a mistake answering the free-text question. The majority of respondents (55.6%, $N = 513$) were employed, and 20.3% ($N = 187$) were retired, with a further 18.2% ($N = 168$) students. The final 6% ($N = 55$) were either unemployed or disabled. Further details are in Table 1 in Appendix 5.

3.5.5. Data Collection

The survey was originally published via Qualtrics on April 1st, 2020. Norstat was enlisted on April 14th. A separate, identical, survey was provided to them for distribution, as to enable identification within the total dataset. There was no difference in the two surveys, but the Norstat respondents were redirected to the Norstat platform automatically after completion in order for participants to get their reward for participating from the company. On April 19th, the data was collected and both our organic snowballed data and the data gathered with the aid of Norstat were joined into a single master document, with an identifying variable for the source.

3.5.6. Assessment of Validity & Reliability

No manipulation control was conducted as per Perdue & Summers (1986) concession regarding “concrete, observable variables”.

3.5.6.1. Validity

Content Validity

Content validity is the degree to which the measures employed in fact overlap with and measure the theoretical variable they are supposed to (Söderlund, 2018, p.136). Where possible, content validity was ensured through the application of tried and tested measures from previous research concerning the variables (for example see Choice-Process Satisfaction). For variables where no previously developed measures were available (for example Choice Confidence and Option Realism), the overlap was assessed through qualitative review together with a faculty member at SSE. This type of review in conjunction with assessments of reliability and other types of validity are recommended by Söderlund (2018, p.136).

Nomological Validity

Nomological validity is, like content validity, concerned with ensuring that the measures in fact measure what they aim to. The practice for estimating nomological validity entails measuring other variables theoretically correlated to the variables in the study, and subsequently testing for correlation within the data (Söderlund, 2018, p.137). In the case of this study, Choice Confidence was used to affirm the nomological validity of Choice-Process Satisfaction as the theory (Thomas & Tsai, 2012) implied correlation between the two. This was shown to be the case in the data also. The same is true for Retailer Attitude and Choice Satisfaction.

Internal Validity

Internal validity is used to describe to what extent participants' reactions as seen in the measures are a consequence of the treatment and is primarily concerned with causality (Bryman & Bell, 2011, p.42). As Weber & Cook (1972, p.273) state; “*A study is internally valid if its findings were caused by the experimental treatment*”. As a first line of defence, statistical significance tests were employed. However, other than statistical inference, several factors can threaten internal validity and must be assessed (Söderlund, 2018, p.173). History, Maturity, and Testing were deemed inconsequential threats as the study employed only a short survey and independent observations of participants.

Furthermore, Instrument Changes were irrelevant as the measurement method was not subject to change over the course of data collection. Finally, the threats to internal validity on the basis of Selection Effects and Mortality were mitigated through the use of a study design

with no pre-measurement and random allocation of participants to groups. The experimental approach as a whole is generally a boon to internal validity because of this approach (Anderson & Bushman, 1997). To ensure that there were no systematic differences between participants in the treatment groups, as can still be the case despite random allocation, demographic variables were measured and tested for systematic differences (Söderlund, 2018, p.37). Consequently, we believe internal validity has been established.

External Validity

External validity is concerned with whether results from an experiment are generalisable (Cook & Campbell, 1976). That is in terms of other versions of the treatment, other measurements of the effects, and for other people than the specific participants (Söderlund, 2018, p.173). Establishing internal validity is a prerequisite for claims regarding external validity, as without it there is simply nothing to generalise (Anderson & Bushman, 1997). Subject to the presence of internal validity, a handful of factors remain that threaten external validity according to Söderlund (2018, p.174), and these are addressed below.

First, pre-measurement was not employed in the study and so the threats posed by it are null. Second, artificial situations, and third, the representativeness of participants, can make generalisability problematic. However, these are points of controversy in the scientific community. As the predictions and hypotheses in this study are grounded in established theories, which are by definition general, the theories should hold true even in experimental situations (Söderlund, 2018, p.183). Further, experimental situations are no less representative than any other as long as they cover the general variables included in a theory and the conditions that apply in terms of influence between them, argue Webster & Kervin (1971). While criticism has been levelled against the use of volunteers (Rossiter, 1976), and participants recruited online (Clifford et al. 2015), the study has employed both methods thereby broadening the base of selection as per the beseechment of Smart (1966). Further, as Katz (1972) argues, sampling issues are not particularly important when studying the effects of basic and general psychological factors. This as they apply to all people as long as they are people (Söderlund, 2018, p.187).

Despite the above arguments, efforts were still made to minimise the artificiality of the situation and maximise the representativeness of the sample. As mentioned regarding our choice of research object, the choice of delivery options in OGS constitutes a distinct and commonly separate step of the check-out process. As such the isolation of this decision in the experiment is in line with market practices and realistic. The price levels were also based on current market standards. While a third delivery option had to be created, it was done so carefully and with oversight from a faculty member. Furthermore, the measure Option Realism was included specifically to ensure the realism of Collection Points and the corresponding price as an

alternative. As stated in Data Collection, distribution was done through both a snowball method on social media and Norstat to yield as large and representative of the general population a sample as possible.

Fourth, exposure of participants to more than one treatment can make it difficult for researchers to generalise the results. A consequence of digital distribution is that we cannot guarantee participants did not see multiple treatment variants by opening the survey multiple times. Qualtrics reduces the chances of this somewhat as participants would be required to change device or use a private tab on their web browser in order to enter multiple sessions and thereby potentially see multiple treatment variants. Further the recorded data was checked for instances of duplicate responses based on demographics and IP-address.

All in all external validity is considered to be acceptable due to all of the above.

3.5.6.2. Reliability

Reliability refers to the extent to which several measurements of a particular variable provide similar results, or simply put how reliable the measure is (Söderlund, 2018, p.135). Psychological reactions, compared to behavioural and physiological reactions, involve the greatest number of error sources, and the standard practice in dealing with this is posing several similar questions for any specific reaction and estimating reliability based on the answers. Cronbach's alpha is a reliability indicator commonly used for this purpose and shows the degree to which answers are coherent across the multiple questions (Söderlund, 2018, p.136). Cronbach's alpha levels of 0.7 and higher are considered acceptable and the measures can then be consolidated to a single variable through the averaging of a participant's answers. Whenever appropriate, question batteries have been used for this purpose and reliability has been further increased through the use of measures established in previous research where possible. As such we argue that the reliability of measures used is adequate.

4. Results

In this part, the results from the survey will be presented. The implications will thereafter be elaborated in the discussion and conclusion. We begin this section by presenting our standards for statistical significance, systematic differences in the groups, and systematic influence. Thereafter the results for choices, attitudes, and thought processes, as well as concurrent measures are presented.

Convention dictates that experimenters use a significance level of .100, .050, or .010 with .050 being most commonly employed (Söderlund, 2018, p.156). However, this practice has been widely criticised and a major point of contention within the scientific community (Bakan, 1966; Cohen, 1994; Wasserstein & Lazar, 2016). Furthermore, sample size affects p -values, such that it is easier to obtain significant results with larger samples (Söderlund, 2008, p.161). As such, in order to strike a middle ground between convention and criticism, first, we will use a significance level of .010 throughout the analyses. This is the most stringent of the three conventional levels, and further appropriate given our relatively large sample size ($N = 923$). As such, we lower the risk of type one error, false positives, to $\alpha = 1\%$. While this increases the risk of type 2 error (β), false negatives, the sample size should offset this risk. Finally, all p -values will be reported in full (three decimal places), and effect sizes will be reported for any results deemed statistically significant. For Chi-square analyses Cramer's V will be employed, which is particularly appropriate given our larger sample as it is unaffected by sample size (Singh, 2007, p 128). For t -tests we will employ Cohen's D , which is not constrained by the unit of measurement, rather the value is stated in terms of standard deviations (Cohen, 1988, p.21)

Once downloaded to .csv-files, the data was analysed using SPSS version 26. Responses to open entry type questions were reformatted to quantitative data and some data cleaning was conducted. Details of which are available in Appendix 4, for the interested reader.

4.1. Systematic Differences

Respondents were distributed among the four treatment groups evenly, as evidenced in Table 1. Tests of the four treatment groups were conducted to ensure the absence of systematic differences between the respondents in each group. For nominal data, Pearson Chi-square analyses were employed. Accordingly it was found that there were no systematic differences between the treatment groups in regards to gender ($\chi^2 (6, N = 923) = 7.19, p = .303$), occupation ($\chi^2 (18, N = 923) = 16.02, p = .591$), or access to a car ($\chi^2 (15, N = 923) = 12.21, p = .663$). ANOVA tests were conducted for demographic variables that constituted interval

and ratio type data. These showed that there were no systematic differences between treatment groups in regard to age ($F(3, 919) = 1.36, p = .255$), household size ($F(3, 919) = 1.96, p = .119$), or previous OGS experience ($F(3, 919) = 0.29, p = .836$). When comparing the two samples, that is, organic and Norstat, there were only systematic differences in regard to age. This was not only expected, but rather, the intent as explained earlier in 3.5.4. Sampling.

Table 2
Distribution of respondents among Treatment Groups

ID	Conditions	N	%
1	2 Options, No Price	228	24.7
2	2 Options, Price	233	25.2
3	3 Options, No Price	232	25.1
4	3 Options, Price	230	24.9
Total		923	100

4.2. Systematic Influence

To ensure the condition of *ceteris paribus* and thereby the internal validity of the results, we further need to account for the possibility of systematic influence as a consequence of random ordering of alternatives. There were two possible permutations for treatment groups 1 and 2, and six possible permutations of alternatives for groups 3 and 4. The distribution of permutations can be seen below in Table 3.

Table 3
Distribution of Permutations among respondents

ID	Conditions	N	% of Possible	% of Total
1	1, 2	249	54.0	27.0
2	2, 1	212	46.0	23.0
Total		461	100.0	49.9
3	1, 2, 3	74	16.0	8.0
4	1, 3, 2	74	16.0	8.0
5	2, 1, 3	73	15.8	7.9
6	2, 3, 1	77	16.7	8.3
7	3, 1, 2	86	18.6	9.3
8	3, 2, 1	78	16.9	8.5
Total		462	100.0	50.1

Note. ID:s 1-2 are distributed among treatment groups 1 & 2.
ID:s 3-6 are Distributed among treatment groups 3 & 4.
Further note. Conditions describe the order of options in the Permutation from left to right. Here 1 = Home Delivery, 2 = In Store Pick-Up, 3 = Collection Point.

A Pearson Chi-square showed there was no significant difference in the distribution of permutations between comparable treatment groups, i.e. for treatments 1 and 2, or 3 and 4. Thus we can safely conduct between-groups analyses. Details are available in Appendix 5 in Tables A.1 and A.2.

The data also showed no significant difference in the distribution of respondents chosen option based on permutation within each treatment group. We can therefore safely attribute the results of differences in choice to the effects of the treatments and not permutations. Details are available in Appendix 5 in Tables A.3-6.

Further the data showed that there was no significant effect on any measured variables as a consequence of the permutation presented to respondents. Where two options were presented, key variables such as Choice Satisfaction ($t(459) = 1.12, p = .262$), Choice-Process Satisfaction ($t(459) = .48, p = .629$), and Retailer Attitude ($t(459) = .376, p = .707$) were not significantly affected. The same held true for Choice Satisfaction ($F(5, 456) = .43, p = .830$), Choice-Process Satisfaction ($F(5, 456) = .78, p = .563$), and Retailer Attitude ($F(5, 456) = .63, p = .679$) where three options were presented. We can therefore safely attribute the results of differences in such variables to the effects of the treatments and not permutations.

