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*"May eye-track your sustainability?"*

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# How does the type of appeal in the visual design of an advertisement influence consumers' visual attention, engagement, purchase- and WOM-intentions, and clicking behaviour in the sustainable clothing industry?

Eye-tracking study with a real-life sustainable clothing start-up



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*Abstract*

**Purpose -** Contribute to the research field of social media advertising effectiveness in sustainable (start-up) contexts.

**Design / Methods / Approach –** Two studies were conducted. An experimental study with between-subjects design was conducted with the use of eye-tracking software to capture participants' visual attention. Two advertisements were designed for a non-fictional sustainable clothing brand: one with a natural background, one with an urban background. Additional analyses were included as the background was only one of three areas of interest being measured. For analysis, partial least square structural equation modelling was used. Study two was a field study, in which the same advertisements were launched as an Instagram advertising campaign, and the behavioural outcomes provided by Instagram were analysed with a logistic regression model.

**Results -** This study indicated that the type of appeal in the background of an advertisement for a sustainable brand influences consumers' behavioural outcomes. A natural background could work more effectively for gaining more likes and clicks on profile. An urban background could work more effectively to gain a higher click-through rate, and for encouraging customer engagement.

**Theoretical implications –** The findings contribute to existing literature that the use of a natural background is associated with positive behavioural outcomes, but that the urban background worked better for other outcomes.

**Managerial implications –** By experimenting with different visual advertising elements, sustainable start-ups should aim to optimally engage their target audience.

**Keywords:** *advertising effectiveness - social media - sustainable start-ups – visual attention*

# Contents

# 1. Introduction

## *1.1: Background*

In the last decades, environmental sustainability, defined as "a conservation concept regarding the meeting of services and resources of present and future generations without affecting the health of the ecosystems that provide them" (Khan et al., 2021, p. 589) has received increased attention resulting from the growing demand for sustainable products. Occurring sustainability trends, such as the use of organic materials and promotion of green practices, require existing companies to adapt to these new customer needs, as this is critical for desired short- and long-term outcomes (Diebner et al., 2020). Subsequently, sustainable start-ups became popular among new entrepreneurs who anticipate on the sustainability trend, hoping it increases in levels of popularity. More popularity can be reached with the use of new technologies, of which social media is a great example. Social media provides businesses, and especially start-ups, with a cost-effective way to market their products and services, while simultaneously helping them improve general customer experience, for example, through long-term relationships with customers (Vargo & Lusch, 2008).

Business(es) (start-ups) active on social media create online cloud as well as online outreach, showing that they are keen to interact with their customers and motivating potential and current customers to follow their online accounts, essentially marketing their products or services (Lim & Hakimey, 2012). However, proper social media content does not guarantee any success for start-ups. It particularly appears that sustainable start-ups face many challenges oftentimes leading to bankruptcy (Leendertse et al., 2020). A healthy business performance is key to success, however, in sustainable markets, climate performance is also highly relevant. One of the industries struggling most with achieving a balance between climate mitigation and a healthy business performance, is the sustainable clothing industry. This industry is even considered to be the second most unclean industry after the oil industry, due to rapid production and overconsumption (Lee, 2017), resulting in consumers increasingly demanding products that are fabricated more sustainably.

Furthermore, the sustainable clothing industry is struggling to achieve a healthy business performance, as customers are opting for traditional, less sustainable options, even though many are aware of the negative consequences for nature and humans. One explanation for this could be that sustainable products are usually more expensive than conventional products; the price differences for sustainable products can even lead up to 75-85% (Kearney, 2020). Therefore, it may be argued that many customers seem not yet willing to pay more for

sustainable offerings (Barbarossa & Pastore, 2015). The transition from a harmful to a responsible industry needs time, resources, and investments, but these transitions are crucial to achieve an enduring innovation in the industry. Ultimately, the investments to achieve the innovation in the industry should, for a major part, come from the end-customer. However, many customers appear to perceive green alternatives as unacceptable substitutes due to the major price differences. This is elaborated in the theoretical framework, but shortly discussed in the next section. After this, other practical needs are discussed followed by the theoretical needs, problem statement and research question.

### *1.2.1: Practical need*

Recent numbers indicate that 85% of consumers are now willing to take personal action and combat sustainable and environmental challenges, and 54% indicate that their environmental awareness has increased over the COVID-19 pandemic (Mastercard, 2021). Following these numbers, one could argue that sustainable products would be successful in current markets. Nevertheless, it appears that the market share of sustainable offerings is still only one to six percent (Nielsen, 2013). The market share of sustainable offerings is still limited, just as the proportion of consumers buying sustainably. This behavioural incongruence could be interesting for organizations to understand as it results in major challenges for sustainable start-ups: behavioural incongruence and the price barrier keep consumers from buying sustainably, resulting in a high failure rate and low success rate for sustainable start-ups (Cantamessa et al., 2018; Mujahid & Mubarik, 2021).

Thus, as a nascent industry sector, sustainability start-ups are facing multiple organizational risks and therefore, they are looking for options to minimize these risks. The use of technologies, in particular social media, can mitigate these risks and simultaneously create new opportunities for organizations to highlight products or establish ties with customers. Particularly in this information-overloaded social media clutter, where customers want relevant information quickly and easily, businesses need to strategically outperform their competitors. To do this, advertising content should be designed in unique ways that appeal to, and engage consumers, to ultimately enhance their perception of the experience. This is highly relevant because customer experience affects customer satisfaction, customer loyalty, and it may create emotional bonds with customers (Johnston & Kong, 2011). In conclusion, it can be argued that this study is particularly relevant for (social media) advertising managers in sustainable (start-up) organizations. The insights can be useful to

predict which advertising design elements could result in positive business outcomes. These insights could provide guidance as existing research on advertising effectiveness provides only limited guidance, let alone in a sustainable (start-up) context.

### *1.2.2: Theoretical need*

Sustainable development may be an internationally acknowledged issue which is also on national- and local policy agendas, but there is only little academic understanding about the broader consciousness of sustainable development (Gericke, et al., 2019). Sustainability is a relatively new concept in research and advertisement effectiveness in this context has not frequently been researched. Some studies have been conducted to establish knowledge of which design elements work effectively in advertisements (e.g., Pieters & Wedel, 2004; Ashley & Tuten, 2015; De Vries & Carlson, 2014; Scheinbaum, 2016; Ahmed, 2020), but such studies were not conducted in sustainable contexts. Moreover, some of these studies indicated that there is a need for more research on this topic (e.g., Pieters & Wedel, 2004). Other studies (e.g., Visser, Gattol & Van der Helm, 2015; Yeldar, n.d.; Hartman, Ibañez & Sainz, 2005) have often indicated that the color green is often used in design elements for advertisements for sustainable products, but a clear overview of effective design elements for green advertisements remains unknown and should be further investigated (Visser et al., 2015). Also, existing literature indicates that there is only limited knowledge regarding the effectiveness of different marketing tactics upon specific customer groups, and that further research is needed (Peng & Wang 2006). For example, existing customers could evaluate advertisements in a different manner than non-existing customers, as they may already be familiar with the brand and have associations upfront. Additionally, when it comes to eye-tracking research, current literature also articulates the demand for more information about consumers' visual attention towards an advertisement (Pieters & Wedel, 2004; De Keyzer, Dens & de Pelsmacker, 2021). In conclusion, both a theoretical and managerial need exists to establish a concrete overview of effective design elements of an ad for a sustainable product.

## *1.3: Problem statement and research question*

To fill the abovementioned gaps and address these needs, it could be crucial to gain understanding of how to guide customers through the customer experience to ultimately choose for the more sustainable product. Advertising methods can be a useful tool for

nudging consumers' behaviour, and in this case, the advertising stimuli should be designed in such a way that it influences consumers to display the desired buying behaviour (as perceived by the sustainable start-up). In other words, it could be beneficial to understand how we can design advertisements for sustainable products in such a way that it enhances customer engagement, word-of-mouth intentions and purchase intention. By establishing knowledge on effective ad design elements, we may gain insights that are relevant for both theoretical and managerial purposes. Firstly, to our knowing, this is the first study to examine advertisement design elements in a sustainable context. Secondly, we may gain more information about the green behavioural incongruence, which could be one of the major reasons for the low success rate of sustainable start-ups. Thirdly, this study makes a distinction between two types of customer groups (existing vs. non-existing) which could provide insights in the marketing effectiveness for these groups. Lastly, the current study seeks to retrieve information that could be relevant for sustainable start-ups that experience difficulties with improving their overall business performance through social media ads, and seeks to fill existing gaps in business research in a sustainable context.

Therefore, this thesis will formally ask the following research question: *To what extent does the type of appeal in the visual design of a social media advertisement influence the consumers' visual attention, engagement, purchase- and WOM-intentions, and clicking behaviour?*

To formulate an answer to this question, two studies will be conducted. More specifically, a sustainable clothing brand will be used to gain a deeper insight in social media advertisement aspects that could influence consumers' engagement, WOM and purchase intention. By focusing on a sustainable clothing brand, this study aims to gain more insights about social media advertising effectiveness, and how design elements of an ad could influence the customers' intended and actual behaviour in the context of sustainable offerings. Measuring the consumer's attention and interest can be done with eye-tracking methods, which are a great example of new technologies used in research. Eye-tracking can help to identify the most effective design elements for attracting and retaining consumer attention, such as the use of colourful images and clear calls to action. Moreover, it could be critical to think about which ad design aspects could influence its popularity, and in turn, its effectiveness in terms of engagement, word-of-mouth intentions, and purchasing intentions.

### *1.4: Outline*

The remainder of this thesis will have the following structure. First, a literature review is provided with existing literature, definitions of the main variables and concepts, which will be followed by the hypotheses. Secondly, the methodology will be provided, which includes information about the pre-test, ethics, and the two separate studies to be conducted. Afterwards, the results of these studies will be analysed, and interpretation of these analyses will be provided in the conclusion and discussion section. Lastly, limitations and implications of the study are mentioned.

## *2. Theoretical framework*

This chapter will outline the theoretical foundation for this research. First, it will outline sustainable start-ups, including the definition and the theoretical debate covering sustainability and start-ups. Thereafter, it will elaborate on customer experience and visual attention, including the drivers of visual attention. The hypotheses are presented according to the discussed concepts.

### *2.1: Sustainable start-ups*

Sustainable start-ups are a merger of two concepts: sustainability and start-ups. Firstly, sustainability scholars refer to sustainability in multiple ways. Initial studies regarding this concept were only conducted from an environmental perspective, like Shrivastava (1995), who defines it as offering the potential for reducing the long-term risks associated with resource depletion, fluctuations in energy costs, product liabilities, pollution, and waste management. However, as sustainability research evolved over time, multiple new perspectives were incorporated (Kotob, 2011). Morelli (2011) arguably provides a more exhaustive definition, defining sustainability as the maintenance of natural capital, connected to both social and economic sustainability.

Secondly, start-ups can be defined as new company, without previous history of operations (Carter et al., 1996, p. 153). More recent studies define start-ups as small and young entrepreneurial ventures that are in the process of exploring a technology to develop their business (Bjornali & Ellingsen, 2014; Leendertse et al., 2020). Then, the concept of sustainable start-ups is arguably connected to sustainable entrepreneurship, which is defined as “enterprises that provide solutions to environmental challenges while aspiring to earn

financial profits" (Dean & McMullen, 2007, p. 50). Specifically, relating to start-ups, Bjornali and Ellingsen (2014) define an environmentally sustainable start-up as an entrepreneurial venture that significantly reduces greenhouse gas emissions, while exploiting technological knowledge.

As argued by Leendertse et al. (2020), sustainable start-ups focus on introducing new technologies and business models to facilitate the transition to a carbon neutral economy. They generally desire to exploit market opportunities and decrease the impact of climate change (Bjornali & Ellingsen, 2014; Parrish, 2010). The latter, also called climate mitigation, is not possible without sufficient growth of the start-up, which is only achieved through a healthy business performance (Bjornali & Ellingsen, 2014; Calel & Dechezlepretre, 2016; Meyskens & Carsrud, 2013). Achieving such a healthy performance, however, can be truly challenging for sustainable start-ups (Leendertse et al., 2020). They claim that a paradox exists between efforts for climate mitigation and a healthy performance, and that climate performance easily goes at the expense of business performance (Dean & McMullen, 2007; Kolk & Pinkse 2010). Assumably, the relation between climate performance and business performance is context-specific (Flammer, 2015; Hang et al., 2018; McMullen, 2018; Russo Spena & Di Paola, 2020). Achieving climate mitigation and a healthy business performance is one of the key challenges for (sustainable) start-ups.

