

This Size is Not What I Expected

Tackling the Issue of Size Perceptions in Online Retailing

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Abstract: The purpose of this study is to explore the use of visual communication in the form of product images as a tool to improve sizing perception for customers in an online retail environment. Online retail is continuously growing, as consumers take advantage of the convenience of online shopping. An issue that many online retailers are facing is increasing return rates. Size is one of the common reasons for returns, and in an online environment size has proven to be hard to present and therefore needs to be optimized for both business and online shopping experience. The study uses a quantitative approach with an online-based self-completion questionnaire as the primary source for data collection. The Picture Superiority Effect, Familiar Size Bias and Perceptual Fluency were the theories used to explore the subject. The primary finding from the study is that by adding measurements in the product image the Familiar Size Bias decreases for a small off-sized familiar product and the size perception thereby improves.

Keywords: fashion industry, online retail, size perception, perceptual fluency, familiar size bias, atmospheric cues, contextual cues

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Definitions

Atmospheric cues are multiple environmental cues in physical stores which generate certain emotional states impacting consumer behavior. The online store has atmospheric cues which are classified as high-task and low-task cues, considered as visual cues which generate pleasure or positive effects (Koo & Park, 2017).

Bracketing is when people purchase the same item in multiple sizes with the intention of returning at least one of the items.

Contextual cues are hints used in order to facilitate understanding of a subject.

Familiar size bias is the phenomenon that people rely on the size of familiar objects or memory when perceiving product size.

Off-sized familiar product is a product which is familiar to the customer, but is off-sized compared to the “standard” size of products in that particular product category.

Perceptual fluency is the subjective feeling of ease or difficulty while processing perceptual information (Winkielman, Schwarz, Fazendeiro and Reber, 2003)

Processing fluency is defined as the ease with which information flows through the cognitive system. (Shimamura and Palmer, 2011).

Product image is the image of a product in online store pages.

Size perception is how a person perceives or understands the size of an object.

Visual working memory (VWM) enables visual information to be extended over time without additional sensory input (Cowan, 2001).

1. Introduction

For the fashion industry, as for many other industries, 2020 was a year of challenges and change. As the Coronavirus pandemic sent shockwaves around the world, the industry suffered its worst year on record (McKinsey, 2021, p. 115). Consumer behaviours shifted as people sheltered in their homes to stay safe from the virus, supply chains were disrupted, travel was restricted and many stores had to be closed down around the world due to lockdown restrictions.

Despite this, there was one positive momentum for the fashion industry, found in the digital channels. Due to restrictions and social distance, customers have started to fully recognize and take advantage of the convenience of online shopping. Digital is seen by a third of executives as a silver lining that presents the biggest opportunity in 2021 (McKinsey, 2021, p. 15). Indeed, almost all businesses anticipate their online revenues to rise next year and 71% of fashion executives expect their online business to grow by 20% or more in 2021. (Ibid) Further, studies show that the pandemic has led to an increase in first-time e-commerce shoppers; in 2020, 14% of consumers in the US and 17% in China have bought a product in an online store for the first time (BCG, 2020).

Although the pandemic hit globally, the fashion industry is forecasted to continuously grow with value from 1.5 trillion U.S. dollars to 2.25 trillion dollars by 2025 (Statista, 2021). This implies that there is a high demand for fashion items across the entire world, and as digital consumption continues its dominance and growth in 2021, companies must develop more engaging and social experiences in order to encourage consumers to stay connected.

1.1 The Online Store Environment

Visual stimulation and communication are considered crucial aspects of traditional retailing. Shopping in a physical in-store environment entails numerous touchpoints in the customer journey that can influence the customer's decision making. For online retailers, visual merchandising becomes a challenge as it is different from a physical in-store environment where customers can inspect the color, style, silhouette or size of products (Khakimdjanova and Park, 2005). In the online retailing context, the entire store environment is all but reduced to a computer screen. Unfortunately, the “store” environment in online retailing lacks some

of the properties from traditional retail atmospherics such as three of the five sensory appeals¹. It does however possess some other, such as flexibility across time and space, which combined makes it a significantly different context from the properties of conventional retail settings (Eroglu, 2001).

The traditional store designer's ability to appeal to all senses of the shopper through an infinitely complex combination of ambient, structural, social, and aesthetic elements has now been constrained to a predominantly visual appeal via a screen (Khakimdjanova and Park, 2005). The use of colour, layout, vividness, interactivity, animation, graphics and other atmospheric stimuli should therefore not be coincidental, but the result of systematic and conscious design of online stores (Manganari et al., 2009).

As consumer behaviors have become hard to project and have shifted in many ways, the future of marketing will seem discontinuous with the present (Rust, 2019). Such advances as artificial intelligence, the Internet of Things, and huge leaps in computation and data analysis, will lead to a marketing environment 50 years from now that few would recognize today (Ibid). With continued dominance and growth in digital consumption, store designers have to find ways to optimize the customer journey in an online environment, and in particular find solutions that can substitute the fact that a lot of touch points are unattainable online.

1.2 Increasing Return Rates

Return rate is one of the most important factors for both online retailers and their customers. As it has become mandatory to provide satisfactory return- and exchange policies in order to satisfy customers to fully enjoy online shopping without physical presence. The return rate needs to be continuously monitored so that it does not exceed the limit set by the company. Most online retailers offer customers the right to make a return for their purchase within 14 days. To maximize sales and survive the changes in shopping habits caused by the pandemic, many choose to provide a more friendly return policy, providing extended dates for returns.

Many studies have shown that managing returns has a negative impact on business. According to *Arnett* (2020), increasing return windows is a consumer friendly move though it

¹ Sight, hearing, smell, taste and touch.

comes with significant costs and challenges. Returns are an expensive problem for any apparel brand doing business online, with the cost of shipping the item back to warehouses and processing it being added to the lost sale. To cover the return costs, businesses need to raise their prices or lose their sales. This has negative effects on profit margins, but also on customer loyalty (Ohnemus, 2019). Further, The National Retail Federation (NRF) put an ecommerce return rate at between 20% and 30% as an overall average (O'Brien, 2020).

Size has proven to be one of the top reasons for returns. In fact, BBC News reported that 63% of consumers in the world have returned online clothing purchases (Lawrie, 2021). There is no global standard size chart in today's fashion industry, which makes it even more important for online retailers to ensure that they are displaying easy and correct sizing information on their website, as shopping online is available to customers from all over the world.

Furthermore, more consumers tend to buy the same product in multiple sizes and return one of them or all. This phenomenon is called "Bracketing" (Kaarin, 2021). Consumers feel safer if they buy multiple sizes and know they can return it if it does not meet their expectations of size and/or fit.

Many online retailers have tested a number of techniques to clarify clothing fit and size. For example, Nordstrom (<https://www.nordstrom.com/>) provides a video where stylists show and present the size and fit of products. ASOS (<https://www.asos.com>) also utilizes videos, showing models wearing products. This provides a better understanding of what consumers are purchasing. However, producing creatives and assets via videos is very costly.

2. Pre-study

To gain further insight in the topic of size perceptions and return rates and for a better understanding of the managerial implications and contributions desired by practitioners, two interviews were conducted as a pre-study. A semi-structured approach was chosen in order to gain a flexible interview process. As stated by Bryman and Bell (2007), if it is important for the researcher to gain a genuine understanding of the world views of members of a social setting or of people sharing common attributes, an unstructured interviewing approach may be preferable. As the purpose of the pre-study was in fact to gain a genuine understanding of the world views of the practitioners, this was deemed appropriate.

The interviews were conducted through a Zoom meeting and in real life. In order to gain a reliable and versatile insight into the industry, interviewees were selected from different positions, countries and from companies of different sizes. One interviewee works in Milan as an E-commerce Manager at a large international fashion brand founded in Italy, the other is a Senior Wholesale Manager at a small Swedish brand, located in Stockholm.²

The same six questions were asked to both interviewees, along with free discussions about the thesis topic. The following questions were asked:

1. What is the main reason for high return rates, from your experience?
2. What methods have you used/are you aware of to aid customers in size perceptions online?
3. How do companies try to tackle “Bracketing”?
4. What are the main issues regarding finding ways to tackle wrong size perceptions?
5. From a business perspective, how do return rates affect your company?
6. Would you be willing to implement any changes found through our thesis?

Interviews have supported numerous statements but also provide more insights on the topic of size and return rates. It was evident that the problem of increasing return rates and providing clear sizing information was a hot topic, and both interviewees expressed a willingness to implement any changes found by this thesis, unless too costly.

² The brands and interview participants have been kept anonymous for confidentiality purposes and for protection of company interests.

2.1 Sizing

Although there is a high demand and continuous inquiry about providing a better way to present sizing, both interviewees stated that sizing is tricky and difficult. Variant image production with different sized models or video could be a possible solution which improves and optimizes size information. However, due to the high costs it entails, it is not possible for a business to take a risk and invest in image production without a guarantee that the return rate will in fact decrease.

“We talked about having various models, but this is not an option right now due to the high costs. It would be great to have different sized models, but it is too expensive. Perhaps that would make the customer more eager to make a purchase.”(Senior Wholesale Manager at small Swedish brand)

2.2 How the Return Rate affects Businesses

On the topic of the impact of returns to one's business, both interviewees stated that they follow the trend and provide a free return policy to satisfy customers, but increasing return rate implies another cost which can become worrisome. No business can expect zero return rate. They both entail that it may not seem like a large issue that should bring any worry, but it is very important and constantly needs to be monitored and measured.

“E-commerce is growing and return rates are increasing... There are also customs (if outside the EU). If you do it with DAP delivered without duties paid we need to pay customs to get the delivery, so that is additional costs when returns are made. Logistics and warehouse cost are the main issues when it comes to returns; we pay them for everything. The more returns, the more we have to pay. Returns can also mean that the product is not in a good shape when returned, it may need a new package, needs cleaning, it is sometimes broken or we need to fix the emballage of the item, stickers and things like that.” (Senior Wholesale Manager at small Swedish brand)

“Analyzing your refund rates as much as possible to provide enough information about consumers. But you should never expect to have a close to zero return rate.” (E-commerce Manager at large international brand)

2.3 Reducing the Return Rate

On the topic of finding a way to reduce the return rate, both interviewees brought attention to customer service. This, as customer service is directly and most frequently interacting with customers, enabling guidance regarding size. Providing a global standardized size chart to aid size perception was also brought up on this topic of discussion.