4.3. Choice

4.3.1. Price Effects

We predicted in H1a and H1b that the presence or omittance of price information would impact decisions made regarding delivery options. When comparing respondents with price information (treatments 1 & 3) to those without (treatments 2 & 4), there is a significant difference in the distribution of chosen delivery alternatives in line with the hypotheses, $\chi^2(2, N = 923) = 67.65, p < .001, \phi_c = .271$. This held true also when comparing only treatment groups 1 and 2 where two options were presented to respondents ($\chi^2(1, N = 461) = 22.61, p < .001, \phi_c = .221$), and groups 3 and 4 where three alternatives were available, $\chi^2(2, N = 462) = 48.33, p < .001, \phi_c = .323$. Consumers presented with price information, then, were significantly more likely to choose the cheaper alternatives. Concurrently respondents for whom price information was omitted were significantly more likely to choose the more convenient, but expensive alternatives, as can be seen in Figures 2 and 3. This effect was both statistically significant and when taking into account Cramer's V values practically significant. The effect of price presence on choice is by convention denoted as small overall and for respondents with two options present, and moderate for respondents with three

options. **Thus, we find support for both H1.** Details of the Pearson Chi-Square analysis are available in Appendix 5 in Tables A.7-9.

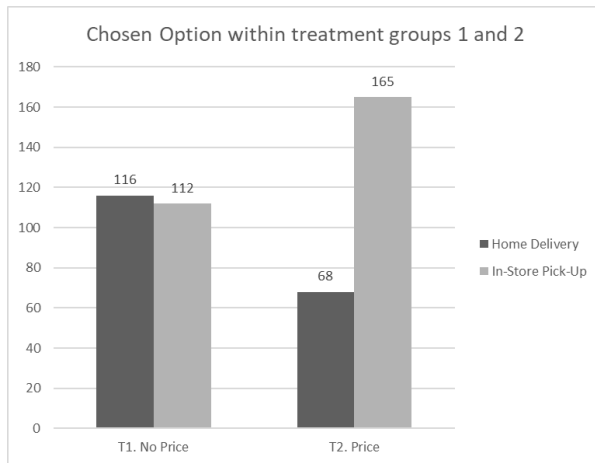


Figure 2

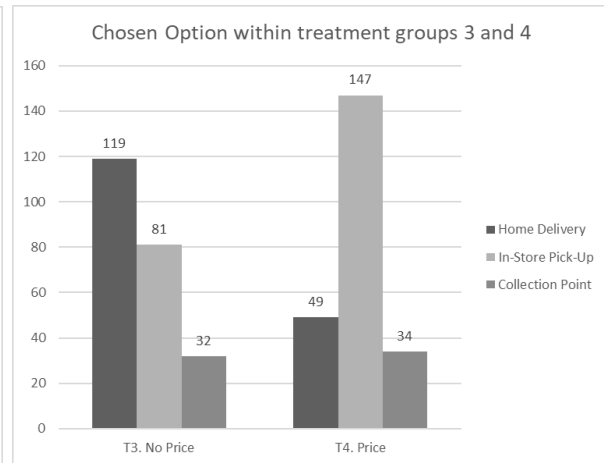


Figure 3

4.3.2. Experience Effects

An analysis of the data concerning previous experience with OGS showed that the mean number of previous OGS purchases was 2.77 ($SD = 6.00$) and the median was 1 with responses ranging from 0-90. Upon closer inspection 47.8% ($N = 441$) of respondents had no previous experience indicated by their response of 0. The remaining 52.2% ($N = 482$) ranged from 1-90. As such, respondents were segmented into those with no previous experience (response = 0), and those with some previous experience (response ≥ 1), thus creating the most even groups possible for analysis (47.8% and 52.2%, $N = 441$ and $N = 482$). A new binary variable was created to indicate this, and there was no significant difference in the distribution of the new variable between treatment groups, $\chi^2(3, N = 923) = 5.53, p = .137$. It is therefore employed in the subsequent analyses.

We predicted in H2 that previous OGS experience should reduce the effect of price presence on choice. Cramer's V is used to indicate the strength of the effect and is therefore the measure used to determine the validity of the hypothesis. Firstly, a comparison of respondents choices for treatment groups 1 and 2 where two options were available showed that both respondent groups choices were significantly affected by the presence of price information. While statistically significant for both groups the effect was smaller for inexperienced respondents ($\chi^2(1, N = 231) = 9.35, p = .002, \phi_c = .201$) compared to experienced ones ($\chi^2(1, N = 230) = 13.02, p < .000, \phi_c = .238$). The same effect was seen for comparisons of respondents in groups 3 and 4 where three options were presented. That is, while statistically significant for both, the effect was smaller for inexperienced respondents ($\chi^2(2, N = 210) = 15.33, p < .001, \phi_c = .270$), as compared to experienced ones, $\chi^2(2, N = 252) = 32.88, p <$

.001, $\Phi_C = .361$). The effect of price presence on choice is then greater for experienced customers as compared to inexperienced customers both when two options, and three options were available. Inexperienced customers, then, behave more consistently when price is present and when it is not, than do experienced customers. **Thus, we must reject H2.** Details of the Pearson Chi-Square analysis are available in Appendix 5 in Tables A.10 and A.11.

4.3.3. Effects of Car Access

A frequency analysis of the data showed that the majority of respondents had access to a car daily (60.9%, $N = 562$). In total, 6.9% of respondents had access to a car less than daily but at least once a week ($N = 64$). A further 18.9% ($N = 174$) had access less than weekly and 13.3% ($N = 123$) didn't have a driver's license. As respondents with daily access to a car are most likely to take it into account in everyday decision-making, car access was segmented into respondents with daily access and the rest. This further provided the most even groups possible (60.9% and 39.1%, $N = 562$ and $N = 361$) and a new binary variable was created to indicate only if respondents had daily access to a car or not. There was no significant difference in the distribution of the new variable between treatment groups ($X^2(3, N = 923) = 5.53, p = .137$) and as such it is employed in the subsequent analyses.

We predicted in H3 that access to a car would impact decisions made regarding delivery options. The distribution of chosen options was indeed significantly different based on car access, $X^2(2, N = 923) = 14.80, p = .001, \Phi_C = .127$. Respondents with daily access to a car were significantly more likely to choose the less convenient delivery options overall. **Thus, we find support for H3.**

However, on a treatment group level this difference was significant only within treatment group 1 ($X^2(1, N = 228) = 13.61, p < .001, \Phi_C = .244$), and treatment group 3 ($X^2(2, N = 232) = 8.95, p = .010, \Phi_C = .196$). There was no significant difference within treatment groups 2 ($X^2(1, N = 233) = .49, p = .484$), and 4 ($X^2(2, N = 230) p = .775$). While car owners were significantly more likely to choose less convenient alternatives when no price information was shown, there was no significant difference in the choices of car owners and non-drivers when price was present. We believe this is due to the previously shown impact of price on choice in the same direction negating the effect. **As such, while we find support for H3 overall, the difference is only present under the condition that price is not.** The pattern of distribution is shown below in Figures 4-7. Details of the Pearson Chi-Square analysis are available in Appendix 5 in Tables A.12-14.

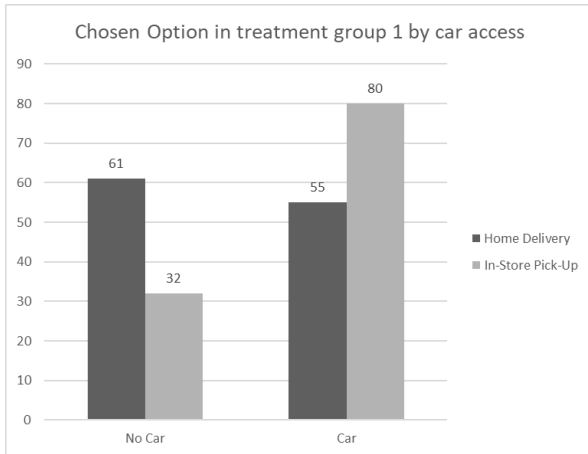


Figure 4

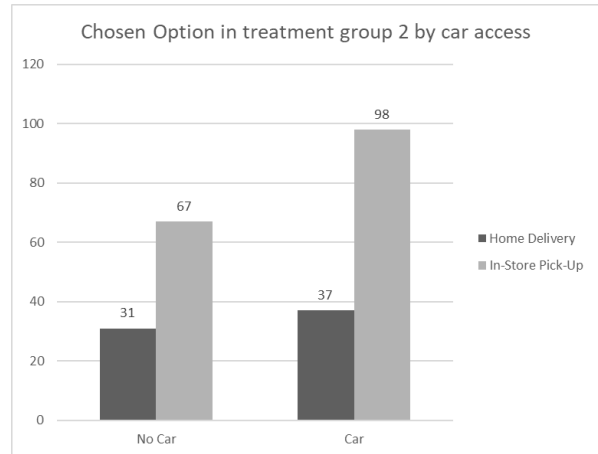


Figure 5

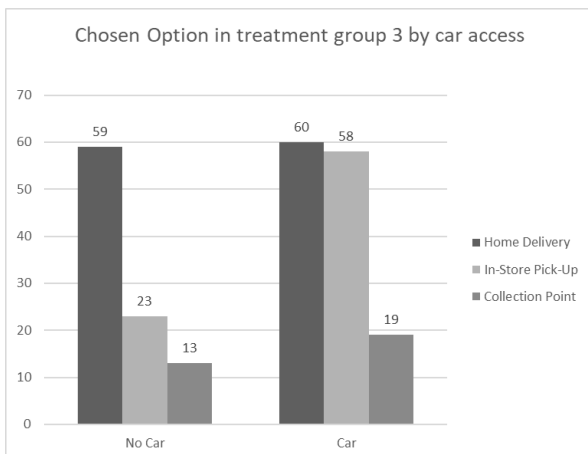


Figure 6

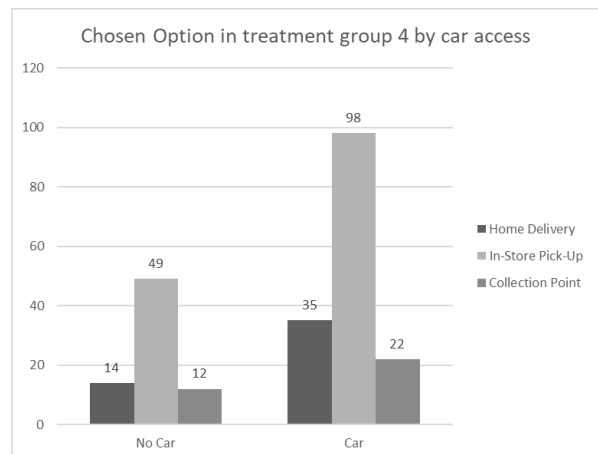


Figure 7

4.4. Attitudes

4.4.1. Price Effects

We predicted in H4 that the presence of price would negatively affect Choice-Process Satisfaction. The data showed that Choice-Process Satisfaction was significantly lower for respondents with price information compared to those without overall. This held true when comparing only treatment groups 1 and 2, as well as groups 3 and 4. Respondents presented with price information were, then, more satisfied with the decision-making process overall, and within comparable groups. This result is not only statistically significant but practically so given the values of Cohen's D. **Thus, we find support for H4.**