### *2.2: Customer awareness of sustainability*

Researchers argue that, while consumer awareness of sustainability has increased, the percentage of consumers who consider sustainable products, especially in the fashion industry, lags (Kong et al., 2016; Salem & Alanadoly, 2021). Assumably, the sustainability trend would allow entrepreneurs to come up with innovative business models that contribute to both social and environmental value creation, while also pursuing economic outcomes. Such alternative business models are driven by multiple macro-trends in the industry: consumer awareness, circular economy, corporate social responsibility, sharing economy and collaborative consumption, and finally, technological innovation (Todeschini et al., 2017). For start-ups in the industry, it is beneficial to take these trends into consideration when creating customer value.

In case of start-ups the clothing industry, it can be argued that the industry is rapidly expanding due to increasing populations and demands. Many businesses respond to the increasing demands by acquiring and disposing mass-produced, homogeneous, and

standardized fashion items that stimulate broad consumption of easily replaceable fashion items (Fletcher, 2010). Many existing companies, among which those that are operative in the fast fashion industry responded to these trends with promotion programs to promote the circular economy and zero-waste policies (Todeschini et al., 2017). Such movements, also called *lowsumerism* or *slow fashion*, express how consumer preferences are currently undergoing changes in both value needs and consumption (Todeschini et al., 2017). Nonetheless, that does not apply to all consumers. Moreover, there appears to be an incongruence between consumers' intentions and their actual buying behaviour. This incongruence is claimed to be larger for younger people, who are claimed to have more positive attitudes towards the environment than older people, but paradoxically, behave less pro-environmentally (Johnson, Bowker & Cordell, 2004; Verachtert, 2022). However, other studies have pointed out that younger people are less environmentally concerned than older people in their attitudes as well (Grønhøj & Thøgersen, 2012). Contrary findings in prior literature provides reason to study this behavioural incongruence as for all kinds of consumer groups there are different motivations to (not) choose sustainably. Insights into customer awareness and attitudes regarding sustainability can be considered a first step in further understanding on how customers are reacting to and can be nudged by social media advertisements. Moreover, the awareness and attitude of customers towards sustainability may influence customer experiences with the organization, and a positive experience (be it pro- or anti-sustainability) is key for the competitiveness of organizations (Becker & Jaakkola, 2020).

### *2.3: Customer experience*

As aforementioned, customer experience is considered key in marketing as both researchers (Becker & Jaakkola, 2020) and businesses believe that it is important in firm competitiveness, however, it is claimed to be the fundamental basis for marketing management as well (Homburg et al., 2010; Lemon & Verhoef, 2016). Yet, precise definitions of the concept differ significantly. Some researchers (e.g., Pine & Gilmore, 1998) define customer experience as the total of offerings that firms stage and manage, while others (e.g., Homburg et al., 2017; Lemon & Verhoef, 2016) define customer experience as the whole of customer responses to firm-related contact. Other researchers (e.g., Vargo & Lusch, 2008) go a step further and claim that marketers should conceive all goods as services, and that this forms the basis of effective product-service systems, which is called service dominant logic. Service dominant logic entails that marketing has evolved from bringing

goods '*to market',* through a stage of market- and consumer targeting (*market to)* and is now at a stage of *'market with'* (Vargo & Lusch, 2008). This last stage concerns the co-creation of customer value, collaboratively with customers over an extended period of time, thus focusing on long term relationships with customers which has become a main scope for marketing managers. Customer experience is a continuous concept that plays a fundamental role in determining one's preferences, and in turn, one's purchasing behaviour (Gentile, Spiller & Noci, 2007). Additionally, providing a proper customer experience is believed to result in sustainable competitive advantage, and it differentiates significantly from

Even though the literature does not prescribe a concrete definition of customer experience, it can be argued that certain core features can be attributed to the concept. Firstly, it is argued to have a temporal dimension that originates from the complete set of contact points, or *moments of truth* (as argued by Carlzon (1987)) between the customer and the company, or the company's offer (Addis & Holbrook, 2001). Moreover, the experience is claimed to be strictly personal, while involving and engaging a customer at different levels. Schmitt (1999) proposes three dimensions of customer experience: sensory experience, emotional experience, and social experience. Sensory experience is defined as "the aesthetics and sensory perceptions about the shopping environment, atmosphere, products and service". Other researchers add to this that all five human senses (sight, sound, smell, taste, and touch), and all interactions between these senses, are fundamental to this sensory experience (Hultèn et al., 2009). Moreover, scholars state that this sensory experience is connected to the concept of visual attention, as it captures one's visual experience when exposed to stimuli. Additionally, the emotional dimension of customer experience is defined as "the moods and emotions generated in the shopping environment". This is associated with the concept of customer engagement, which is supported by Bowden (2009) who claims that customer engagement is a function of the customers' emotive and cognitive senses.

When observing customer experience, in particular engaging customers at a sensorial and emotional level is of paramount importance. The sensorial dimension, referring to the way that customers' senses (e.g., visual, and auditory) can be solicited to provoke positive reactions (Fauvelle, 2021), may be associated with the concept of visual attention. Similarly, the emotional dimension, referring to the aroused emotions as a response to brand information and content (Fauvelle, 2021), may be associated with customer engagement. While other levels of customer involvement and engagement exist, for instance rational engagement or physical engagement, it is arguable that sensorial and emotional engagement

are the most important types of engagement when observing organizational behaviour on social media as this thrives on visual attention and engagement.

In the next sections, visual attention is detailed as this is considered the first step in involving customers. Thereafter, customer engagement will be discussed as this can be seen as an outcome of visual attention.

### *2.4: Visual attention*

Visual attention is an important process in cognitive psychology that allows us to focus on certain parts of our visual environment and ignore other information. While it originates in the cognitive psychology, business administrate scholars have gained interest in this concept, as it could be used for understanding and optimizing advertisement and marketing strategies (bron). Especially as consumers have limited visual processing capacity (Bays & Husain, 2008) and consumer attention is selective (Florack et al., 2020), which could influence customers' ability to gain information from advertisements. Due to limited capacity of visual processing, visual stimuli compete for resources, and thus, for consumers' attention (Florack et al., 2020). Within the business administration literature, selective attention is defined as "the processes that allow an individual to select and focus on particular input for further processing while simultaneously suppressing irrelevant or distracting information" (Stevens & Bavalier, 2012, p. 30). Previous studies state that selective attention plays a role in consumer decision making (Orquin & Loose, 2013) and affects consumer preferences in choice situations (Janiszewski et al., 2013).

Visual attention is a process that is influenced by both bottom-up and top-down factors or drivers (Chun & Jiang, 1998). Bottom-up factors refer to the properties of the stimuli themselves, such as colour, shape, and motion, while top-down factors refer to the influence of higher cognitive processes, such as expectations, intentions, and goals (Treisman & Gelade, 1980). Research has shown that our expectations about what we will see can enhance our ability to focus on a specific goal (Summerfield & Egner, 2009). This can lead to faster reaction times and better performance in tasks that rely on top-down processing (Posner & Snyder, 1975). For example, Summerfield and Egner (2009) showed that a predictive cue could direct participants' attention to the location where a target stimulus would appear, improving their reaction times to that target stimulus. Understanding the complex interactions between these factors is important for a better understanding of how

visual perception and cognition work (Carrasco, 2011). Therefore, bottom-up and top-down drivers are elaborated in the following sections.

## *2.5: Drivers of visual attention*

### *2.5.1: Bottom-up factors*

The physical properties of stimuli, such as colour, contrast, and motion, can automatically attract our attention (Itti & Koch, 2000). These bottom-up drivers, lead to a rapid orientation response (Folk et al., 1992) and play an important role in filtering relevant information from the environment (Wolfe, 1994). For example, Itti and Koch (2000) showed that the combination of certain features of the stimulus, such as brightness, colour, and motion, can lead to highly efficient bottom-up detection of the stimulus. Bottom-up visual attention starts with basic visual processing of two visual pathways. The ventral pathway deals with object- and feature-based visual processes, while the dorsal pathway deals with spatial- and movement related visual processes (Katsuki & Constantinidis, 2014). Stimuli that stand out from their background are selectively represented by neuronal activity in the visual system.

Subsequently, a competitive process follows to select the most important stimuli (salient) and the less important stimuli (background elements). Emerging from this cognitive competition is the most salient stimuli that appears to be represented predominantly in the following stages of visual attention (Katsuki & Constantinidis, 2014). This competition among nearby visual elements alone, is insufficient to direct attention effectively. In this stage, it is crucial to be able to access a broad range of information in the visual field because with this broad view, one can identify the most salient stimuli and process them.

Additionally, when it comes to visual advertisements, it is claimed that visual aspects of ad elements affect the consumers' visual attention (Pieters & Wedel, 2004). Moreover, Pollard (2017) adds that in visually focused settings (e.g., social media advertising), the way visual elements are organized plays a vital role in grabbing the audience's attention. To capture the consumers' attention, it is essential to determine the appropriate arrangement of visual patterns (Pollard, 2017). These visual advertisement elements may refer to all types of design aspects of the ad, like photos, colors, shapes, lines, and motions used in the layout of the ad (Negm & Tantawi, 2015). Pieters and Wedel (2004) argue that the pictorial is superior in capturing attention: they indicated that pictures provide an intrinsic tendency to capture

substantial amounts of attention, independent of its size and all other factors in the model. This effect was not observed for brand- (e.g., logos) and textual elements in the ad.

Generally, it is claimed that advertisements are designed with varying graphical and textual elements, and that impact, interaction, and dependency of these elements is complex (Visser, Gattol & Van der Helm, 2015). When it comes to an advertisement for a sustainable product, it is argued that consumers perceive brands as sustainable when they use the color green and natural graphics as dominant elements in their advertisements (Visser et al., 2015). Furthermore, according to Yeldar (n.d.), the use of green color can effectively convey messages related to sustainability as it is generally linked with eco-friendliness. However, it is noted that this idea may not be effective when dealing with sceptical consumers. To establish a positive and environmentally friendly brand image, organizations often use generous green vegetation and clear water in green advertising. This is also supported by Hartman et al., (2005), who found a positive correlation between emotional (i.e., catering to one's senses) green advertising and purchase intention. Therefore, the first hypothesis is proposed:

*H1: Type of appeal affects visual attention, such that the natural appeal captures more visual attention than the urban appeal.*

### *2.5.2: Top-down factors*

On the other hand, studies have shown that prior experiences with a stimulus can influence our perception and attention by activating top-down feedback circuits (Kastner & Ungerleider, 2000). Top-down factors of visual attention are defined as the voluntary process in which a certain location, feature, or object relevant to current behavioural goals, is selected internally and focused upon or examined (Itti & Koch, 2001; Katsuki & Constantinidis, 2014). For example, Kastner & Ungerleider (2000) indicate that repetitive training of a particular visual stimulus can alter activity in higher visual areas and lead to enhanced top-down feedback. This in turn can lead to enhanced detection of the stimulus and faster reaction time to tasks dependent on that stimulus. Top-down attention primarily increases neural activity for a specific location, feature, or object of interest, as opposed to irrelevant stimuli that are not behaviourally significant. Additionally, suppression of neuronal responses is observed for the irrelevant stimuli.

#### *2.5.2.1: Type of customer*

In this study, the origin of the customer might be of influence on how online advertisements are perceived, and can therefore be argued to be a top-down factor of customer visual attention. Moreover, a distinction is made between existing and non-existing customers. The reason for this is that existing customers can already have associations with the brand that is advertised, and thus may have prior knowledge about its visual Instagram posts and advertisements. Existing customers are assumed to be familiar with the green image of the brand, which the brand expresses on their Instagram through pictures that are taken in a natural environment. Moreover, it is assumed that all existing customers follow the page on Instagram. In prior research, there is only limited knowledge regarding the effectiveness of different marketing tactics upon specific customer groups (Peng & Wang 2006). However, as existing customers may already be familiar with the way of advertising of the brand used in this study, it is assumed that they evaluate stimuli in a different manner than consumers that have no knowledge about the brand. This brings us to the first two hypotheses of this study:

*H2: Type of customer moderates the relationship between type of appeal and visual attention on the ad image, such that non-existing customers have higher visual attention for the natural appeal, and that existing customers have higher visual attention for the urban appeal.*

### *2.6: Outcomes of visual attention*

Visual attention is argued to have multiple outcomes. In this section, three important outcomes of visual attention are introduced and elaborated: customer engagement, purchase behaviour and word-of-mouth (WOM).

#### *2.6.1: Customer engagement*

Engagement is claimed to be a powerful tool to stimulate interaction between two parties, oftentimes being the organization and the consumer (Manetti & Bellucci, 2016). It can positively influence two-way communication between two parties, and offers mutual learning processes that can be transformed into valuable actions for either one of both parties (Bebbington, Brown & Frame, 2007). Customer engagement is defined as “consumers’ psychological state of mind and intensity of their awareness, affection, participation, and

connection with the brand" and it is characterized by the consumers' specific interactive experiences with the brand" (Hollebeek et al., 2014).