“Now we provide more details and convert to both UK and US sizes.” (Senior Wholesale Manager at small Swedish brand)

“We start with customer service since they can maybe like to guide the customer through the process of picking the best sizes. Maybe they know, for example, if a shoe runs larger in size compared to your usual size and they can advise the customer on them, for example.” (E-commerce manager at large international brand)

3. Research Topic

Many researchers have examined the topic of visual communication and information processing in an online environment. Studies have found that images are superior to text in providing information, and humans tend to base their size perceptions on familiar sizes of objects and products they recognize. However, no studies within this field of research paid attention to the sizing perception in online retail stores.

With new knowledge and insights gained by the pre-study made with online commerce practitioners, a gap in the research area overlapping size perceptions, images, e-commerce and return rates was identified. This is a critical area of importance as the issue of increasing return rates is growing as a result of customer friendly return policies along with the new consumer behavior trend known as “Bracketing”.

The research topic of the thesis is to explore the use of visual communication in the form of product images as a tool to improve sizing perception for customers in an online retail environment.

3.1 Research Question

The research question that will be examined in this thesis is stated as follows:

How can we optimize the use of product images in online shopping in order to achieve a high understanding of the size of a product?

3.2 Acne Studios

For the purpose of addressing how fashion brands deliver sizing information through images online, Acne Studios agreed to allow the use of their product presentation page as the basis for the experiment design and testing. Acne Studios is a Swedish luxury brand, founded in Stockholm in 1996. The brand has retailers in approximately 50 countries around the world along with wholesale partners and an online website operated by the Stockholm HQ (Acne Studios, 2021).

3.3 Contributions

Implications from this study will bring contributions for Acne Studios as well as other brands by providing a better understanding for how product images and information online is processed and how the current product presentation can be optimized in order to present the correct size of products. Information about size and fit has become more significant in the global market as general design is based on the western body type.

From an academic standpoint, this thesis will contribute with insights regarding size perceptions in an online environment, with a particular focus on the fashion industry.

4. Literature Review

The literature review has been divided into three parts, namely; Consumer online behaviour, Visual Communication in the shape of Images and Size Perception. Consumer behavior in an online environment is all about the effect of visual communication quality on the web, and the perceptual fluency effect is examined. Visual communication in the shape of images focuses on how consumers perceive images used in marketing and in online environments. We begin by looking at theories of how humans perceive images, namely; the picture superiority effect as well as the Gestalt Principles. In the literature review about size perceptions studies regarding how consumers perceive size are explored, with a specific focus on Familiar size bias.

4.1 Consumer Online Behaviour

This section focuses on customers' online behavior, and especially on how consumers process visual stimuli. Starting with a review of the S-O-R framework followed by a literature review about processing fluency and perceptual fluency, this section presents how the primary visual information in the online store page is processed by consumers.

4.1.1 The S-O-R Framework

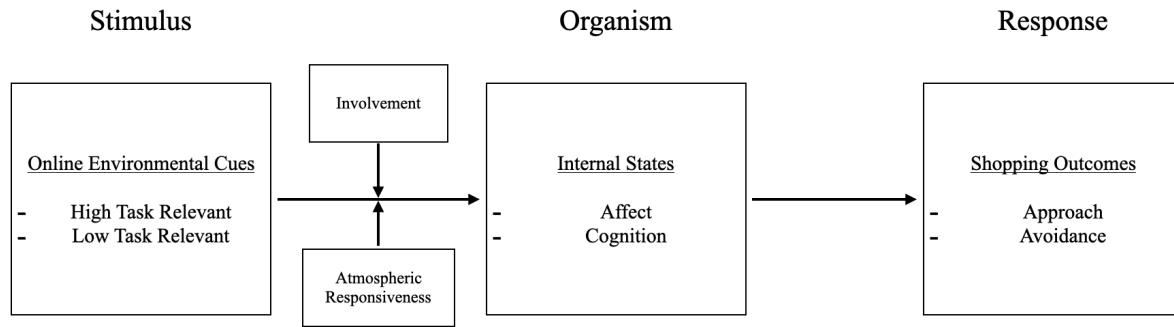
In order to understand how to tackle the issues related to size perceptions in online shopping, research was made in regards to how consumers behave online. As online has become the primary environment where the brand and its customers interact, it is significant to improve and develop visual merchandising online for customers' needs for information and their shopping experience (Khakimdjanova and Park, 2005).

In an online environment, customers rely heavily on visual information, since visual and auditory cues are all they are provided with (Hyunjoo Im, Sharron J. Lennon and Leslie Stoel (2010). Product images are shown to the customer online, allowing them to inspect the product before making a purchase. Customers therefore experience products *indirectly* on the website, which has led to many e-tailers having started to invest in presentation tools to facilitate the user experience. Despite this, many online shoppers are not provided with the most basic services such as good website readability (Im et al., 2010). In fact, a study about

consumer online experience revealed that online retailers do not manage to provide high enough standards of visual communication such as easy navigation, high-quality product pictures and thereby fail to satisfy consumers' basic needs (ibid).

A large body of studies has focused on store environment effects on consumer emotions and behaviors. The well known Stimulus-Organism-Response (S-O-R) framework was originally developed as a theoretical framework for retail and environment psychology, but in recent years, researchers have applied the S-O-R paradigm to online consumer behavior, as the online commerce continuously grows, creating an impact on consumer behavior (Liu et al., 2020). Eroglu et al. (2001) have examined the S-O-R framework in an online environment, and proposed that online stores also have atmospheric cues that impact consumer reactions as physical stores do. Visual cues such colors, graphics, layout, and design provide information about the brand quality and even target audience of the brand. The cues also impact site visitors, their emotions and behaviors. Further, Sheng and Joginapelly (2012) extended Eroglu's research by taking into account the effects of atmosphere cues such as; music, color, website interactivity and richness on consumer emotion and subsequent buying behavior (Liu et al., 2020).

Based on the S-O-R paradigm, the framework by Eroglu et al. (2001) suggests that certain atmospheric elements in online stores influence the affective and cognitive internal states, which intervene the approach (avoidance) responses to the online shopping experience. They therefore propose a conceptual model that examines the influence of atmospheric qualities of an online store. Considering the online environment where the brand and consumers interact, cues were specified as High- and Low Task Relevant cues. High Task Relevant cues include both verbal and pictorial site descriptors. These cues aim to enable consumers' shopping goal attainment, that is their *utilitarian* motive. Examples of High Task Relevant cues are; descriptions of the merchandise, the price, terms of sale, delivery and return policy, product image and site map. Low Task Relevant cues refer to information which is not related to completion of the shopping task, but rather aim to increase the *hedonic* or *experiential* value of shopping. These cues include elements such as color, borders, background patterns, fonts and music (Eroglu et al., 2001).



Model 1. *The S-O-R model of consumer response to online shopping.*

Source: Eroglu, Machleit, and Davis (2001)

The S-O-R model of consumer response to online shopping is relevant for the purpose of this thesis, as the authors focus their attention on contextual cues in product images and the perceived size of the product that customers attain from viewing the image. Purchasing the correct size and understanding the size of a product is a *utilitarian* shopping motive. The S-O-R model of consumer response to online shopping, supports that product images, defined as a High Task Relevant stimulus, aim to enable that particular type of shopping goal. The model therefore suggests that adjustments made to the product image could affect the perceived size of the product.

4.1.2 Fluency in an Online Environment

The S-O-R model suggests that High Task Relevant cues such as the product image have an effect on customers shopping outcomes. To further understand how consumers perceive visual factors online, the concept of *fluency* is explored. Processing fluency – or simply fluency – is defined as the ease with which information flows through the cognitive system. (Shimamura and Palmer, 2011). Alter and Oppenheimer (2009) stated that processing fluency can be treated as a metacognitive cue which is crucial in human judgement.

Orth and Witz (2014) state that in order to facilitate a positive shopping experience it is necessary to create an online environment with high processing fluency. To achieve that kind of environment, stimulus has to be created without complexity. Orth and Witz (2014) further state that well optimized stimuli generate attractiveness and elicit a positive effect in terms of *pleasure*, so fluent processing of a stimulus matters as it is associated with emotional effect. On the topic of pleasure (Im et al., 2010) reported that when visiting a commercial website,

consumers directly link pleasure to the effect of fluency, influencing their responses, such as their patronage- and purchase intentions. Nadkarni and Gubta (2007) also address how high processing fluency generates positive emotions which affect judgements and consumer response.

In addition to this, Tractinsky and Lowengart (2007) found that consumers' perception of the website's visual appearance affected their attitude towards the website and therefore their purchase intention. Perceptions of the site redesign and quality were strong predictors of trusting beliefs in the retailer and in the consumer's intentions to make a purchase from the site. Mostellar et al. (2014) explain that the more complex a stimulus is, the higher cognitive effort is required for the human brain to process it which in turn results in a low level of processing fluency. Online store pages tend to contain a lot of information, both in text and images, therefore it is important to focus on *perceptual processes* for consumers as well as optimizing product presentation on websites and avoid information overflow (Mostellar et al., 2014).

Connected to the concept of processing fluency, there is another concept called perceptual fluency. Perceptual fluency is the subjective feeling of ease or difficulty while processing perceptual information (Winkielman, Schwarz, Fazendeiro and Reber, 2003) According to the work by Winkielman et al. (2003), the characteristics that determine attractiveness of an object can be explained by the perceptual fluency hypothesis. Perceptual fluency proposes that easily processed visual stimuli are liked more by the consumer than less easily processed visual stimuli (Reber et al., 2004). Perceptual fluency induces positive affect due to the feelings of *familiarity, prototypicality, and symmetry of an object* and it is evoked automatically and instantly upon exposure to a visual stimulus (Im et al., 2010). Besides numerous empirical studies, it has also been proven that people prefer when an image is easily processed both at a shallow level, such as recognition of perceptual form, and at a deeper level, such as classification of stimuli (Ibid).

This gives a theoretical explanation for the positive effect of high-quality visual information; high-quality visual information is more easily processed than low-quality information, which generates a positive effect. Thus, when a person can recognize or identify a product image easily without error, perceptual fluency is considered high. The positive effects such as

pleasure, liking and attractiveness induced by perceptual fluency of the image is significant as it is evoked automatically and instantly upon the exposure (Im et al., 2010).

The above mentioned research all highlight the importance for online retailers to provide enhanced perceptual fluency as well as high processing fluency to induce positive effects such as liking and pleasure - which in turns affects customer behaviour such as patronage and purchase intentions. In order to achieve this, stimulus needs to be created without complexity. To revisit the research question, this thesis examines the effect of adding contextual cues (stimuli) within the product image to improve the processing fluency experienced by the consumer.