Table 4
Impact of Price Presence on Choice-Process Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	5.11 (1.24)	4.45 (1.41)	5.11 (1.24)	4.45 (1.41)	921	7.51	<.001	0.49
1 vs 2	4.87 (1.31)	4.23 (1.42)			459	5.04	<.001	0.46
3 vs 4			5.33 (1.13)	4.67 (1.37)	460	5.70	<.001	0.53

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

We predicted in H6 that the presence of price would also negatively affect Choice-Satisfaction. The data showed that Choice-Satisfaction was significantly lower for respondents with price information as compared to those without. The effect again held true for comparison of groups 1 and 2, as well as 3 and 4. Respondents presented with price information were, then, more satisfied with the decisions they made overall, and within comparable groups. This result was not only statistically significant but practically so given the values of Cohen's D. **Thus, we find support for H6.**

Table 5
Impact of Price Presence on Choice Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	5.67 (1.29)	4.83 (1.41)	5.67 (1.29)	4.83 (1.41)	921	9.80	<.001	0.64
1 vs 2	5.58 (1.16)	4.73 (1.45)			459	6.97	<.001	0.65
3 vs 4			5.77 (1.22)	4.93 (1.37)	460	6.89	<.001	0.64

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

4.4.2. Option Effects

We predicted in H5 that the number of alternatives respondents were presented would affect Choice-Process Satisfaction. The data showed that Choice-Process Satisfaction was significantly higher for respondents with three options as compared to those with only two overall. This held true for comparisons of groups 1 and 3, and for comparisons of groups 2 and 4. Respondents with three options were, then, more satisfied with the decision-making process overall, and within comparable groups. The results are not only statistically significant but practically so, albeit less powerful than price. **Thus, we find support for H5.**

Table 6
Impact of Choice-Set Size on Choice-Process Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
(1,2) vs (3,4)	4.55 (1.40)	4.55 (1.40)	5.00 (1.30)	5.00 (1.30)	921	-5.10	<.001	0.34
1 vs 3	4.87 (1.31)		5.33 (1.13)		458	-4.05	<.001	0.37
2 vs 4		4.23 (1.42)		4.67 (1.37)	461	-3.37	.001	0.31

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

We predicted in H6 that the number of alternatives respondents were presented would affect Choice-Satisfaction also. The data showed that there was no significant difference in Choice-Satisfaction overall for respondents presented with three options as compared to two overall. Further, there was no significant difference when comparing only groups 1 and 2, nor groups 3 and 4. **Thus, we must reject H7.**

Table 7
Impact of Choice-Set Size on Choice Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,2) vs (3,4)	5.15 (1.38)	5.15 (1.38)	5.35 (1.36)	5.35 (1.36)	921	-2.27	.023	0.15
1 vs 3	5.58 (1.16)		5.77 (1.22)		458	-1.69	0.91	0.16
2 vs 4		4.73 (1.45)		4.93 (1.37)	461	-1.60	.111	0.15

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

Table 8
Impact of Price Presence on stated Importance Weight

Variable Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
Price 1,3, vs 2,4	5.42 (1.41)	5.57 (1.32)	5.42 (1.41)	5.57 (1.32)	921	-1.62	.105	0.11
Convenience 1,3 vs 2,4	5.50 (1.37)	5.32 (1.30)	5.50 (1.37)	5.32 (1.30)	921	2.07	.039	0.13
ValueForMoney 1,3, vs 2,4	5.71 (1.17)	5.71 (1.17)	5.71 (1.17)	5.71 (1.17)	921	-.08	.936	0.00
Price 1 vs 2	5.34 (1.48)	5.67 (1.28)			459	-2.57	.010	0.24
Convenience 1 vs 2	5.50 (1.32)	5.26 (1.35)			459	1.95	.051	0.18
ValueForMoney 1 vs 2	5.64 (1.18)	5.84 (1.12)			459	-1.84	.067	0.18
Price 3 vs 4			5.50 (1.35)	5.47 (1.35)	460	.31	.756	0.02
Convenience 3 vs 4			5.50 (1.43)	5.38 (1.26)	460	.97	.332	0.09
ValueForMoney 3 vs 4			5.77 (1.16)	5.59 (1.20)	460	.44	.094	0.15

Note.

4.4.3. Thought Processes

We predicted in H8 that the presence of price would affect respondent's valuation of attributes regarding delivery options.

The results (in Table 8 on the previous page, also available in an extended version in Appendix 5) showed no significant difference for the respondents stated importance regarding any of the four attributes Value for Money, Price, Convenience, or Sustainability, overall. However, it may be interesting to note that the valuation of Price in comparison of groups 1 and 2 was significantly different. Furthermore, for each attribute, *p*-values were lower, and Cohen's *d* was higher, in the analysis of groups 1 and 2 compared to 3 and 4. This may indicate the number of options presented mediates the effect of price presence.

However, we must reject H8a, H8b, and H8c, as there is insufficient support.

4.5. Concurrent Measures

In the study, a third delivery alternative that is not currently implemented in OGS was introduced to measure the effect of varying the number of options available to respondents. While the option was based on delivery alternatives available in other e-commerce sectors and kept within reason (i.e. no drone-delivery), the novelty may still have affected participant reactions. As such it is necessary to ensure that this alternative was perceived by respondents as clear, understandable, and realistic. To analyse this, we analysed the respondents reactions to the measures in Option Realism, between treatment groups where the addition of Collection Points was the only difference. The results show there was no significant difference in Clarity, Understandability, or Surprise between the groups where price information was absent, nor the groups where price information was present. As such the addition of Collection Points as a delivery alternative does not seem to have affected the participants assessment of the delivery options available, and we conclude both mundane and experimental realism were maintained.

Table 9
Impact of Collection Points on Option Realism

Variable Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
Clarity 1 vs 3	5.68 (1.64)		5.91 (1.39)		458	-1.62	.106	0.15
Understanding 1 vs 3	6.11 (1.33)		6.18 (1.26)		458	-.59	.555	0.05
Surprise 1 vs 3	2.29 (1.65)		2.32 (1.74)		458	.24	.809	0.02
Clarity 2 vs 4		6.11 (1.36)		5.95 (1.36)	461	1.26	.207	0.12
Understanding 2 vs 4		6.29 (1.19)		6.23 (1.22)	461	-.51	.610	0.05
Surprise 2 vs 4		2.80 (1.95)		2.68 (1.80)	461	.66	.507	0.06

Note.

Choice Confidence was measured in the survey as this is in theory correlated with Choice-Process Satisfaction. This was indeed the case in the results, $r(921) = .44, p < .001$.

Table 10
Impact of Price Presence on Choice Confidence

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	5.76 (1.36)	5.62 (1.31)	5.76 (1.36)	5.62 (1.31)	921	1.59	.112	0.10
1 vs 2	5.61 (1.37)	5.69 (1.24)			459	-.70	.487	0.06
3 vs 4			5.92 (1.37)	5.56 (1.38)	460	2.83	.005	0.26

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

Price Presence overall had no significant impact on Choice-Confidence, and there was further no significant impact comparing only groups the absence of price did significantly improve Choice Confidence.

Finally, the results showed that the number of options did not significantly impact Choice Confidence overall nor when comparing only groups 1 and 3, or groups 2 and 4.

Table 11
Impact of Choice-Set Size on Choice Confidence

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price <i>M (SD)</i>	Price <i>M (SD)</i>	No Price <i>M (SD)</i>	Price <i>M (SD)</i>				
(1,2) vs (3,4)	5.65 (1.28)	5.65 (1.28)	5.74 (1.38)	5.74 (1.38)	921	-1.03	.303	0.07
1 vs 3	5.61 (1.37)		5.92 (1.37)		458	-2.48	.013	0.23
2 vs 4		5.69 (1.24)		5.56 (1.38)	461	1.09	.278	0.10

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

In the survey Retailer Attitude was measured, as this is in theory correlated with Choice Satisfaction. This was indeed the case and the measures were correlated in the data also $r(921) = .62, p < .001$. Analysis further showed that there was a significant impact on Retailer Attitude based on price presence overall, to the detriment of price presence compared to absence. This effect was further present when comparing only groups 1 and 2, with Retailer Attitude decreasing in the presence of price. The same held true for groups 3 and 4 although the effect was smaller here.

Table 12
Impact of Price Presence on Retailer Attitude

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	5.73 (1.20)	5.17 (1.49)	5.73 (1.20)	5.17 (1.49)	921	6.36	<.001	0.42
1 vs 2	5.76 (1.21)	4.99 (1.44)			459	6.20	<.001	0.58
3 vs 4			5.71 (1.18)	5.35 (1.51)	460	2.84	.005	0.26

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

The results showed also that there was no significant impact based on the number of options overall. There was further no significant impact based on the number of options when price was not present, that is, groups 1 and 3. However when price was present, groups 3 and 4, there was a significant improvement in Retailer Attitude when respondents were presented with three alternatives rather than two.

Table 13
Impact of Choice-Set Size on Retailer Attitude

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,2) vs (3,4)	5.37 (1.39)	5.37 (1.39)	5.53 (1.37)	5.53 (1.37)	921	-1.71	0.88	0.12
1 vs 3	5.76 (1.21)		5.71 (1.18)		458	.50	.615	0.04
2 vs 4		4.99 (1.44)		5.35 (1.51)	461	-2.60	.010	0.24

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

Finally, the survey measured respondents' assessment of Fairness, as moral judgements have been shown to correlate with psychological distance. The results showed that there was no significant difference in assessments of Fairness based on the presence or absence of price overall. The same held true for comparison of groups 1 and 2, and for groups 3 and 4.

Table 14
Impact of Price Presence on Fairness

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	4.90 (1.27)	4.75 (1.15)	4.90 (1.27)	4.75 (1.15)	921	1.88	.061	0.12
1 vs 2	4.89 (1.31)	4.74 (1.19)			459	1.27	.205	0.12
3 vs 4			4.91 (1.24)	4.84 (1.18)	460	1.38	.168	0.06

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

The results showed that there was no significant impact on Fairness overall based on the number of options available. The same was true of groups 1 and 3, as well as groups 2 and 4.

Table 15
Impact of Choice-Set Size on Fairness

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,2) vs (3,4)	4.81 (1.25)	4.81 (1.25)	4.84 (1.18)	4.84 (1.18)	921	-.29	.776	0.03
1 vs 3	4.89 (1.31)		4.91 (1.24)		458	-.20	.844	0.02
2 vs 4		4.74 (1.19)		4.84 (1.18)	461	-.19	.853	0.08

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

5. Discussion

In this part, the results presented above will first be presented in short and then further elaborated and analysed with a standpoint in the two different treatments Price (5.1) and Options (5.2), building up towards the conclusions in the next part.

In this study we have investigated the effects of attribute salience at point of decision and the number of options available on consumer behaviour, attitudes, and thought processes. The study used a factorial 2x2 design, conducting a role-play experiment in an OGS checkout, with the attribute price (either present or not) and presenting respondents with either two or three delivery options. It was found that price presence impacted respondent decisions, regardless of whether they had previous experience in OGS or not and reduced the choice differences present between car owners and non-drivers. However, the study found that price presence did not affect respondents' self-reported attribute importance for delivery options. Price presence further lowered both Choice-Process Satisfaction and Choice Satisfaction. The study also found that increasing the number of delivery options available to respondents improved Choice Process Satisfaction but did not affect Choice Satisfaction.