Research suggests that social media platforms are used for multiple reasons. Consumers may seek information to acquire new knowledge (Stieglietz & Dang-Xuan, 2013), while others share posts to inform people about their own interests (Osatuyi, 2013). By sharing opinions, interests, and experiences through social networks, consumers develop their social identity (Chen, Lu, Wang & Chau, 2017). These motivations to use social media are claimed to impact attitude towards (Abzari, Ghassemi & Vosta, 2014), satisfaction about, (Zhu & Chen, 2015), and perception on products (Schivinski & Dabrowski, 2016). This is supported by Crammond et al. (2018) who claim that the worldwide increase in social media exposure has bridged the potential gaps between businesses and their consumers. In addition to this, large-scale mass promotion is way more manageable through social media than it was before the occurrence of social media, due to improved understanding of consumers' attitudes and opinions. For the fashion industry, it is assumed that a widely integrated social media is beneficial as consumers are more easily exposed to new collections and trends, but also to knowledge and information, for instance exclusive sales (Geissinger & Laurell, 2018).

In order to actively stimulate customer engagement, it is advised to use a range of instruments and techniques led by online interaction, like an organization's social media, social networks, blogs, websites, and other online technologies (Kent, Taylor & White, 2003; Manetti, Belucci, & Bagnoli, 2016). These new online technologies have provided companies with new possibilities to keep an interactive dialogue at relatively low costs, and therefore these researchers claim that social media and -networks are powerful mechanisms to reach customers and other stakeholders in a cost-efficient manner.

Customer engagement through social media is usually assessed with monitoring tools that output metrics like the number of comments, likes and shares, but also with (new) followers, views and clicks. Other studies examine which design aspects of an ad (e.g., colors, calls to action, backgrounds, and images) stimulate the best engagement on social media (Scheinbaum, 2016; Ashley & Tuten, 2015; De Vries & Carlson, 2014). These studies investigated different design aspects and indicated that individual ad design elements may stimulate one's engagement. Generally, nature and eco-friendliness is associated with positive behavioural outcomes (Visser et al., 2015; Hartman et al., 2005), and therefore, the following hypothesis is expected regarding customer engagement:

*H3: Type of appeal affects customer engagement, such that the natural appeal positively influences customer engagement compared to the urban appeal.*

### *2.6.2: Purchase Intention*

Another intended behavioural outcome in this study is the customer's purchase intention. Purchase intention can be defined as "interest in, and likeliness to purchase" (Wang et al., 2017). Previously, it was assumed that behavioural intention was influenced by three factors, namely attitude, subjective norms, and perceived behavioural control. Together with these three factors it was assumed that one's behavioural intention shapes one's behaviour. This 'Theory of Planned Behaviour' (Ajzen, 1991) has been a major theory in behavioural research for some centuries, but is now often considered to be outdated. In recent years, there has been a major increase in the use of social media which has led to a key shift in the approach to pursuing consumer brand awareness and making connections between awareness and intention to buy. This important transformation can be explained by the fact that brands are no longer simple static descriptions or associations but live as a part of a social process (Hollebeek et al., 2014; Hutter et al., 2013). By this, they contribute to an ongoing social process whereby value is co-created in an interplay between the organization and multiple stakeholders, which has led researchers to believe that this social interaction can influence value-creation and customer decision-making (Hutter et al., 2013). With a wide array of brand opportunities nowadays, it is believed that social media is of significant influence on customers' perceptions on brands at the moment of purchasing decisions (Hutter et al., 2013).

Even in a relatively dynamic environment like social media, consumers still go through some basic steps in making purchasing decisions. Hutter et al. (2013) add to this that technology is in the first stage of product recognition, as this is (one of) the first touching points for the consumer. Therefore, it is argued that the initial recognition of the brand influences the ultimate purchase decision. In other words, consumers that are exposed to a product, but do not positively evaluate the brand, will never move on to a subsequent phase in the decision-making process (Hutter et al., 2013). This makes the first stage highly relevant to influence consumer behaviour, as a first negative impression may permanently influence the consumer's general perception of the brand. Finally, prior literature has indicated that customer engagement on social media is positively related to purchase intentions (Chen, 2017; Toor, Husnain & Hussain, 2017). For instance, Chen (2017) shows that regular usage of a social media app increases consumer interest in a provided brand and its product category. Similarly, customer engagement in mobile applications fosters trust and

commitment in a brand, positively influencing purchase intentions (Lin, 2007; Chen, 2017). These insights provide evidence to test hypothesis 4a:

*H4a: Customer engagement affects purchase intentions, such that higher customer engagement leads to increased purchase intentions.*

### *2.6.3: Word-Of-Mouth (WOM)*

Generally, organizations have undergone other shifts in dealing with customers since new technologies in marketing, advertising and promotions erupted (Quelch & Jocz, 2008; Putter, 2017). These new technologies, social media being an example of them, have provided new manners of information distribution to and from customers. Social media therefore is argued to provide unique possibilities in Word-Of-Mouth, or WOM-, marketing to a large audience, supporting consumer-to-consumer interactions and therefore advancing brand awareness through a large social network (Kozinets et al., 2010). Customers tend to use social media or other media forms with purposes to spread awareness and information and in literature, this phenomenon is known as word-of-mouth (Zeithaml et al., 1996; Du et al., 2016) and it is one of the critical factors influencing and shaping consumer behaviour (Sweeney et al., 2012). When it comes to the sustainable fashion industry, it can be argued that WOM can lead to an increased awareness and understanding about environmental- and human rights protection (Salem & Alanadoly, 2021). Subsequently, these researchers argue that there is a need for improvement and enhancement of the quality and positivity in spreading sustainable fashion news through word-of-mouth.

Furthermore, it is claimed that positive use of WOM translates to favourable behavioural outcomes like consumer buying behaviour (Pereira et al., 2017), consumer loyalty (Saleem et al., 2018), and consumer awareness (Sharifpour et al., 2016). In line with this, it is supported by multiple studies that personality traits, social media activities and eco-friendly behaviour could positively influence the use of WOM (Mowen et al., 2007; Wolny & Mueller, 2013). It is assumed that WOM about sustainable topics (i.e., a nature-appeal) may lead to increased awareness and environmental- and societal understanding. Lastly, a positive correlation between engagement and WOM-intentions was found in previous literature (Pandir & Enginkaya, 2018), providing us with the next hypothesis:

*H4b: Customer engagement affects Word-Of-Mouth intentions, such that higher customer engagement leads to increased Word-Of-Mouth intentions.*

### *2.7. Actual behavioural outcomes*

#### *2.7.1: Number of clicks*

The behavioural outcomes elaborated previously only concern intended behavioural outcomes, and they do not capture the actual behaviour of a participant. To also capture and include an actual behavioural outcome in this study, actual behaviour will be measured through the number of clicks on the social media ad. Social media has become a major communication channel to use for marketing and advertising (Miranda, Rubio & Chamorro-Mera, 2014), making its effectiveness undeniable for businesses nowadays. One measure for an actual behavioural response after being exposed to an advertisement is the click-through rate (Zhang & Mao, 2016). This informs the percentage of web visitors who click on the ad after being exposed to it. Similarly, the concept of ad clicks measures behavioural responses to display ads at the individual level. Ad clicks namely counts the number of times users have clicked on a digital advertisement to reach an online property. Multiple studies argue that clicking behaviour depends on consumer motivations (Zhang & Mao, 2016) - psychological states like needs, wants, drives, and desires. In a social media context, Hoffman and Fodor (2010) identified four consumer motivations that drive online behaviour: connections, creation, consumption, and control (4C's). In this case, consumption is not about consuming products, but rather the consumption of information and content on social media (Hoffman & Novak, 2012). Consumers' ad clicks on a social media advertisement may be driven by these motivations, but also by their general attitudes towards advertising and towards advertising on social network sites, more specifically (Taylor, Lewin, & Strutton, 2011). Insufficient research has been conducted that examines the relationship between type of appeal and clicking behaviour. It is however found that recognition for non-congruent ads is higher than for congruent ads, but attitudes and behavioural intentions are higher for congruent advertisements (Kononova et al., 2020). Moreover, congruent ads are more likely evoke increased clicking behaviour (Zhang & Mao, 2019) on condition that the ad is perceived as sufficiently informative or entertaining. Assuming that a natural appeal is likely to be congruent with a sustainable product, and based upon scholars' insights, the following hypothesis is proposed:

*H5: Type of appeal affects customer clicking behaviour, such that the natural appeal, generates more clicks compared to the urban appeal.*

### *2.8: Age*

Additionally, as argued in paragraph 2.2, scholars state that age can influence advertisement effectiveness, as people are more likely to show purchase intentions when they identify with the age of the person in the ad (Higgins et al., 2018). When it comes to the relationship between environmental sustainability and age, there is only limited evidence to argue which age group is generally the most considerate about environmental sustainability. However, a study conducted by Wiernik et al. (2013), which indicated that in most cases, groups of individuals of different ages are not likely to have different attitudes, motives, or intentions to behave pro-environmentally. Younger people are more open to (new) experience(s) (Roberts et al., 2006), which can be argued to be an indicator for sustainability efforts, as they require some kind of openness to change and innovate. On the other hand, older people appear to be more conscientious and agreeable (Roberts et al., 2006). Moreover, for the results in this analysis, it was claimed that the older individuals behave more sustainably (Wiernik et al., 2013). This was explained by the fact that older people tend to be more motivated by social norms, are more concerned with protecting their emotional comfort by remaining harmony in their social circles (Carstensen et al., 1999), and older individuals appear to engage with nature on a more frequent basis than younger individuals. In conclusion, Wiernik et al. (2013) argue that older individuals appear to be less concerned with the environment, but nevertheless show more pro-environmental behaviour. In contrast, younger people claim to be more concerned with the environment, but this is insufficiently put into action.

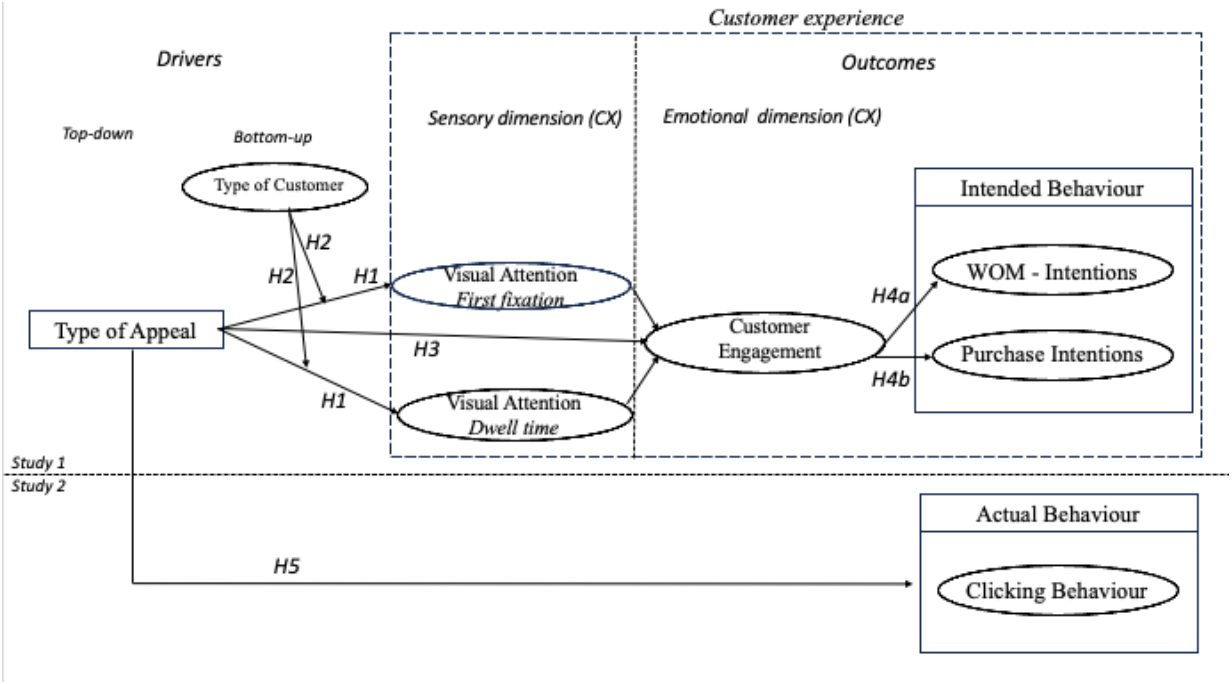


*Figure 1: conceptual model*

*3. Methodology*

In order to provide an answer to the research question, the hypotheses will be tested by the use of two studies: one in a laboratory setting, the other through a field experiment. This choice has been made, as prior literature indicated the need to study the relationship between consumer visual attention and behaviour through an experimental and field setting combined (De Keyzer et al., 2019; Poels & Dewitte, 2019). As elaborated upon in more detail below, in the first study, eye tracking methods are used to gain an insight in participants' visual attention when exposed to one of two advertisements for a sustainable product.