4.2 Visual Communication in the shape of Images

With a focus on size perceptions, this thesis aims to provide insights in how High Task Relevant cues, namely product images, can facilitate online customers in their understanding of product size. Research on visual communication in the shape of images has therefore been conducted, starting with a review of the Picture Superiority Effect followed by a literature review about the Gestalt Principles of Perceptual Organization, which plays a role in our visual processing of graphic representations.

4.2.1 Picture Superiority Effect

Increased memory performance for picture stimuli over word stimuli has been found in countless studies on recall and recognition (McBride and Doshier, 2002), a concept known as the Picture Superiority Effect. Several theories have been proposed in an attempt to explain the Picture Superiority Effect. McBride et al. (2002) states that the first is the *dual-coding theory*, which was first proposed by Paivio (1975, 1986, 1991, 1995). Paivio claimed since picture stimuli are dually encoded, they held an advantage over words. Words are only encoded verbally, while pictures evoke a verbal code and an image code. Participants are more likely to create a label for a picture than to image a word. A greater chance of retrieval during a memory task is facilitated by having two types of codes connected to the picture.

Also, McBride et al. (2002) state that the second encoding theory of picture superiority was the *sensory-semantic theory* by Nelson and his colleagues (Nelson, Reed, and Walling, 1976).

As reported by Nelson (1979), pictures have two encoding advantages over words. Firstly, pictures are perceptually more distinct from one another compared to words and are therefore encoded more uniquely. This increases its chance for retrieval. This idea was supported by Nelson et al. (1976) with their research investigating memory for pictures and words. In the research the similarity of the pictures was manipulated. The results showed pictures showed a better recall performance when the similarity between items was low. The second advantage according to Nelson et al. (1976) is that pictures access meaning more directly compared to words.

It has been clearly established that pictures are remembered better than words in tests of recall and tests of item recognition (Hockley, 2008). Further, a study by McBride and Doshier (2002) tested predictions of transfer appropriate processing on picture superiority. They tested measures of conscious and unconscious, or automatic and source, memory processes. Results verified that pictures had a conceptual (conscious or source) processing advantage over words for all tasks. The effects of perceptual (automatic or word generation) compatibility depended on task type, with pictorial tasks favoring pictures and linguistic tasks favoring words.

All of the different explanations of the Picture Superiority Effect share the fundamental assumption that the memorial representation of pictures is in some way more elaborate, distinctive, or meaningful than the representation of words (Hockley, 2008). The studies on Picture Superiority Effect all suggest that the information received by looking at the product image should be more meaningful and remembered more than what is written in the product description text.

4.2.2 Gestalt Theory

Gestalt Laws of Grouping, or Gestalt Principles of Perceptual Organization, play a crucial role in our visual processing of graphic representations. Their objective is to explain how human eyes perceive visual elements (Huang et al., 2021). Gestalt principles make grouped objects appear to “belong together” and have been outlined as the “laws” of perceptual organization which may vary in different studies, but the following ten are generally accepted (Peterson and Berryhill, 2013): similarity, closure, symmetry, figure/ground, connectedness,

common region, proximity, continuity, common fate and past experience (Yalcinkaya and Singh, (2019)³.

Gestalt psychology and cognitive neuroscience has revealed that it is no longer appropriate to assume that individuals respond to imagery consciously or cognitively, rather most visual processing occurs through direct connection of the optic nerve to the emotional centre of the brain via the thalamo-amygdala pathway (Lazard, Bock and Mackert, 2020). Visual information is processed prior to any cognition in the neocortex, where interpretation or critical evaluation occurs (Ibid). This means that imagery can influence information processing and behaviour before (and perhaps without) individuals ever consciously assessing the visual information.

Within the field of e-commerce, the Gestalt principles have been used to examine the effect of distracting products' *similarity* and *proximity* on a focal product in a goal-oriented online shopping episode (Huang et al., 2021). The research by Huang et al. (2021) showed that both distractors' product category and spatial proximity affects the consumer's attention in online shopping. When distracting products were both categorically similar and placed near the focal product, consumers allocate more visual attention to them. Such heightened attention negatively influences their product judgment accuracy, meaning that they are less likely to identify it as the one that can actually fulfill their shopping goal.

Studies on product assortment in e-commerce have also revealed that the natural gestalt processing of individual visual stimuli, as compared to the piecemeal processing of individual textual stimuli, affects the processing of the assortment as a whole (Townsend and Kahn, 2014). The visual presentation facilitates a faster, though more haphazard, scanning of the assortment, while the less systematic processing that results from visual presentation feels easier. It is not ideal for larger assortments resulting in higher complexity ratings and choice overload than with text depiction (ibid). These findings reveal that, like many heuristics, preference for visual depiction may in some cases be overapplied.

In regards to size, a study by Brady and Alvarez (2011) was found, where the Visual working memory (VWM) and the ability to remember size was tested. The study examined a display

³ See **Appendix 1**

of items rather than an item alone, and reported evidence that the remembered size of each individual item in a display is biased toward the mean size of the set of items in the same color and the mean size of all items in the display. Also on the topic of VWM, Peterson and Beryhill (2013) state that several Gestalt principles such as *connectedness*, *common region*, and *spatial proximity* have been shown to facilitate VWM performance in change detection tasks. Further, they investigated whether grouping by *similarity* benefits VWM. The study showed that VWM performance benefit derived from *similarity* was constrained by spatial *proximity*, such that similar items need to be near each other.

These studies of gestalt principles and VWM highlight the importance of an image layout that is easy to process, where a display of numerous items combined has benefits for the VWM while at the same time runs the risk of splitting the attention of the consumer, which may negatively influence their product judgment accuracy. In regards to size, it is indicated that products placed together, which are in the same color, affect the mean size. Further, studies also suggest that VWM benefits from high *similarity* and spatial *proximity*. For the purpose of this thesis, this suggests that an image with multiple products, in the same color and placed close to each other could facilitate the viewer's size perception.

4.3 Size Perceptions

It is crucial to understand how customers perceive size information online. Size perceptions can be estimated incorrectly, which hinders the online shopping experience. This section explores the literature review about difficulties of size perception, and following that, presents the concept of Familiar Size Bias which is further examined through the main research topic.

4.3.1 Perceiving product size in an online environment

Size perceptions in an online environment have been proven hard to determine. Size perception can be biased because visual factors include not only product images but also spatial context, vergence and visual adaptation (Wang, Qian and Li, 2020). It is therefore important for brands to find a way to capture sizing information in a way that diminishes size bias.

Ketron (2018) presented an investigation documenting the relationship between environmental visual complexity and the perceived size of a product. He states that size perceptions are largely rooted in visual perception. Although verbal size information such as labeled sizes, magnitudes and portions play an important role in many contexts, consumers often encounter and attend more to visual information before shifting focus to verbal information. This goes in line with the Picture Superiority Effect and the focus of this thesis, using visual communication in the shape of a product image in order to aid customers in their perception of product size.

Further, Ketron (2018) also argues that when forming judgments about the size of a given product, the environment surrounding that product should play a key role in the formation of those judgments. Consumers tend to rely on surrounding information to form size perceptions, including anchoring points and comparative size judgments. Results from the study showed that high visual complexity decreases consumer size perceptions of a focal product, as complexity pulls consumer attention away from the focal product. Therefore, environmental information around a product has been shown to contribute to the perceived size of the product.

For the purpose of this thesis, this implies that size perceptions can be affected by anchoring points given in a product image, but also the customers comparative size judgement. By controlling the surrounding information provided in the online environment (the webpage), size perceptions can be affected.

4.3.2 Familiar Size Bias

Studies show that when a viewer attempts to judge some characteristics of a familiar object, there are two kinds of information available; information given by current visual cues and information as a result of past experiences with similar objects (Schiffman, 1967). In particular, one such memory-based factor of a familiar object is the size perception. In size perception, the visual impressions of objects are combined with previous knowledge such as memories of previous experiences with the same category of objects (Berg and Lindström, 2020). In particular, the importance of familiar size in size perceptions increases when there are fewer contextual cues available to aid in forming size perceptions (Slack, 1956).

Considering the focus on online retailing, the importance of familiar size in size perceptions is very important, as less information about products are available online compared to when viewing the same product offline. Customers' size perceptions are thereby influenced more strongly by familiar size online, since there are less contextual cues available for them (Berg and Lindström, 2020). The concept of using familiar size in order to determine the size of a product is referred to by scholars as the Familiar Size Bias.

No study was found by the authors of this thesis that tested the concept of a Familiar Size Bias within e-commerce in the fashion industry. However a study was found by Berg and Lindström (2020), where consumers' liquid volume size perceptions of products based on standardized product pictures in online stores were examined. The study showed that familiar size bias causes size perceptions of off-sized familiar objects to regress to the size that is most familiar in the absence of contextual cues. Size perceptions of relatively large and small products regress toward the size of a similar familiar product. The actual sizes of smaller products are thereby overestimated, and the sizes of larger products are underestimated. The study also showed that the lack of visual cues for the heights of products online thus has negative effects not only on the effort required for online size perceptions but also on their accuracy.

The implications for this study is that in an online store, where less contextual cues are available compared to a physical store, customers base their size perceptions on the familiar size of a similar product. If the product in question is off-sized in a sense that it is smaller than the average product in that category, customers tend to overestimate the size and if it is larger, they underestimate the size. Contextual cues are thereby important when a product is off-sized, as the familiar size bias will indicate the incorrect size.

5. Theoretical Framework & Hypotheses

The theoretical framework for this thesis is divided into three parts based on the literature review.

5.1 The Picture Superiority Effect

As seen in the literature review, a lot of studies have been made to explore the Picture Superiority Effect, particularly within the field of *recall* and *recognition*. As the purpose of this thesis is to explore how size can best be perceived by the means of visual communication in an online store, the Picture Superiority Effect was determined appropriate to test. As product images together with written descriptions of the product are the only contextual cues upon which a customer can perceive the size of a product, this thesis therefore tests whether customers mainly use the product image or written text to fulfill this purpose. Rooted in the theory suggesting that the information received by looking at an image is more meaningful and remembered more than what is written in text, the first hypothesis is therefore stated as follows:

H1: People look at the product image more than text to understand the size of a product.

5.2 Eliminating the Familiar Size Bias by using contextual cues

The literature on Familiar Size Bias suggests that the less contextual cues are available, the more consumers are forced to use their Familiar Size Bias when perceiving the size of a product online. In particular, the familiar size bias is prevalent when products fall in the category of an “off-sized familiar object”. With this in mind, a delimitation was made in this thesis for the purpose of testing the familiar size bias. Decidedly, the test will be conducted on an off-sized *small* familiar object. Theory states that size is overestimated when the object is a *small* off-sized familiar object. Contextual cues will thereby be added in order to see if that leads to a decrease in the overestimation of size of the product.