5.1. Price

H1

Consistent with the predictions of H1a & H1b the study found that decisions were affected based on the presence of price information at the point of decision. This finding confirmed that attribute salience at the point of decision is a key factor in decision-making, in line with previous research (Dahlén et al., 2017). Thus, when price is salient, consumers appear to make more price-conscious decisions, and conversely when it is absent, they tend to focus on attributes of desirability such as convenience.

While the study utilised price as the focal attribute, being that it builds on more generalised theory, the finding is likely applicable to other attributes as well, as long as they meet the requirement of being diagnostic in the given choice-set (Alpert, 1971). For example, the attitude - behaviour gap is a key challenge when it comes to promoting sustainable consumption according to White et al. (2019). We posit that by increasing the salience of environmental impact at the point of decision, retailers may be able to shift consumer behaviour to be more in line with sustainability. For example, this could be done by presenting the average CO₂ emissions for delivery options at the point of checkout, shifting choices toward the more sustainable rather than most desirable or convenient options.

Furthermore, while the study used OGS checkouts specifically as the research object, being that it builds on more generalised theory, this finding is likely also applicable to other e-commerce checkouts as well. As stated above, retailers may be able to influence consumer decisions regarding delivery options by altering the salience of relevant attributes.

H2

Contrary to H2, the effect of price salience on decisions did not diminish for customers with previous experience in OGS checkouts. One explanation for this may be the grouping of customers in the analyses. Increased reliance on internal information is a function of experience. Thus, while more experienced shoppers may indeed rely less on external information and subsequently be less affected by attribute salience at the point of decision, the grouping of customers into no experience at all and some experience may have obfuscated this effect. As only a small minority of consumers regularly use OGS (PostNord, 2020), our respondents overwhelmingly had no or only very little previous OGS experience. While some respondents were very experienced with OGS, there were not enough of them to create comparable groups or make any reliable statistical inferences.

Alternatively, attribute salience may indeed affect customer decision-making regardless of previous experience. Indeed, the results in this study showed that experienced respondents were even marginally more susceptible to the presence of price information. According to Hoyer & MacInnis (2008) habitual customers do not have a strong brand preference, rather only repeat their behaviour out of convenience. While experienced customers may have developed habits regarding their delivery decisions, these should thus still be malleable if attributes can be made sufficiently salient. However, Nordfält & Ahlbom (2018) describe how consumer perception is shaped by memory, with the brain constantly working to improve its filtering mechanisms to ease cognitive strain. Thus, experienced or habitualised shoppers who do not expect a given attribute to be pronounced in the decision situation, may have difficulty noticing it. As such while they may be willing to alter their decisions based on attribute salience, the conditions needed to confer salience may be different for these consumers.

H3

Consistent with H3, the study found that consumers' choice of delivery options was affected by their access to a car. However, on a treatment group level, this difference in choice was only present where no price information was shown. Price still significantly impacted car owners in these groups, but we believe that the presence of price information is such a strong influencer of choice in the same direction as car ownership, as to drown out the effect of car ownership in these groups. The finding indicates that while consumer characteristics indeed impact attribute evaluations and choice, consumers are still susceptible to the influence of

attribute salience. However, the conditions of the study were such that the characteristic (car ownership) and salient attribute (price) drove choice in the same direction. Thus, we cannot make generalisations as to the effects of personal characteristics when they contrast those of the salient attribute.

H4 & H6

A key finding in this study was the negative impact of price presence on Choice-Process Satisfaction and Choice-Satisfaction consistent with H4 & H6. This effect was both statistically and practically significant overall, and indeed for treatments with two options and three options alike. This result is consistent with existing research regarding decision difficulty and trade-offs (Luce, Payne & Bettman, 1999). While providing more information for respondents to ground their decisions on may be viewed as positive, it seems this added information highlights trade-offs that consumers find difficult, thus resulting in lower satisfaction with the decision-making process. This study thus extends the findings on Choice-Process Satisfaction by Zhang & Fitzsimons (1999) by showing that fewer attributes, when all options have an equal number of alignable attributes, may in fact ease comparisons and decision-making in certain situations. Furthermore, the study found that price presence further translated into lower Choice-Satisfaction. This finding is also in line with previous research concerning Choice-Process Satisfaction and Choice-Satisfaction (Heitmann et al., 2007). Respondents who were less satisfied with the conditions under which the decision was made were, then, less satisfied with their actual choice too. Heitmann et al. (2007) showed that Choice-Satisfaction leads to positive post-purchase behaviour, and as such we would expect to see more positive attitudes toward the retailer. This was indeed the case in the study, as respondents for whom price information was available showed both lower Choice Satisfaction and less positive Retailer Attitudes.

All together these findings show that the inclusion or omission of price in OGS checkouts can significantly impact consumer evaluations of the decision-making process, their decisions, and the retailer themselves. More generally it indicates that increasing the level of abstraction by decreasing the number of attributes consumers need to compare can have a significant effect on consumers' evaluations. However, we cannot generalise further as this is likely not always the case and cannot comment as to under which conditions the effect applies.

H8

One of the findings of this study is that respondents' self-assessed importance weight for key attributes was not significantly different overall based on the presence of price, contrary to H8a-c. One explanation for this is that respondents' importance weight for attributes were in fact not affected by price presence. However, a previous finding of this study is that respondents' behavioural reactions in terms of actual choice of delivery option were in line with the predictions of H1a and H1b. That is, they were significantly affected by the presence of price information. Respondents for whom price was salient were significantly more likely to act in line with increased price importance, choosing the less expensive alternatives. Conversely respondents for whom price was omitted were significantly more likely to act in line with what could be expected given a greater importance on convenience, that is, choosing Home-Delivery more often. Given these results we believe this explanation to be unlikely.

An alternative explanation may then be that whilst respondents' importance weight for attributes was affected by price presence, they were not aware of this fact. The belief that consumers make decisions in large part based on subconscious psychological processes is well established and in fact a cornerstone of shopper marketing (Nordfält & Ahlbom, 2018, p.25). Further, the grocery shopping context is especially prominent in studies and experiments of consumers' subconscious cognitive processes. These decisions are similar to what Kahneman (2011) describes as System 1 thinking and lack self-awareness or consciousness (Nordfält & Ahlbom, 2018, p.19). Therefore, respondents' importance weight being affected and them acting in line with H1a & H1b, whilst not consciously being aware of the fact, and subsequently not reporting it when reflecting upon their decisions, is a reasonable explanation of the results in line with previous research in consumer psychology.

Finally, it is possible that the results are due to the fact that respondents were asked directly what they value when choosing delivery options. Regardless of whether respondents were indeed affected, subconsciously or consciously so, the mere fact that they were asked directly what they value may have obfuscated the fact. Respondents may believe it socially desirable to be price-conscious or value-oriented, and therefore alter their response (Gould, 1993). Conversely, they may be hesitant to seem price-unconscious or non-value-oriented, and this process itself may also be subconscious. The divergent responses may also be due to discrepancies in actual and ideal self-concept, and poor self-assessment (Gould, 1993). Self-concept defines how people view themselves and think others view them (Hoyer & MacInnis, 2008, p.50) and notably different parts of the self-concept may be prominent at different times (Reed, 2004). Consumers may reflect upon their ideal self-concept, displaying the positive attributes above, while acting based on actual self-concept at the point of decision.

5.2. Options

H5 & H7

We hypothesised that the presence of more options would increase the abstraction of the choice, thus resulting in higher Choice-Process Satisfaction and Choice Satisfaction.

This study found that while increasing the number of options in the choice set increased Choice-Process Satisfaction consistent with H5, this did not translate into increased Choice Satisfaction as predicted in H7.

One possible explanation may be seen in the fact that the effect on Choice-Process Satisfaction from an increased number of options was weaker than the effect from price presence, thus not translating into a significant difference in Choice Satisfaction. It may then be due to a type 2 error on our part in not rejecting the null hypothesis when it was in fact false but regardless if this is the case, the effect size was so weak as to be considered negligible and of little practical significance ($d = 0.15$).

Another possible explanation may come from research into the area of freedom of choice. According to rational choice theory, the behaviour of the rational agent in microeconomic theory, the more options in a set the greater the likelihood any individual agent finds their most preferred option (Van Loo, 2010), thus resulting in overall higher Choice Satisfaction. Schwartz (2004), however, argues that every additional option in a choice set confers both increased decision and opportunity costs. Increased decision costs refer to the fact that each new option must be considered against a greater number of other options, thus increasing decision time and difficulty. Opportunity costs refer to the fact that with a greater number of options available, the chooser must pass up a greater number of other options, reducing the perceived value of one's chosen option. Van Loo (2010) builds on these claims but goes further, arguing that the addition of more options can fundamentally alter the utility derived from a given choice. In the field of consumer behaviour, previous experiments have shown that increasing the number of options in a choice set may increase perceived decision freedom without increasing Choice Satisfaction (Reibstein, Youngblood & Fromkin, 1975). Finally, Iyengar & Lepper (2000), based on an experiment in a grocery store no less, argue that whilst choice sets with greater freedom are more attractive, they "(...) may nonetheless undermine choosers' subsequent satisfaction (...)".

Thus, we posit the alternative explanation that: While increasing the number of available options from two to three in our experiment increased decision freedom, it also increased decision and opportunity costs. Thus, while Choice-Process Satisfaction increased, decision

costs reduced the size of the effect, and opportunity costs account for the lack of difference in terms of Choice Satisfaction.

The results further showed that there was no difference in Understandability, Clarity, or Surprise, based on the inclusion of our third delivery option (Collection Point). This delivery option is almost universally utilised by e-commerce retailers in Sweden, where packages are delivered to a Collection Point rather than directly to the home. This finding, then, indicates that consumers may view Collection Points as a realistic alternative within the context of OGS delivery also. While indeed not especially popular in our study, it may constitute a viable third alternative for OGS retailers to implement. Collection Points or the inclusion of three alternatives overall, carried no measurable downside, at least in this study.

6. Conclusions

This thesis set out to answer the question: “How do attribute salience and choice-set size affect consumer behaviour and evaluations in e-commerce checkouts?”.

We conclude that *attribute salience* impacts behaviour in the form of choice, and attitudes toward both the choice and the retailer. That is, it increases the prevalence of choice in line with greater attribute consideration, and decreases satisfaction with both choice, decision, and retailer. Further we conclude that *choice-set size* does not affect the impact of attribute salience and does itself impact attitudes toward choice. That is, increasing set size results in better choice evaluations, but has no impact on decision satisfaction.

6.1. Implications for managers & practitioners

The findings in this study help to confirm the currently prevalent strategy among OGS retailers to omit price at the decision point during checkout in regard to customer satisfaction. However, the findings suggest that while this may be optimal for customer satisfaction, it plays a key role in the choice of many customers to select Home-Delivery. Unfortunately, while providing the greatest amount of service for customers, it is costly to deliver and optimise, and revenues from In-Store Pick-Up are more profitable (Abdel-Samed, Wilson & Saavedra, 2019). Thus, for OGS retailers increasing the share of consumers that select In-Store Pick-Up may be key to increasing profitability. The findings imply that it may be a viable strategy for OGS retailers to include price at the point of decision, thereby sacrificing some measure of satisfaction in return for increased profitability.