Afterwards, the participant is asked to take part in a questionnaire which contains questions regarding their engagement and intended behaviour. For the second study, the same advertisements are used in an Instagram ad campaign and subsequently, the respondents' actual behaviour is measured through the number of clicks on that advertisement. The remainder of this methodology is structured as follows: first, the pre-test and research ethics are provided for both studies. After this, both studies' designs, procedures, participants, and measurements are elaborated separately.

### *3.1.1: Pre-test*

A pre-test was conducted to validate the manipulation of treatments and check whether it works as intended. Each treatment contained one of two advertisements for a sustainable fashion product. Both advertisements contain the same female model and only differ in terms of backgrounds. One of the advertisements has a natural background. This background will contain green vegetation (as supported by Visser et al., 2015; Yeldar, n.d.; Hartman et al., 2005), which is expected to evoke sustainable associations. The second advertisement contains an urban background, which may be argued to be less associated with nature, but evokes more city-like associations. Both advertisements can be found in appendix 1. Each participant was then randomly assigned to one of the two conditions (natural vs. urban appeal). The pre-test was created in the form of a survey as can be viewed in appendix 6. All participating individuals were asked to complete a three-item manipulation check, but beforehand, they were asked whether they use Instagram, which they could answer with yes or no. After this, one of two advertisements were showed to them, and subsequently, three statements were provided: "The photo used in this advertisement is taken in a natural environment"; "The photo used in this advertisement is taken in an urban environment"; The photo used in this advertisement is made without the use of Photoshop software".

All three items were measured using a seven-point Likert scale ranging from (1) "strongly disagree" to (7) "strongly agree". Independent *t*-tests showed that participants, exposed to the advertisement with the natural appeal, significantly perceived the natural appeal better than the urban appeal *(*$M_{natural} = 6.50$, $M_{urban} = 2.00$, $t = 13.175$, $p < .001$). Participants exposed to the urban appeal, significantly recognized the urban appeal better than the natural appeal ($M_{natural} = 1.83$, $M_{urban} = 6.83$, $t = -14.302$, $p < .001$). Perceptions of photoshop ($M_{natural} = 5.50$, $M_{urban} = 6.17$, $t = 1.265$, $p > 0.1$) did not significantly differ across the two conditions. However, due to insignificance, it can be excluded that Photoshop is inconsequently used between conditions. Therefore, it is assumed that the Photoshop factor does not undermine the manipulation for these studies.

### *3.1.2: Ethics*

In both studies, multiple notions of ethics are considered. Firstly, participation was anonymous to respect the respondents' privacy appropriately. That means that no personal or demographic information was acquired, except for the participants' gender and age, and if they are already familiar with the advertised brand. Before the start of the first study, participants were equally informed about the procedure of the eye-tracking study and the

subsequent questionnaire, and it was explained that the participant was welcome to withdraw from the study and ask the researcher questions at any time. The purpose of the study was not yet mentioned, as it may result in a (cognitive) bias that could influence one's response, but after finishing, the respondent could leave their email address to receive the results when the study was completed.

All data that was collected, was organized in such a way that it could not be traced back to specific participants. Moreover, all the data that was gathered, was deleted after completion of the study. Respondents were asked to read and sign a consent form which can be found in the appendix 2. By this, respondents gave voluntary permission to confidentially use their responses for analysis. For the second study, the advertisement was distributed via the social media platform Instagram. Both advertisements were distributed through an ad campaign, in which personal information was not specifically asked for; this information was provided by Instagram and only regarded the respondent's age and gender. By using this platform, participants agree to the data policy that is stated by their mother company, namely Facebook (Facebook, 2022). The data that was acquired through Instagram was also deleted after the study was completed.

### *3.2. Study 1: Effect of type of appeal on visual attention and behavioural outcomes*

#### *3.2.1: Design*

The first study consisted of a one-factor between-subjects design to test hypotheses H1, H2, H3, H4a and H4b. It consisted of two parts: firstly, participants were asked to take place behind a computer to take part in an eye-tracking experiment. This experiment was followed by a corresponding questionnaire. Respondents were exposed to one of two different advertisements, that were shown on a computer with eye-tracking software installed on it. Multiple researchers have investigated consumers' visual attention, and it is argued that consumers look at an ad for 8 to 12 seconds (Hernandez et al., 2017; Klein, Czaplicki, Berman, Emery & Schillo, 2020; Ncog-To & Patrick, 2021). However, to allow the participant to read the description (that indicates the sustainable image of the advertised brand), it is decided that participants are exposed to one of two ads, for 20 seconds. After this, all respondents were asked to fill out the same survey with questions regarding their engagement, purchase intentions, and WOM-intentions.

### *3.2.2: Participants*

To participate in this study, participants were invited to the laboratory to take part. Participants were selected based on non-probability judgement sampling. There are two levels of the moderator 'Type of Customer' (existent vs. non-existent customer). Moreover, judgement sampling provides a convenient way to acquire participants from the target group, as the researcher could distinguish these customer groups. Participants were not randomly assigned. This experiment requires a total of 60 or more usable responses, as there are two different groups (visual ad design: natural vs visual ad design: urban). Within these groups, a distinction is made between existing customers and new customers. To guarantee normal distribution of our sample, the central limit theory is applied (Ganti & Brock, 2022). Because of this, a minimum of thirty respondents per treatment was required, leading to a minimal number of respondents of N = 60. The final sample also consisted of 60 participants, and their average age was 23 years. Of all respondents, 35 per cent was female, and they all use Instagram, and 50% had already purchased from the advertised brand.

### *3.2.3: Measurement*

The respondents' visual attention was measured with the use of eye-tracking methods. The eye-tracking data was collected using the GazeRecorder software, which has been frequently used in previous studies to measure visual attention from consumers (e.g., Meissner & Oll, 2019; Lee & Ahn, 2012). GazeRecorder is an online software application that utilizes external devices (e.g., webcams) to track one's eye movements. The webcam used had a resolution of 720p. As argued by Meissner and Oll (2019), eye-tracking data can be analysed by thoroughly looking at sequences of fixations and saccades. These researchers claim that fixation occurs when the eyes are in a stable, still position while looking at a stimulus, while saccades are more rapid eye movements used to shift the fovea between interesting objects or stimuli. Moreover, information is only acquired during fixation and not during a saccade (Rayner, 1998). Meissner and Oll (2019) explain this by claiming that visual processing during eye movements is blocked by the brain, but blocked in such a way that it is not noticeable to the individual.

Different studies have worked with a single measurement to measure one's visual attention, like number of fixations or fixation duration (De Keyzer et al., 2021). To examine distinct underlying psychological processes, however, it is also claimed by other researchers (e.g., Orquin & Holmqvist, 2017) that using multiple eye-tracking measures simultaneously allows us to acquire increased knowledge about how customers cognitively process different

ad designs (Orquin & Holmqvist, 2017; De Keyzer et al., 2021). Multiple studies have used the technique called fixation duration as a primary method to measure customer attention. This technique examines the total sum of durations for all fixations within a certain Area Of Interest (AOI) in seconds. With higher fixation durations / dwell times on a specific AOI, the more attention this AOI receives. Additionally, other researchers examine visual attention with the technique of 'time to first fixation', referring to the time it takes for a participant to look at a specific AOI (Van der Laan et al., 2015). The lower this time to a first fixation on an AOI, the higher the consumers' visual attention on that AOI is considered.

#### *3.2.3.1 Advertisements' Areas of Interest*

In case of this current study, a social media advertisement, included in appendix 1, consisting of three AOI's is tested. The main AOI (1) concerns the advertisement background. The sustainable brand used in this study indicated that this was a major issue for their social media advertising, namely not knowing if their advertisements were more effective when captured in a natural environment or rather in an urban environment. Moreover, existing literature provided only limited guidance to solve this issue: therefore, this background is manipulated and used as the first AOI. One of the photos used in these ads is captured in a natural environment, while the other photo is captured in an urban environment.

Subsequently, the second AOI (2) is the female model which is identical in both advertisements. She wears a product from the advertised brand, namely a t-shirt made of organic materials with a company logo, visible at the centre of the tee. This AOI is used because a garment is advertised, and in the clothing industry, models are often used to show the type of fitting.

The last AOI (3) concerns the description that is provided with the ad. This text shortly describes a slogan from the advertised brand: "Fast fashion is not free. Somewhere, someone is paying for it. Choose wisely, Choose sustainably. Choose Cotton Elements." This slogan articulates the advertised brand's values, namely fair treatment of both nature and people, thus indicating they are a sustainable company. Moreover, it could be relevant to know about consumers' responses when showed an Instagram ad, to see what attracts their attention first, and to what extent they actually read the description of a visual advertisement.

*3.2.3.2 Instruments: eye-tracking and questionnaire*

Different studies propose the use of multiple eye-tracking methods simultaneously (e.g., Orquin & Holmqvist, 2017), as it is claimed that this will generate an increased understanding of visual processing of an ad. Therefore, this study will examine both fixation duration (or dwell time) and first fixation to measure one's visual attention. After the eye-tracking process, the respondents were asked questions through a questionnaire.

The questionnaire aims to acquire information about the respondents' engagement, purchase intentions and word of mouth intentions. These measures were extracted from existing studies on these concepts, but beforehand, the customer was asked if they already were a customer at Cotton Elements ("I have purchased from Cotton Elements in the past"). Respondents could respond to this with yes or no. Secondly, the customer engagement is measured using a ten-item scale extracted from Hollebeek et al. (2014) ("Using this product gets me to think about Cotton Elements", "I think frequently about Cotton Elements when I'm using this product", "Using this product stimulates my interest to learn more about Cotton Elements", "I feel very positive when I use Cotton Elements", "Using Cotton Elements makes me happy", "Using Cotton Elements makes me feel good", "I'm proud to use Cotton Elements", "I spend a lot of time using Cotton Elements compared to other sustainable clothing brands", "Whenever I'm using clothes, I usually use Cotton Elements", "Cotton Elements is one of the brands I usually use when I use clothes"). Respondents were able to indicate their agreement using a 7-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).

Third, word-of-mouth intentions were measured using a three-item scale ("It is likely for me to say positive things about this brand to others", "it is likely for me to encourage friends and relatives to buy this brand's product", it is likely for me to recommend the brand to others") (Zeithaml, Berry and Parasuraman, 1996). Respondents were able to indicate their agreement using a 7-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7). Lastly, purchase intention was measured using a study from Wang et al. (2017) using a two-item scale ("I am interested in this product", "I am likely to pay for this product"). Respondents could indicate their agreement using a 7-point Likert scale ranging from "strongly disagree" (1), to "strongly agree" (7). All relevant data was collected through this survey. The complete questionnaire can be found in appendix 3 and is followed by an operationalization table in appendix 4.

### *3.2.4: Procedure*

Participants will be asked to enter through the main entrance and from there on, a researcher will guide them towards the assigned room (EOS 01.731). This is where the participant was asked to fill out a consent form to assure permission to use their data in analysis. Before the start of the study, participants were equally informed about the procedure of the eye-tracking study and the subsequent questionnaire. After this, the eye-tracking procedure started. The software first needed to be calibrated by each respondent. Then, the participant was exposed to one of the two advertisements for ten seconds, and fixations and saccades were captured. After successfully completing this part, the participant was asked to fill out a questionnaire regarding their engagement, purchase- and WOM intentions, and after completing this questionnaire, the respondent is thanked for their time and effort. Lastly, the researcher escorts the participant back to the main entrance of the building.

## *3.3. Study 2: Effect of type of appeal on clicking behaviour***.**

### *3.3.1: Design*

The second study is a field experiment that is used to test hypothesis H5. For this study, the two advertisements were distributed via an Instagram advertisement campaign, to measure the consumers' actual behaviour in the number of clicks. The advertisement campaign runs over a course of five days and a total amount of €50,- per advertisement is spent on the campaign. Both campaigns were distributed at the same time. The field experiment was used to find which of the type of appeals would lead to an increased effectiveness, measured through the number of clicks on one of the advertisements. Moreover, the results of the campaign provide an indication of the number of likes, clicks on profile, clicks on link, and saves.