Two contextual cues are tested. One is inspired by the Gestalt principles of *proximity* and *similarity*, where the small off-sized familiar object is placed close to three similar but larger

objects in the same color to indicate the size. This manipulation is referred to as “scale” as other products are placed as anchoring points and thereby work a scale. The second manipulation is inspired by the picture superiority effect, where the measurements of the product are written out in the image, testing if that increases the size perception. This manipulation is referred to as “measurements”.

The hypotheses testing the effect of adding contextual cues in a product image in order to reduce Familias Size Bias is therefore stated as follows:

H2a: Providing a scale in the product image means that respondents overestimate the size of the product less compared to when only showing the product alone.

H2b: Providing the measurements in the product image means that respondents overestimate the size of the product less compared to when only showing the product alone.

H2c: Providing a scale in the product image means that respondents overestimate the size of the product less compared to when providing measurements in the product image.

Rooted in the Picture Superiority Effect, the hypothesis (H2c) was made that the scale would be superior to the measurements, as the measurement manipulation uses text.

5.3 Perceptual Fluency

Perceptual fluency was deemed very important according to the literature review, in order to induce positive effects such as liking and pleasure, which in turn affects customer behaviour such as patronage- and purchasing intention. It is of high importance for online retailers, to not only improve the conveyed size of products, but also retain a high brand attitude. This thesis therefore tests if adding contextual cues can increase the brand attitude for online customers. For the purpose of this thesis, the definition of “Brand Attitude” by Keller (1993) is used. Brand attitudes are defined as consumers' overall evaluations of a brand and are important because they often form the basis for consumer behavior. Brand attitudes are a function of the associated attributes and benefits that are salient for the brand. This definition

was selected for the purpose of the thesis as it connects to consumer behaviour and overall evaluation of the brand, which this thesis aims to explore by manipulating product images.

The hypotheses testing the effect of adding contextual cues on brand attitude is therefore stated as follows:

H3a: Providing a scale in the product image generates a higher rating for brand attitude compared to when only showing the product alone.

H3b: Providing the measurements in the product image generates a higher rating for brand attitude compared to when only showing the product alone.

H3c: Providing a scale in the product image generates a higher rating for brand attitude compared to when providing the measurements in the product image.

Again, rooted in the Picture Superiority Effect, the hypothesis (H3c) was made that the scale would be superior to the measurements, as the measurement manipulation uses text.

6. Methodological Approach

This chapter explains the methodological approach chosen for this thesis, together with explanations as to why the chosen method was deemed most appropriate for the purpose of this research. A detailed description of the experiment design is provided as well as comments on the sample collected from the survey data.

6.1 Research Philosophy

This study follows an ontological approach of objectivism. The study phenomena are based on external realities that are beyond our reach or influence (Bryman and Bell, 2007). The ontological position implies that social phenomena confront us as external facts that are beyond our reach or influence (Bryman and Bell, 2007). Analysis of the research topic has been treated as a tangible object that is clearly defined and external to changing interactions and the following survey results and analysis can be objective.

The study also follows an epistemological approach of positivism, that advocates the application of the methods of the natural sciences to the study of social reality and beyond (Bryman and Bell, 2007). To maintain the independence of the study, there was no interaction with survey participants and the questionnaires have been designed to avoid being biased or guided to the intended results.

6.2 Research Approach

The research follows a deductive approach. Data was collected through an online-based self-completion questionnaire, with questions about the size perception following the customer journey from image exposure to product purchase. Based on this particular domain of existing studies, hypotheses have been deduced for testing and to achieve further primary research goals (Bryman and Bell, 2007).

The study begins with existing theories about size perception on consumer goods, information processing fluency and various image adjustment effects. Three primary theories, namely the Picture superiority effect, Perceptual Fluency and Familiar size bias have been applied, explaining how people perceive the visual information and how they affects their

behavior or thinking. Practical issues with size and return rate have also been included. Based on this particular domain of existing studies, hypotheses have been generated for testing and to achieve further primary research goals (Bryman and Bell, 2007).

6.3 Research Strategy

A quantitative approach is used for the data collection, in order to test the above mentioned hypotheses. More specifically, an online-based self-completion questionnaire was conducted and distributed through social media channels.

A quantitative approach has been applied as it is possible to result in a large and representative sample with a large number of survey participants. Particularly, the study sticks to having 95% of confidence level as we test *how* the participants perceive size in the images presented to them, measure their behavior and characteristics of that sample (Hyde, 1998), not the *accuracy* of the size information.

Considerations in choice of method to use were given as there are advantages and disadvantages connected to both a qualitative and quantitative approach. To give flavour of the critique of a quantitative research Bryman and Bell (2007) bring up four main criticisms; (1) it fails to distinguish people and social institutions from “the world of nature”, (2) the measurement process possesses an artificial and spurious sense of precision and accuracy, (3) the reliance on instruments and procedures hinders the connection between research and everyday life, and (4) the analysis of relationships between variables creates a static view of social life that is independent of people's life.

Despite the above mentioned critique, a quantitative approach was preferred in order to avoid some of the major pitfalls associated with qualitative methods. Critique directed at qualitative research is that it is too subjective; relying too much on researchers' often unsystematic views about what is significant and important, and also upon the close personal relationship that the researcher frequently strikes up with the people studied. It has also been argued that there is a difficulty in replicating a qualitative study, because it is unstructured and often reliant upon the qualitative researchers ingenuity, making it almost impossible to conduct a true replication, since there are hardly any standard procedures to follow. Further, it is suggested that the scope of the findings of qualitative investigations is restricted. When participant

observation is used or when unstructured interviews are conducted with a small number of individuals in a certain organization or locality, they argue that it is impossible to know how the findings can be generalized to other settings. Finally, it is argued that qualitative research has a lack of transparency. It is sometimes difficult to establish from qualitative research what the researcher actually *did* and how he or she arrived at the study's conclusion. (Bryman and Bell, 2007)

As the research topic of this thesis is broad and can be applied to many different types of geographical markets, customer segments and product categories, the quantitative approach was deemed more fitting, ensuring the study could be replicated with a high degree of generalizability and transparency. In order to prevent a lack of subjectivity and to avoid the hindering of the connection between research and everyday life, the self-completion questionnaire included open-ended questions as well, allowing for the participants to give a more subjective view of their experience.

6.4 Sampling and Sample

The survey was conducted with a self-completion questionnaire where participants were anonymous and completed the questionnaire by themselves (Bryman and Bell, 2007). Instructions and a scenario were written on the starting page of the questionnaire in a simple manner in order to be easy to follow and understand. A randomized image was first shown to the participants and following that, 21 questions were asked based on the image they had been presented with.

Data was collected between the 26th of March and 27th of April. The link to the survey was distributed through Facebook, LinkedIn, direct emails and by QR-codes. Data was collected through Qualtrics and analyzed with SPSS. In addition to this, a couple of semi-structured interviews with professionals working in ecommerce were conducted to support the analysis and discussion.

The online survey was published for a limited period of time, therefore the study made use of a cross sectional time horizon, where the data collection took place in a single point in a timeline. The primary goal of the study is to find our general perception and following

consumer behavior and characteristics, so the longitudinal approach was not applied as it is not to see how the perception changes over time.

For the survey research, theoretical samples were used to target populations as narrowly as possible (Glasgow, 2005). The survey respondents were reached through the author's social channels, entailing that the representativeness of the sample was limited to the social network of the authors. There is however a spread in nationality and ages, as the authors come from Sweden and Korea. The estimated age span of the respondents in the social network was between 18-35 years old, following the main customer segment of the brand being used in the test.

Glasgow (2005) stated that determination of sample size depends on five factors; Desired degree of precision, Statistical power required, Ability of the researcher to gain access to the study subjects, Degree to which the population can be stratified and Selection of the relevant units of analysis. The purpose of this study is to gain a general sense of size perception with an image in the given online store settings. A large enough sample to receive enough data to split the data for the three groups was desired, preferably above $n=100$. The benchmark for the sample size of each group was to have a minimum of 30 respondents per group, as this was a recommended rule of thumb for experiments. The study used a sample size calculated with a 95% confidence level and 5% of margin of error.

6.5 Experiment Design

The survey was created through the survey tool Qualtrics. English was chosen as the preferred language of the survey as the participants targeted originate from different countries with different native languages. English was expected to be the language in which a majority of respondents possess a high proficiency in.

The selected subject of the experiment used to test the hypothesis was the “Musubi bag” in the size “Micro”, which is a black leather handbag from the brand Acne Studios. The bag is the smallest of four sizes and due to its measurements (10*13 cm) it can be classified as an off-sized familiar product in the handbag category. Support for this classification derives from feedback from a customer agent and client advisor at Acne Studios, stating that numerous requests have been received about further size information for this particular bag as

there has been confusion among customers regarding what size to purchase when browsing the online store.

6.5.1 Manipulations

In order to test the above mentioned hypothesis, manipulations were made to High task relevant cues on the webpage, namely the product image. This, as the research topic concerns the product size, which is a utilitarian element for customers when purchasing a product online.

Three images were used in the experiment, all of which were randomly allocated to the respondents through the “randomization” tool in Qualtrics. All images showed a printscreen of the “Musubi Micro” product page and the manipulations made were adjusted by a graphic designer at Acne Studios in order to ensure that the online store environment was equivalent to the real home page. The survey had two treatment groups and one control group. The control group viewed a print screen of the Acne Studios online webpage with the current layout; an image of the product and a detailed description of the sizing information in text on the side next to the product image⁴. No manipulations were made on the product picture for the control group. The two treatment groups viewed printscreens where the product image had contextual cues added in order to test if they led to diminishing the familiar size bias of an off-sized familiar product.

The first treatment group was exposed to a printscreen of the Musubi Micro product page where manipulations had been made to the product image. Next to the bag arrows were added together with labels of the height and width of the bag. This treatment group is referred to as the “Measurement group”⁵.

The second treatment group was exposed to a printscreen of the same page, but with a different manipulation made on the product image. The product image showed all four sizes of the Musubi bag next to each other, ranging from the smallest to the largest. All bags are in the same color (black) but the three larger sizes were faded to indicate that the Micro bag was in focus. This treatment group is referred to as the “Scale group”⁶.

