Staying competitive with the help of social proof

- A quantitative study on the strength of different social proof tactics in an online context and the moderating effect of brand equity

Authors:
Marcus Hagström & Teo Bodin

Examiner:
Alexander Mafael

Supervisor:
Jonas Colliander

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Abstract

The recent growth in global e-commerce sales caused by the Coronavirus pandemic has created cause for retail brands to re-evaluate the employed social influence tactics on their online product pages in an effort to remain competitive. Two tactics which are commonly used on these online product pages are popularity information statistics and customer reviews. Drawing from theory about similarity and uncertainty social proof mechanisms, helpfulness and affect infusion, it is hypothesized that being exposed to customer reviews on an online product page will result in greater values of key marketing variables than being exposed to popularity information or no social information at all. To add nuance and contribute to existing literature, the moderating role (customer-based) brand equity has on the strength of the two tactics for the same dependent variables is examined. Adopting a 2 (strong brand vs. weak brand) × 3 (customer review, popularity information, control) between-subject experimental design, and using Amazon.com as a setting, the quantitative survey data yielded a number of findings. Firstly, the results show that overall, without consideration of brand equity, exposure to a customer review led to statistically greater values for some key dependent variables than a control, but not for popularity information. Therefore, the hypotheses were either partially empirically supported or rejected. Furthermore, our results show that brand equity does positively moderate the impact that social proof tactics have on consumers. Specifically, low brand equity positively moderates the effect that customer reviews have on key variables (except for purchase intention). Whereas, popularity information had no significant effect on any of the dependent variables for a weak brand. For a strong brand, no significance was found for either customer reviews or popularity information. As such, an interesting implication is that the optimization of social proof tactics is more important and of greater value for a low equity brand than it is for a high equity brand. However, due to the double jeopardy effect, low equity brands face a serious dilemma, as they will have more difficulties in acquiring positive customer reviews and committing resources to social proof tactic optimization on their product pages than high equity brands will. This study therefore further exposes this pressing issue which low equity brands face, and their need to find ways to overcome this issue in order to reap the empirically supported consumer- and firm-related benefits.

Keywords: e-commerce, social proof, popularity information, customer reviews, brand equity

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1. Introduction

1.1 Background

This thesis aims to investigate how being exposed to customer reviews on an online product page will result in greater values of key marketing variables than being exposed to popularity information or no social information at all. Furthermore, it considers the moderating role (customer-based) brand equity has on the strength of customer reviews and popularity information. The methodological approach used to examine this is a quantitative between-subject experimental design, with Amazon.com as a setting.

All retailers these days must make use of social influence tactics on their online platforms in order to remain competitive in a growing and ever-changing e-commerce industry. After years of steady growth, e-retail sales accounted for 18% of all retail sales worldwide in 2020 — a significant jump from 13.6% in 2019 (Coppola, 2021). The Coronavirus pandemic's drastic effect on consumer behavior is the root cause for this massive increase in online retail sales, as many people were suddenly forced to fulfill their shopping needs online. This caused an unprecedented, "hockey stick" shift in e-commerce sales (see Appendix 8.1), and while it is difficult to predict the future, "it is safe to assume e-commerce will continue to grow at a steady, if not accelerated, pace" (JBF Consulting). In fact, roughly 22% of people expect to maintain a higher frequency of online shopping after the pandemic (Numerator, 2021). Moreover, the number of first-time online shoppers has been on the rise throughout the pandemic (Numerator, 2021). In order to financially reap the benefits of this growing pace of global e-commerce sales, online retailer brands must be sure to adopt the most effective social influence tactics for their situation so as to increase conversion rates, sales and positive brand attitudes.

According to Cialdini (2001), there are six basic categories to social influence: "Reciprocation, consistency, social proof, liking, authority, and scarcity. Each of these categories is governed by a fundamental psychological principle that directs human behavior and, in so doing, gives the tactics their power". While all of these six tactics are commonly practiced in physical retail spaces, few of them can actually be employed on online channels. This is, in part, due to the lack of direct interaction between customer and seller in online contexts. Consequently, any form of

social interaction can “play a particularly critical role in electronic markets and have become a vital quality indication for consumers to use for decision support” (Thies et al., 2016). For that reason, many studies have attempted to understand the “critical role” these social influence tactics, cues, nudges, interactions have in electronic markets. For instance, Roethke et al. (2020) examine how two social influence tactics, reciprocation and social proof, affect user registration during user onboarding in an e-commerce context. While studying the relationship between two different social influence tactics and their joint effects in an online context can lead to interesting findings and implications, it lacks the depth and insights that can be achieved by studying one specific social influence tactic and directly comparing its different forms in various settings and modes.

One social influence tactic which has been studied to great depths is social proof. “The principle of social proof states that one important means that people use to decide what to believe or how to act in a situation is to look at what other people are believing or doing there” (Cialdini, 2001). Similar to the overarching social influence arsenal of tactics, the social proof category of tactics can be referred to in many different ways, such as social persuasion tactics, social information cues, social nudges, etc. Studies have shown how susceptible consumers are to different types of social proof in many different settings. For instance, when deciding on a restaurant to dine at, social proof in the form of a friend’s recommendation or the observable popularity of the establishment can greatly influence a person’s decision making (Becker, 1991). This same logic applies to the online commerce world too.

Two types of social proof which are commonly used on online product pages today are popularity information and customer reviews. Popularity information is a form of action-based social information (Cheung et al., 2014) and “becomes relevant in situations in which individuals who face identical decisions under uncertainty can observe the actions of other consumers (e.g., in the form of aggregated statistics displaying the number of downloads or purchases of a product) who faced the same decisions earlier on, but not the motivation behind their actions" (Thies et al., 2016). For example, this can be done by presenting information on products like the number of purchases of a certain product in the last hour, or even highlighting best-selling products on online product pages. Simply put, it is any type of statistical information that

demonstrates popularity. It should also be noted that popularity information can be referred to as observational learning information, action-based information or as informational cascades (when an online user is exposed to great amounts of popularity information). To reduce confusion, this study will primarily refer to it as popularity information. Customer reviews, on the other hand, are a form of opinion-based social information (Cheung et al., 2014), and they are "peer-generated product evaluations posted on company or third party websites" (Mudambi & Schuff, 2010). For clarity purposes, it should be stated that some studies prefer to use the much broader term word-of-mouth (WOM) or sometimes even electronic word-of-mouth (eWOM), even though most studies are in fact analyzing what are commonly referred to as "customer reviews". This thesis study will primarily refer to them as customer reviews. The effectiveness of these social proof tactics on product sales, consumer behavior, purchase decisions and other key marketing variables have been studied in many different contexts.

Previous research on popularity information is limited. Duan et al. (2009) "examine informational cascades in the context of online software adoption". They validate that informational cascades, or great amounts of popularity information, are an important driver for decision making on the Internet. Studies have also examined the effect of popularity information on media product consumption, like music downloads (Salganik et al., 2006), book sales on Amazon (Huang & Chen, 2006), and movie selection (Xuexin & W. Wayne, 2014). Meanwhile, Yoo et al. (2016) "identify the effects of popularity information on product sales through an analysis of the subgroups of category and price" in an online marketplace. They find "that once the products are displayed on the hit list [of the online marketplace], product sales increase by an average of 1.3 units per day". Furthermore, Tucker & Zhang (2011) conclude that "narrow-appeal vendors receive more visits than equally popular broad-appeal vendors after the introduction of popularity information". In e-commerce, this could imply that "highlighting the popularity of niche products can boost their sales disproportionately, compared to equally popular mainstream products" (Tucker & Zhang, 2011).

As for previous research on customer reviews, the pool of existing literature is extensive. The studies go from understanding what factors psychologically motivate consumers to articulate themselves online (Hennig-Thurau, 2004), to indicating that attributes like review extremity,

review depth, and product type can affect the perceived helpfulness of reviews (Mudambi & Schuff, 2010). However, from an economic point of view, prior studies have mostly examined how attributes of customer reviews like valence and volume can influence retail sales and product valuations. First, an Amazon Shorts e-book experiment in a closed book reading community proves that peer consumer reviews can act as a product quality signal which drives product sales, without any manipulation of review valence or volume (Amblee & Bui, 2011). Still in the book industry, Chevalier & Mayzlin (2006) conclude that an improvement in a book's customer reviews, i.e., valence, leads to an increase in relative sales, as the improvement changes consumer's valuation of the product. To refute this finding, however, Chen et al. (2004) argue that the valence of a customer review is not necessarily related to increased sales. However, both studies do agree that the number of customer reviews, or volume, is positively associated with sales. Interested in how customer review valence and volume can impact sales, Duan et al. (2008) conduct an online WOM, or reviews study for the online movie industry. They prove "that both a movie's box office revenue and WOM valence significantly influence WOM volume", which "in turn leads to higher box office performance. This positive feedback mechanism highlights the importance of WOM in generating and sustaining retail revenue".

While these studies give implications on the effects of these social proof tactics separately across various settings, few studies have actually directly compared the individual effects that popularity information and customer reviews have on key consumer behavior variables in an online context. Cheung et al. (2014) examine how the two social information cues, peer consumer purchase (popularity information) and peer consumer review (customer reviews), influence consumer purchase decisions. They conclude that "consumer purchase decisions are indeed influenced by the two social information cues and that action-based social information", i.e., popularity information, "is more influential than opinion-based social information", i.e., customer reviews. Meanwhile, Thies et al. (2016) investigate the time-varying effects of eWOM and popularity information on consumers' funding decisions and find that "[popularity information] has a more immediate predictive relationship with consumers' funding behavior than eWOM, but its effects diminish rather quickly, while the effects of eWOM require a longer time to build up their effectiveness but are more persistent over time" (Thies et al., 2016). Finally, Chen et al. (2011) consider the differential impact on product sales, lifetime effects, and

interaction effects of the two types of social proof in an Amazom.com setting. They conclude that “while negative WOM is more influential than positive WOM, positive observational learning information”, or popularity information, “significantly increases sales but negative observational learning information has no effect”. Further, their results show “that WOM volume strengthens the impact of [observational learning] information (i.e., they are complementary)”.