### *3.3.2: Participants*

Instagram's algorithms randomly assigned Instagram users to one of the two advertisements. A total of 9.147 individuals, living in the Netherlands, were targeted through the advertisement campaign. The total reach of both ads is larger since existing followers of the profile could have been exposed to the post, but were unable to click (as it organically appeared on their timeline). Therefore, the proportion of organically exposed users is excluded from analysis. Users aged of all ages were targeted, but the information provided by

Instagram did not provide insights about the age of people who clicked on the ad. Therefore, the moderation effect of age was later excluded from analysis. Lastly, the user's gender is also provided by Instagram, but this was not used for analysis, as this information did only provide insights for the entire reach of the ads.

### *3.3.3: Procedure*

The advertisement campaign was launched through the Instagram application. This app allows users with a business account to promote their posts and its algorithm selects users to be exposed based on their preferences and behaviour on the app. After launching the campaign, Instagram users could be exposed to the advertisements for a period of five days. Instagram did not provide a function to exclude users that were already exposed to the other ad. After seeing the ad, users could response by liking, commenting, sharing, saving, clicking on the link, clicking on the profile, or scroll past the ad. The next section contains information about the measurement of this study.

### *3.3.4. Measurement*

When exposed, individuals had multiple options in their response: (1) Clicking on the ad, (2) clicking on the profile, (3) liking the ad, (4) saving the ad, or (5) scrolling past the ad. The information regarding their response was provided by Instagram. For this study, the total clicks on the ad or link is used as the key measure. However, after the data collection, additional analyses were executed with the other measures. In this study, it is assumed that clicking on the link could be an important predictor of users' actual behavioural intentions. The campaign was active for a period of five days, and after this, the ad could no longer be clicked on, nor forward individuals to the website.

## *4. Results*

### *4.1 Results study 1*

Before the conceptual model was further analysed, the compare means function in SPSS 27 was used to gain information about the dwell time and time to first fixation on the three AOI's. The dwell time on the background ($M_{AOI1}$ = 6.09) was higher compared to the

other AOI's ($M_{AOI2}$ = 4.21; $M_{AOI3}$ = 3.90). Similarly, the time to first fixation was lower for the background ($M_{AOI1}$ = .41) than for the model (($M_{AOI2}$ = 1.96) and for the text ($M_{AOI3}$ = 3.83), indicating that participants averagely looked at the background first, rather than looking at the model or text. It should however be noted that the background AOI made up a larger part of the entire image than the model- and text AOI.

For further analysis, SmartPLS 4.1 was used with the analysis method PLS-SEM (Partial least squares structural equation modelling). This method provides an iterative combination of principal components analysis and ordinary least squares path analysis (Chin, 1998). PLS-SEM is a proper method to use with non-normal data (Hair et al., 2019), however, normal distribution was accomplished by applying the CLT (Ganti & Brock, 2022). Moreover, values of skewness and kurtosis as described by Brown (2006) were appropriate (see appendix 10).

To address the construct reliability, convergent validity, and discriminant validity of the multi-item constructs (customer engagement, WOM- and purchase intentions) in this study, the measurement model was evaluated in appendix 7 (as proposed by Hair et al., 2019). The internal reliability of all constructs was measured through the composite reliability and average variance extracted (AVE). Moreover, the factor loadings and construct reliability of the constructs were measured. The values per construct can be viewed in appendices 7.1, 7.2 and 7.3. The composite reliability value for the multi-item constructs were all sufficient to good following guidelines in previous literature (.70 or higher (Hair et al., 2011)). Convergent validity was established for all constructs as Hair et al. (2019) prescribe a minimum AVE of .50. Thirdly, the discriminant validity could be accepted based on the HTMT values by Hair et al. (2019), as it did not exceed the prescribed maximum of .90, except between WOM- and purchase intentions (1.091) and WOM and engagement (.951) (see appendix 8). As a final step before assessing the hypotheses and the effects, the overall fit of the model was analysed with the Goodness-of-Fit index (Tenenhaus et al., 2005). The GoF-value of .50 (see appendix 9) indicates adequate fit and is acceptable according to Tenenhaus et al. (2005). The $R^2$ value for the latent constructs varied between .116 and .194, indicating small values (Chin, 1998).

First, the results of the structural model (figure 2) indicate that *H1* lacks statistic evidence for both visual attention measures. The natural appeal had a slightly higher time to first fixation than the urban appeal, however, this effect was insignificant ($\beta$ = .036, $p > 0.1$; $R^2$ = .047). Similarly, the urban appeal had a slightly higher dwell time than the natural appeal, but this effect was also insignificant ($\beta$ = .160, $p > 0.1$; $R^2$ = .026). The analysis

showed no mediating effect of time to first fixation (β = .089, $p > 0.1$; $R^2 = .168$) nor dwell time (β = -.393, $p > 0.1$; $R^2 = .168$) to customer engagement. However, indirect effects provided evidence to believe that dwell time significantly influenced WOM-intentions (β = -.356, $p < .01$; $R^2 = .902$) and purchase intentions (β = -.350, $p < 0.1$; $R^2 = .800$), but only through customer engagement. The direct effects of dwell time on WOM-intentions (β = -.023, $p > 0.1$; $R^2 = .902$) and purchase intentions (β = 0.002, $p > 0.1$; $R^2 = .800$) were insignificant. When it comes to *H2*, it appears that type of customer does not significantly moderate the relationship between type of appeal and visual attention (($\beta_{First}$ = -0.071, $p >$ 0.1; $R^2 = .047$); ($\beta_{Dwell}$ = .202, $p > 0.1$; $R^2 = .026$)), indicating that *H2* is not accepted. In contrast to what was hypothesized in *H3*, the urban appeal gained slightly higher engagement than the natural appeal, but this effect was also non-significant (β = .252, $p > 0.1$; $R^2 = .183$) and therefore *H3* was also rejected. Moreover, customer engagement appeared to be positively and significantly related to both purchase intentions (β = .891, $p < .001$; $R^2 = .800$) and WOM-intentions (β = .906, $p < .001$; $R^2 = .901$), indicating that both *H4a* and *H4b* were accepted.

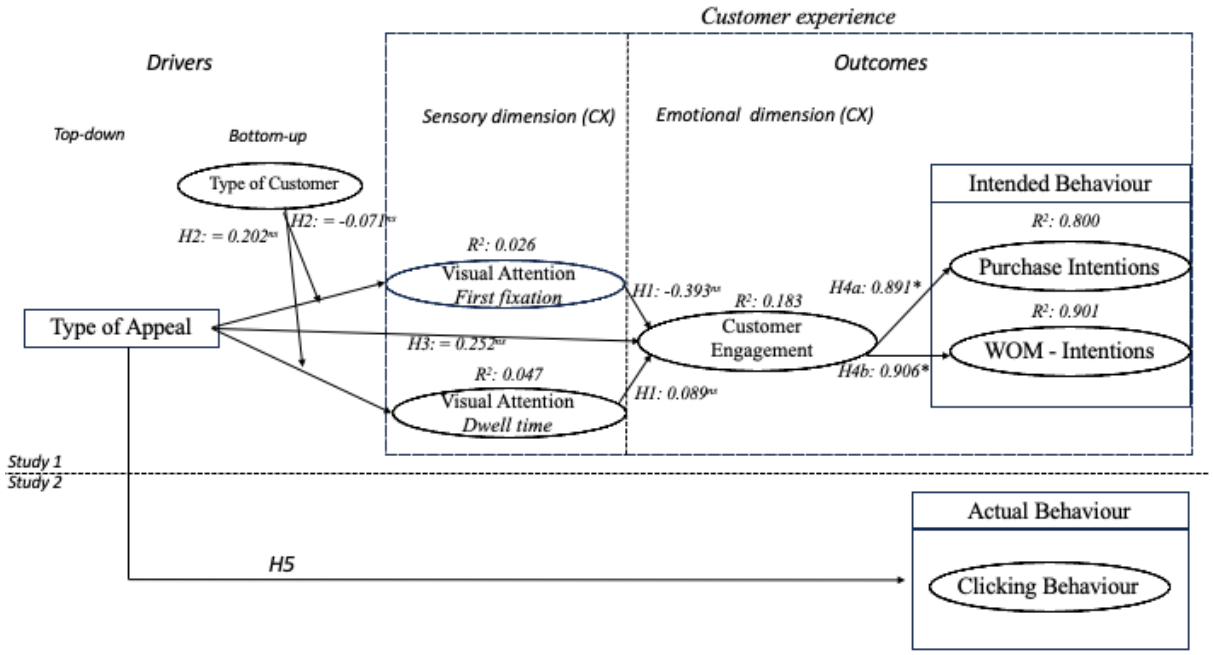


*Figure 2: Structural model with $R^2$-value.* ns = non-significant; *: meets or exceeds p <.001

*4.1.1 Additional analyses*

Along with analyses regarding the background area of interest, additional analyses were performed to provide insights regarding the other AOIs. The analysis for the second AOI (appendix 13 and 14) provided no significant results. However, another analysis for the third AOI (appendix 13 and 14) appeared to show some relevant insights. Firstly, the type of customer has a significant positive influence on AOI3 dwell time (β = .246, $p < 0.05$; $R^2$ = .092). This indicates that existing customers looked at the description for a shorter time (*M* = 3.65, *SD* = 2.13) than non-existing customers (*M* = 4.11, *SD* = 2.44). Then, there are some marginally significant, but still notable results: the third AOI's dwell time namely influenced both engagement ((β = .259, $p < 0.1$; $R^2$ = .071) and WOM-intentions (β = -.131, $p < 0.1$; $R^2$ = .875). Lastly, type of customer moderated the relationship between type of appeal and AOI3 dwell time (β = -.897, $p < 0.1$; $R^2$ = .092). Existing customers exposed to the natural appeal had a marginally significantly lower dwell time (*M* = 3.50, *SD* = 2.25) than non-existing customers exposed to the natural appeal (*M* = 4.93, *SD* = 1.71). In contrast, existing customers exposed to the urban appeal had a higher dwell time (*M* = 3.78, *SD* = 2.11) than non-existing customers exposed to the urban appeal (*M* = 3.17, *SD* = 2.83).

*4.2 Results study 2*

In total, both ads gained 266 clicks on the link within the five days that the advertisements were online. The total reach of the ads was 9,147, of which 5,782 for the natural ad, which is larger than the 3,365 that was reached with the urban ad. The natural ad generated a click through rate of 2.79%, whereas the urban appeal generated a CTR of 3.12%. By this, the ads generated an average of 2.91%, which is marginally higher than the average for Instagram ads (between 0.22% and 0.88%) (Barker, 2023) and slightly higher than the average for the apparel and fashion category (2.24%). The latter percentage, however, does not specifically relate to social media (Chaffey, 2023). To analyse study 2, a logistic regression was conducted in SPSS27 with the type of appeal as independent variable, and various clicking behaviours as the dependent variables. This analysis indicated that there is no significant statistical evidence to believe that one of two ads would be more likely to click on for Instagram users (Exp (B) = .889, $x^2$ = .842, $p > 0.1$), thus rejecting *H5*. Similarly, with a significance level of $p = .05$, there were no significant effects found of type of appeal on saving the post (Exp (B) = 1.942, $x^2$ = 1.130, $p > 0.1$). However, consumers exposed to

the natural appeal were significantly two times more likely to like the ad (Exp (B) = 2.024, $x^2$ = 9.436, $p < .05$) compared to the urban ad. Then, consumers exposed to the natural appeal were marginally significantly 1.5 times more likely to click on the profile (Exp (B) = 1.537, $x^2$ = 3.793, $p < 0.1$). This result could be insightful but should be considered with caution due to the insufficient significance level. Lastly, this type of clicking behaviour is different from the clicks on the link: consumers are aware that clicking on the link can often redirect them to a commercial website, whereas clicking on the profile keeps them in the Instagram application, allowing them to see the advertised brand profile.

*5. Discussion*

With an upcoming environmental awareness among consumers, but a lack of willingness to pay more for sustainable products (Barbarossa & Pastore, 2015), sustainable start-ups have trouble with outperforming existing, non-sustainable competitors in the market. This study aimed to provide insights and deeper understanding of consumers' visual processing of advertisements for a sustainable product. The aim of the studies was to establish knowledge about advertising effectiveness and how certain design elements can contribute to enhanced engagement, WOM- and purchase intentions for sustainable start-ups.