Further the findings of this study imply that OGS retailers may consider implementing a third delivery alternative¹. Doing so carried no measurable downside in the study, while increasing process satisfaction, and may help to counteract lower evaluations for retailers who include price as per the above. Furthermore, the results imply that Collection Points, already well established in other e-commerce sectors, may be a viable option from a customer perspective. Collection Points, from a retailer perspective, may strike a middle ground by reducing the cost and complexity of individual scheduled deliveries, by delivering several customer orders to a third-party collection point, where customers then individually pick-up. Thus, a greater level of service compared to In-Store Pick-Up may be provided, at lower cost than individual scheduled home delivery.

A broader implication of this study is that e-commerce retailers may wish to experiment with highlighting other attributes to increase salience at the point of decision for delivery options. For example, including CO2 emissions, could help to bridge the attitude - behaviour gap by increasing the salience of environmental impact for shoppers. The results of the study imply that the effect of highlighting attributes is not limited only to new customers, but experienced customers also.

The finding that more information does not constitute easier decisions, and in fact increases difficulty and decreases satisfaction may have implications in other decision situations in retailing. Retailers may in fact benefit from reducing the amount of information provided in such, thereby increasing abstraction and resultantly ease and satisfaction for consumers.

6.2. Limitations & Future Research Questions

The study naturally has a number of limitations. First, while this study showed that variations in the checkout and decision environment could indeed impact customer satisfaction and even retailer attitude, the experiment isolated only a single decision point to eliminate noise. As the checkout is only a part of the entire shopping experience, the degree to which such variables are affected by variations in checkout is arguably lower in the context of an entire purchase. It is even entirely possible that such variations only cause negligible impact on customer attitudes in such cases. Further research may wish to tackle the extent to which checkout satisfaction impacts overall satisfaction or repurchase intentions in the context of an entire purchase. Our hypothesis is that in accordance with the peak-end heuristic, the impact of checkout should be disproportionately larger than the total time spent on checkout.

¹In fact, Willy:s implemented Collection Points as described in collaboration with petrol station chain Circle-K after the completion of this study but prior to publication. <https://bit.ly/3hSz8OR>

A further limitation of this study, as can be seen in the discussion regarding H2, was that the overall low level of OGS experience in our sample. This impaired our ability to examine whether the effects of attribute salience on choice are affected by the level of previous experience. While this is a side effect of low OGS experience in the population at large, we did not actively seek an experienced sample as this would have limited our sampling opportunities drastically. However, as OGS adoption has skyrocketed during the Covid-19 crisis, future researchers may find it is viable to investigate this question in the OGS context, sooner rather than later.

The study is limited also by its use of price as the salient attribute. This as price is already a frequently considered attribute in decision-making. As such it may be of interest for future researchers to examine the effects seen regarding behaviour and attitudes in the context of other less frequently considered attributes, such as environmental impact. We hypothesise that so long as the attribute meets the requirement of diagnosticity as per Alpert (1971), the results should hold.

The study is further limited by its employ of OGS checkout as research object, and role-play design. While role-playing experiments have been shown to yield similar behavioural psychological and behavioural reactions as real situations (Bateson & Hui, 1992), it is possible that reactions differ when consumers are in a real decision setting. Specifically, reactions regarding attitude as a consequence of attribute salience, while applicable to OGS checkouts, and likely other e-commerce checkouts as these are very similar constructs, very probably do not hold for all decision situations. As such future research may want to examine what conditions must be present for a decrease in attributes to improve attitudes concerning decision and choice.

Finally, a shortcoming of this study is that respondents were directly asked what attributes they value when choosing delivery options. As described in the discussion this likely impaired us from accurate measurement of the fact. To tackle this problem future researchers may wish to structure their studies differently to employ more complex quantitative modelling for the assessment of derived importance as opposed to stated importance. These often differ significantly, and among others Grigoroudis & Spyridaki (2003) offer an approach for disaggregating consumer preferences.

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8. Appendices

8.1. Appendix 1 - Survey Symbols

Below are all the symbols designed for and used in the survey. The creator has agreed to let them be freely used for any non-commercial academic research purposes, so future researchers are welcome to use them.



Home Delivery

Delivered all the way to your door.



Collection Point

Delivered to your local collection point for pick-up.



Pick-up in Store

Packed and ready to pick-up in store.



Home Delivery

Delivered all the way to your door.

149 kr



Collection Point

Delivered to your local collection point for pick-up.

99 kr



Pick-up in Store

Packed and ready to pick-up in store.

49 kr



Hemleverans

Leverans ända fram till dörren



Utlämningsställe

Levererade till ditt utlämningsställe för upphämtning



Hämta i butik

Packade varor redo att hämtas i butik



Hemleverans

Leverans ända fram till dörren

149 kr



Utlämningsställe

Levererade till ditt utlämningsställe för upphämtning

99 kr



Hämta i butik

Packade varor redo att hämtas i butik

49 kr

8.2. Appendix 2 - Survey in English

Survey

Q1.1

Hello and welcome!

We are two undergraduate students currently writing our bachelor thesis as we reach the end of a BSc in Retail Management at Stockholm School of Economics. We are very thankful that you have made your way into this survey and appreciate your participation. The survey takes approximately 5 minutes to complete and we humbly ask you to read through questions carefully before answering. All responses are of course completely anonymous.

Notera att enkäten är tillgänglig även på svenska, du hittar språkvalet i det övre högra hörnet.

Your participation will be rewarded not only with the warm feeling of satisfaction but also a chance to win free movie tickets for yourself and a friend!

See you on the other side!

Carl and Lazar

Q2.1

In this scenario, please answer the question as you would have acted prior to the current COVID-19 crisis.

Imagine that you have decided to buy groceries from your favourite retailer, using their online store.

It is a routine purchase for ordinary consumption over the next few days.

After adding your chosen products to the basket, you decide to proceed to the checkout.

Please select a checkout language and proceed when you are ready.

Q2.2 Checkout Language

- English
- Svenska

Q3.1-3.4 Select Delivery Option (With English Symbols)

Q4.1-4.4 Select Delivery Option (With Swedish Symbols)

Q5.1 Please answer the following questions regarding your chosen delivery option:

	Very dissatisfied (1)	(2)	(3)	(4)	(5)	(6)	Very Satisfied (7)
How satisfied or dissatisfied are you with your chosen delivery option?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.2

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Totally (7)
To what extent does your choice meet your expectations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.3

	Very far from (1)	(2)	(3)	(4)	(5)	(6)	Could not get any closer (7)
Imagine a perfect delivery option. How near or far from this ideal do you find your choice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.4

	Strongly disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly agree (7)
I am sure of my decision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would make the same decision again	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.5 Please answer the following questions regarding the choice of delivery options:

	Strongly disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly agree (7)
I found the process of deciding frustrating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Several good options were available for me to choose between	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my experience of deciding which option to choose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.6

	Strongly disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly agree (7)
I thought the choice selection was good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be happy to choose from the same set of options on my next purchase occasion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the process of deciding which option to choose interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.7

	Strongly disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly agree (7)
The difference between alternatives was clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understood the options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be surprised if I came across these options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.8 When choosing a delivery option how important are the following attributes to you?

	Not at all important (1)	(2)	(3)	(4)	(5)	(6)	Extremely important (7)
Price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convenience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sustainability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value for Money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6.1

5 + 8 = ?

- 9
- 13
- 17
- 6
- 10

Q6.2 Based on the purchase experience you just had, how would you describe your attitude toward the retailer?

	Attitude toward Retailer							
	1	2	3	4	5	6	7	
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Good
Dislike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like
Negative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Positive

Q6.3 Based on the purchase experience you just had, how well do you feel the following attributes fit the retailer?

	Strongly disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly agree (7)
Transparent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sustainable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7.1 How many times would you estimate you have bought groceries online in the last 6 months? (in numbers)

Q7.2 How often do you have access to a car?

- Dont Have Drivers License
- Daily
- 4-6 times a week
- 2-3 times a week
- Once a week
- Less than weekly

Q7.3 Your age (in numbers)

Q7.4 Gender

- Male
- Female
- Other / Prefer not to answer

Q7.5 How many people live in your household? (in numbers)

Q7.6 Occupation

- Employed full time
- Employed part time
- Unemployed looking for work
- Unemployed not looking for work
- Retired
- Student
- Disabled

Q8.1 In this survey you:

- Compared Insurance Providers
- Purchased Groceries Online
- Purchased Airline Tickets

Q8.2 If you wish to to be entered into a lottery for free movie tickets please provide your email adress below

Q8.3 If you would like to be notified when the research is published please tick the box below

Notify Me (via email)

8.3. Appendix 3 – Survey: Swedish Translation

Q1.1

Hej och välkommen!

Vi är två studenter som skriver examensarbete i sista året på Retail Management programmet vid Handelshögskolan i Stockholm. Vi är ytterst tacksamma att ni hittat er väg in till vår studie och uppskattar er medverkan. Enkäten tar ca 5 minuter att genomföra och vi ber er ödmjukt läsa igenom frågorna noggrant innan ni svarar. Alla svar är självklart helt anonyma.

Note that the survey is available in English also, you will find the choice selection in the upper right corner.

Medverkan belönas inte bara med den varma känslan av tillfredställelse utan även chansen att vinna gratis biobiljetter för er själva och en vän!

Vi ses på andra sidan!

Carl och Lazar

Q2.1

I detta scenario, vänligen svara så som du hade agerat innan den nuvarande COVID-19 krisen

Föreställ att du har bestämt dig för att handla dagligvaror från din favoritaktör, med hjälp av deras online butik.

Köpet är rutinmässigt och avsedd för ordinarie konsumtion över närmsta dagarna.

Efter att ha lagt till dina valda produkter till varukorgen, bestämmer du dig att gå vidare till utcheckning.

Vänligen välj ett språk för utcheckningen och gå vidare när ni känner er redo.

Q2.2 Språk för Utcheckning

- English
- Svenska

Q3.1-3.4 Välj Leveransalternativ (With English Symbols)

Q4.1-4.4 Välj Leveransalternativ (With Swedish Symbols)

Vänligen svara på följande frågor angående ditt valda leveransalternativ:

Q5.1

Hur nöjd eller missnöjd är du med det valda leveransalternativet?

(Väldigt missnöjd - Väldigt nöjd)

Q5.2

I vilken utsträckning möter det valda alternativet dina förväntningar?

(Inte alls - Helt och hållet)

Q5.3

Föreställ dig ett perfekt leveransalternativ. Hur nära eller långt ifrån detta ideal ligger ditt valda alternativ?

(Väldigt långt ifrån - Kunde inte komma närmare)

Q5.4

- i) Jag är säker på mitt beslut
 - ii) Jag skulle fatta samma beslut igen
- (Instämmer inte alls - Instämmer fullt)

Q5.5

Vänligen svara på följande frågor angående valet av leveransalternativ:

- i) Jag fann processen av att besluta frustrerande
 - ii) Flera bra alternativ fanns tillgängliga för mig att välja mellan
 - iii) Jag är nöjd med min upplevelse av att välja alternativ
- (Instämmer inte alls - Instämmer fullt)

Q5.6

- i) Jag tyckte att valmöjligheterna var bra
 - ii) Jag skulle gärna välja från samma uppsättning alternativ vid mitt nästa köptillfälle
 - iii) Jag fann processen av att välja alternativ intressant
- (Instämmer inte alls - Instämmer fullt)

Q5.7

- i) Skillnaden mellan alternativen var tydlig
 - ii) Jag förstod alternativen
 - iii) Jag skulle bli förvånad om jag stötte på dessa alternativ
- (Instämmer inte alls - Instämmer fullt)

Q5.8

När du väljer leveransalternativ hur viktiga är följande attribut för dig?