1.2 Purpose

While previous research has studied the effects of popularity information and customer reviews individually across many different settings, few studies, such as Thies et al. (2016) and Chen et al. (2011), have actually directly compared the two social proof tactics against each other. Further, due to the lack of these studies and their differing objectives, variations and contexts, it is still difficult to say which social proof tactic has a stronger effect on retails sales and key marketing variables in an online product page context. As such, the first purpose of this thesis is to establish which of the two social proof tactics, customer reviews or popularity information statistics, is the best to employ on an online product page. Are customer reviews or popularity information statistics more effective in terms of their impact on consumers? And how do they compare to having no social proof tactic at all?

To the best of our knowledge, no previous research has examined what impact brand equity has on the effectiveness of social influence tactics. In order to add nuance to the study and further contribute to existing social proof literature, we examine what impact adding a layer of brand equity to a product has on the effectiveness of customer reviews and popularity information statistics. Therefore, the second purpose of this study is to understand how brand equity moderates the strength (effect) of social proof tactics in an online context. Is the difference between the effectiveness of social proof tactics (or no tactic at all) in an online context exaggerated by the relative strength/equity of the selling brand that is attached to them? Do low or high equity online retail brands have more to gain from employing social influence tactics on product pages than their high equity counterparts?

1.3 Contribution

The current study contributes to existing social proof literature by further investigating the effects of customer reviews and popularity information across key marketing variables. It also contributes by analyzing the moderating effects of brand equity on the social proof tactics; a variable that has never before been examined in this social proof tactics context. As such, the study will contribute to brand owners, large and small, by providing them with a clearer roadmap on how to effectively use social proof tactics on their online platforms.

1.4 Disposition

The introduction (1) explains the background of the subject of the thesis and its purpose while also pointing out why it is relevant and how it contributes to existing research. The theoretical framework (2) helps the reader see the logic in the investigation and argues why and how different theories and previous literature formulate the studies' expectations, i.e., hypotheses. Following the theory, the method (3) clearly and logically describes how the pre-study and main study were conducted and why they were done. Next, the results (4) of the study presents the results together with some related analysis and summarizes the results. After the results comes a discussion (5) about the presented results where theoretical and practical implications are given. Next, recommendations for future research and limitations (6) are shared. Finally, the bibliography (7) lists sources used in the text and the appendix (8) shows figures and the conducted studies.

2. Theoretical Framework and Hypotheses

The main question to this thesis is whether or not low (customer-based) brand equity can have a moderating effect on the strength of customer reviews and popularity information on consumers. Before this hypothesis can be developed with backing theory, however, the more fundamental question of whether customer reviews are more effective than aggregate popularity information statistics overall, regardless of brand equity, must be considered. And in doing so, the dependent variables that will be analyzed for both sets of hypotheses, or questions, will be motivated.

2.1 Customer Reviews vs. Popularity Information

Given the commonly used phrase, “actions speak louder than words”, the claim that customer reviews (a form of opinion-based social information) should have a greater impact on consumers than popularity information (a form of action-based social information) might seem backwards. Previous research in the area even supports the common phrase, as tests have shown that popularity information is more influential than customer reviews (Cheung et al., 2014; Chen et al., 2011). Worth noting, however, is that while these studies suggest that popularity information is the superior tactic, these studies are few and were carried out in different contexts and use different methodologies and variables. Therefore, the idea that using customer reviews has a greater impact on consumers than using popularity information statistics (or even no social proof tactics at all) cannot be ruled out; words can in fact speak louder than actions. By drawing from different key sources of literature (Cialdini, 2001; Forman et al. 2008; Forgas, 1995) which support that customer reviews are superior in their ability to to draw upon influential social proof conditions, and therefore are more helpful, informative and emotionally provocative, it is suggested that, compared to using an aggregated popularity information statistics or no social proof tactic at all (i.e., a control), the use of customer reviews on an online product page should have a greater impact on consumer ratings of the following dependent variables: perceived popularity of the product, brand credibility, brand attitude, purchase intention and WOM intention.

2.2 Influential Social Proof Conditions

Important to understand about social proof is that it is most influential under two conditions. The first condition under which social proof is most influential is uncertainty. That is, when people are unsure, [or] when the situation is ambiguous, they are more likely to attend to the actions of others and to accept those actions as correct. The second condition under which social proof is most influential is similarity. That is, when people are more inclined to follow the lead of similar others (Cialdini, 2001). The experience of online shopping is a perfect example of a time when these two conditions can be most influential on a consumer. For example, as a consumer browses an online product page and evaluates product alternatives, they are often uncertain of which product they will choose. In trying to be rid of that uncertainty, consumers search for any information to help them justify their purchase decision. Further, as the similarity condition of

social proof suggests, consumers will be influenced by the information and follow the lead of perceived similar others that appear to them. This is why online product pages often contain customer review sections and popularity information in the form of purchasing statistics; retailers know the social proof conditions going on in the minds of online consumers and use the according social proof tactics which will draw on those conditions most effectively.

If these are the two conditions which allow social proof to be at its most influential state, then it stands to reason that the most effective social proof tactic should be the one that has a stronger ability to draw the most out of these conditions. While both popularity information and customer reviews are inherently socially informative and do effectively draw upon these influential social proof conditions in an online context, it can be argued that customer reviews get the most out of these influential social proof conditions (similarity and uncertainty), compared to popularity information or no social proof tactic at all.

The following paragraphs will further discuss relevant theories and research supporting why customer reviews are effective and exactly how they draw upon similarity and uncertainty. All the while, according hypotheses will be developed as they pertain to certain, motivated dependent variables.

Similarity

Customer reviews present consumers with great opportunities to see similarities in other people and thereby "follow the lead of similar others" (Cialdini, 2001). "On many sites, identity-descriptive information about the reviewer is at least as prominent as product information. For example, on sites such as Amazon, information about product reviewers is graphically depicted, highly salient, and sometimes more detailed and voluminous than information on the products they review" (Forman et al. 2008). This information can range from "where they live to the names of their pets, their nicknames, hobbies, professional interests, pictures, and other posted links" (Forman et al. 2008). With that said, incidental similarities like sharing the same initials or name as the reviewer have been shown to lead to better review response (Zhang, 2015). Moreover, research shows that "online community members rate reviews containing identity-descriptive information more positively, and that the prevalence of

reviewer disclosure of identity information is associated with increases in subsequent online product sales" (Forman et al., 2008). Further, studies show that "even when information about others' actions and preferences are simultaneously available (e.g., in online shopping and the consumption of social media), people are more likely to follow what others prefer, rather than what others have done" (Tu & Fishbach, 2015).

Previous research also shows that "self-verification and social identification are desirable because they fulfill self enhancement needs, reduce uncertainty, and thus enable people to predict and control their world (Forman et al. 2008). Additionally, Ahmadian & Pouromran (2019) "demonstrate that customers evaluate a review written by a similar customer to themselves more helpful". Forman et al. (2008) confirm this as they find that reviewer disclosure of identity-descriptive information was significantly and positively associated with perceived helpfulness. Helpfulness and identity sharing can have a positive impact on consumers and help them to make purchase decisions faster and more accurately, which in turn can have a positive effect on purchasing intention. Granted, should the consumer be exposed to a negative customer review, it can also go the other way and help them decide *not* to purchase. But for the most part, "reviews that are perceived as helpful to customers have great potential value to companies, including increased sales" (Mudambi & Schuff, 2010). As such, purchase intention is a key dependent variable examined in this study. Purchase intention means that consumers would buy the product, which makes it reasonable to assume that they would also recommend or talk about the product with others. Hence, WOM intention is also an important dependent variable that is considered in this study.

Uncertainty

Customer reviews also have a strong ability to subdue feelings of uncertainty. Studies show that factors like "review rating, review depth, review readability, and review age as *review* related determinants, and reviewer information disclosure and reviewer expertise as two *reviewer* related determinants… [affect] the perceived review helpfulness" (Ahmadian & Pouromran, 2019). For example, a detailed review might share information about how a pair of sunglasses fit on your face or whether a sweater "runs large or small" compared to the size information on the retailer's website; thus removing consumer uncertainty. Furthermore, customer reviews "supplement other

information provided by electronic storefronts such as product descriptions, reviews from experts, and personalized advice generated by automated recommendation systems" (Mudambi & Schuff, 2010). Additionally, "more information reduces consumer uncertainty and search costs, leading to a greater willingness to pay for products (King et al., 2014) which can have a mediating effect on the relationship between consumers' perceptions and purchase intentions (Ayadi & Lapeyre, 2016). Ultimately, besides changing the way it is framed, there are much fewer ways in which a popularity information statistic can be made helpful to a consumer than there are ways in which a customer review can naturally be helpful to a consumer.

Additionally, if a consumer is exposed to a customer review that is particularly expressive and valent, it is possible that the consumer will experience affect infusion — "the process whereby affectively loaded information exerts an influence on and becomes incorporated into the judgmental process, entering into the judge's deliberations and eventually coloring the judgmental outcome" (Forgas, 1995). In general, personal customer reviews written by real actual customers have a stronger ability to provoke strong emotions than non personal popularity information statistics. As such, the emotions evoked by the customer review can then shape perceptions about the popularity of the product, which in turn can affect attitudes about the associated brand, as well as the credibility of that brand. Therefore perceived popularity of the product, brand attitude and brand credibility are all key dependent variables analyzed in this study. Further, studies show that positive, high-arousing emotions like pleasure and arousal can have an impact on behavioral intentions, like purchase intention and WOM intention (Ladhari, 2007). This path of emotions to attitudes to intentions fits with the classic theory of planned behavior model (Azjen, 2002): that a combination of attitudes, relevant subjective norms and perceived behavioral control lead to intentions, and intentions then turn into behaviors.

Given customer reviews' aforementioned superior ability (compared to popularity information) to draw upon influential social proof conditions of similarity and uncertainty, as well as its thereby innate helpfulness, informativity and emotionally provocativeness, it can be hypothesized that:

H1: Being exposed to customer reviews on online product pages will result in greater perceived popularity of the product than being exposed to a) popularity information and b) a control condition.

H2: Being exposed to customer reviews on online product pages will result in greater brand credibility than being exposed to a) popularity information and b) a control condition.

H3: Being exposed to customer reviews on online product pages will result in greater brand attitude than being exposed to a) popularity information and b) a control condition.