The results of the first study highlight some notable findings. Firstly, it was noted that participants' visual attention was directed to the background first, and for the longest, compared to the female model and description. The hypothesized mediating effects of visual attention appeared to be non-existent for both measures regarding the background. Also, rejection of H2 indicates that this study currently provides no statistical evidence that existing customers evaluate background stimuli in a different way than non-existing customers. However, regarding the textual AOI, existing customers averagely looked at the description for a shorter time than non-existing customers. Moreover, the moderation effect of type of customer showed that this result was only applicable to the natural appeal: here, non-existing customers looked at the text for almost 1.5 seconds longer than existing customers. In contrast, non-existing customers exposed to the urban appeal looked at the description for a marginally shorter time than existing customers.

Then it was hypothesized that the natural appeal would positively affect customer engagement, but the urban appeal gained higher engagement instead. This effect, however, appeared to be non-significant. Nevertheless, study 1 did produce significant results: both

measures of intended behaviour (WOM- and purchase-intentions) were positively influenced through customer engagement, thus accepting both H4a and H4b.

Study 2 indicated that, unlike hypothesized, the urban appeal generated a higher CTR than the natural appeal. However, no significant results were found on the likeliness of users clicking on one ad rather than the other. The number of likes did significantly differ between the two conditions, indicating that users found the natural appeal more engaging and, arguably, more attractive to click on the profile as well.

Additional analyses showed that existing customers looked at the description for a shorter time than non-existing customers, but this effect only applied to customers exposed to the natural advertisement. Arguably, existing customers are already aware of the sustainable image of the brand, which was the main message of the description. Therefore, they could have scanned the text shortly and globally, but not as in-dept as the non-existing customers who were not yet aware of the sustainability image. Existing customers exposed to the urban ad appeared to look at the text for a longer time, which may indicate that they needed further information if the advertised product was sustainable.

### *5.1: Theoretical implications*

Whereas prior literature on advertising effectiveness established some design elements to work effectively in advertisements (e.g., Pieters & Wedel, 2004; Ashley & Tuten, 2015; De Vries & Carlson, 2014; Scheinbaum, 2016; Ahmed, 2020), these studies were not conducted in sustainable contexts, and some articulated the need for more research on this topic. This study fulfils this need by enriching the literature with insights that consumer visual attention was directed to the background first, and for the longest. Moreover, when it comes to the description below a natural or sustainable advertisement, it may be argued that existing customers read the description for a shorter time than customers that are not yet familiar with the advertised brand. This insight adds shape to advertising effectiveness literature for textual design elements.

Moreover, there is limited research on the effects of visual ad design on both visual attention and consumer behaviour, and existing literature (Pieters & Wedel, 2004; De Keyzer et al., 2021) expresses the demand for more empirical evidence in this field. Other studies (Visser et al., 2015; Hartman et al., 2005) did investigate advertising effectiveness in a sustainable context and often indicated that a green color is generally associated with eco-friendliness, and that green associations can contribute to an increased purchase intention.

However, current literature provided barely to no guidance about the background to use in a sustainable ad, which was a main topic in this study. This study adds new insights to existing literature about advertising background effectiveness for sustainable products. The green color in the background did not result in enhanced visual attention or customer engagement. In contrast to what prior literature describes (Visser et al., 2015), the urban advertisement appeared to evoke more positive responses, but this effect was non-significant. Similarly, study 2 pointed out that the urban ad had a slightly higher CTR than the natural ad. However, despite being non-significant, this result may be supported by an argument by Yeldar (n.d.), as they claim that the use of the color green works ineffectively for sceptical consumers, who could be in this study's sample. Moreover, this result contradicts Konova et al. (2020), who claim that attitudes and behavioural intentions are higher for congruent ads, which may be justifiable for the natural ad used in this study (as a sustainable brand is advertised which could evoke natural associations). In contrast to the higher CTR for the urban appeal, the natural appeal gained significantly more likes and clicks on the profile, providing an ambiguous insight. A reason for this may be that the urban ad had a smaller reach, by which the results regarding the CTR should be approached with caution.

Additionally, positive relationships between engagement and both WOM- and purchase intentions were found. The relationship between engagement and purchase intentions is supported by prior literature (e.g., Chen (2017); Toor et al., 2017), but the fact that customer engagement positively affects WOM-intentions is a relatively new insight. Other researchers (Pandir & Enginkaya, 2018) did find a weak but positive correlation between the two, and this study adds that customer engagement may drive customers' (positive) word-of-mouth intentions.

In summary, this study contributes to the fields of research in multiple ways. Firstly, it provides new insights in the field of advertising effectiveness, in which more research was required (Pieters & Wedel, 2004; De Keyzer et al., 2021). Then, this research is unique in its sustainable start-up context, as to our knowledge, it is the first to examine multiple behavioural outcomes through eye-tracking measures in a sustainable start-up context. Moreover, the proposed connection between customer experience dimensions (sensorial and emotional) and the concepts of respectively visual attention and engagement could be a signal for researchers to examine in future research. The significant relationship between customer engagement and word-of-mouth intentions is new and insightful. Future research could focus on this relationship and examine to what extent engaging advertising content can contribute

to increased word-of-mouth intentions. All in all, this study adds more shape to the field of (social media) advertising effectiveness in a sustainable context.

### *5.2: Managerial implications*

This study provided insights for (social media) marketing or advertising managers for sustainable (start-up) organizations. With a high start-up failure rate for sustainable organizations, due to unwillingness of consumers, this study aimed to provide understanding of how to guide customers through the customer experience and ultimately nudge them to choose for sustainable alternatives. The insights of this study could inform social media advertising managers of sustainable (start-up) brands that a green or natural background may result in positive business outcomes; the natural appeal used in this study generated significantly more likes and clicks on profile, however, the number of clicks to visit the website appeared to be lower, and this could be argued to be a main indicator for actual buying behaviour.

This study also points out that consumers' visual attention is predominantly directed to the background of the advertisement. This indicates that, though it is the largest AOI, the background holds susbstantial attention in the consumer's visual processing, and managers should invest in creating visually appealing ad backgrounds to thrive positive business outcomes. Moreover, based on the moderation effect found in additional analyses, it can be argued that textual messaging should be conveyed based on the customer's prior knowledge about the brand. Existing customers, who are already aware of the sustainable image, should be approached with concise messaging, while new customers, who are not yet aware of the sustainable image, should be approached with more detailed information to thrive their brand knowledge and awareness.

Then, the positive relationship between customer engagement and WOM-intentions could be highly relevant for social media marketing managers. By designing posts and ads in a compelling way, with a focus to thrive customer engagement, customers may be more likely to share their positive thoughts and attitudes with others. In practice, this insight is relevant for (social media) ad or post designers: with optimally engaging content, customers exposed to this content are more likely to share positivity with others (WOM-intentions) and more likely to purchase the product that is advertised. Moreover, ads should be designed in more interactive ways to stimulate customer engagement, as this can ultimately result in desired consumer behaviour. Despite the insignificance, study 1 indicated that the urban

background worked better to increase customer engagement, whereas study 2 provided statistical evidence to believe that the natural appeal received significantly more likes and clicks on profile. Though controversial, it may just indicate that sustainable businesses should experiment with new ways to advertise to their target audience. This insight should be further investigated and tested in practice, and potentially exploited by social media advertising (campaign) managers.

### *5.3: Limitations and future research*

Some limitations can be noted about this study. The first and most important limitation entails the eye-tracking aspect of this study. Whereas eye-tracking technology has substantially improved over the past decade, there are still many factors (glasses, lenses, pupil colour, eye shadow) to negatively impact the camera's ability to record one's eye movements (Khachatryan & Rihn, 2014). Moreover, the researcher intended to welcome all participants in the same room due to equal lighting to assure an optimal level of reliability. However, halfway during the experiment, the researcher was urged to move to another room with similar but slightly different lightning. This may have influenced the eye-tracking data. And lastly, current literature prescribes to interpret eye-tracking data in this context with caution, as visual attention is only one of countless factors influencing consumer behaviour (Orquin & Loose, 2013). Therefore, clues might have been missing as the focus of this study was only on eye-tracking.

Secondly, the study could have incorporated another control variable, namely perceived sustainability. As it appeared that not all participants read the text, they may not all have been aware of the sustainability-aspect of the advertised brand. A proper control variable would have been perceived sustainability, indicating to what extent one would assess the brand as sustainable. Then, more knowledge on the relationship between a green background and perceived sustainability could be constituted (as requested by Hartman et al., 2005; Visser et al., 2015).

Then, when it comes to the second study, it appeared that the urban ad received a higher CTR, but the natural ad received more likes, and arguably more clicks on the profile as well. For these results however, it should be noted that the reach (and thus, the sample) of the natural ad was (5,782) larger than the urban ad (3,365). The reason for this may be that Instagram's algorithms target based on user's interactions with certain (types of) posts and accounts, and the urban appeal simply 'attracted' fewer fitting users. Also, due to limited time and budgets, only €50,- was spent on both ad campaigns for a duration of five days.

Another limitation could be applied to the result on the textual AOI in this study. Existing customers may already be familiar with the description, that has already been used in an Instagram post from a year ago. This would logically explain the low dwell time of existing customers for the description of the natural appeal, but it provides no explanation why the dwell time on the urban appeal was higher for the existing customers.

Moreover, the current study only used two treatments in the experiment. To find out what type of background would work most effectively in a sustainable context, future research could focus on adding different treatments in terms of backgrounds. For example, building upon the manipulation used in this study, a natural background could be formed with the use of animals or colourful flowers (which are not necessarily associated with green) and urban associations could be evoked with the use of an industrial background, or with a modern-city background. Other products could also be used for the ads: now, only a sustainable garment was marketed, but further research could examine multiple product groups.

Furthermore, existing literature provides contradictory results regarding advertising design elements to market sustainable products (e.g., De Keyzer et al., 2021; Visser et al., 2015; Hartman et al., 2005). Therefore, the current study strongly articulates the demand for a proper framework for effective design elements in advertising for sustainable products, as it remains unknown whether sustainable products should be marketed with the use of natural, green, or sustainable design elements, or rather with less associative design elements. More specifically, the type of background to use in an advertisement for a sustainable product demands further investigation.

Lastly, the moderation effect of type of customer on the relationship between type of appeal and AOI3 dwell time should be considered with caution, as it was only marginally significant. This also applies to the direct effect of AOI3 dwell time on engagement and WOM-intentions, as well as the effect of type of appeal on the clicks on profile.

To finish, regarding the procedure, one of the sixty respondents indicated (after the experiment) that they had already seen the other ad on social media. Due to time-bound reasons, the ad campaign was distributed just before the experiment ended. This participant was the only one to mention this to the researcher. However, he only saw the advertisement to which he was not exposed, but this could still have resulted in a minor bias towards the ad, as AOI2 and AOI3 were identical for both ads.

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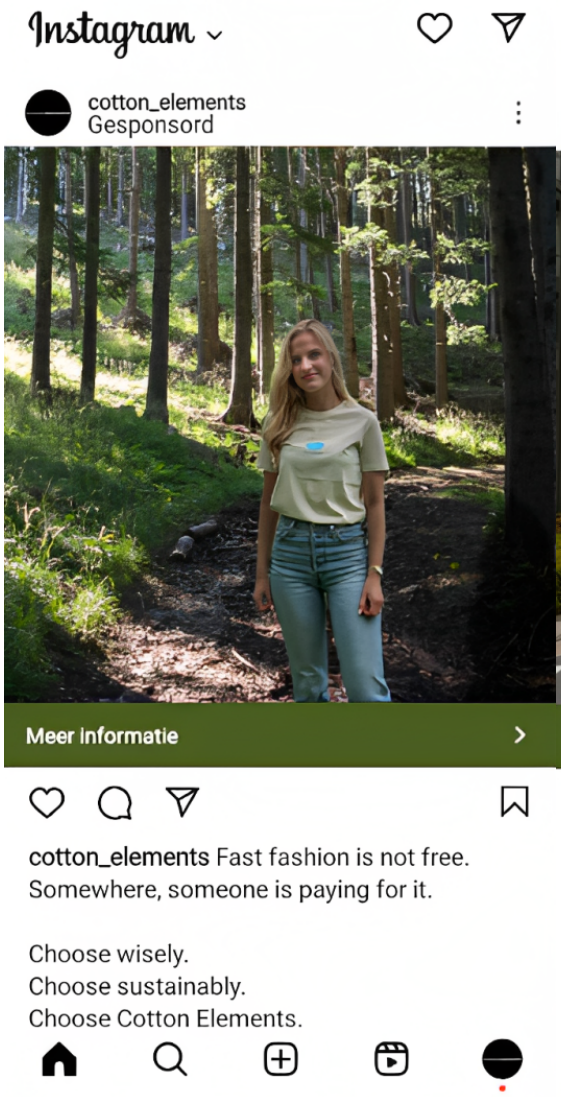
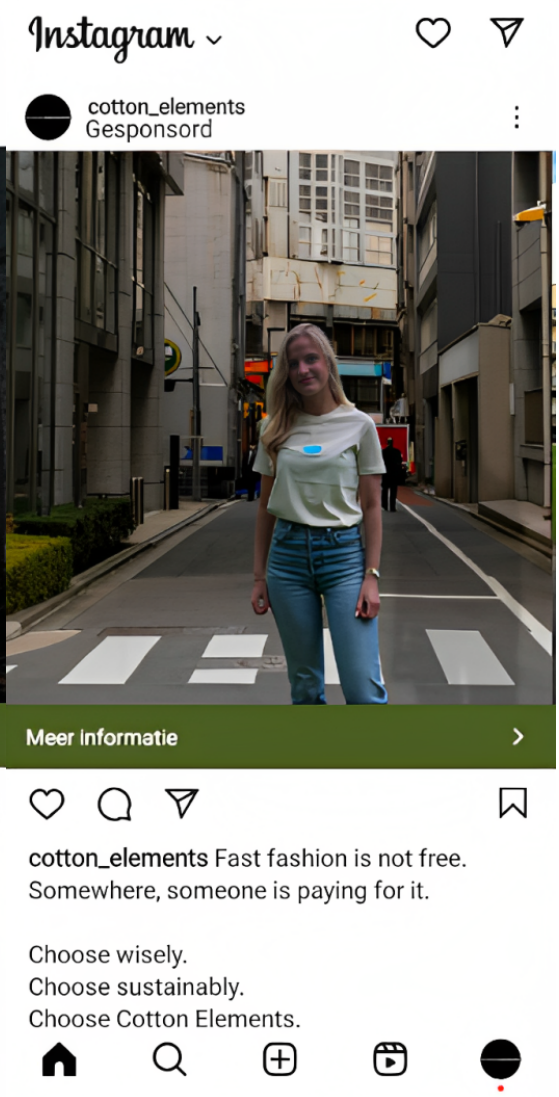
*7. Appendices*

