Are You Willing to Buy My Groceries?

The mediating effect of online flow experience between the experienced quality of the e-servicescape and purchase intention in a Dutch online grocery setting

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Abstract

The purpose of this study is to provide new insights in, and to improve the existing knowledge on the relation between the virtual environment, online flow, and customers' purchase intention in the Dutch online grocery retail market. The main research question being answered in this paper is:

"What is the mediating role and impact of online flow experience on the relationship between the experienced quality of the e-servicescape and customers' purchase intention?"

To answer the research question an online survey was conducted amongst Dutch respondents. First, respondents had to perform an online grocery buying task on a Dutch grocery retailer's website. They subsequently filled in a questionnaire including statements about their opinions on the quality of the design of the website, their evoked emotions during the process, and their intention to purchase. Thereafter, the data was analysed using partial least squares (PLS), as a form of variance based structural equation modelling (SEM), in ADANCO. We followed the Three-Stage Approach, to derive second-order constructs to include into the model.

The results show support for hypotheses H1 and H2, since the effects of 'quality of e-servicescape' on 'purchase intention' ($B=0.5273$, $p<0.001$, $f2=0.0007$), and 'quality of e-servicescape' on 'online flow experience' ($B=0.9169$, $p<0.001$, $f2=5.2771$) are significant. The results show rejection of hypotheses H3, H4, and H5, since the effects of 'online flow experience' on 'purchase intention' ($B=0.6351$, $p=0.7863$, $f2=0.0977$), the mediating effect of 'online flow experience' ($B=0.5824$, $p=0.8032$, $f2=0.0007$), and the moderating effect of 'previous online grocery buying experience' ($B=0.0769$, $p=0.3323$, $f2=0.0044$) are non-significant.

To conclude, results indicate that the experienced 'quality of the e-servicescape' influences both 'purchase intention' (weak effect) and 'online flow experience' (strong effect) in a positive way. However, we find no support for the mediating effect of 'online flow experience', and even a no-effect nonmediation was demonstrated. A possible explanation for this outcome could be that the sample size does not provide enough statistical power to show an effect when there actually is an effect, since the path-coefficients are rather high. This is one of the limitations, which could be further elaborated on in future research. Still, these outcomes are interesting for online grocery retail managers, as they can influence the emotions of customers during the shopping process with the design of the website.

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1. Introduction

Over the last couple of years, the use of online devices grew significantly, as we now see almost everyone performing their daily tasks with a smartphone. Nowadays, we search, entertain, communicate, navigate, play, read, watch, listen, pay, and shop through our online devices (Davies, 2017). Grocery retailers respond to this development by providing virtual supermarkets in addition to their physical stores (Nielsen, 2015). Moreover, the growth of the Dutch online grocery market accelerated in 2014, because more supermarket chains (e.g. Albert Heijn, Jumbo, Plus) started to invest in providing online services (Syndy, 2015). But also, small players such as Picnic are challenging the market as full virtual supermarkets (DutchNews.nl, 2018). Therefore, already in 2017, the Dutch market grew to twenty-nine percent (29%) and became in that year the largest market in online supermarket shoppers in whole of the European Union (CBS, 2018). For customers, online grocery stores provide several advantages over physical grocery stores. For example, convenience is a major advantage of online grocery shopping, by reducing physical effort and saving time (Verhoef & Langerak, 2001). Therefore, it is important that convenience is supported by the design of the website, to create a seamless experience where customers feel an experience of flow, and thereby encourage the customer to purchase at the online grocery retailer.

Especially, the creation of a seamless experience where customers feel flow is discussed intensively in recent e-commerce studies (Bilgihan, Okumus, Nusair & Bujisic, 2014; Hsu, Chang, Kuo & Cheng, 2017), and in particular in 'e-servicescape' studies. The term 'e-servicescape' emerged from the 'servicescape' typology, as introduced by Bitner (1992). Although earlier research in the environmental psychological discipline already investigated the influence of the 'build environment' on human beings, Bitner (1992) was one of the first in the marketing discipline to set up a new typology of this phenomenon. She investigated how the physical surroundings of a service setting influence the emotions and behaviours of both customers and employees. Bitner (1992) assumes that several environmental measures (e.g. noise, music, odour, layout, furnishings, signage, style) influence the perceived 'servicescape'. Besides, the perception of the 'servicescape' influences the beliefs, moods, attitudes, and behaviours of both customers and employees present in the service setting. To test the robustness of the typology, the proposed framework was applied and tested multiple times in different contexts, as seen in a systematic literature review (Mari & Pogessi, 2013). For

example, Lin (2010) studied the effect of novel and unique colours and music on the evaluation of customer satisfaction, moderated by the customers' arousal level.