H4: Being exposed to customer reviews on online product pages will result in greater intention to purchase than being exposed to a) popularity information and b) a control condition.

H5: Being exposed to customer reviews on online product pages will result in greater WOM intention than being exposed to a) popularity information and b) a control condition.

2.3 Moderating Role of Brand Equity

When measuring brand equity, one of two approaches can be chosen; firm based brand equity (FBBE) or customer based brand equity (CBBE). Given the consumer marketing nature of this study, and the fact that CBBE is the preferred way to measure brand equity (Chakraborty & Bhat, 2017), CBBE will be the brand equity measurement of this study. CBBE, as defined by Keller (1993), is "the differential effect of brand knowledge on consumer response to the marketing of the brand... Customer-based brand equity occurs when the consumer is familiar with the brand and holds some favorable, strong, and unique brand associations in memory". Moreover, in an article by Hoeffler & Keller (2003), arguments are put forth as to how a strong brand (high CBBE) is favorable in a customer's decision process contrary to a weak brand (low CBBE) by illustrating the concept of loss aversion: "[when] the losses of switching away from a known brand loom larger than the potential gains from using another, lesser-known brand (for example, as the result of a price-reduction). Thus, the possibility of a potential loss leads to an advantage for leading brands" (Hoeffler & Keller, 2003).

Hoeffler & Keller (2003) also highlight the indirect effects of brand equity. They claim that the indirect effects are "perhaps more common [than direct effects] and are evoked when there is uncertainty or ambiguity in the decision environment". They argue that once the customer is in the third part of the decision-making process (evaluation of alternatives), ambiguity and

uncertainty plays in favor of the strong brand, resulting in that a strong brand's product will be purchased more often than a weak brand's product. This is because brands that customers have a prior (positive) attitude towards are evaluated less critically, and generally, they are more receptive towards.

With the aforementioned arguments that a strong brand is favorable to a weak brand, the stronger brand should see higher means than the weaker brand when measuring the study's dependent variables, due to uncertainty and ambiguity factors. By removing, or rather mitigating these factors of uncertainty and ambiguity with the help of social influence, the effect for the weak brand should be larger than the effect for the strong brand. This statement is based on the fact that the weaker brand now has been given an aid that reduces the uncertainty and ambiguity of the product the brand represents. Therefore, we hypothesize the following:

H6: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the perceived popularity of the product of a low equity brand than of a high equity brand.
H7: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the brand credibility of a low equity brand than of a high equity brand.
H8: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the brand attitude of a low equity brand than of a high equity brand.
H9: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the purchase intention of a low equity brand than of a high equity brand.
H10: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the WOM intention of a low equity brand than of a high equity brand.

3. Method

3.1 Choice of Subject

In the last decade, and especially during the Coronavirus pandemic, online shopping has grown considerably (Coppola, 2021). This can be explained by changing needs, behaviors, convenience standards and more. As a result of this growth, some retailers have not only needed to open new

online channels to stay relevant, but also have been forced to optimize with online social proof tactics to compete. Among the strategies that one can see when browsing an e-commerce site are the previously mentioned social proof tactics, popularity information statistics and customer reviews. While the box of social influence is full of unique tactics, it is necessary to directly compare tactics against each other in order to see which is more effective. And although the effect of these tactics have already been separately and jointly examined in previous research, the comparison of these tactics across low and high equity brands has never been done before. The inclusion of this brand layer adds another dimension of analysis to the customer review vs. popularity information study and can lead to important implications and insights for retail brands.

3.2 Study Object

3.2.1 Channel

A major reason for the choice of an online setting is that the recent growth in online shopping due to the Coronavirus pandemic makes it a particularly important channel for most retailers, which makes this study relevant and useful. The study is presented in an Amazon, online shopping app setting for several reasons. For one, online marketplaces and stores are commonplace for the social proof tactics in question, thereby making that particular setting the most natural and easiest way to analyze the strength of these tactics in an empirical study. Further, the Amazon channel was used because it is a real, well-known, respectable, and familiar shopping channel for many. Finally, an American, English language version of Amazon.com was displayed in order to reduce language barriers for the expected survey target audience; individuals from the United States and Sweden.

3.2.2 Brands

The brands used for the main study were selected based on their differences in customer-based brand equity (CBBE), which “occurs when the consumer is familiar with the brand and holds some favorable, strong, and unique brand associations in memory” (Keller, 1993). The main study uses one sunglass brand with high customer-based brand equity and one with low customer-based brand equity. By making this distinction and adding this layer to the study,

greater implications could be made about how brand equity moderates consumer shopping decisions and, as well as the independent persuasion tactics at play. A pre-study measuring customer-based brand equity yielded two significantly different companies (high vs. low brand equity) out of four which would be later used in the main study. The high (customer-based) brand equity company turned out to be Oakley and the low (customer-based) brand equity company turned out to be RAEN.

3.2.3 Product

To test the hypotheses, using a product that satisfies customer needs regardless of demographic characteristics is essential to ensure a level of relatability among the respondents so that no recorded responses are rendered null due to the product not being of relevance to the respondents. The choice of using sunglasses, a universal product that fulfills the aforementioned demographic characteristics quota, became the elected product for the experiment. Therefore, the selected high and low equity brands, Oakley and RAEN, are both sunglass brands.

To ensure that no brand associations could be made with the pair of sunglasses displayed in the survey, the actual product belongs to another brand. Any branding on the glasses was also removed. To further convince respondents that the sunglasses could carry any brand's logo, a pair of aviator model sunglasses were used in the experiment, as aviators are a classic sunglasses model with a strong blueprint that cannot be altered too much.

Since only one product was used in the entire experiment it was also important that it did not lean too heavily on one side of a product type spectrum. Sunglasses are a balanced product in that regard. They can be considered as both a hedonic and a utilitarian product, as they are for looks, but also provide sun protection. Further, the online setting used for this experiment causes sunglasses to go from being a typical experience product (products that require sampling or purchase in order to evaluate product quality) to being more of a search product (products which consumers have the ability to obtain information on product quality prior to purchase) (Mudambi & Schuff, 2010).

3.2.4 Tactics

The popularity information statistic was presented as follows: "*These sunglasses have been purchased by 5 customers in the last hour*". This statistic was presented in red text next to the product description. Based on empirical research, it was determined that this is how popularity information statistics typically appear in reality on websites like Hotels.com, Booking.com and Amazon.com. Therefore this was an accurate representation of this tactic.

For the customer review, a positive review by fictitious reviewer "Mike" from the United States was created. 86 global ratings make up the average star rating of 4.7. Of which, one is Mike's four-star review. Furthermore, 11 people marked Mike's review as helpful. The content of the review came from gathering info that is typically seen in customer reviews for sunglasses. Therefore some aspects of the review were made to be helpful by giving information that was not listed on the product description, like how the sunglasses fit on the face. The review was made to be of decent length (depth), and used identity-descriptive language.

3.3 Research Method

To test the hypotheses and address the research question of the thesis, a quantitative research method was used. The method [eliminates] or [minimizes] subjectivity of judgment (Matveev, 2002). Given the researchers extensive international network, a quantitative survey approach would provide a more randomized sample of responses. While a qualitative method could have provided a more "holistic view of the phenomena under investigation" and the "ability to interact with the research subjects in their own language and on their own terms" (Matveev, 2002), a quantitative approach was the most realistic approach given the time constraints and the research subject at hand.

3.4 Pre-Study

The purpose of developing the first pre-study is to identify two brands to be used in the main study — one with low customer-based brand equity and one with high customer-based brand equity. The presented sunglass brands were Oakley, Maui Jim, RAEN and Komono. Oakley and Maui Jim were selected as they were expected to receive high customer-based brand equity

ratings as they both are successful companies with a great history and therefore should hold brand associations in the minds of many. RAEN and Komono were selected as they were expected to receive low customer-based brand equity ratings for the opposite reasons.

The pre-study was a quantitative study. The survey first randomly exposed respondents to a picture of one of the four brands' homepage. This was followed by statements/questions measuring the brand's customer-based brand equity — the dependent variable. As previously mentioned, customer-based brand equity is "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993). As such, five established measures of brand awareness, a sub-branch of brand knowledge, were adapted from Yoo et al. (2000) and Netameyer et al. (2004). All statements/measures were recorded on seven-point Likert scales (1 = completely disagree, 7 = completely agree). See Appendix 8.2 for a showcase of the pre-study survey.

The survey of the pre-study was distributed from March 6th to the 15th, and was shared through various social media platforms. In total, the pre-study received 132 answers. All respondents were randomly allocated to the four brand treatments such that each brand had 30 or more valid cases. Qualtrics was used to create the survey.

In order to confirm that the statements, or measures, were in fact similar and measuring the same customer-based brand equity variable a reliability analysis was conducted. The Chronbach's alpha value for the customer-based brand equity variable came back at 0.949, well above the 0.7 standard value, which enables the creation of an mean index. Therefore, the customer-based brand equity variable was indexed.

Given that there were more than two groups and they had unequal sample sizes, an ANOVA Scheffe test with 95% confidence intervals was conducted to test for significant mean differences in customer-based brand equity. The results show that Oakley had the highest mean with a value of 4.04 and was significantly different to all the three other brands' ($p < 0.001$), including Maui Jim, the other brand expected to also have a relatively high customer-based brand equity. However, of the three significantly different brands to Oakley, RAEN had the lowest mean value

and therefore was chosen to represent the low equity brand for the main survey (please refer to Table 1 below). Thus, the main study used Oakley and RAEN to represent the high and low equity brands, respectively.

Table 1. Provides differences in CBBE between all the brands.

Brand	CBBE Mean	Significance to Oakley
Oakley	4.04	-
Maui Jim	2.14	$p < 0.001$
Komono	1.57	$p < 0.001$
RAEN	1.37	$p < 0.001$

3.5 Main Study

3.5.1 Design of Main Study

The respondents were first presented with a GDPR message which explained that the data from the survey would solely be collected for research purposes and that the data would not be shared with any third party. The message ends with a question asking the respondent if they consent to voluntarily partake in the survey with two options presented: "*Yes, I do agree, and will therefore continue answering the questionnaire."* or "*No, I do not agree. Therefore, I will now quit answering the questionnaire."*. If the respondent chose to not agree, they could not proceed to answer the survey.