*Appendix 1: Advertisements*

Ad 1: Natural appeal




Ad 2: Urban appeal



*Appendix 2: Consent form (filled in forms to be submitted at the final deadline in August).*

**INFORMATION AND CONSENT FORM**

**Purpose:** The purpose of this research study is to investigate the customer decision making process for sustainable products.

**Equipment:** Gazerecorder eye-tracking software (via webcam)

**Procedure:** Firstly**, y**ou will be exposed to an eye-tracking experiment. After this, you are asked to complete a survey. Please confirm the following.

- I understand that my eye-movements are being tracked and this data is saved in the form of heat maps and excel.
- I confirm that I do not have any physical, mental, or health-related reasons or problems that should preclude my participation in the eye-tracking experiment (e.g., a lot of mascara, cataract, cross-eyed).

**If you agree to participate in this study, you will be asked to do the following:**

- Read the instruction form with regard to device requirements, and placements.
- Open the link to the GazeRecorder eye-tracking software, and press 'start'.
- Let GazeRecorder (with some help of the researcher) calibrate your eye-movements.
- Be exposed to the image for 20 seconds using the GazeRecorder eye-tracking software. The eye tracking software will measure the movements of your eyes whilst you look at the image.
- Complete a survey with regard to the image, after finishing the eye-tracking experiment.

The total time required to complete the study should be approximately 10-15 minutes including briefing, setup/calibration, survey and debrief.

**Health Notice/Risks:** The images you will be shown include sustainable clothing advertisements. We do not expect that exposure to these graphics will cause any harm or discomfort, however if you experience feelings of distress as a result of participation in this study you can let the researcher know and I will provide you with assistance if necessary.

**Confidentiality:** Your participation in this study is entirely voluntary and you may refuse to complete the study at any point during the experiment or refuse to answer any questions with which you are uncomfortable. You may also stop at any time and ask the researcher any questions you may have. Your data will be treated confidential and will be used solely for this research project. After the research project is finished, your data will be terminated. Additionally, the information and results from this project may be submitted for publication in the Radboud Thesis repository, however this information will not identify you in any way.

**Contact and questions:** if you have any questions regarding this study, you may contact the researcher via e-mail: coen.bisscheroux@ru.nl or telephone: +31640049446.

**Statement of consent** I have read and understood the above information. I have asked any questions I had regarding the experimental procedure, and they have been answered to my satisfaction. I consent to participate in this study.

Name of Participant_____ Date: _____

Signature of Participant _____

Thanks for your participation!

*Appendix 3: Questionnaire*

Thank you for participating in this experiment. You should have just completed the eye-tracking part, and now you're asked some questions regarding your evaluation of the advertisement.

This is the final part of this experiment and will take approximately 5 minutes.

1. Customer engagement

Based on the ad you just saw, please indicate to what extent you agree with the following propositions.

**1 = strongly disagree, 2 = disagree, 3 = moderately disagree,**
**4 = neutral,**
**5 = moderately agree, 6 = agree, 7 = strongly agree.**

1. Using this product would get me to think about Cotton Elements.
2. I would frequently think about Cotton Elements when I'm using this product.
3. Using this product would stimulate my interest to learn more about Cotton Elements.
4. I would feel very positive when I use Cotton Elements.
5. Using Cotton Elements would make me happy.
6. Using Cotton Elements would make me feel good.
7. I would be proud to use Cotton Elements.
8. I would spend a lot of time using Cotton Elements compared to other sustainable clothing brands.
9. Whenever I'm using clothes, I would usually use Cotton Elements.
10. Cotton Elements is one of the brands I would usually use when I use clothes.

2. Word-of-Mouth intentions

Based on the ad you just saw, please indicate to what extent you agree with the following propositions.

1. It would be likely for me to say positive things about this brand to others.
2. It would be likely for me to encourage friends and relatives to buy this brand's product.
3. It would be likely for me to recommend the brand to others.

3. Purchase intentions

Based on the ad you just saw, please indicate to what extent you agree with the following propositions.

1. I would be interested in this product.
2. I would be likely to pay for this product.

4. How old are you?

5. What is your gender?

6. Have you purchased from Cotton Elements before?

7. Manipulation check:

The photo used in this advertisement is taken in a natural environment.
The photo used in this advertisement is taken in an urban environment.

*Thank you for participating. Your response has been recorded.*

*Appendix 4: Operationalization table*

| Construct | Definition | Source | Scale items |
|---|---|---|---|
| Customer engagement | "consumers' psychological state of mind and intensity of their awareness, affection, participation, and connection with the brand" and it is characterized by the consumers' specific interactive experiences with the brand" | Hollebeek et al. (2014) | 1. Using this product would get me to think about Cotton Elements.<br>2. I would think frequently about Cotton Elements when I'm using this product.<br>3. Using this product would stimulate my interest to learn more about Cotton Elements.<br>4. I would feel very positive when I use Cotton Elements.<br>5. Using Cotton Elements would make me happy.<br>6. Using Cotton Elements would make me feel good.<br>7. I would be proud to use Cotton Elements.<br>8. I would spend a lot of time using Cotton Elements compared to other sustainable clothing brands.<br>9. Whenever I'm using clothes, I would usually use Cotton Elements.<br>10. Cotton Elements is one of the brands I would usually use when I use clothes. |
| WOM intentions | Intentions of using social media or other media forms with purposes to spread awareness and information | Zeithaml, Berry and Parasuraman (1996) | 1. It would be likely for me to say positive things about this brand to others.<br>2. It would be likely for me to encourage friends and relatives to buy this brand's product.<br>3. It would be likely for me to recommend the brand to others. |
| Purchase intentions | Interest in, and likeliness to purchase | Wang et al. (2017) | 1. I would be interested in this product.<br>2. I would be likely to pay for this product. |

*Appendix 5: Personal Information as requested in Master Thesis Handbook*
*Available at previous submission*

*Appendix 6: Pre-test*

*One of two advertisements (see appendix 1) is shown to participant) *

1. Do you use Instagram?
   Yes / No

Please indicate to what extent you agree with the following statements on a scale of
1 = completely disagree to 7 = completely agree

1. The photo used in this advertisement is taken in a natural environment.
2. The photo used in this advertisement is taken in an urban environment.
3. The photo used in this advertisement is made without the use of Photoshop software.

*Appendix 7.1: Customer engagement validity / reliability values*
CR: composite reliability; AVE: average variance extracted; *$p < .01$

| Construct | Factor Loadings (t-value) |
|---|---|
| *Customer engagement* | *CR: .937 AVE: .575 Cronbach's α: .927* |
| 1. Using this product would get me to think about Cotton Elements. | .539 (3.856)* |
| 2. I would think frequently about Cotton Elements when I'm using this product. | .796 (8.261)* |
| 3. Using this product would stimulate my interest to learn more about Cotton Elements. | .698 (7.523)* |
| 4. I would feel very positive when I use Cotton Elements. | .823 (9.939)* |
| 5. Using Cotton Elements would make me feel happy. | .868 (15.872)* |
| 6. Using Cotton Elements would make me feel good. | .711 (6.944)* |
| 7. I would be proud to use Cotton Elements. | .745 (7.932)* |
| 8. I would spend a lot of time using Cotton Elements compared to other sustainable clothing brands. | .892 (15.955)* |
| 9. Whenever I'm using clothes, I would usually use Cotton Elements. | .775 (8.676)* |
| 10. Cotton Elements is one of the brands I would usually use when I use clothes. | .673 (7.823)* |

*Appendix 7.2: WOM-intentions validity / reliability values*

CR: composite reliability; AVE: average variance extracted; *$p < .01$

| Construct | Factor Loadings (t-value) |
|---|---|
| *WOM-intentions* | *CR: .821, AVE: .573*<br>*Cronbach's α: .772* |
| 1. It would be likely for me to say positive things about this brand | .580 (5.210)* |
| 2. It would be likely for me to encourage friends and relatives to buy this brand's product. | .790 (13.503)* |
| 3. It would be likely for me to recommend the brand to others. | .870 (17.770)* |

*Appendix 7.3: Purchase intentions validity / reliability values*

CR: composite reliability; AVE: average variance extracted; *$p < .01$

| Construct | Factor Loadings (t-value) |
|---|---|
| *Purchase intentions* | *CR: .830, AVE: .706*<br>*Cronbach's α: .819* |
| 1. I would be interested in this product.\ | .875 (13.761)* |
| 2. I would be likely to pay for this product | .804 (13.360)* |

*Appendix 8: HTMT-values*

| | AOI1_Dwell | AOI1_First | ENG_ | Purch_Int | TYPE_APP | Type_Cust | WOM_ |
|---|---|---|---|---|---|---|---|
| AOI1_Dwell | | | | | | | |
| AOI1_First | 0.073 | | | | | | |
| ENG_ | 0.399 | 0.124 | | | | | |
| Purch_Int | 0.357 | 0.138 | 0.892 | | | | |
| TYPE_APP | 0.128 | 0.014 | 0.101 | 0.128 | | | |
| Type_Cust | 0.076 | 0.215 | 0.421 | 0.443 | 0.067 | | |
| WOM_ | 0.413 | 0.304 | 0.951 | 1.091 | 0.112 | 0.565 | |
| Type_Cust x TYPE_APP | 0.152 | 0.127 | 0.195 | 0.357 | 0.577 | 0.540 | 0.362 |

Appendix 9: GoF-index

| GoF-index | |
|---|---|
| Mean Construct communality | ENG: (0.539*0.539) + (0.796*0.796) + (0.698*0.698) + (0.823*0.823) + (0.868*0.868) + (0.711*0.711) + (0.745*0.745) + (0.892*0.892) + (0.775*0.775) + (0.673*0.673) = 5.5751858 / 10 = 0.5751858<br><br>WOM: |

| | |
|---|---|
| | (0.580*0.580) + (0.790*0.790) + (0.870*0.870) = 1.7174<br>1.7174 / 3 = 0.57246666<br><br>PI: (0.875*0.875)+ (0.804*0.804) = 0.7060205<br><br>Mean construct communality:<br>0.5751858 + 0.57246666 + 0.7060205/ 3 = 0.61789099 |
| Mean R2 | ((0.667 + 0.637 + 0.824 + 0.772 + 0.822 + 0.894 + 0.820 + 0.807 + 0.882 + 0.692) + (0.625 + 0.911 + 0.934) + (0.930 + 0.916))/ 15 = 0.80886 |
| Mean Construct communality x Mean R2 | 0.61789099 * 0.80886 = 0.49979 |
| GoF | 0.49979 |