⁴ See **Appendix 2**

⁵ See **Appendix 3**

⁶ See **Appendix 4**

The contextual cues of a scale used in this manipulation was derived from the theoretical framework from the Gestalt Principles; applying the *similarity* and *proximity* principles. Studies showed that *similarity* and *proximity* in images benefits visual perception and VWM (Peterson and Berryhill, 2013). Further, a study by Brady and Alvarez (2011), tested the VWM by examining a display of items rather than an item alone, and reported evidence that the remembered size of each individual item in a display is biased toward the mean size of the set of items in the same color and the mean size of all items in the display. The manipulations of adding contextual cues to the product images were made in order to test hypotheses 2a-c and 3a-c.

6.5.2 Survey Questions

The survey consisted of 21 questions. The order of the questions were arranged to avoid bias but also to make the overall survey similar to an online shopping journey, in order to accurately measure size perception and behaviors of the respondents. The questions were stated on separate pages, facilitating an easy user experience. The reason being that; far more important than making a self-completion questionnaire appear shorter than is the case, is to make sure that it has a layout that is easy on the eye (Bryman and Bell, 2007).

The survey questions were reviewed by the thesis supervisor prior to distribution. Feedback and comments were given and the questions were adjusted accordingly in order to avoid any bias - or leading questions.

All interval scale questions in the questionnaire were inspired by previous studies by Berg and Lindström (2020) and Eruglo et al. (2003), who used a 7 point likert scale to examining volume size perceptions based on online product pictures as well as the influence of atmospheric cues on shoppers emotional and cognitive states.

The first two questions were formulated to capture the purchase intention, asking the respondents “*How likely is it that you would buy this product?*” and “*How confident are you with your purchasing decision?*”. The following three questions were stated in order to investigate the user experience and comprehension when shopping online. The first question asked “*What is the first thing you look at after you've clicked on the product on the website?*”

with answer options of the four main elements shown in the survey image; image of the product, product description, price and details & sizing. The question following was “*If something else, please specify here.*”, where the respondents could specify if the first thing they looked at was not stated as an option. After that, the question; “*Is the provided information enough so that you don’t have to visit a store to see the product in real life?*” was stated. The purpose of this question was to grasp the general attitude and perception of users when shopping online.

Following, two questions were asked to check attitude and brand awareness “*What is your opinion of the brand in the image?*” “*What is your current relation to the brand in the image?*”

In the next two questions (8 and 9) “*What is the height (width) of the bag in cm?*”, participants were asked to indicate both the width and height of the product. Participants could answer by using a “slider” ranging from 0 cm to 50 cm on both width and height. The purpose of these questions was to test the Familiar size bias and analyse if the respondents did in fact overestimate the size of the Musubi Micro bag.

Question 10; “*The height x width of the bag is larger than an A4 paper*”, asked participants to choose between true or false for the statement. The purpose was again to test the Familiar size bias and their size perception of the bag. The following question was a statement; “*I was provided with enough information to determine the size of the product*” and participants were asked to answer if they agreed or disagreed with the above statement. By asking this question, the purpose was to determine if the participants were confident in their size perception of the product.

To explore the Picture Superiority Effect, participants were asked “*What information did you use to understand the size of the product?*” where the answer options were “Image of the product” or “Sizing information in text”. They were also asked to answer the open-ended question “*Describe how you determined the size of the bag.*” by writing an open answer, allowing for an answer not limited to the two options provided in the previous question.

Questions 14 to 18 were about returns. The main purpose of the questions was to gain further insights into the respondents habits in regards to online shopping and returning products. The

question “*How likely is it that you would return the bag if the size was not what you expected?*” was asked to capture the relationship between size and return rate. Following that “*When I return a purchase that I have made online the most common reason is because... (select one).*” was asked to gain insights into reasons for making returns. The options were; A) It was the wrong size, B) It had a different color than the image C) It was in poor quality D) It was the wrong item E) The design was not what I expected. In addition to this, an open-ended question, “If something else, please specify here”, was asked to give participants more freedom in their response.

The next question; “*Which of the following strategies have you previously used to prevent purchasing the wrong size of a product online?*” was asked to understand how participants deal with a purchase made in the wrong size. The options were given as following; A) Purchase the product in a different size and then return the ones I don't want, B) I first go to the store to try the product before placing my order online, C) I read through the sizing information carefully, D) I look at the image and get a good idea of the size, and E) None of the above.

After this, the question “*How would you rate your ability to determine the size of the bag?*”, was asked. The purpose of this question was to understand both the confidence in- and ability to determine the size of the bag. Finally, two questions were asked in order to gain insight into the demographics of the respondents, namely; “*Please write your age in numbers*” and “*What is your gender?*“. By combining the gender information as well as questions about size perception.

To reduce the margin of error and increase the confidence level of the survey, an attention check question was included as a final question; “*What product was the image about?*”, where respondents were given three options: knitwear, handbag and shoes. If this question was not answered correctly, the answers from that participant were excluded from the data set.

7. Result and Analysis

The following section will analyze empirically collected data to support or disprove generated hypotheses. Starting from a short discussion of the analytical tools used, the section is further developed into hypotheses testing.

7.1 Analytical Tools

The data collected through the survey was processed and analyzed using the statistical analysis software IBM SPSS Statistics. This allowed for a smooth transfer of data from the survey software Qualtrics. The data export was directly processed from Qualtrics to SPSS without any human involved error. The data was then further sorted through attention checks to ensure response validity. By identifying careless respondents prior to conducting analysis, it allowed for the use of high quality data (Kung et al., 2018)

7.1.1 Data Checks

Descriptive statistics were used to investigate the sample and the comparability between the randomized groups. Although collected responses were 193 after closing the survey, 76 responses were excluded, resulting in a final sample size of 117 respondents. Placing an attention check as a final question ensured a valid response before conducting analysis and was one of the reasons for the exclusion of some responses. Partial completion was another reason, which most likely was due to respondents finding the survey demanding due to the amount of questions and/or their complexity.

Many statistical techniques assume that the distribution of scores on the dependent variable is “normal”. In order to assess the normality of the data in this thesis, a normality check using the Kolmogorov-Smirnov test was made for the three groups (measurement, scale and control), for the dependent variables “bag size” and “brand attitude”. The test for the bag size showed that the data distribution was significantly different from a normal distribution for the control group ($D(x)=0.027$, $p<0.05$), the scale group ($D(x)=0.016$, $p<0.05$) and the measurement group ($D(x)=0.001$, $p<0.05$). The test did not indicate normality for brand attitude either, for the control group ($D(x)=0.001$, $p<0.05$), the scale group ($D(x)=0.037$, $p<0.05$) or the measurement group ($D(x)=0.030$, $p=0.05$). Despite this, as the sample size for

all three groups was $n=30$ or above and the total sample size was above 100, this satisfied the Central Limit Theorem (CLT) and in particular the law of large numbers (Newbold, Carlson & Thorne, 2013). The CLT states that the distribution of sample means approximates a normal distribution when the sample size gets larger.

7.2 Demographics and Consumer Behaviour

The respondents belonged to one of three groups, one control group and two treatment groups. The control group consisted of 48 people, the treatment group referred to as the “scale group” comprising 30 people and the other treatment group referred to as the “measurement group” consisted of 39 people. The ages ranged from 19 to 68, where the most common age was 23-25 (52%). The data set had a majority (70%) of female respondents and a minority of male respondents (30%).

When asked about the most common reason for returning a purchase made online, the most common reason was “It was the wrong size” (41.9%), followed by “The design was not what I expected” (31.6%), and then “It was in poor quality” (15.4%). The least common reasons among the five possible answers were “It had a different color than the image” (6%) and “It was the wrong item” (2.6%).⁷

The most common strategies used by the respondents in order to prevent purchasing the wrong size of a product online was (1) to first go to the store and try the product before placing an order, (2) Reading through size information. The least common of the four options were (3) Looking at the image and getting a good idea of the size, and (4) Purchasing the product in different sizes and then returning the ones they didn't want.

The respondents were also asked to rate their own ability to determine the size of the bag, and the mean score was 4.36, and when asked about the likelihood of returning the bag if it was not the size they expected, the mean score was 5.5. Both scores were measured on a 7 point likert scale, with 7 as the highest rate in ability to determine size and likelihood of returning the bag due to it being the wrong size.

⁷ See **Appendix 5** for visual representation of “Reasons for returning an online purchase”.

7.1 Hypotheses Testing

Following are explanations of how the hypothesis for this thesis were tested, as well as the results from the conducted tests. The hypotheses have been divided according to three categories, namely; The Picture Superiority Effect, Eliminating the Familiar Size Bias with contextual cues and Perceptual Fluency. A summary of the hypothesis testing is found at the end of this chapter, followed by an overview of the open-ended questions.

7.1.1 The Picture Superiority Effect

H1: People look at the product image more than text to understand the size of a product

In order to see what the most common method for understanding the size of the bag, the frequency for the responses for questions 12, “*What information did you use to understand the size of the product?*”, was analysed using SPSS. The frequency table showed that 51.3% of respondents used the image of the product and 48.7% of respondents used the sizing information in the text.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Image of the product	59	50.4	51.3	51.5
	Sizing information in text	56	47.9	48.7	100.0
	Total	115	98.3	100.0	
Missing	System	2	1.7		
Total		117	100.0		

Table 1. Frequency for question 12 *What information did you use to understand the size of the product?*

As a way of testing H1, univariate analysis has been referred to. Descriptive statistics A frequency table provides the number of people and percentage belonging to each of the categories for the variable in the question.

In addition to the frequency test, a Chi-squared test has been conducted in order to see the information usage, either image or text, with both treatment and control group. Both treatment groups (“scale” and “size measurement”) used image more than text and the control

group used text more than image, but the differences were not significant⁸. Thus H1 was not supported.

7.1.2 Eliminating the Familiar Size Bias with contextual cues

In order to test hypothesis 2a-c, independent t-tests were conducted. According to Pallant (2013) an independent T-test is used when you want to compare the mean score, on some *continuous* variables, for *two* different groups of participants. For the t-test conducted, the groups of participants belonged to two of three categories, namely the control group, the “scale group” or the “measurement group”. The variable being tested was “size”, which is a variable computed by multiplying the variable for height and width. The bag is 13cm*10 cm, giving a real “size” of 130 cm². The new variable was computed in order to capture the perceived volume and dimensions of the bag.

H2a: Providing a scale in the product image means that respondents overestimate the size of the product less compared to when only showing the product alone.

For this test the two groups compared were the control group and the “scale group”. Levene's test for Equality of Variances showed a significance of 0.360 which indicates equal variances are assumed. The significance level (2 tail) was 0.383 meaning there was no significant difference in the mean score ($t(74) = -0.879$, $p = 0.383$).

	N	Mean	Std. Deviation	t	p
Scale	30	420.83	410.963	-0.879	0.383
Control	46	497.72	346.201		

Table 2. Independent T-test for Bag size. “Scale group” and control group.