After the GDPR message the respondents were given an online shopping scenario. The scenario states:*"Please imagine you are browsing for sunglasses on Amazon's app. You have been browsing for a few minutes now and come across a product. On the following pages, you will see several images displaying the product's information, almost as though you were scrolling down on Amazon's app..."* The purpose of the scenario is to inform and put the respondents in the right mindset. It also prepared them for what was to come so that they were not surprised when they saw an Amazon mobile app product window.

The main study adopted a 2 (strong brand vs. weak brand) × 3 (customer review, popularity information, control) between-subject design. This resulted in six different groups of people

where each participant was randomly exposed to only one of the six conditions. The respondents were exposed to either Oakley or RAEN sunglasses on an Amazon app product page. The pair of aviator sunglasses, as mentioned in section 3.2.3, was identical in all groups. Following the front page of the Oakley or RAEN branded sunglasses, the respondent could scroll/swipe down to see one of the three manipulations/conditions: a single customer review, a popularity information statistic, or no social proof tactic at all, i.e., the control. Thus, the six possible conditions a respondent could receive were: Oakley Control, Oakley Popularity Information, Oakley Customer Review, RAEN Control, RAEN Popularity Information and RAEN Customer Review. In this way, the means and differences of the six groups could be recorded and analyzed.

All participants were randomly exposed to one of the six conditions. If the respondent was exposed to the popularity information condition, a statement saying "*These sunglasses have been purchased by 5 customers in the last hour*" was presented in red text next to the product description. If the respondent was exposed to the customer review, they had to scroll down to find a thorough customer review written by fictional "Mike". And if the respondent received the control, no social proof tactic was presented. For a showcase of the entire main study and how the respective social proof tactics, brands and sunglasses were presented please see Appendix 8.3.

3.5.2 Design of Survey

The survey starts off with two blocks that all respondents are exposed to which are the "GDPR message/consent-box" and the "Scenario-box". After that, a randomizer is used to randomize which one of the six different conditions the respondents will be exposed to. After the respondents have been exposed to one of the six different conditions, they reach the "Main Survey" block, where our dependent variables such as perceived popularity of the product, purchase intention, and brand attitude are measured among others. This part also includes two control questions, the first one being which brand of sunglasses they were exposed to, and the second one being if they remembered seeing a popularity information statistic, a customer review, or neither. If any of the respondents answered these questions incorrectly, their response was deemed invalid and not used later in the results. Lastly, the respondents reach the "Demographic" block which is the final block. This consists of demographic questions like age

and gender, moderating variables such as their fashion interest and online shopping familiarity, and a final control question measuring how realistic they found the Amazon webpage to be. Again, the main study in its entirety is showcased in Appendix 8.3.

3.5.3 Key Statistical Measures

All statements/measures were recorded on seven-point Likert scales. These were either measured in agreeance (1 = completely disagree, 7 = completely agree) or on a bipolar scale. Chronbach's alpha values are presented for each variable. All variables had a high enough Chronbach's alpha value (> 0.7) to be indexed. Variables that could not be indexed because they only consist of a single question are marked as non-applicable (NA). Please see Appendix 8.4 for a summary of the Chonbach's Alpha values. The following are the key variables measured in the survey:

3.5.3.1 Perceived Popularity of The Product

Perceived popularity of the product was measured with three bipolar items amended from Bruner 11 (2009) "Popularity of the Object": very unpopular/very popular, not very trendy/very trendy, and highly disliked by others/highly liked by others.

3.5.3.2 Brand Credibility

Brand credibility was measured with three items: "The brand is credible" "The brand is believable", "The brand is honest". The scale was adapted from Mackenzie and Lutz (1989).

3.5.3.3 WOM Intention

WOM intentions to recommend the brand to others were measured with three items amended from Babin et al(2005): "I will say positive things about this brand to other people", "I will recommend this brand to someone who seeks my advice" and "I will encourage friends and family to visit the brand's website".

3.5.3.4 Brand Attitude

Brand attitude was measured with three items: "My impression of Blacklabel is good", "My impression of Blacklabel is pleasant", "My impression of Blacklabel is favourable". These items came from Mackenzie & Lutz (1989).

3.5.3.5 Purchase Intention

Purchased intention was measured by first asking “How likely is it that you would buy the product”, followed by three bipolar scale items amended from Söderlund & Öhman (2003): very unlikely/very likely, not at all probable/very probable, not at all possible/very possible.

3.5.3.6 Realism

The study measured the respondents’ perception of how real they found the Amazon webpage to be. Respondents chose a value on a Likert scale between 1 and 7 where 1 was “very unrealistic” and 7 was “very realistic”.

3.5.4 Sample

Respondents were recruited by sharing the survey via various social media platforms like Facebook, Instagram, LinkedIn and Nextdoor. Direct personal text messages were also used to reach those contacts who are not active or do not have any form of social media. The survey was active from March 23 to April 14. During that time, the survey amassed a total of 385 responses, many of which would be rendered invalid after various control checks. The first control was whether or not the respondent answered correctly to which brand and tactic/element they were in fact exposed to. If the respondent answered the incorrect brand and/or element, they were removed from the sample. The second control was if the respondent found the scenario realistic or not. If the respondent gave the scenario a 1 (very unrealistic) out of a seven-point Likert scale, they were removed from the sample as the responses would endanger the reliability of the study. The remaining valid sample size after these control checks was 279. With such a large sample size and randomly split conditions, the survey had enough respondents for each group ($n > 30$) to be able to carry out the relevant statistical tests (Söderlund, 2018).

As for the demographics of this group, the average age was 43 and the gender leaned more on the female side. To ensure the difference in the proportion of gender and age between the 6 groups was not significant, a 2-sided Pearson Chi Square-Tests was conducted. These tests confirmed that there was no significant difference in the gender or age proportions ($p = 0.649$ for gender and $p = 0.600$ for age). This could be expected as the 6 experimental conditions were completely randomized in the survey. Finally, while it is not possible to track the

nationality/location of the respondents, it can be assumed that due to the international backgrounds of the authors that the sample is predominantly of American and Swedish nationality.

3.6 Validity

According to Sürücü and Maşlakçi (2020), "validity refers to whether the measuring instrument measures the behavior or quality it is intended to measure and is a measure of how well the measuring instrument performs its function". In this study, a number of precautions were taken to ensure a high level of validity. Firstly, a pre-study was conducted to identify two different brands of sunglasses with a substantial difference in brand equity. Secondly, when the respondents took the survey, the website they were exposed to was a copy of Amazon's US website. The only difference being the manipulations of brand name and social proof, as well as some minor photoshop edits like the delivery date range in order to enhance realism.

Digging deeper into validity, precautions were taken to ensure a high level of both external and internal validity. Internal validity refers to "the degree of confidence that the casual relationship being tested is trustworthy and not influenced by other factors or variables", while external validity refers to "the extent to which results from a study can be applied (generalized) to other situations, groups or events" (Streefkerk, 2019). The internal validity of the study was already strong as many threats did not come up. For instance, "Social interaction" between participants in different groups was not possible as the participants took the survey individually online and did not know which group they were part of. Furthermore, the threat of "Maturation" was not an issue as it was a brief survey, and no major unanticipated events occurred such as a pandemic hitting abruptly which could have affected the threat of "History" (Streefkerk, 2019).

To ensure that the study achieves a high level of external validity, precautions were taken to remove factors that could threaten it. To remove "sampling bias", the respondents that took the survey ranged from the ages of 15 to 78. The gender distribution came out to be 60/40 with the majority being female which could have affected our results. However, after doing a Chi Square-Test, it was concluded that the difference between gender and age proportion within groups was insignificant (as mentioned in section 3.5.4). The last threat to external validity

present in this study is *the Hawthorne effect*, which states that "participants change their behavior when they know they are being studied" (Streefkerk 2019). This effect could not be fully removed as in all of these types of studies, the participant must first consent to taking part in a study (e.g., they know they are being studied). However, to make sure that the study would not contain responses from participants who deemed the study to be completely unrealistic, a control question was added to measure how realistic the respondents' believed the webpage to be. If any respondent answered a one on the seven-point scale, their recorded responses were excluded from the study as it would endanger the external validity.

3.7 Reliability

In research, a high level of reliability means that the results gathered at one point in time will be the same in another point of time, or, as defined by Sürücü and Maşlakçi (2020), "reliability is the ability to give similar results when applied at different times". When measuring the internal consistency of the measuring instrument across questions that were supposed to measure the same dependent variable, a reliability test measuring Chronbach's alpha values was used. If the Cronbach's alpha has a value higher than 0.7, it is at an acceptable reliability-level (Heale and Twycross, 2015). Furthermore, all multi-question variables used in the study (regardless of whether they were hypothesized) came from previous studies which had already confirmed that these groups of questions had a Chronbach's alpha value greater than 0.7 and, therefore, were in fact measuring the same dependent variable. Lastly, at the beginning of the survey the participants were given clear instructions as to what to expect and do to ensure that they understood what they were being exposed to.

4. Results

4.1 Social Proof Tactics Overall

In order to test hypotheses H1, H2, H3, H4 and H5 (that being exposed to customer reviews on online product pages will result in greater perceived popularity of the product, brand credibility, brand attitude, purchase intention and WOM intention than being exposed to a) popularity information and b) a control condition) an ANOVA Scheffe test was employed. The test used a 95% confidence interval, implying a significance level of $p = 0.050$. The groups in the test are

distinguished solely by which social proof tactic condition the respondent received (customer review, popularity information and control), and are thus irrespective of which high/low equity brand the respondent received. The results show that for perceived popularity of the product, brand credibility and brand attitude, the means of customer reviews are significantly greater than that of the control, but not for popularity information. Therefore H1, H2 and H3 are partially empirically supported, as respondents that were exposed to customer reviews did not yield greater values of perceived popularity of the product, brand credibility and brand attitude than respondents who were exposed to a) popularity information, but did for those respondents who were exposed to b) the control condition.