- i) Pris
 - ii) Bekvämlighet
 - iii) Hållbarhet
 - iv) Värde för pengarna
- (Inte alls viktigt - Extremt viktigt)

Q6.2

Baserat på din upplevelse av köptillfället, hur skulle du beskriva din attityd gentemot återförsäljaren?

- i) Dålig - Bra
- ii) Tycker inte om - Tycker om
- iii) Negativ - Positiv

Q6.3

Baserat på din upplevelse av köptillfället, i vilken utsträckning anser du att följande attribut passar butiken du just handlat från?

- i) Transparent
 - ii) Rättvis
 - iii) Ärlig
 - iv) Innovativ
 - v) Dyr
 - vi) Hållbar
- (Instämmer inte alls - Instämmer fullt)
-

Q7.1

Hur många gånger skulle du uppskatta att du handlat mat online under senaste 6 månaderna? (i siffror)

Q7.2

Hur ofta har du tillgång till bil?

- Har inte körkort
- Dagligen
- 4-6 gånger i veckan
- 2-3 gånger i veckan
- En gång i veckan
- Mindre än varje vecka

Q7.3

Din ålder (i siffror)

Q7.4

Kön

- Man
- Kvinna
- Annat / Föredrar att inte svara

Q7.5

Hur många människor bor i ditt hushåll? (i siffror)

Q7.6

Sysselsättning

- Anställd på heltid
- Anställd på deltid
- Arbetslös, söker arbete
- Arbetslös, söker inte arbete
- Pensionär
- Student
- Sjukpensionär

Q8.1

I denna undersökning ombads du att:

- Jämföra försäkringsgivare
- Köpa livsmedel online
- Köpa flygbiljetter

Q8.2

Ange din e-postadress nedan om du vill delta i en utlottning av gratis biobiljetter

Q8.3

Om du vill bli meddelad när resultatet av denna undersökning publiceras markerar du rutan nedan.

- Meddela mig (via e-post)

8.4. Appendix 4 - Technical Appendix

8.4.1 Data Cleaning

One of the survey questions concerned previous experience with online shopping and respondents were asked to fill in an empty box using digits. While most did so, some added

question marks (3?), ranges (i.e 5-7), and some left it blank. Question marks were removed and ranges were averaged (i.e 5-7=6). Finally because the question demanded a response, any blank answers were “spacemarks” that were intentionally placed as a blank. This we took to indicate no previous experience, and therefore formatted to a 0. Once all were digits only, the “string” was reformatted from a nominal to a scale measure in SPSS.

The survey question regarding age was an empty box allowing the respondent to enter a string although asking for digits. Here only 1 response had a mistake (“, 77”) which was corrected (to “77”). Two respondents had answered blank, and were removed from the dataset as mentioned in the section Sampling.

Finally, for the question regarding the number of people living in the household the same process was repeated. Here a few respondents answered in text rather than digits and these were adjusted, upon which the variable was reformatted from nominal to a scale.

8.5. Appendix 5 - Tables & Figures

8.5.1 Tables

Table 1

Respondent Occupations

Occupation	N	%
Employed		
- Full-time	447	48.4
- Part-time	66	7.2
Unemployed		
- Looking for work	24	2.6
- Not looking for work	9	1.0
Retired	187	20.3
Student	168	18.2
Disabled	22	2.4
Total	923	100.0

Note.

Table 2

Distribution of respondents among Treatment Groups

ID	Conditions	N	%
1	2 Options, No Price	228	24.7
2	2 Options, Price	233	25.2
3	3 Options, No Price	232	25.1
4	3 Options, Price	230	24.9
	Total	923	100

Note.

Table 3

Distribution of Permutations among respondents

ID	Conditions	N	% of Possible	% of Total
1	1, 2	249	54.0	27.0
2	2, 1	212	46.0	23.0
	Total	461	100.0	49.9
3	1, 2, 3	74	16.0	8.0
4	1, 3, 2	74	16.0	8.0
5	2, 1, 3	73	15.8	7.9
6	2, 3, 1	77	16.7	8.3
7	3, 1, 2	86	18.6	9.3
8	3, 2, 1	78	16.9	8.5
	Total	462	100.0	50.1

Note. ID:s 1-2 are distributed among treatment groups 1 & 2.

ID:s 3-6 are Distributed among treatment groups 3 & 4.
Further note. Conditions describe the order of options in the
Permutation. Here 1 = Home Delivery, 2 = In-Store Pick-Up,
3 = Collection Point.

Table A.1

Crosstabulation of Permutation and Treatment Groups 1 and 2

Permutation	Treatment Group		N	df	X ²	p	Φ _c
	1	2					
(1,2)	124 (49.8%)	125 (50.2%)	461	1	0.03	.874	.007
(2,1)	104 (49.1%)	108 (50.9%)					

Note.

Table A.2
Crosstabulation of Permutation and Treatment Groups 3 and 4

Permutation	Chosen Option		<i>N</i>	<i>df</i>	<i>X</i> ²	<i>p</i>	Φ_c
	3	4					
	<i>N</i> (%)	<i>N</i> (%)					
(1,2,3)	46 (62.2%)	28 (37.8%)	462	5	8.50	.131	.136
(1,3,2)	37 (50.0%)	37 (50.0%)					
(2,1,3)	35 (47.9%)	38 (52.1%)					
(2,3,1)	43 (55.8%)	34 (44.2%)					
(3,1,2)	37 (43.0%)	49 (57.0%)					
(3,2,1)	34 (43.6%)	44 (56.4%)					

Note.

Table A.3
Crosstabulation of Permutation and Chosen Option within T1

Permutation	Chosen Option		<i>N</i>	<i>df</i>	<i>X</i> ²	<i>p</i>	Φ_c
	Home Delivery (1)	In-Store Pick-Up (2)					
	<i>N</i> (%)	<i>N</i> (%)					
(1,2)	64 (51.6%)	60 (48.4%)	228	1	.06	.808	.016
(2,1)	52 (50.0%)	52 (50.0%)					

Note.

Table A.4
Crosstabulation of Permutation and Chosen Option within T2

Permutation	Chosen Option		<i>N</i>	<i>df</i>	<i>X</i> ²	<i>P</i>	Φ_c
	Home Delivery (1)	In-Store Pick-Up (2)					
	<i>N</i> (%)	<i>N</i> (%)					
(1,2)	33 (26.4%)	92 (73.6%)	233	1	1.01	.314	.066
(2,1)	35 (32.4%)	73 (67.6%)					

Note.

Table A.5
Crosstabulation of Permutation and Chosen Option within T3

Permutation	Chosen Option			<i>N</i>	<i>df</i>	<i>X</i> ²	<i>p</i>	Φ_c
	Home Delivery (1)	In-Store Pick-Up (2)	Collection Point (3)					
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)					
(1,2,3)	25 (54.3%)	15 (32.6%)	6 (13.0%)	232	10	3.41	.970	.086
(1,3,2)	20 (54.1%)	13 (35.1%)	4 (10.8%)					
(2,1,3)	14 (40.0%)	15 (42.9%)	6 (17.1%)					
(2,3,1)	22 (51.2%)	16 (37.2%)	5 (11.6%)					
(3,1,2)	21 (56.8%)	11 (29.7%)	5 (13.5%)					
(3,2,1)	17 (50.0%)	11 (32.4%)	6 (17.6%)					

Note.

Table A.6
Crosstabulation of Permutation and Chosen Option within T4

Permutation	Chosen Option			N	df	X ²	p	Φ _c
	Home Delivery (1)	In-Store Pick-Up (2)	Collection Point (3)					
(1,2,3)	6 (21.4%)	18 (64.3%)	4 (14.3%)	230	10	7.46	.681	.127
(1,3,2)	10 (27.0%)	21 (56.8%)	6 (16.2%)					
(2,1,3)	8 (21.1%)	25 (65.8%)	5 (13.2%)					
(2,3,1)	7 (20.6%)	25 (73.5%)	2 (5.9%)					
(3,1,2)	11 (22.4%)	32 (65.3%)	6 (12.2%)					
(3,2,1)	7 (15.9%)	26 (59.1%)	11 (25.0%)					

Note.

Table A.7
Crosstabulation of Price Presence and Chosen Option overall

Treatment Groups	Chosen Option			N	df	X ²	p	Φ _c
	Home Delivery	In-Store Pick-Up	Collection Point					
(1,3)	235 (51.1%)	193 (42.0%)	32 (7.0%)	923	2	67.65	<.001	.271
(2,4)	117 (25.3%)	312 (67.4%)	34 (7.3%)					

Note.

Table A.8

Crosstabulation of Price Presence and Chosen Option when 2 options available.

Treatment Group	Chosen Option		N	df	X ²	p	Φ _c
	Home Delivery	In-Store Pick-Up					
1	116 (50.9%)	112 (49.1%)	461	1	22.61	<.001	.221
2	68 (29.2%)	165 (70.8%)					

Note.

Table A.9

Crosstabulation of Price Presence and Chosen Option when 3 options available

Treatment Group	Chosen Option			N	df	X ²	p	Φ _c
	Home Delivery	In-Store Pick-Up	Collection Point					
3	119 (51.3%)	81 (34.9%)	32 (13.8%)	462	2	48.33	<.001	.323
4	49 (21.3%)	147 (63.9%)	34 (14.8%)					

Note.

Table A.10

Crosstabulation of Price Presence and Chosen Option when 2 options available, Experience level.

Experience Level, Group	Chosen Option		N	df	X ²	p	Φ _c
	Home Delivery	In-Store Pick-Up					
Inexperienced 1	50 (45.0%)	61 (55.0%)	231	1	9.35	.002	.201
Inexperienced 2	31 (25.8%)	89 (74.2%)					
Experienced 1	66 (56.4%)	51 (43.6%)	230	1	13.02	<.001	.238
Experienced 2	37 (32.7%)	76 (67.3%)					

Note.

Table A.11

Crosstabulation of Price Presence and Chosen Option when 3 options available, Experience level.

	Chosen Option			<i>N</i>	<i>df</i>	<i>X</i> ²	<i>p</i>	Φ_c
	Home Delivery	In-Store Pick-Up	Collection Point					
Experience Level, Group	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)					
Inexperienced 3	40 (40.0%)	46 (46.0%)	14 (14.0%)	210	2	15.33	<.001	.270
Inexperienced 4	19 (17.3%)	78 (70.9%)	13 (11.8%)					
Experienced 3	79 (59.8%)	35 (26.5%)	18 (13.6%)	252	2	32.88	<.001	.361
Experienced 4	30 (25.0%)	69 (57.5%)	21 (17.5%)					

Note.

Table A.12

Crosstabulation of Car Access and Chosen Option, overall.

	Chosen Option			<i>N</i>	<i>df</i>	<i>X</i> ²	<i>p</i>	Φ_c
	Home Delivery	In-Store Pick-Up	Collection Point					
Car Access	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)					
No Car	165 (45.7%)	171 (47.4%)	25 (6.9%)	923	2	14.80	.001	.127
Car	187 (33.3%)	334 (59.4%)	41 (7.3%)					

Note.