As seen in the table, the mean bag size was larger for the control group, but the differences were not significant.

⁸ See **Appendix 6** for an overview of the Chi-Squared test.

H2b: Providing the measurements in the product image means that respondents overestimate the size of the bag less compared to when only showing the product alone.

	N	Mean	Std. Deviation	t	p
Measurement	39	328.46	346.201	-2.248	0.027
Control	46	497.72	346.201		

Table 3. *Independent T-test for Bag size. "Measurement Group" and control group.*

For this test the two groups compared were the control group and the "measurement group". Levene's test for Equality of Variances showed a significance of 0.422 which indicates equal variances are assumed. The significance level (2 tail) was 0.027 meaning there were significant differences in the mean score. As seen in the table, the mean for the treatment group "measure" was lower than for the control group ($328.46 \text{ cm}^2 < 497.72 \text{ cm}^2$). Hypothesis 2b was supported.

H2c: Providing a scale in the product image means that respondents overestimate the size of the bag less compared to when providing measurements in the product image.

	N	Mean	Std. Deviation	t	p
Scale	30	420.83	410.963	1.014	0.314
Measurement	39	328.46	345.433		

Table 4. *Independent T-test for Bag size. "Scale group" and "Measurement Group"*

For this test the two groups compared were the "scale group" and the "measurement group". Levene's test for Equality of Variances showed a significance of 0.151 which indicates equal variances are assumed. The significance level (2 tail) was 0.314 meaning there was no significant difference in the mean score.

The mean for measurement was lower than for scale ($328.46 < 420.83$), but the difference was not significant. Hypothesis 2c was not supported and not significant.

One Way ANOVA Results		Size perception					
		N	M	SD	F	P	Scheffe
Bag Size	Scale	30	420.83	410.963	2.284	.107	Measurements > Control
	Measurements	39	328.46	345.433			
	Control	46	497.72	346.201			

Table 5. *One Way ANOVA test for Bag Size*

After conducting three independent T-tests to test H2a-H2c, an additional One way ANOVA was conducted with all three groups. This, in order to receive distinct comparisons between the three groups at the same time.

A one way ANOVA was conducted in order to examine the effects of adding contextual cues to the product image (measurement or scale) on size perception (width*height). It revealed no significant main effect ($F(2,112) = 2.284$, $p = .107$) on size perception between the three groups; control group (current product page) and two treatment groups (size measurement or scale in the product image) but there is a significant main effect of picture with size measurement ($p = .107$) on size perception.

The Scheffe multiple comparison test suggests that between the “measurement group” and the control group had the highest significance ($p = .107$) among paired group comparisons. The means of the bag size for all three groups were compared and it revealed that respondents in the control group estimated the highest mean of bag size.

7.1.3 Perceptual Fluency

In order to test hypothesis 3a-c, another set of independent t-tests were conducted. The variable being tested was “brand attitude”, a variable computed by the average of question 3a and 3b; What is your opinion of the brand in this image? (Please state your spontaneous opinion)? Measured on a 7 point likert scale; good to bad, and like to dislike. 7 indicated the

highest brand attitude (good and like). The new variable “brand attitude” is the mean response of two questions measuring the same concept, ensuring a higher degree of trustworthiness.

In order to verify the computed variable for “brand attitude”, a Pearson correlation test was conducted. Two questions were asked to see the relationship between contextual cues and brand attitude which the questions address the same context but phrased in different ways. The test showed that answers to the two questions were positively correlated $N = 105$, $r = .682$, $p < .001$.

H3a: Providing a scale in the product image generates a higher rating for brand attitude compared to when only showing the product alone.

	N	Mean	Std. Deviation	t	p
Scale	30	5.5667	1.29144	-0.651	0.517
Control	42	5.7738	1.35791		

Table 6. Independent T-test for brand Attitude. “Scale group” and control group.

For this test the two groups compared were the control group and the “scale group”. Levene's test for Equality of Variances showed a significance of 0.602 which indicates equal variances are assumed. The significance level (2 tail) was 0.517 meaning there was no significant difference in the mean score. The mean score for Scale was lower than for control ($5.5667 < 5.7738$)

H3b: Providing the measurements in the product image generates a higher rating for brand attitude compared to when only showing the product alone.

	N	Mean	Std. Deviation	t	p
Measurement	33	5.4242	1.26319	-1.141	0.258
Control	42	5.7738	1.35791		

Table 7. Independent T-test for Brand Attitude. “Measurement group” and control group.

For this test the two groups compared were the control group and the “measurement group”. Levene's test for Equality of Variances showed a significance of 0.560 which indicates equal

variances are assumed. The significance level (2 tail) was 0.258 meaning there was no significant difference in the mean score. The mean score for “measurement” was lower than for the control group ($5.424 < 5.7738$)

H3c: Providing a scale in the product image generates a higher rating for brand attitude compared to when providing the measurements in the product image.

	N	Mean	Std. Deviation	t	p
Scale	30	5.5667	1.29144	0.442	0.660
Measurement	33	5.4242	1.26319		

Table 8. Independent T-test for Brand Attitude. “Scale group” and “Measurement group”.

For this test the two groups compared were the “scale group” and the “measurement group”. Levene's test for Equality of Variances showed a significance of 0.976 which indicates equal variances are assumed. The significance level (2 tail) was 0.660 meaning there was no significant difference in the mean score. The mean score for “measurement” was lower than for “scale”, ($5.4242 < 5.5667$).

One Way ANOVA Results		Size perception					
		N	M	SD	F	P	Scheffe
Brand Attitude	Scale	30	5.667	1.29144	.676	.511	Control >Measurements
	Measurements	33	5.4242	1.26319			
	Control	42	5.7738	1.35791			

Table 9. One Way ANOVA test for Brand Attitude

In order to examine the effect of contextual cues (scale or size measurement) on brand attitude, a one way ANOVA was conducted. It revealed no significant main effect ($F(2,102) = .676$, $p = .511$) for brand attitude between the three groups. The data suggests that the control

group gave a higher score on brand attitude (Mean score = 5.7738) on a seven point likert scale. The treatment groups, who received the image with a scale or size measurement gave lower mean scores (Mean score =5.5667, 5.4242).

The Scheffe multiple comparison test also suggests that there is no significance between the three groups, to rank its mean score, it is;

control group > “scale group” > “measurement group”

Topic	Hypothesis	Result
Picture superiority effect	H1	Not supported
Familiar size bias	H2a	Not supported
	H2b	Supported
	H2c	Not supported
Perceptual Fluency	H3a	Not Supported
	H3b	Not Supported
	H3c	Not Supported

Table 10. *Summary of Hypotheses testing*

7.2 Results from Open-ended Questions

The survey asked the respondents to specify how they determined the size of the bag by answering the open ended question “Describe how you determined the size of the bag”. There were 67 answers collected from this question. The answers were analysed and coded according to common themes detected in the responses, namely; picture, text, a combination between looking at the picture and the text, familiar size bias and other.

The familiar size theme was coded by responses where the words “imagine”, “knowledge” and “remember” were used.

Category	Frequency	Percentage
Picture	25	37.3%
Text	16	23.9%
Combination of Text and Image	14	20.9%
Familiar size bias	7	10.5%
Other	5	7.5%

Table 11. Overview of Categories from Open-ended Questions.

There were no specific differences in the distributions of the different categories depending on if the respondent was part of the control group or any of the treatment groups. One remark from the open ended questions was however that the control group generated comments stating that it was difficult to determine the size and that they had no sense of scale in the image. Examples are comments such as: *“Both image of the product and sizing information in text (could not choose both in the question above). The image was mostly to understand how the sizes of the different features relate to each other (e.g. strap vs bag). The text I used to get exact measurements. However, since I cannot compare the bag to another item or a person, it is still difficult to fully know how big the bag is.”* and *“The bag is sat on its own in the image. There is no sense of scale. Perhaps it would be helpful to include an image of someone holding the bag? The sizing column is useful though.”*. The comments indicate a desire for contextual cues to guide in the determination of the product size.

8. Discussion & Implications

This section will present a further discussion of the results presented in the above hypothesis testing. With a primary standpoint in results from each tested hypothesis, the discussion will be rooted in a theoretical framework. The section is divided into three adjacent discussions, the first diving deeper into the relationships tested in relation to picture superior effects, followed by the familiar size bias and lastly, the perceptual fluency effect.

8.1 Picture Superiority Effect

A great amount of studies have examined picture superiority effects which state that pictures are superior to text in delivering information. This has been tested numerous times with much research and our study begins with this paradigm to see if this can be applied in the online shopping environment. The test results of the study suggested that a majority focused on the product image when depicting the size of the bag, rather than the product description written in text.

Although the difference was not huge between using the product image (51.3%) or descriptive text (48.7%), it is still evident to state that the picture is superior to the text in the online environment. With a larger sample size, differences in the frequency of answers regarding the picture versus text focus would perhaps be detected.

Interestingly, the control group showed a higher frequency of using the descriptive text compared to the product image in order to determine the size of the bag, whereas both treatment groups had a majority using the product image. As the control group was exposed to the image without any contextual cues, this indicates that with less contextual in the product image cues, customers rather move their attention to the descriptive text. When considering the picture superiority effect, and the advantages images have proven to have compared to written text, attention to the image should be preferred. The test indicates that contextual cues in the product image enhances the focus on the image in order to determine the product size.

The main purpose of this test was to examine if the picture superiority effect is applied in the online environment in order to further examine stimulus adjustment to get into the main

research question. Although the frequency test indicated that the picture superiority effect has been supported, the SPSS Chi-square result did not support H1. As there are numerous studies that support and prove the picture superiority effects, it is difficult to simply neglect the previous study results. Therefore the Chi-square test result would be treated as an exceptional case. Based on both the frequency table and open questions from the survey participants, it is suggested that it is necessary to optimize stimulus as people use pictures as main information on the online store page.

8.2 Familiar Size Bias

The analysis on familiar size bias had the purpose to see if adding contextual cues in the images could aid in the understanding of the product size and remove the tendency to overestimate the size of a small off-sized familiar product. When looking at the reported means of the bag sizes, the familiar size bias is strongly confirmed as both the treatment groups and the control group respondents estimated a higher mean size of the product compared to the actual size. The lowest mean measurement was reported by the “measurement group”. Although they reported the lowest mean size of 328.46 cm², it was still notably larger than the actual dimensions of the bag (130 cm²). These findings support that the familiar size bias is used by consumers in online shopping for bags, and in particular that customers tend to overestimate the size of products that are smaller than a “standard” product in that product category. This finding is of high value for all online retailers. By ensuring that the size is made more clear for small off-sized familiar products they can avoid misconnections if customers assume the size to be of “standard” measurements.