Meanwhile, H4 and H5 for the variables purchase intention and WOM intention are both completely rejected as the values for customer reviews were neither significantly different from a) popularity information, nor b) the control condition (please refer to Table 2 and Table 3 below). Thus, hypotheses H1, H2 and H3 are all partially empirically supported, and hypotheses H4 and H5 are rejected.

Table 2. Provides differences in key variables for the customer review and control conditions.

Variable	Mean Customer Review	Mean Control	Significance
Perceived Popularity of the Product	4.88	4.07	$p < 0.001$
Brand Credibility	4.82	4.27	$p = 0.017$
Brand Attitude	4.70	4.16	$p = 0.028$
Purchase Intention	3.44	2.96	$p = 0.131$
WOM Intention	3.89	3.36	$p = 0.059$

Table 3. Provides differences in key variables for the customer review and popularity information conditions.

Variable	Mean Customer Review	Mean Popularity Information	Significance
Perceived Popularity of the Product	4.88	4.56	$p = 0.194$
Brand Credibility	4.82	4.66	$p = 0.730$
Brand Attitude	4.70	4.32	$p = 0.217$
Purchase Intention	3.44	3.34	$p = 0.925$
WOM Intention	3.89	3.41	$p = 0.133$

4.2 Effect of Brand Equity on Social Proof Tactics

To test hypotheses H6, H7, H8, H9 and H10 (that the separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the perceived popularity of the product, brand credibility, brand attitude, purchase intention and WOM intention of a low equity brand than of a high equity brand), an ANOVA Scheffe test was used. The test used a 95% confidence interval, implying a significance level of $p = 0.050$. The groups in the test are distinguished not only by the social proof conditions (customer review, popularity information and control), but also by which brand the respondent received (RAEN and Oakley). The results show that for the weaker, low equity brand (RAEN), the means of the respondents who received the customer review were significantly different from the means of the respondents who received the control for all variables except for purchase intention (Table 4 below), while for the high equity brand (Oakley), no significant differences were seen between customer review and the control (Table 5 below). This means that exposure to a) customer reviews had a stronger effect on all the key variables, except for purchase intention, of a low equity brand (RAEN) than of a high equity brand (Oakley).

The differences between popularity information and the control for the same low equity brand (RAEN) showed no significance for any of the variables (Table 6). Although insignificant, there are tendencies indicating that the exposure to the popularity information condition for the low equity brand (RAEN) had a stronger effect than it did for the high equity brand (Oakley) (Table 6 and Table 7 below). This becomes clear as one sees that the high equity brand (Oakley) did not come close to a significant difference, regardless of whether it was between the customer review and the control, or between popularity information and the control. This means that exposure to b) popularity information did not have a stronger effect on any of the key variables of a low equity brand (RAEN) than of a high equity brand (Oakley). Thus, hypotheses H6, H7, H8 and H10 are all partially supported, and hypothesis H9 is rejected as purchase intention did not have a stronger effect on the weaker brand when neither customer reviews nor popularity information were exposed.

Table 4. Provides differences in key variables for the customer review and control conditions with RAEN brand layer.

Variable	Mean Customer Review - RAEN	Mean Control - RAEN	Significance
Perceived Popularity of the Product	4.80	3.69	$p < 0.001$
Brand Credibility	4.30	3.35	$p = 0.006$
Brand Attitude	4.42	3.20	$p < 0.001$
Purchase Intention	3.39	2.39	$p = 0.121$
WOM Intention	3.47	2.48	$p = 0.036$

Table 5. Provides differences in key variables for the customer review and control conditions with Oakley brand layer.

Variable	Mean Customer Review - Oakley	Mean Control - Oakley	Significance
Perceived Popularity of the Product	4.97	4.44	$p = 0.394$
Brand Credibility	5.39	5.16	$p = 0.961$
Brand Attitude	5.01	5.08	$p = 1.000$
Purchase Intention	3.51	3.50	$p = 1.000$
WOM Intention	4.34	4.22	$p = 0.999$

Table 6. Provides differences in key variables for the popularity information and control conditions with RAEN brand layer.

Variable	Mean Popularity Information - RAEN	Mean Control - RAEN	Significance
Perceived Popularity of the Product	4.32	3.69	$p = 0.285$
Brand Credibility	3.97	3.35	$p = 0.339$
Brand Attitude	3.86	3.20	$p = 0.399$
Purchase Intention	3.39	2.39	$p = 0.169$
WOM Intention	3.01	2.48	$p = 0.735$

Table 7. Provides differences in key variables for the popularity information and control conditions with Oakley brand layer.

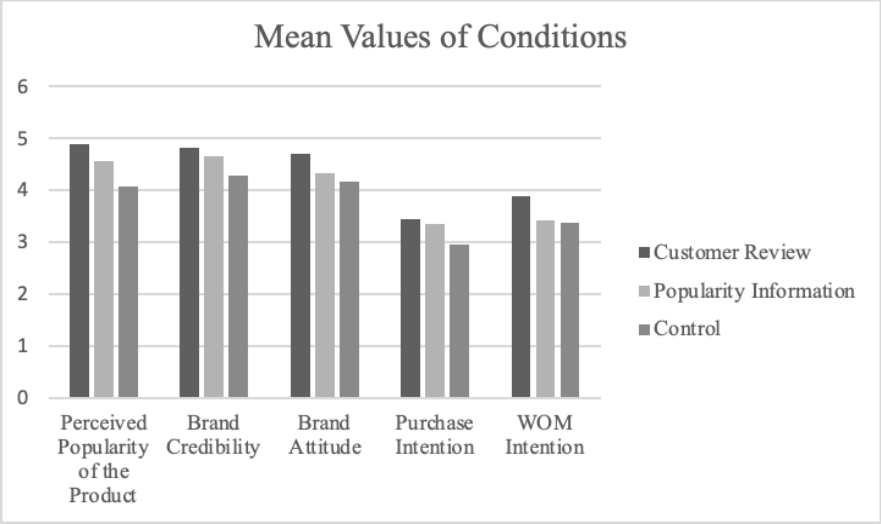
Variable	Mean Popularity Information - Oakley	Mean Control - Oakley	Significance
Perceived Popularity of the Product	4.76	4.44	$p = 0.892$
Brand Credibility	5.26	5.16	$p = 0.999$
Brand Attitude	4.73	5.08	$p = 0.893$
Purchase Intention	3.25	3.50	$p = 0.993$
WOM Intention	3.76	4.22	$p = 0.815$

4.3 Summary of Results

The first purpose of this thesis is to establish which of the two social proof tactics, popularity information or customer reviews, is the best to employ on an online product page. In terms of mean values, customer reviews in general proved to rank the highest compared to popularity information and the control for all variables (refer to Figure 1). The results also confirm that customer reviews had a significant effect on the perceived popularity of the product, brand credibility, and brand attitude, when compared to the control. WOM intention and purchase intention proved to not be significant. Popularity information did not have a significant effect on any of the dependent variables measured in this study.

The second purpose of this study is to understand how brand equity moderates the strength (effect) of social proof tactics in an online context. The results confirm that brand equity does moderate social proof tactics to some extent. When adding the layer of brand equity for a weak brand (low equity brand), a customer review had a significant effect on the perceived popularity of the product, brand credibility, brand attitude and WOM intention, when compared to the control. Whereas, a popularity information statistic had no significant effect on any of the dependent variables for a weak brand (RAEN). For a strong brand (Oakley), no significance was found at all for either customer review or popularity information. The study therefore confirms that having low brand equity positively moderates the effect that customer reviews have on key variables (except for purchase intention).

Figure 1. Provides mean values of customer review, popularity information and control conditions across key variables.



To get a better overview of the results of this study, Figure 2 provides a summary of the supported and rejected hypotheses:

Figure 2. Summary of results

Hypothesis	Result
H1: Being exposed to customer reviews on online product pages will result in greater perceived popularity of the product than being exposed to a) popularity information and b) a control condition.	Partially empirically supported
H2: Being exposed to customer reviews on online product pages will result in greater brand credibility than being exposed to a) popularity information and b) a control condition.	Partially empirically supported
H3: Being exposed to customer reviews on online product pages will result in greater brand attitude than being exposed to a) popularity information and b) a control condition.	Partially empirically supported
H4: Being exposed to customer reviews on online product pages will result in greater intention to purchase than being exposed to a) popularity information and b) a control condition.	Rejected
H5: Being exposed to customer reviews on online product pages will result in greater WOM intention than being exposed to a) popularity information and b) a control condition.	Rejected
H6: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the perceived popularity of the product of a low equity brand than of a high equity brand.	Partially empirically supported
H7: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the brand credibility of a low equity brand than of a high equity brand.	Partially empirically supported
H8: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the brand attitude of a low equity brand than of a high equity brand.	Partially empirically supported
H9: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the purchase intention of a low equity brand than of a high equity brand.	Rejected
H10: The separate exposure to a) customer reviews and b) popularity information will have a stronger effect on the WOM intention of a low equity brand than of a high equity brand.	Partially empirically supported

5. Discussion and Implications

In this study we seek to understand whether using customer reviews on online product pages will perform better than popularity information or no social proof tactic at all in terms of different key variables. Additionally, we examine if the effect of using these social proof tactics, customer reviews and popularity information, is moderated by low brand equity. The results of this study provide meaningful theoretical insights for social influence researchers and for strong and weak brand owners. The following sections discuss the major findings and how they contribute to existing research, as well as the implications of these findings for retail brands of high and low equity.

5.1 Major Findings

5.1.1 Social Proof Tactics Overall

Based on the overall social proof tactics results of the study (H1-H5), exposure to customer reviews on online product pages yields significantly greater levels of perceived popularity of the product, brand credibility and brand attitude than exposure to no social proof tactic at all, but not for exposure to a popularity information statistic. Hence, H1, H2 and H3 were all partially empirically supported. The fact that customer reviews yielded greater product popularity perceptions, brand credibility perceptions, and brand attitudes than the control was in line with the previously presented literature about review helpfulness, affect infusion and its ability to draw on influential similarity and uncertainty conditions (Forman et al., 2008; Cialdini, 2001; Forgas, 1995; Azjen, Mudambi & Schuff, 2010; Ahmadian & Pouromran, 2019). What was unexpected, however, was that customer reviews did not significantly outperform popularity information in this area. There is no doubt that customer reviews have the ability to draw more heavily on the similarity condition (that consumers are more inclined to follow the lead of similar others), as there is objectively more social similarity content in customer reviews than there are in popularity information statistics. It is possible, however, that popularity information's action-based ability to draw on the uncertainty condition was underestimated. After all, the condition states that people are "more likely to attend to the actions of others and to accept those actions as correct" (Cialdini, 2001). As an action-based form of social information which aggregates statistical information about other people's actions, popularity information has a strong ability to make consumers accept those actions as correct. Furthermore, popularity information's undeniable statistical truth in information can give the consumer more confidence, which tends to be an important basis for decision making (Chen et al., 2011).