Table A.13

Crosstabulation of Car Access and Chosen Option when 3 options available.

Car Access, Group	Chosen Option			N	df	X ²	p	Φ _c
	Home Delivery	In-Store Pick-Up	Collection Point					
No Car 3	59 (62.1%)	23 (24.2%)	13 (13.7%)	232	2	8.95	.010	.196
Car 3	60 (43.8%)	58 (42.3%)	19 (13.9%)					
No Car 4	14 (18.7%)	49 (65.3%)	12 (16.0%)	230	2	.51	.775	.047
Car 4	35 (22.6%)	98 (63.2%)	22 (14.2%)					

Note.

Table A.14

Crosstabulation of Car Access and Chosen Option when 2 options available.

Car Access, Group	Chosen Option		N	df	X ²	p	Φ _c
	Home Delivery	In-Store Pick-Up					
No Car 1	61 (65.6%)	32 (34.4%)	228	1	13.61	<.001	.244
Car 1	55 (40.7%)	80 (59.3%)					
No Car 2	31 (31.6%)	67 (68.4%)	233	1	.49	.484	.046
Car 2	37 (27.4%)	98 (72.6%)					

Note.

Table 4
Impact of Price Presence on Choice-Process Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
(1,3) vs (2,4)	5.11 (1.24)	4.45 (1.41)	5.11 (1.24)	4.45 (1.41)	921	7.51	<.001	0.49
1 vs 2	4.87 (1.31)	4.23 (1.42)			459	5.04	<.001	0.46
3 vs 4			5.33 (1.13)	4.67 (1.37)	460	5.70	<.001	0.53

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

Table 5
Impact of Price Presence on Choice Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
(1,3) vs (2,4)	5.67 (1.29)	4.83 (1.41)	5.67 (1.29)	4.83 (1.41)	921	9.80	<.001	0.64
1 vs 2	5.58 (1.16)	4.73 (1.45)			459	6.97	<.001	0.65
3 vs 4			5.77 (1.22)	4.93 (1.37)	460	6.89	<.001	0.64

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

Table 6
Impact of Choice-Set Size on Choice-Process Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
(1,2) vs (3,4)	4.55 (1.40)	4.55 (1.40)	5.00 (1.30)	5.00 (1.30)	921	-5.10	<.001	0.34
1 vs 3	4.87 (1.31)		5.33 (1.13)		458	-4.05	<.001	0.37
2 vs 4		4.23 (1.42)		4.67 (1.37)	461	-3.37	.001	0.31

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

Table 7
Impact of Choice-Set Size on Choice Satisfaction

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
(1,2) vs (3,4)	5.15 (1.38)	5.15 (1.38)	5.35 (1.36)	5.35 (1.36)	921	-2.27	.023	0.15
1 vs 3	5.58 (1.16)		5.77 (1.22)		458	-1.69	0.91	0.16
2 vs 4		4.73 (1.45)		4.93 (1.37)	461	-1.60	.111	0.15

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

Table 8 - Extended
Impact of Price Presence on stated Importance Weight

Variable Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
Price 1,3, vs 2,4	5.42 (1.41)	5.57 (1.32)	5.42 (1.41)	5.57 (1.32)	921	-1.62	.105	0.11
Convenience 1,3 vs 2,4	5.50 (1.37)	5.32 (1.30)	5.50 (1.37)	5.32 (1.30)	921	2.07	.039	0.13
Sustainability 1,3, vs 2,4	4.98 (1.68)	4.77 (1.72)	4.98 (1.68)	4.77 (1.72)	921	1.87	.062	0.12
ValueForMoney 1,3, vs 2,4	5.71 (1.17)	5.71 (1.17)	5.71 (1.17)	5.71 (1.17)	921	-.08	.936	0.00
Price 1 vs 2	5.34 (1.48)	5.67 (1.28)			459	-2.57	.010	0.24
Convenience 1 vs 2	5.50 (1.32)	5.26 (1.35)			459	1.95	.051	0.18
Sustainability 1 vs 2	5.00 (1.70)	4.73 (1.73)			459	1.67	.096	0.16
ValueForMoney 1 vs 2	5.64 (1.18)	5.84 (1.12)			459	-1.84	.067	0.18
Price 3 vs 4			5.50 (1.35)	5.47 (1.35)	460	.31	.756	0.02
Convenience 3 vs 4			5.50 (1.43)	5.38 (1.26)	460	.97	.332	0.09
Sustainability 3 vs 4			4.97 (1.67)	4.81 (1.71)	460	.97	.333	0.09
ValueForMoney 3 vs 4			5.77 (1.16)	5.59 (1.20)	460	.44	.094	0.15

Note. This extended version includes values for Sustainability.

Table 9
Impact of Collection Points on Option Realism

Variable Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price <i>M (SD)</i>	Price <i>M (SD)</i>	No Price <i>M (SD)</i>	Price <i>M (SD)</i>				
Clarity 1 vs 3	5.68 (1.64)		5.91 (1.39)		458	-1.62	.106	0.15
Understanding 1 vs 3	6.11 (1.33)		6.18 (1.26)		458	-.59	.555	0.05
Surprise 1 vs 3	2.29 (1.65)		2.32 (1.74)		458	.24	.809	0.02
Clarity 2 vs 4		6.11 (1.36)		5.95 (1.36)	461	1.26	.207	0.12
Understanding 2 vs 4		6.29 (1.19)		6.23 (1.22)	461	-.51	.610	0.05
Surprise 2 vs 4		2.80 (1.95)		2.68 (1.80)	461	.66	.507	0.06

Note.

Table 10
Impact of Price Presence on Choice Confidence

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price <i>M (SD)</i>	Price <i>M (SD)</i>	No Price <i>M (SD)</i>	Price <i>M (SD)</i>				
(1,3) vs (2,4)	5.76 (1.36)	5.62 (1.31)	5.76 (1.36)	5.62 (1.31)	921	1.59	.112	0.10
1 vs 2	5.61 (1.37)	5.69 (1.24)			459	-.70	.487	0.06
3 vs 4			5.92 (1.37)	5.56 (1.38)	460	2.83	.005	0.26

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

Table 11
Impact of Choice-Set Size on Choice Confidence

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,2) vs (3,4)	5.65 (1.28)	5.65 (1.28)	5.74 (1.38)	5.74 (1.38)	921	-1.03	.303	0.07
1 vs 3	5.61 (1.37)		5.92 (1.37)		458	-2.48	.013	0.23
2 vs 4		5.69 (1.24)		5.56 (1.38)	461	1.09	.278	0.10

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

Table 12
Impact of Price Presence on Retailer Attitude

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	5.73 (1.20)	5.17 (1.49)	5.73 (1.20)	5.17 (1.49)	921	6.36	<.001	0.42
1 vs 2	5.76 (1.21)	4.99 (1.44)			459	6.20	<.001	0.58
3 vs 4			5.71 (1.18)	5.35 (1.51)	460	2.84	.005	0.26

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

Table 13
Impact of Choice-Set Size on Retailer Attitude

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,2) vs (3,4)	5.37 (1.39)	5.37 (1.39)	5.53 (1.37)	5.53 (1.37)	921	-1.71	0.88	0.12
1 vs 3	5.76 (1.21)		5.71 (1.18)		458	.50	.615	0.04
2 vs 4		4.99 (1.44)		5.35 (1.51)	461	-2.60	.010	0.24

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

Table 14
Impact of Price Presence on Fairness

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
(1,3) vs (2,4)	4.90 (1.27)	4.75 (1.15)	4.90 (1.27)	4.75 (1.15)	921	1.88	.061	0.12
1 vs 2	4.89 (1.31)	4.74 (1.19)			459	1.27	.205	0.12
3 vs 4			4.91 (1.24)	4.84 (1.18)	460	1.38	.168	0.06

Note. The first row is a test of both treatment groups with price, against both treatment groups with no price.

Table 15
Impact of Choice-Set Size on Fairness

Groups Tested	2 Options		3 Options		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	No Price	Price	No Price	Price				
(1,2) vs (3,4)	4.81 (1.25)	4.81 (1.25)	4.84 (1.18)	4.84 (1.18)	921	-.29	.776	0.03
1 vs 3	4.89 (1.31)		4.91 (1.24)		458	-.20	.844	0.02
2 vs 4		4.74 (1.19)		4.84 (1.18)	461	-.19	.853	0.08

Note. The first row is a test of both treatment groups with two options, against both treatment groups with three options.