When testing the different contextual cues, designed to facilitate a better understanding of the product size, the results showed that there was a significant difference in the means comparing the control group and the treatment group and the “measurements group”. Although the mean bag size was still larger than the actual size, the means were significantly smaller for the “measurement group” compared to the control group. As previously stated, the importance of familiar size in size perceptions increases when there are fewer contextual cues available to aid in forming size perceptions (Slack, 1956). The results from H2b suggest that the contextual cues of adding the size measurements in the image decreases the familiar

size bias for small off-sized familiar products, as the customers do not overestimate the size of the bag as much as when these contextual cues are absent.

Despite all hypotheses regarding the familiar size bias not being supported, the results are still interesting as contextual cues have been proven to reduce the familiar size bias. What the unsupported hypotheses in this study suggest is that it depends on *what* the contextual cues are. The contextual cues to size where the product was placed in a “scale” next to all sizes of the bag, with adjustment made according to the *similarity* and *proximity* principles did in fact show *no* significant difference in the size perception compared to not adding that particular contextual cue.

As seen in the open ended questions, the control group mentioned that they had a hard time determining the size of the bag as there was no sense of scale in the image such as a model holding the bag. This further strengthens the fact that customers are forced to use their imagination when less contextual cues are available, and that contextual cues such as adding the measurement are relevant when it comes to size perceptions in an online environment.

From a managerial perspective this indicates that by simply adding the measurements of products together with arrows showing the dimensions, they can reduce the misperception of the size of their products, in particular when products are relatively small compared to the product category “standard” measurement. This is a simple and inexpensive adjustment to make that could in the long run lead to a reduced return rate, as customers are more likely to understand the actual size of the products they are purchasing. Finding ways to improve sizing information online was mentioned as a priority by all interviewees, but due to high costs related to hiring models in different sizes or creating video content to show the products was mentioned as a limitation to solving the issue. This adjustment to product images is therefore valuable for online retailers. Further, the contextual cue of adding arrows and measurements in the image is an adjustment that can be applied to product images that have already been produced, it is a fast and easy fix done through editing and can be used for all kinds of products as it does not require a product that comes in different sizes.

8.3 Perceptual Fluency

A great amount of existing studies mentioned and addressed the necessity to provide stimulus in an online environment that leads to higher processing fluency in order to generate positive effects for customers. Hypotheses test results suggested that there is no significance between stimulus adjustment groups and the control group. This thesis was focused on the stimulus adjustment of adding contextual cues such as a scale of or size measurements in product images. The fact that the stimulus created no significant increase for brand attitude indicated that these particular stimulus adjustments were perhaps not large - or evident enough to make an impact on customer emotions, or they did not not affect the perceptual fluency to a high enough degree. On the other hand, none of the stimulus resulted in a significantly lower score for brand attitude. This indicates that using any of the contextual cues mentioned in this study will not negatively affect the brand attitude, and thereby entails no negative outcome.

The adjustments in the contextual cues require little to no added costs and stand a very low risk of negative outcomes, which is something that practitioners highly value when looking for ways to facilitate clearer sizing information, as found from the pre-study. The suggested stimulus therefore serves as appropriate proposals for A/B testing for brands seeking to facilitate improved sizing information online.

From a theoretical standpoint, the test results suggest that more variant experiments or studies need to be examined in order to find stimulus online that generates higher fluency processing with size information. The study has examined the boundaries of the S-O-R framework within online commerce together with size perceptions, and suggests further research in the topic as a necessity. Online shopping is a growing trend and the issues regarding size information will become a significant issue from a business perspective, as there is a clear connection to return rate and therefore business performance.

9. Conclusion

The conclusions of this study are presented below, effectively summarizing the key findings from the prior discussion. Furthermore, the possible limitations of the study and therefore presents suggestions for further research based on the findings and limitations discussed are presented.

This research has paid attention to how people perceive size information at online store pages. Aiming to contribute to both academic research and to provide a solution for a business in practice, the study addresses size perception in a digital environment. Size was selected as a focus since sizing information has become an issue as online commerce has drastically grown, but no previous studies were found that directly address the issue. Today, online commerce is continuously growing and gaining its share. With technological advancement, more customer friendly tools have been introduced to aid in satisfying customers in purchasing the right product in the correct size, yet the issue of misconceptions in size still stands and practitioners deem it a costly issue to solve.

Hypotheses were constructed based on four main theories. First, *Picture Superiority Effect* which states that people process information more easily from the picture than text, thereby relying more on visual stimuli. Second, *the Gestalt Principle* was used, which presents the importance of visual arrangement of the information that benefits image processing. Third, the *S-O-R framework* has been applied in the digital environment which highlights that high task related stimulus needs to be optimized in order to impact consumer behavior such as their brand attitude. Lastly, *Perceptual fluency* was tested, highlighting the significance of optimizing high task relevant related stimulus, in order to reach higher processing fluency.

To revisit the research question, “*How can we optimize the use of product images in online shopping in order to achieve a high understanding of the size of a product?*”, size perceptions have not been examined enough in this context in previous studies. This research aims to contribute to achieving a high understanding of sizing information through image optimization. In particular, the thesis focuses on ways to reduce Familiar Size Bias in small off-sized familiar products.

As a way of examination, a quantitative method was used. A self-completion questionnaire was distributed. The test results suggest that people have a better perception of size when the contextual cue of size measurements are added in the product image. This study did not find significance with other contextual cues, which implies more variant experiments are needed to examine variant stimulus optimization.

Online shopping environments are continuously optimized to satisfy the customer journey as ecommerce becomes the main sales channel. It is important for the retailers to deliver correct size information, in order to achieve a healthy return rate and positive effects on consumers.

9.1 Limitations & Future Research

The study is conducted by a quantitative research approach, using a self-completion questionnaire, but the same manipulations could be tested using A/B testing. An approach using A/B testing would allow for an analysis of real return rates due to misunderstanding in size, and detection of the effect of different contextual cues on purchase, rather than purchase intention. There could be variant experiments within size perception and even expansions in the boundaries of the topic for future research. For example, the effects on perceived size and/or processing fluency could be tested by using Low Task Relevant cues such as different image backgrounds or items styled on models. Eye-tracking tools are also suggested to be used for future research in order to track customers' attention movements - examining what the first information they look for is, and following the entire information processing.

In terms of the self-completion questionnaire, the study did not manage to maintain an equal gender proportion which would have been desirable for the sake of customer representation. The product in question was however a handbag mainly targeting female customers, thereby the majority of female respondents was not deemed an issue by the authors of this thesis. Further, as the hypotheses testing in this thesis were based on answers from the self-completion questionnaire, the experiment does not capture “real” customer behaviours in an online store, but rather the perceptions customers have of their own behaviour in the given scenario. No direct question was asked regarding if people relied on familiar size bias from previous experiences of how large or small a bag is, instead the familiar size bias was

measured indirectly by asking for the measurements of the bag and using an A4 paper as an anchoring point for the size.

This study can be replicated to test other products. Other brands within a different price range could be tested to see if price sensitivity plays a role. Although size is one of the primary reasons affecting return rate, it is valuable to examine using other products, especially oversized or loose fit apparel, to find ways to optimize high task related stimulus. Furthermore, the research can be replicated and tested for off-sized large familiar products to see if the familiar size bias of underestimating the size can be reduced.

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Appendix 1.

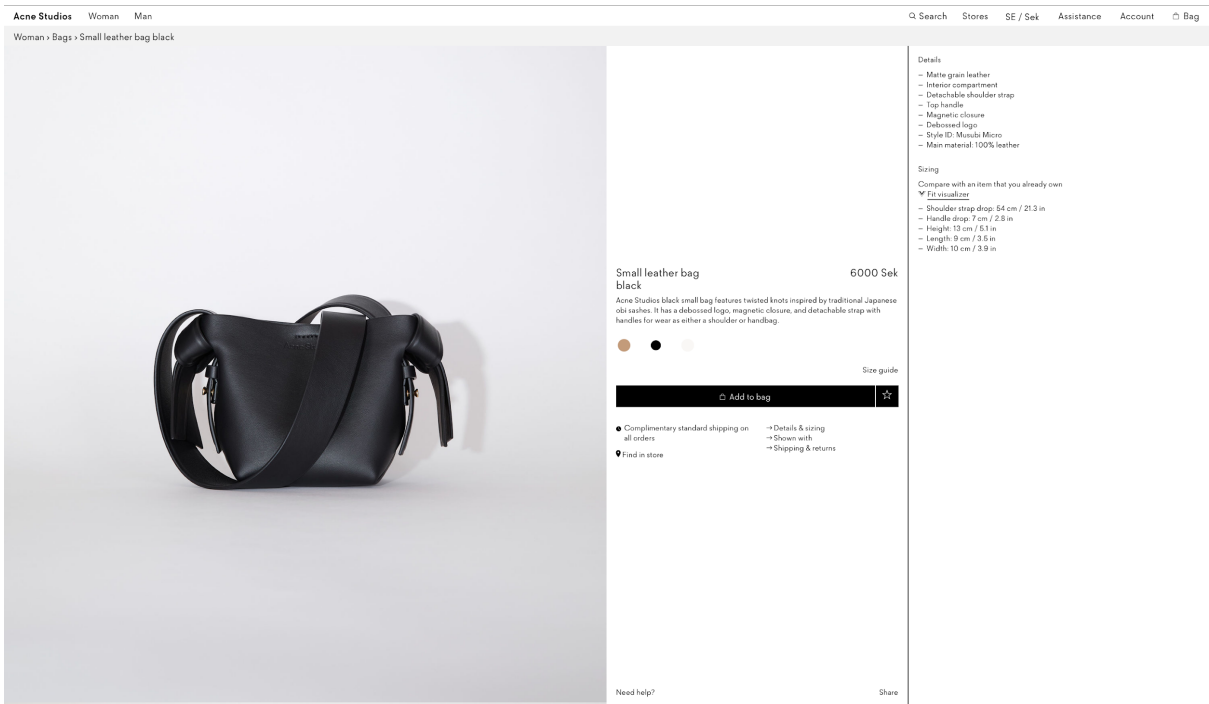
Summary of Gestalt principles

Principle	Summary
Similarity	In which people give preference to simple, understandable and orderly things. Instinctively we group things that have similarity of shape, color or any other similar attribute. Often, coming into contact with complex forms, we try to organize them using simple components, or a simple whole
Closure	Combines simple parts to create a whole. Our eyes tend to add lacking information to create a cohesive object
Symmetry	States that elements that are symmetrical to each other tend to be perceived as a unified group. Similar to the law of similarity, this rule suggests that objects that are symmetrical with each other will be more likely to be grouped together than objects not symmetrical with each other. This is a lawful statement of the role of symmetry in determining figure-ground perception.
Figure/Ground	Two components, the figure (patch) on the ground (surround), are perceived as two segments of the visual field differing not only in color, but in some other phenomenal characteristics as well. The figure has an object-like character, whereas the ground has less perceptual saliency and appears as 'mere' background. The areas of the figure and the ground usually appear as stratified in depth: there is a tendency to see the figure as positioned in front, and the ground at a further depth plane and continuing to extend behind the figure, as if occluded by it. (Dejan Todorovic (2008))
Connectedness	Refers to the connecting elements (e.g. lines) within the visual elements which make us think that they are somehow connected.
Common region	Demonstrates the connection between elements by separating them. Every element in the separated region will be perceived as a part of a whole.
Proximity	States that in a set of distributed objects, we tend to group those things together that are visually closer to each other.
Continuity	Explains how we experience a group of visual elements as a continuous line. If there is any intersection between elements, we perceive them as two single uninterrupted lines.
Common fate	States that regardless of how far apart the elements are placed, or how different they appear to be, if they are seen moving together they will be perceived as related objects.
Past experience	Refers to the experiences we have with a cognitive trigger such as an image, music, smell, etc. For example, the hard disk icon on a UI reminds of the "save" action for a digital file.