The completely rejected result of H4 and H5 (that being exposed to customer reviews did not result in a greater purchase intentions or WOM intentions than being exposed to neither popularity information, nor no social proof tactic at all) was also unexpected given the amount of studies demonstrating how the helpfulness of reviews can have a significant impact on purchasing behavior and product sales (Amblee & Bui, 2011; Chevalier & Mayzlin 2006; Chen et al., 2004). It is interesting that these hypotheses were rejected, as these are hypotheses which

hold the only two intention variables in the study (purchase intention and WOM intention). As the theory of planned behavior suggests, “intentions to perform behaviors of different kinds can be predicted with high accuracy from attitudes toward the behavior, subjective norms, and perceived behavioral control” (Azjen, 1991). Therefore, it is unexpected that customer reviews did not prove to be at least significantly greater than the control for the intention variables, as it did prove to be for the perceived popularity of the product, brand credibility and brand attitude variables. A reason why respondents did not rate the customer review highly could be that, due to the realism and scenario-based survey nature of the study, respondents did not feel inclined to rate intention measuring variables very highly, regardless of what condition/ social proof tactic they received. This could be because respondents simply had difficulty believing the scenario or experienced social desirability bias.

5.1.2 Effect of Brand Equity on Social Proof Tactics

According to the results, low brand equity positively moderates the effect that customer reviews have on the key dependent variables (except for purchase intention). Whereas, popularity information statistics had no significant effect on any of the key dependent variables for a weak brand. One could argue that since the means are much higher for the weak brand when given a social proof tactic compared to the strong brand, that there is support in saying that brand equity moderates all variables, but since it’s not statistically significant, it may just be a fluke and therefore it cannot be supported. Therefore, we can reject H9 and say that brand equity has no effect on a customer’s purchasing intention, and we can partially support H6, H7, H8, and H10, and say that brand equity has an effect on a customer’s perceived popularity of the product, brand credibility, brand attitude, and WOM-intention when exposed to a customer review compared to no social proof tactic. This result aligns well with aforementioned literature from Hoeffler & Keller (2003), stating that the uncertainty and ambiguity of weak brands places them at a disadvantage to strong brands, and if these factors of uncertainty and ambiguity can be removed (with a social proof tactic), it should level the playing field. Maybe, however, the most interesting result out of H6-H10 is the fact that no social proof tactic had an effect on a customer’s purchasing intention, which is the closest thing to purchasing behavior that can be measured according to the theory of planned behavior (Azjen, 1991). Why this is can be hypothesized and maybe even become a subject for future research. The fact that H9 was

rejected is evidence that social proof tactics are not enough to influence a customer's purchasing intention, or at least not in this study.

Although brand equity did not significantly moderate the effect of popularity information, it did for customer reviews, which proves that it is the stronger social proof tactic for weak brands. Interestingly, while it is more important for weak brands to acquire customers, and thereby customer reviews, than it is for strong brands, it is also more difficult for them to do so — a phenomenon called *the double jeopardy effect*. As Ehrenberg and Goodhardt (1990) put it: "Compared to a large competitive brand, a small brand typically has fewer buyers. But in addition, fewer of its buyers like the small brand… and they buy it less often". This puts the weaker brand, in this case RAEN, at a double disadvantage — they are in a greater need of (positive) customer reviews than a strong brand, but at the same time have a much harder time getting them, because less people purchase their products. To hypothesize that the percentage of people that leave a customer review for a weak brand is lower than for a strong brand is not unreasonable either, which would put another stick in the wheel for a weak brand that tries to drive profitability with the help of social proof tactics. Consequently, finding means to remove these "sticks" for weak brands will result in increased revenue streams and is thereby, arguably, a high priority for any newly founded retail companies' marketing staff to focus on.

5.2 Managerial Implications

This study presents a number of practical, managerial implications for online retailers. Broadly considering which social proof tactic is best to employ, retailers should be sure to include customer reviews should they want to boost product popularity perceptions, brand credibility perceptions and brand attitudes among consumers. However, as our result is only partially supported, there is no difference between the effect on these variables when using customer reviews versus popularity information. As such, the obvious implication to retailer brands would be that, if given a choice between which social proof tactic to implement on their online product pages, they should choose to implement customer reviews first. Now, this is easier said than done for a low equity brand, as they will have a hard time getting customer reviews due to their small number of customers as per the double jeopardy effect. As such, the implications when considering brand equity are of greater value.

Furthermore, while the study confirms that social proof tactics are of high importance to weak brands, the study has failed to prove that social proof tactics are of high importance to strong brands. With a larger pool of responses the result could have been different, but as it stands now, a managerial implication for brands with high brand equity is to not put too many resources into constantly improving their social proof tactics as it is less efficient, and resources allocated to other projects may yield larger returns and/or revenue streams. Meanwhile for low equity brands, the opposite is suggested due to the simple fact that the study statistically proved that customer reviews as a social proof tactic greatly enhances a customer's perception, credibility and attitude towards the brand. Essentially, the optimization of social proof tactics is more important and of greater value for a low equity brand than it is for a high equity brand, and low equity brands should therefore allocate more time and resources to remove these "sticks" in the wheel than a high equity brand whose wheel is working adequately already.

6. Limitations and Future Research

There were a few limiting aspects or shortcomings that could be remedied in future studies when it comes to the experiment and the survey itself. One limitation was the choice to use only one product (sunglasses) in the experiment, and not several. The compromise to use only one product was made in part due to time constraints, lack of resources and the number of survey respondents that would have been necessary to add another product dimension to the study. Not including another product limited the study's insights of how product type could potentially moderate the effectiveness of the two social proof tactics. Previous research has used experience/search product classifications as well as hedonic/utilitarian product classifications. For instance, Mudambi & Schuff (2010) find that experience/search product type moderates the effect of review extremity and depth on the helpfulness of the review. A suggestion for future research would then be to include an analysis of the moderating effects of product type on the social proof tactics. If such a study were conducted and still included the high/low equity brand layer aspect of the experiment, an important thing to keep in mind is that the match between product and brand needs to be realistic. That is, the product(s) would have to pass for being a product from both the high equity brand and the low equity brand, as every brand has unique design characteristics to almost everything they produce. For this study, choosing the right pair of

sunglasses that could pass for being RAEN *and* Oakley sunglasses was surprisingly difficult. Additionally, adding just one more product would double the current 6 cell experimental design to 12, meaning a large sample would be needed in order to perform any statistical analysis.

A number of limitations came with the design of the customer review condition. One was the choice to keep the review volume to only one single review. Adding more customer reviews would have presumably further exaggerated the effect which customer reviews have on key variables. Chen et al. (2004) find that review volume is positively associated with sales, however, it is still not certain what moderating effect brand equity would have on a high review volume condition. Therefore, a suggestion for future research would be to add another condition to the current study which would include more than one customer review to measure the effects of review volume. Adding a high customer review volume condition would only make sense as customer review sections typically hold more than one review in reality. This would bolster the realism of the study and potentially lead to more relevant and interesting insights about the strength of customer reviews compared to popularity information. Furthermore, these additional reviews in the high volume condition will all be unique. As such, the researcher should consider varying the valence, depth, geographical region, rating and overall helpfulness of each additional customer review. Another limitation with using just that one single customer review was simply the name and geographical region of the reviewer, as well as the language used in the review. As previous research on reviewer disclosure of identity-descriptive information explains, similarities like sharing the same name as the reviewer or even geographical location can influence consumers in electronic markets (Zhang, 2015; Forman et al. 2007). The fictional reviewer in the study was geographically tagged as being from the US, had the name “Mike”, and wrote the review in English. It is therefore possible that the Swedish part of the sample had difficulty feeling a common identity with “Mike” and consequently were not as heavily influenced by the similarity condition of social proof than the American sample. In order to facilitate feelings of shared common identity, a suggestion for future research would be to use a common international name which works in the cultures where the experiment sample is expected to come from. And should the future researcher decide to increase the volume of customer reviews in their study, they should include fictional reviewers that are from all the expected sample

countries and these reviews should be varied in depth, valence, helpfulness, rating, and even written language.

The nationality of the respondents were mainly Swedish and American as one of the two authors had a large social network in the United States. The website that was used in the study, Amazon.com, has a much higher brand awareness and trust among consumers in America than in Sweden. This could have affected the perceived realism of the study for the Swedish respondents. A demographic question that determines the respondents' nationality would have helped to understand if this had an effect on the study. This is a suggestion for future research. The same argument could be made for the high equity brand Oakley - American respondents may have had a higher pre-existing awareness for this brand as it is an American brand, and this too could have affected the results.

Another subject for future research is to investigate the full extent of the popularity information statistic and customer review stimuli. The fact that only one customer review stimulus and only one form of a popularity information statistic stimulus was limiting to this study. This was due to time limitations and the number of responses that would have been needed. Future studies could look further into how different perceived levels of valence and depth of a customer review affects the participants, or how higher or lower popularity information statistics (amount of customers that have bought the product) affects the participants.

While we chose to not add another condition and study the combinative effects of these two tactics, one can only assume that such a combination would only lead to higher levels of the selected key variables. However, this is not certain and few studies have investigated the intricacies of how the two tactics jointly influence consumers — insight that could prove useful for retailers. Chen et al.,'s (2011) study already demonstrates a "positive complementary interaction between [observational learning]", i.e., popularity information, "and WOM volume, but does not find clear evidence of the interaction between [observational learning] and WOM valence". A suggestion for future research would therefore be to conduct a study which studies the combinative interaction effects of popularity information and customer review conditions of varying valence (high and low), all while maintaining the layer of brand equity.