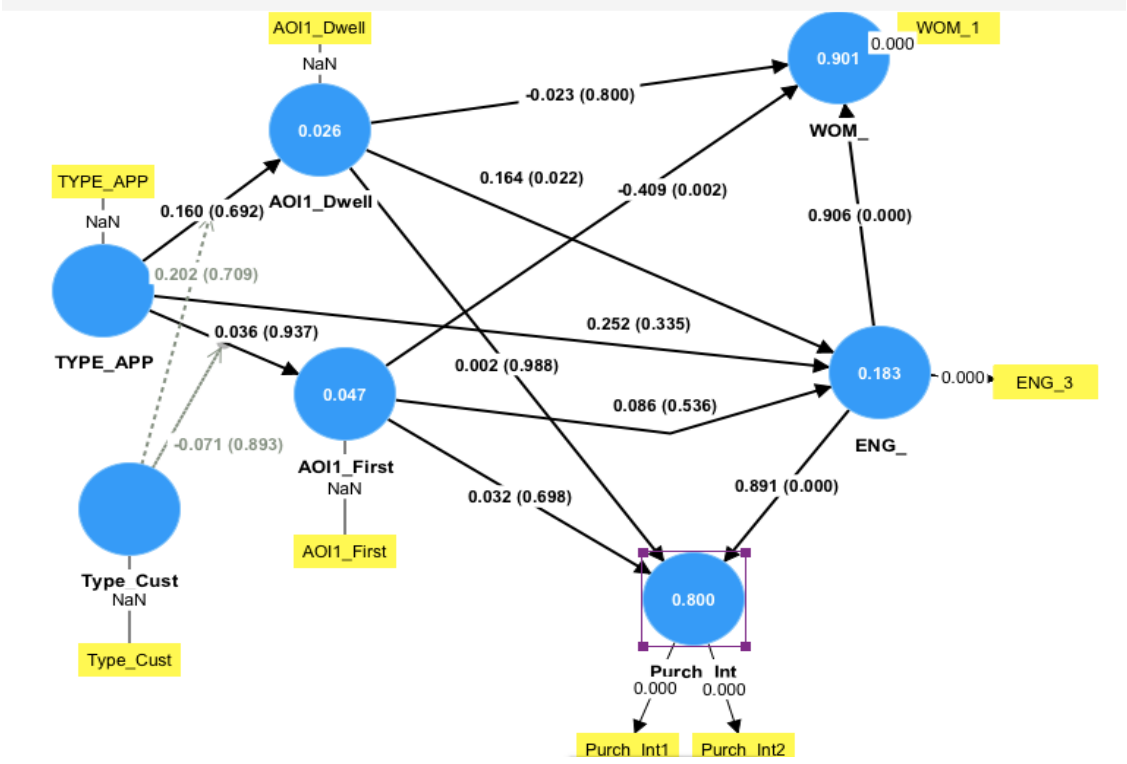
*Appendix 10: Skewness & Kurtosis*

| Variable | Skewness | Kurtosis |
|---|---|---|
| TYPE_APP | .000 | -2.070 |
| DWELL_AOI1 | .055 | .338 |
| TTFV_AOI1 | 2.033 | 4.492 |
| ENG_1 | -.928 | .699 |
| ENG_2. | -1.541 | 1.488 |
| ENG_3 | -.529 | -.650 |
| ENG_4. | -.961 | .091 |
| ENG_5 | -.902 | .333 |
| ENG_6 | -.786 | .218 |
| ENG_7 | -.630 | -.253 |
| ENG_8. | -.658 | -.200 |
| ENG_9 | .106 | -.487 |
| ENG_10 | .272 | -.760 |
| WOM_1 | -.041 | -.838 |
| WOM_2 | -1.017 | .869 |
| WOM_3 | -1.145 | .788 |
| PI_1 | -1.046 | .888 |
| PI_2 | -1.434 | 2.328 |
| GENDER | -.645 | -1.640 |
| TYPE_CUST | -.137 | -2.051 |

*Appendix 11: Path coefficients*

| Variabel | Original Sample | Sample mean | Standard deviation | T statistics | P values |
|---|---|---|---|---|---|
| AOI1_Dwell -> ENG_ | -0.409 | -0.407 | 0.134 | 3.059 | 0.002 |
| AOI1_Dwell -> Purch_Int | 0.002 | 0.027 | 0.103 | 0.016 | 0.988 |
| AOI1_Dwell -> WOM_ | -0.023 | 0.002 | 0.092 | 0.254 | 0.800 |
| AOI1_Dwell -> ENG_-> WOM_ | -0.365 | -0.370 | 0.131 | 2.779 | 0.005 |
| AOI1_Dwell -> ENG_ -> Purch_Int | -0.371 | -0.380 | 0.136 | 2.736 | 0.006 |
| AOI1_First -> ENG_ | 0.086 | 0.080 | 0.139 | 0.619 | 0.536 |
| AOI1_First -> Purch_Int | 0.032 | 0.034 | 0.084 | 0.387 | 0.698 |
| AOI1_First -> WOM_ | 0.164 | 0.169 | 0.072 | 2.283 | 0.022 |
| ENG_ -> Purch_Int | 0.891 | 0.905 | 0.071 | 12.589 | 0.000 |
| ENG_ -> WOM_ | 0.906 | 0.927 | 0.058 | 15.661 | 0.000 |
| TYPE_APP -> AOI1_Dwell | 0.160 | 0.152 | 0.403 | 0.396 | 0.692 |
| TYPE_APP -> AOI1_First | 0.036 | 0.012 | 0.462 | 0.079 | 0.937 |
| TYPE_APP -> ENG_ | 0.252 | 0.246 | 0.262 | 0.963 | 0.335 |
| Type_Cust -> AOI1_Dwell | 0.068 | 0.057 | 0.407 | 0.168 | 0.866 |
| Type_Cust -> AOI1_First | -0.395 | -0.397 | 0.319 | 1.237 | 0.216 |
| Type_Cust x TYPE_APP -> AOI1_Dwell | 0.202 | 0.214 | 0.542 | 0.374 | 0.709 |
| Type_Cust x TYPE_APP -> AOI1_First | -0.071 | -0.053 | 0.530 | 0.135 | 0.893 |

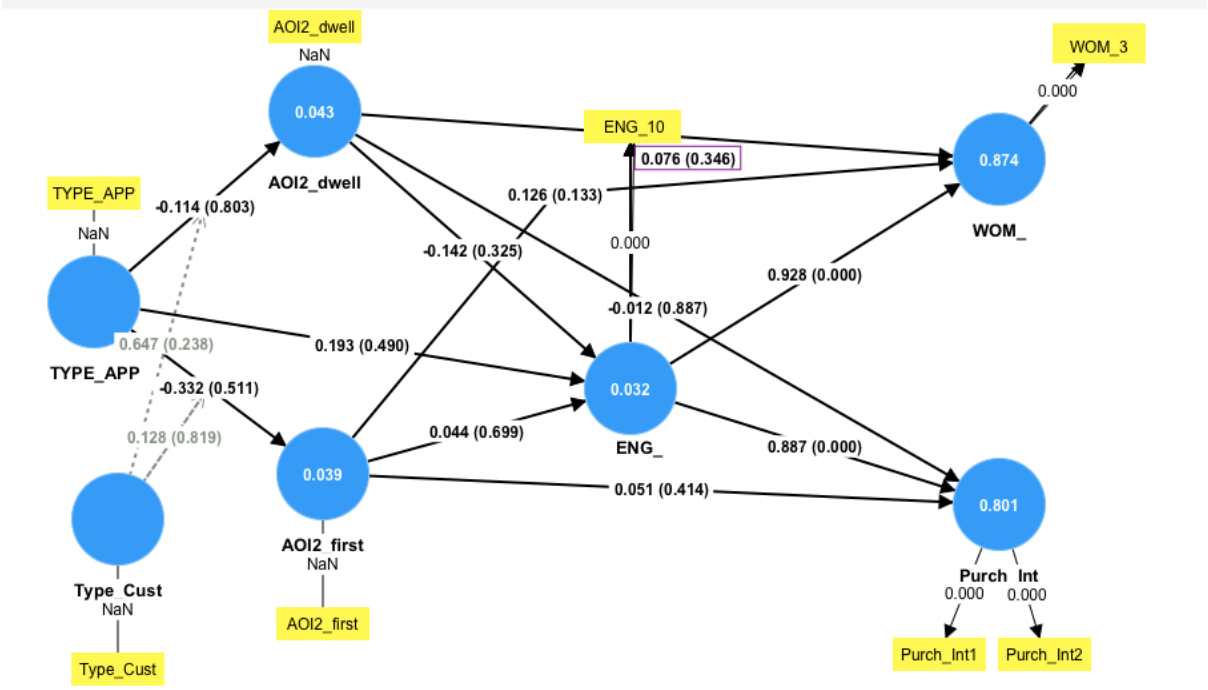
*Appendix 12: SmartPLS output AOI1*



*Appendix 13: Additional analysis AOI2: Path coefficients*

| Variabel | Original Sample | Sample mean | Standard deviation | T statistics | P values |
|---|---|---|---|---|---|
| AOI2_dwell -> ENG_ | -0.142 | -0.149 | 0.144 | 0.983 | 0.325 |
| AOI2_dwell -> Purch_Int | -0.012 | -0.008 | 0.084 | 0.143 | 0.887 |
| AOI2_dwell -> WOM_ | 0.076 | 0.082 | 0.081 | 0.943 | 0.346 |
| AOI2_first -> ENG_ | 0.044 | 0.035 | 0.114 | 0.386 | 0.699 |
| AOI2_first -> Purch_Int | 0.051 | 0.048 | 0.063 | 0.816 | 0.414 |
| AOI2_first -> WOM_ | 0.126 | 0.118 | 0.084 | 1.502 | 0.133 |
| ENG_ -> Purch_Int | 0.887 | 0.891 | 0.071 | 12.411 | 0.000 |
| ENG_ -> WOM_ | 0.928 | 0.933 | 0.047 | 19.779 | 0.000 |
| TYPE_APP -> AOI2_dwell | -0.114 | -0.121 | 0.457 | 0.249 | 0.803 |
| TYPE_APP -> AOI2_first | -0.332 | -0.339 | 0.505 | 0.657 | 0.511 |
| TYPE_APP -> ENG_ | 0.193 | 0.203 | 0.280 | 0.690 | 0.490 |
| Type_Cust -> AOI2_dwell | -0.441 | -0.442 | 0.379 | 1.164 | 0.244 |
| Type_Cust -> AOI2_first | -0.368 | -0.337 | 0.439 | 0.840 | 0.401 |
| Type_Cust x TYPE_APP -> AOI2_dwell | 0.647 | 0.661 | 0.548 | 1.181 | 0.238 |
| Type_Cust x TYPE_APP -> AOI2_first | 0.128 | 0.124 | 0.558 | 0.229 | 0.819 |

*Appendix 15: SmartPLS output AOI2*



*Appendix 16: Additional analysis AOI3: Path coefficients*

| Variabel | Original Sample | Sample mean | Standard deviation | T statistics | P values |
|---|---|---|---|---|---|
| AOI3_dwell -> ENG_ | 0.259 | 0.251 | 0.146 | 1.778 | 0.076 |
| AOI3_dwell -> Purch_Int | -0.010 | -0.018 | 0.093 | 0.111 | 0.911 |
| AOI3_dwell -> WOM_ | -0.131 | -0.136 | 0.078 | 1.676 | 0.094 |
| AOI3_first -> ENG_ | -0.001 | -0.002 | 0.139 | 0.006 | 0.995 |
| AOI3_first -> Purch_Int | -0.071 | -0.063 | 0.090 | 0.791 | 0.429 |
| AOI3_first -> WOM_ | -0.146 | -0.134 | 0.105 | 1.388 | 0.165 |
| ENG_ -> Purch_Int | 0.888 | 0.894 | 0.072 | 12.269 | 0.000 |
| ENG_ -> WOM_ | 0.941 | 0.948 | 0.053 | 17.631 | 0.000 |
| TYPE_APP -> AOI3_dwell | 0.121 | 0.120 | 0.366 | 0.331 | 0.741 |
| TYPE_APP -> AOI3_first | -0.138 | -0.151 | 0.359 | 0.386 | 0.700 |
| TYPE_APP -> ENG_ | 0.246 | 0.245 | 0.261 | 0.943 | 0.346 |
| Type_Cust -> AOI3_dwell | 0.630 | 0.639 | 0.317 | 1.986 | 0.047 |
| Type_Cust -> AOI3_first | -0.176 | -0.187 | 0.290 | 0.605 | 0.545 |
| Type_Cust x TYPE_APP -> AOI3_dwell | -0.897 | -0.918 | 0.515 | 1.743 | 0.081 |
| Type_Cust x TYPE_APP -> AOI3_first | 0.686 | 0.683 | 0.494 | 1.389 | 0.165 |

*Appendix 17: SmartPLS output AOI3*