Source: (Petersson & Berryhill, 2013) and (Schwartz & Krantz, 2016)

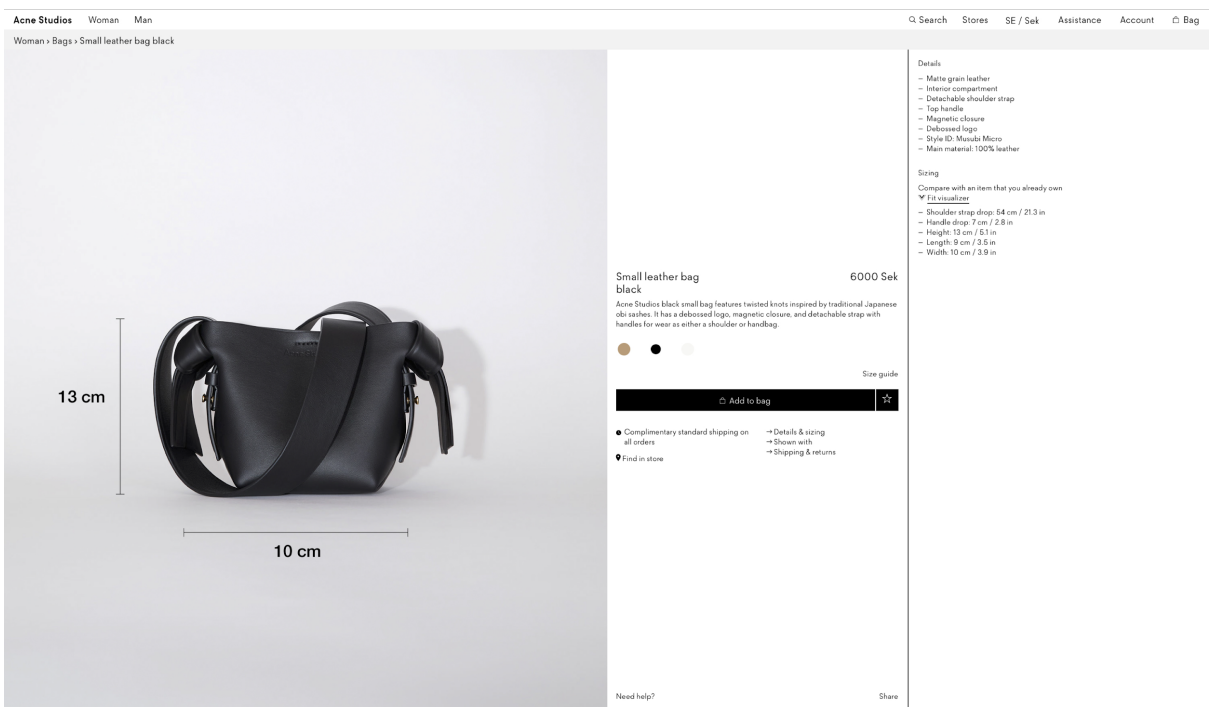
Appendix 2.

Image for the control group.



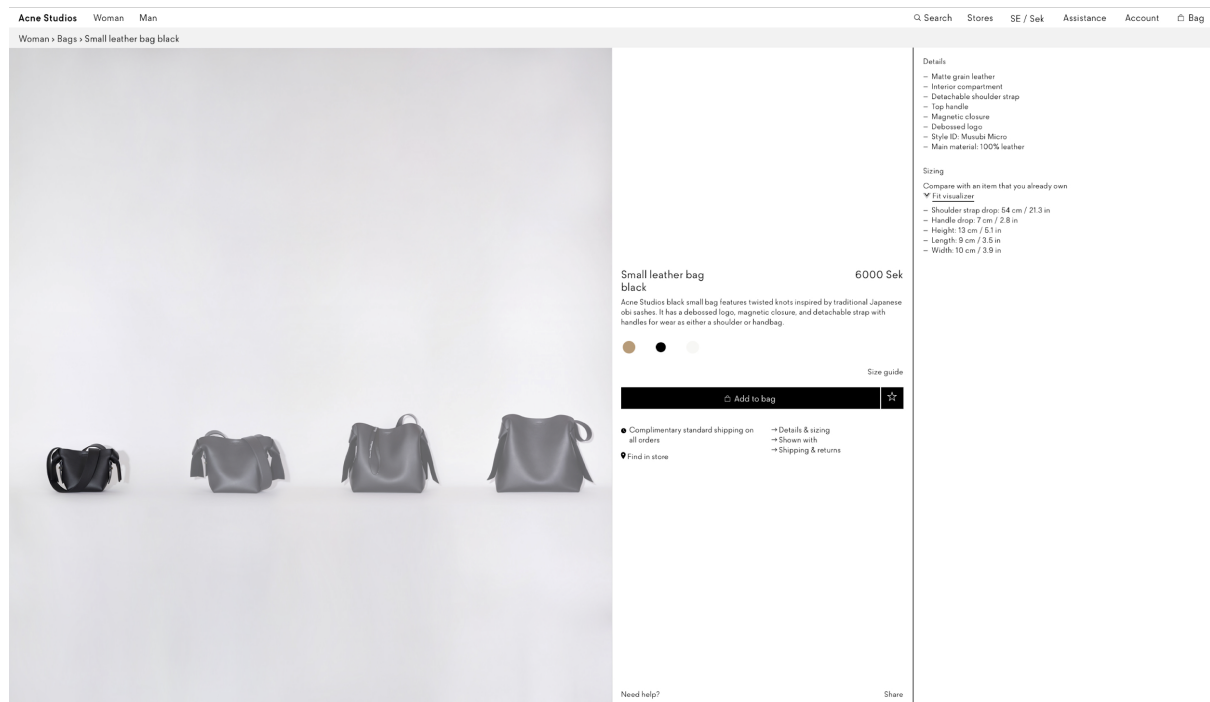
Appendix 3.

Image for treatment group “measurement”.



Appendix 4.

Image for treatment group “scale”.



Appendix 5.

Reasons for returning an online purchase.



Appendix 6.

Additional H1 test result - Chi-square

Crosstab analysis	Group				
	N (%)				
Information usage Image / Text		Treatment Scale	Treatment Size	Control	χ^2
	Image	15 (51.7%)	21 (53.8%)	23 (48.9%)	.208
	Text	14 (48.3%)	18 (46.2%)	24 (51.1%)	
	Total	Image: 59 (51.3%) Text: 56 (48.7%)			

Chi-square test

Appendix 7.

Pearson correlation test result

Pearson correlation test	What is your opinion of the brand (Dislike - Like)	What is your opinion of the brand (Bad - Good)
What is your opinion of the brand (Dislike - Like)	1	
What is your opinion of the brand (Bad - Good)	.682	1

Appendix 8.

Self-completion questionnaire (Qualtrics).

1. How likely is it that you would buy this product? (0: Not very Likely 7: Very Likely)

0 1 2 3 4 5 6 7 ☒

2. How confident are you with your purchasing decision? (0: Not very Confident 7: Very Confident)

0 ☒ 1 2 3 4 5 6 7

3. What is the first thing you look at after you've clicked on the product on the website?

- ☐ Image of the product
- ☐ Product description
- ☐ Price
- ☐ Details and sizing

4. If something else, please specify here.

5. Is the provided information enough so that you don't have to visit a store to see the product in real life?

- ☐ Yes
- ☐ No

6. What is your opinion of the brand in this image? (Please state your spontaneous opinion)

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

7. What is your current relation to the brand in the image?

Don't know at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Know very well
Not familiar with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very familiar with
Have no prior experience with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Have extensive prior experience with

8. What is the height of the bag in cm?

0 5 10 15 20 25 30 35 40 45 50

CM

9. What is the width of the bag in cm?

0 5 10 15 20 25 30 35 40 45 50

CM

10. The height x width of the bag is larger than an A4 paper

- ☐ True
- ☐ False

11. I was provided with enough information to determine the size of the product. (0: Disagree 7: Agree)

0 1 2 3 4 5 6 7

12. What information did you use to understand the size of the product?

- ☐ Image of the product
- ☐ Sizing information in text

13. Describe how you determined the size of the bag.

14. How likely is that you would return the bag if the size was not what you expected?

(0: Not very Likely 7: Very Likely)

0 1 2 3 4 5 6 ☒ 7

15. When I return a purchase that I have made online the most common reason is because... (select one)

- ☐ It was the wrong size
- ☐ It had a different color than in the image
- ☐ It was in poor quality
- ☐ It was the wrong item
- ☐ The design was not what I expected

16. If something else, please specify here.

17. Which of the following strategies have you previously used to prevent purchasing the wrong size of a product online? (select one or more)

- ☐ Purchase the product in different sizes and then return the ones I don't want
- ☐ I first go to the store to try the product before placing my order online
- ☐ I read through the size information carefully
- ☐ I look at the image and get a good idea of the size
- ☐ None of the above

18. How would you rate your ability to determine the size of the bag? (0: Very low Ability 7: Very high Ability)

0 1 2 3 4 5 6 7

19. Please write your age in numbers

20. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Prefer not to say

21. What product was the image about?

- ☐ Knitwear
- ☐ Handbag
- ☐ Sneakers