The choice of the presentation of the social proof tactics was made based on some empirical research of how the two tactics typically appear on product pages and websites. However, they were also quite random. This, of course, had its limitations. While it was believed that the way of presenting the two tactics was evenly balanced and fair, it is still difficult to tell. Not pre-testing the social influence manipulations in the pre-study could explain why the study yielded insignificant results. If the same exact study were to be repeated, a first suggestion would be to conduct more empirical research on how the tactics appear in reality. A second suggestion would be to actually pre-test the social proof manipulations to establish the fairest presentation (making sure that the strengths of the two social proof tactics are equal) of the two tactics for the main study. This would thereby increase the reliability and validity of the main study. Such a pre-test could be layered over the currently used pre-study or it could just be a small personal test where you get an impression of what people think by asking people questions in person.

Another limitation to our research is that our definition of customer-based brand equity is not entirely encapsulating, as there are other dimensions to the variable that were not measured, like brand image. As previously mentioned in section 3.4, customer-based brand equity is "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993). Furthermore, according to Keller (1993), there are two main dimensions of brand knowledge: brand awareness and brand image. As such, the choice to only use items measuring brand awareness to distinguish between our high and low customer-based brand equity brand for the pre-study may have not been fully encapsulating of the true variable and could have impacted the reliability of the study and the result from the pre-study of which brands turned out to be our high and low equity brand (Oakley and RAEN, respectively). A suggestion for future research would therefore be to incorporate previously established measures for brand image for the pre-study so as to improve the reliability and trueness of the overall customer-based brand equity distinguishing variable which is so integral to the study.

A final suggestion for further research would be to study whether people are less or more likely to leave a review for a weak, low equity brand than a strong, high equity brand. As it relates to the issue of double jeopardy, such a study could lead to valuable insights for weaker brands. If

the weak brand not only has fewer customers but also has a low purchase frequency, as per definition of double jeopardy, then the brand also has fewer chances to get customer reviews. So if the suggested future study were to demonstrate that customers are less likely to leave a review of a product for a weak brand, than they are to leave a review for a strong brand, then this would imply that the situation for weaker brands is even graver than previously thought, as they are effectively at a double disadvantage.

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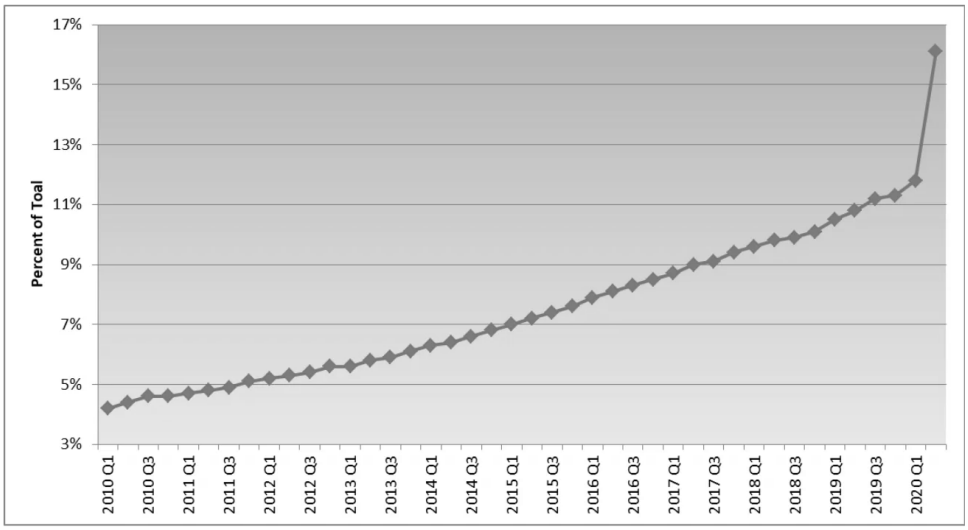
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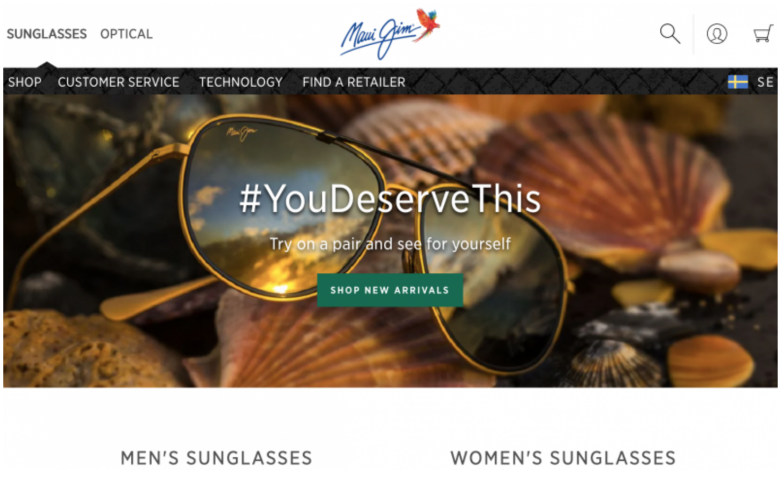
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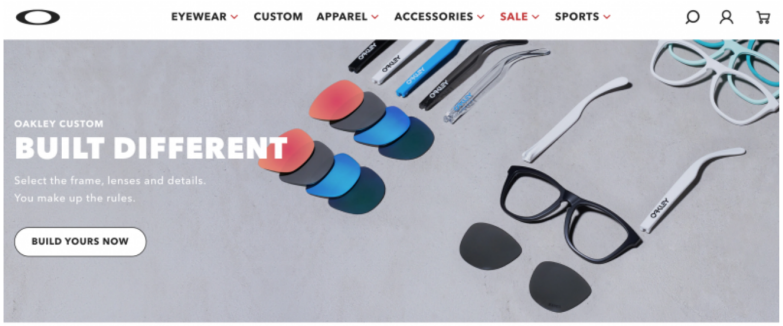
8. Appendix

8.1 Estimated Quarterly U.S. Retail E-commerce Sales as a Percent of Total Quarterly Retail Sales - "The Hockey Stick"

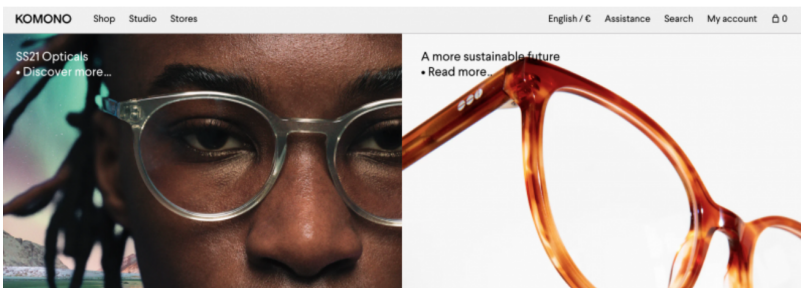


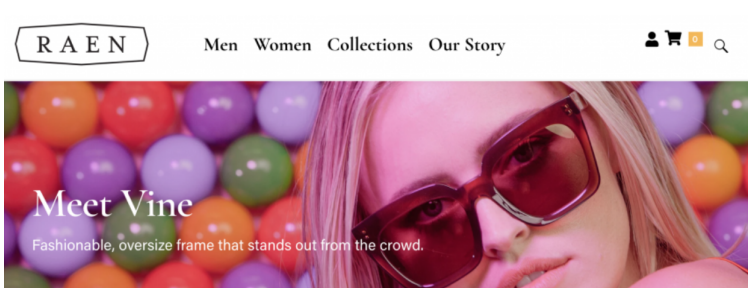
8.2 Pre-Study











I am aware of this brand

1 2 3 4 5 6 7

(1=Completely Disagree, 7=Completely Agree)

I can recognize this brand among other competing brands

1 2 3 4 5 6 7

(1=Completely Disagree, 7=Completely Agree)

Some characteristics of this brand come to my mind quickly

1 2 3 4 5 6 7

(1=Completely Disagree, 7=Completely Agree)

I have difficulty in imagining this brand in my mind

1 2 3 4 5 6 7

(1=Completely Disagree, 7=Completely Agree)

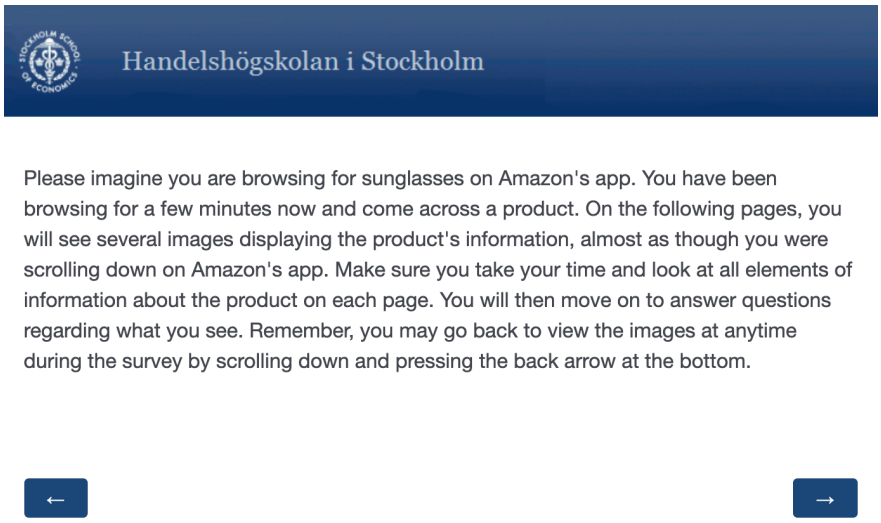
This is a brand of sunglasses I am familiar with