8.5.2 Figures



Figure 1

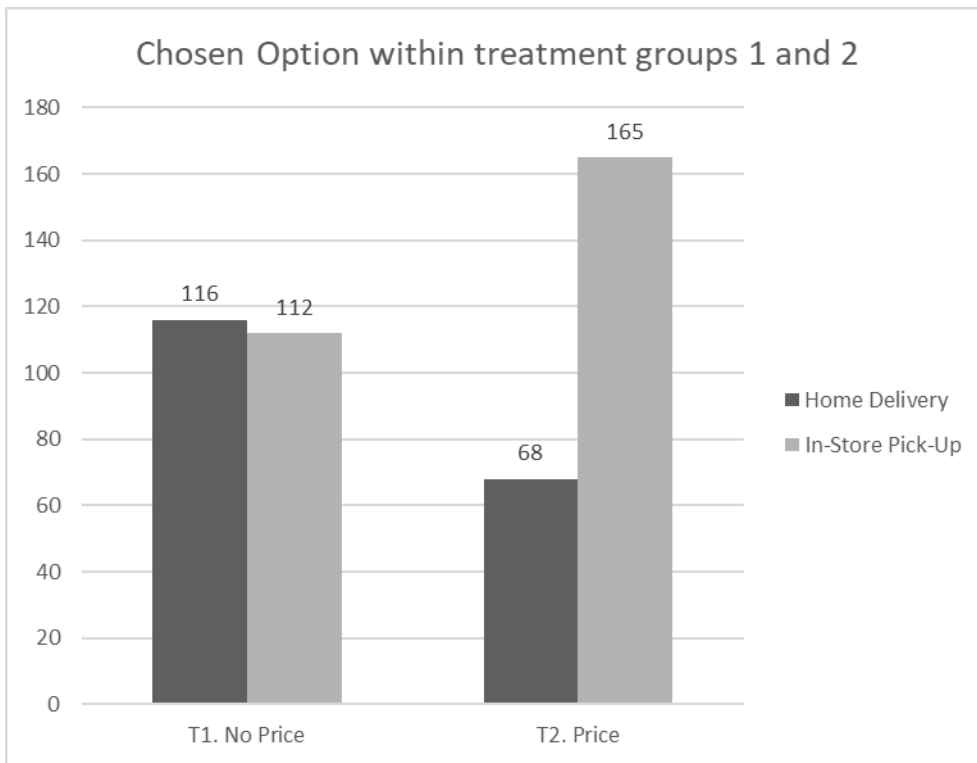


Figure 2

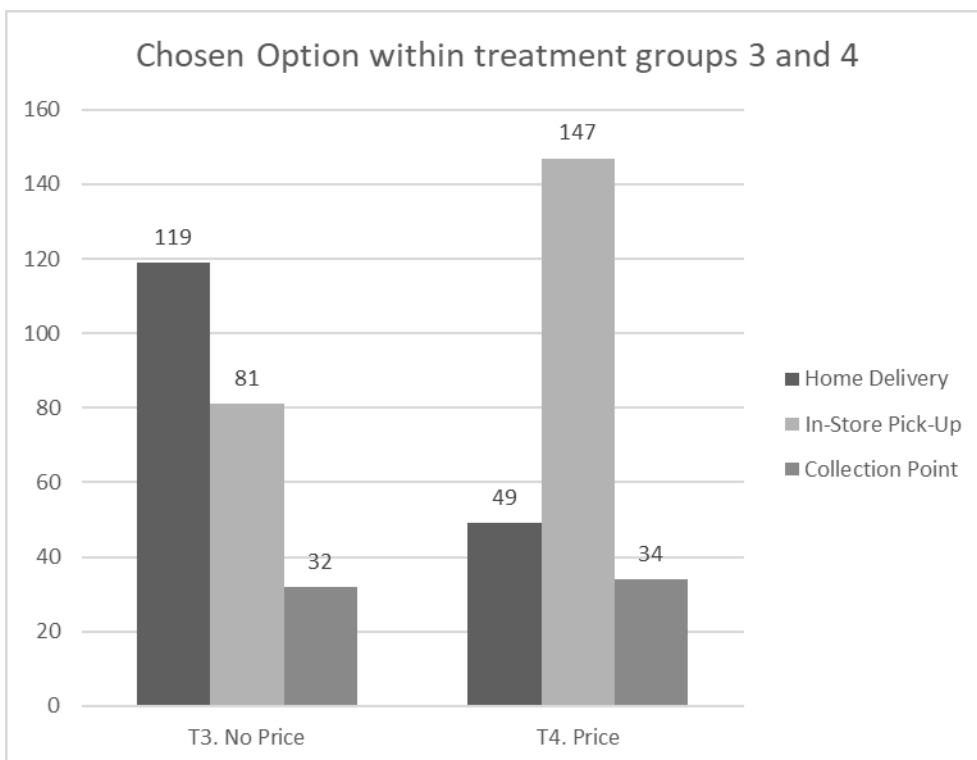


Figure 3

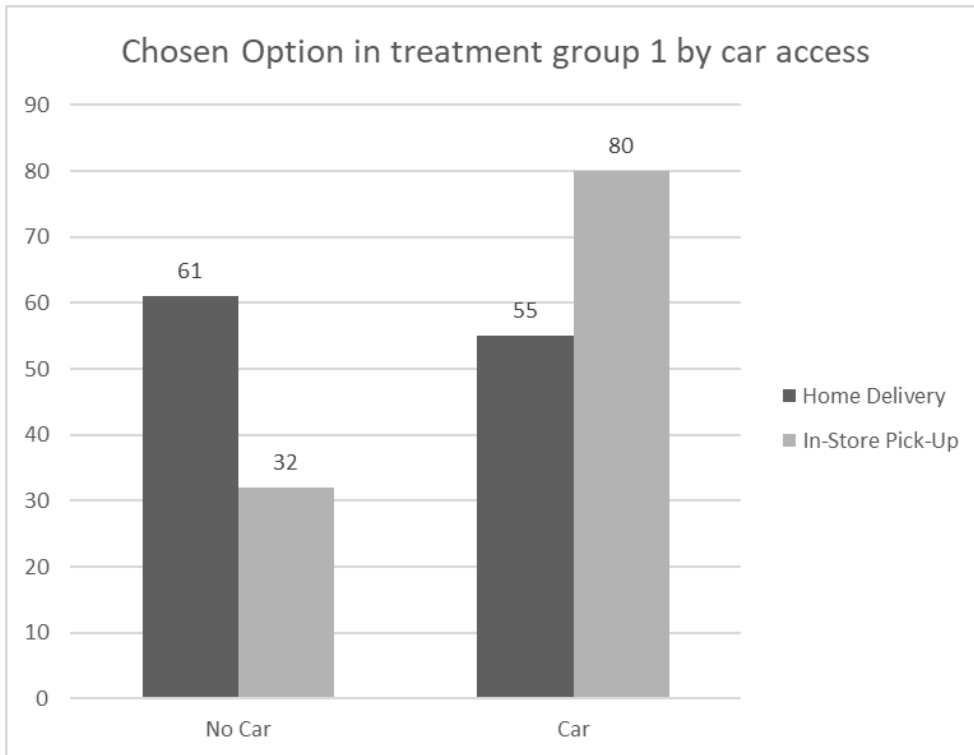


Figure 4

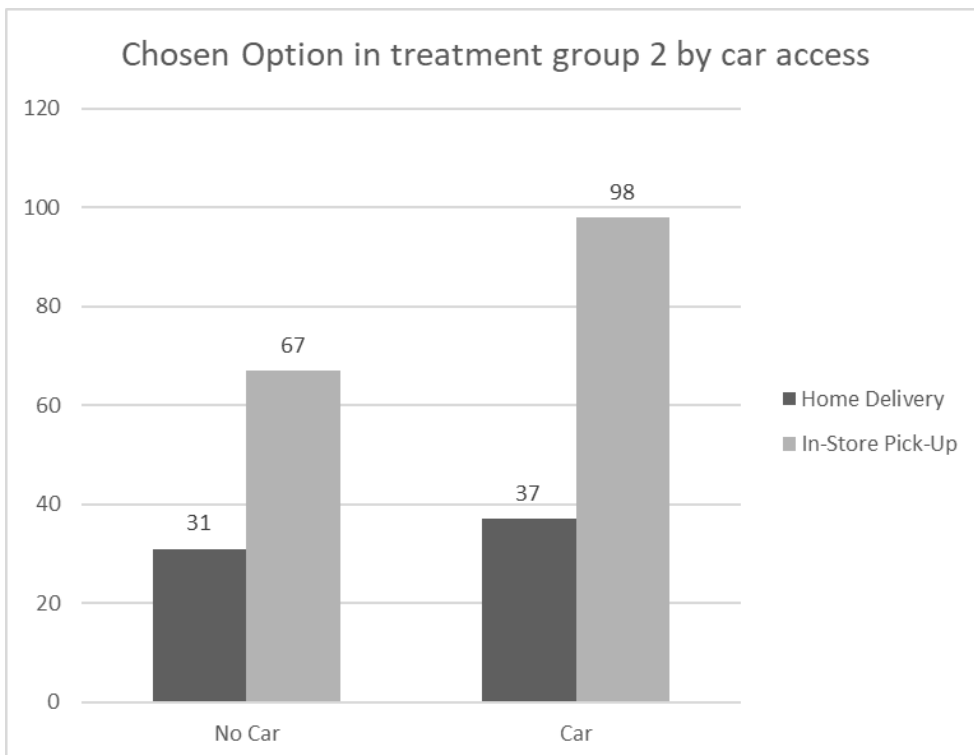


Figure 5

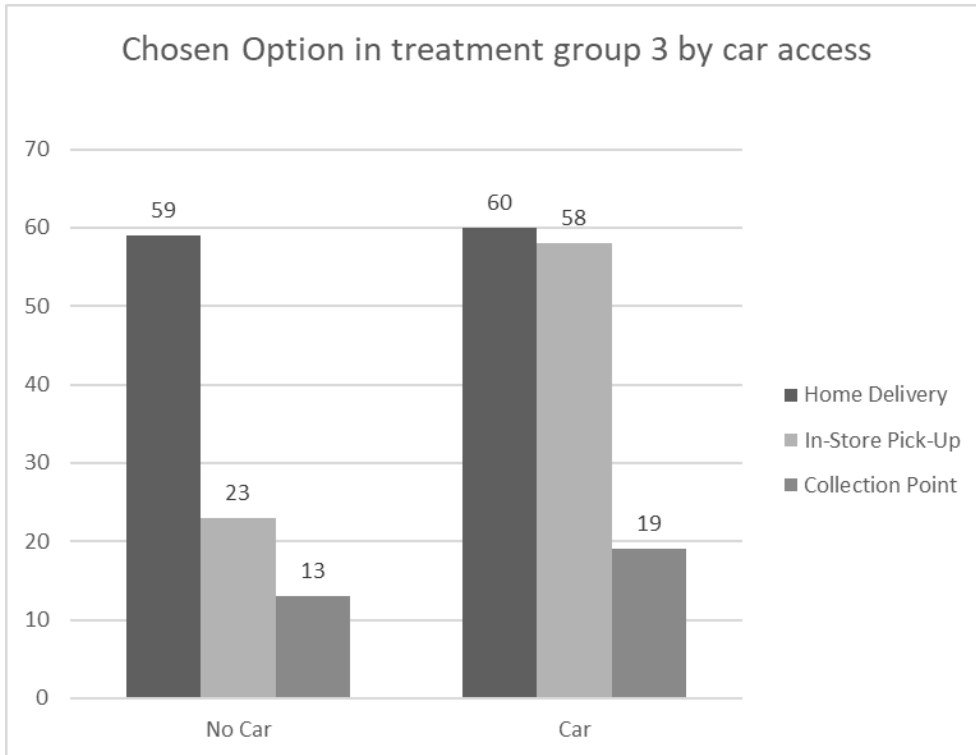


Figure 6

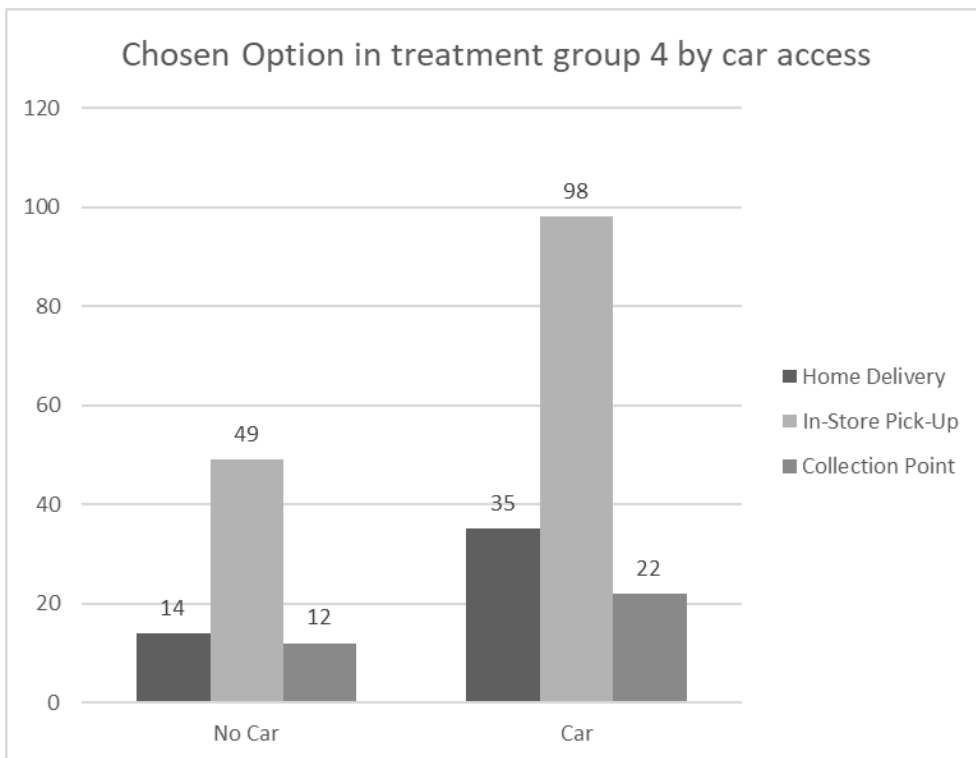


Figure 7