1 2 3 4 5 6 7

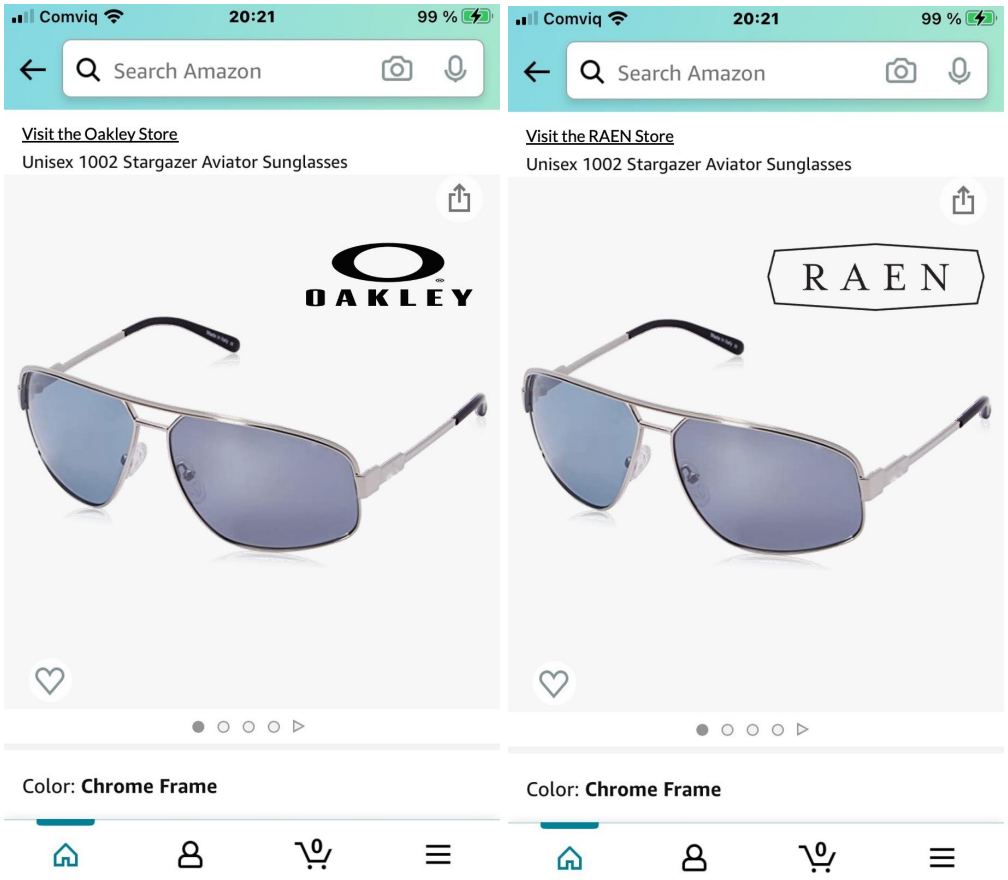
(1=Completely Disagree, 7=Completely Agree)

8.3 Main Study

Scenario:

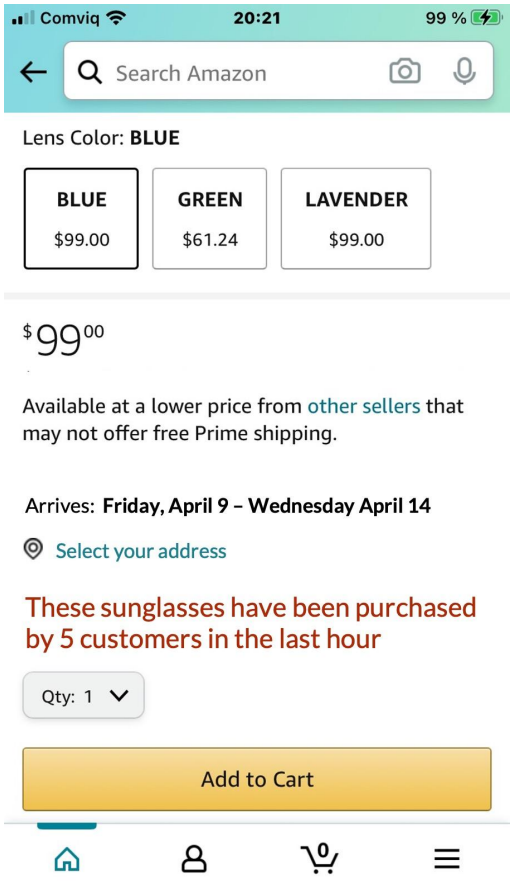


Front page of either Oakley and RAEN sunglass brand:

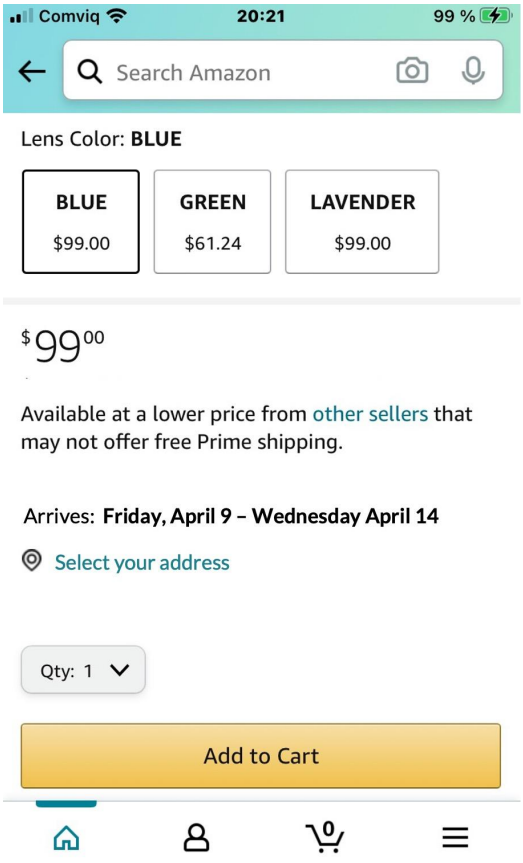


Followed by one of three conditions:

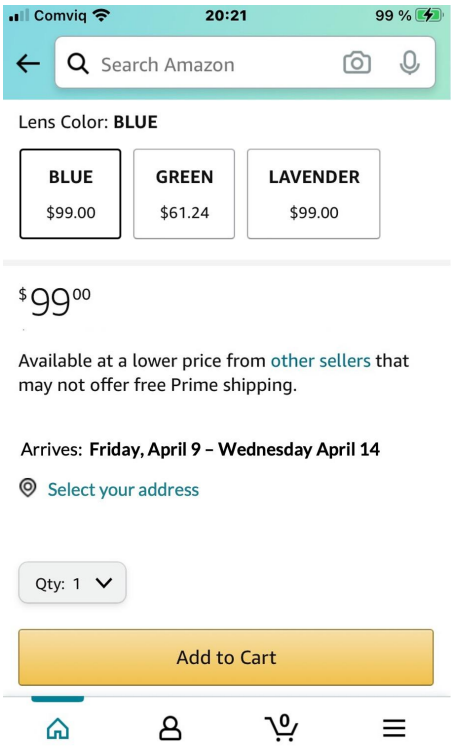
Popularity information condition



Control condition



Customer review condition





Survey:

In my opinion, the product is:

Very Unpopular	O	O	O	O	O	O	O	Very Popular
Not Very Trendy	O	O	O	O	O	O	O	Very Trendy
Highly disliked by others	O	O	O	O	O	O	O	Highly liked by others

How much do you agree with the following statements?

	Completely Disagree = 1	2	3	4	5	6	Completely Agree = 7
The brand is credible	O	O	O	O	O	O	O
The brand is believeble	O	O	O	O	O	O	O
The brand is honest	O	O	O	O	O	O	O

How much do you agree with the following statements?

	Completely Disagree = 1	2	3	4	5	6	Completely Agree = 7
I will say positive things about this brand to other people	O	O	O	O	O	O	O
I will recommend this brand to someone who seeks my advice	O	O	O	O	O	O	O
I will encourage friends and family to visit the brand's website	O	O	O	O	O	O	O

How much do you agree with the following statements?

	Completely Disagree = 1	2	3	4	5	6	Completely Agree = 7
There is a high likelihood that sunglasses bought from this brand will be of extremely high quality	○	○	○	○	○	○	○
Overall, this brand sells high quality sunglasses	○	○	○	○	○	○	○
When shopping this brand, I expect to see high quality merchandise	○	○	○	○	○	○	○

How much do you agree with the following statements?

	Completely Disagree = 1	2	3	4	5	6	Completely Agree = 7
I find this brand interesting	○	○	○	○	○	○	○
I want to buy this brand	○	○	○	○	○	○	○

How much do you agree with the following statements?

	Completely Disagree = 1	2	3	4	5	6	Completely Agree = 7
My impression of the brand is good	○	○	○	○	○	○	○
My impression of the brand is pleasant	○	○	○	○	○	○	○
My impression of the brand is favorable	○	○	○	○	○	○	○

How likely is it that you would buy the product?

Very unlikely	○ ○ ○ ○ ○ ○ ○	Very likely
Not at all probable	○ ○ ○ ○ ○ ○ ○	Very probable
Not at all possible	○ ○ ○ ○ ○ ○ ○	Very possible

← →

How realistic was the shopping scenario and images you saw?

Very unrealistic	○ ○ ○ ○ ○ ○ ○	Very realistic

Which of the following elements were included in the survey?

- ○ A message about how many product sold
- ○ A testimonial/customer review of some sort
- ○ None of the above

Which brand of sunglasses did you see in the survey?

- ○ Oakley
- ○ RAEN
- ○ Not sure

Would you consider yourself as someone who wears sunglasses a lot?

- ○ Yes
- ○ No

How often do you use online reviews when making purchasing decisions?

- ○ Never
- ○ Very rarely
- ○ Rarely
- ○ Occasionally
- ○ Very frequently
- ○ Always

To what extent do you perceive yourself as being interested in fashion?

Very uninterested ○ ○ ○ ○ ○ ○ ○ Very interested

To what extent are you familiar with online shopping?

Very unfamiliar ○ ○ ○ ○ ○ ○ ○ Very familiar

How often do you shop online?

- ○ 3 times / week or more often
- ○ 2 times / week
- ○ Once a week
- ○ 1 - 3 times / month
- ○ 1 - 4 times / year
- ○ Less often than once a year

What is your age? (Please enter a numeric value)

What is your gender?

- ○ Male
- ○ Female
- ○ Prefer not to say

← →

8.4 Chronbach's Alpha Values

Variable	Chronbach's Alpha
Perceived Popularity of the Product	0.815
Brand Credibility	0.932
WOM Intention	0.928
Brand Attitude	0.953
Purchase Intention	0.948
Realism	NA