However, due to the development of online services and a greater online focus in marketing, a refinement of the 'servicescape' typology was suggested toward the 'e-servicescape' typology. For instance, Hopkins, Grove, Raymond & LaForge (2009) adopted the 'servicescape' environmental dimensions (ambient conditions, spatial layout and functionality, signs, symbols, and artefacts) of Bitner (1992) in their 'e-servicescape' framework of online service settings. Yet, the dimensions from the physical environment cannot literally be applied in the online environment (Harris & Goode, 2010). Therefore, Harris & Goode (2010) presented a redefined 'e-servicescape' framework, comprising three dimensions: aesthetic appeal, layout and functionality, and financial security. In recent research we see the support for and use of this framework (Kumar Roy, Lassar & Butaney, 2014; Wu, Quyen & Rivas, 2016).

In addition, recent studies show an increasing interest in the effect of the 'e-servicescape' on customers' emotional and behavioural outcomes, such as trust (Wu et al., 2016; Kühn & Petzer, 2018), stickiness, loyalty (Kumar Roy et al., 2014), and purchase intention (Huang, Li, Mou & Liu, 2017; Teng, Ni & Cheng, 2018). Especially, purchase intention is frequently used in recent research, to explain customer behaviour in online environments. For instance, consumers' perceptions of the website layout, design, and atmosphere may evoke either positive or negative emotional outcomes that can influence their purchase intention (Wu, Lee, Fu & Wang, 2013). Likewise, it is shown that customer emotions are of increasing importance in validating the effect of a well-designed website on customer purchase intention, in the context of hedonic shoppers (Mpinganjira, 2015).

In addition, to create such an online shopping experience, the concept of flow is a key determinant in explaining customer behaviours in ''e-servicescape's', both scientists and market professionals agree (Huang, Backman & Backman, 2012; Teng, Huang, Jeng, Chou & Hu, 2012). For example, if a customer wants to buy groceries online and has never experienced a grocery retailers' website before, he or she might feel anxious if the online experience is not flawless. In this case, the customer wants to see the pictures of the fresh produces, read the reviews from other customers, and ask any questions to a customer representative via online chat. Therefore, a well-designed 'e-servicescape' could improve the efficient flow of activities

in the service setting (Bilgihan et al., 2014). In this research we see online flow as the positive emotions (e.g. enjoyment, perceived control) people evoke toward the online service setting. Some studies have shown that experiencing flow contributes to a positive customer online experience (Hsu et al., 2017). Previous research focused on flow as an outcome of the 'e-servicescape' (Lee & Jeong, 2012), or as an antecedent of customers' purchase intention (Jeon, Lee & Jeong, 2018) respectively. Especially, the effect of flow on customers' purchase intention is proven to be strong (Hausmann & Siekpe, 2009; Jeon et al., 2018). Nonetheless, only a few studies have investigated the mediating effect of flow on the relationship between the 'e-servicescape' and the purchase intention of customers (Huang et al., 2017; Kühn & Petzer, 2018), however not always with significant outcomes. Therefore, the research of flow in e-commerce is promising, but still lacking consensus (Kühn & Petzer, 2018). This is understandable, given the novelty of the concept in the virtual retailing literature (Teng et al., 2018).

Nevertheless, to our understanding, a gap exists in the availability of studies that investigate the effect of the 'quality of 'e-servicescape'', through 'online flow experience', on the purchase intention of customers. Therefore, to overcome this gap, this study aims to provide new insights to improve the existing knowledge on the relation between the virtual environment, online flow, and customers' purchase intention in the Dutch online grocery retail market. The main research question being answered in this paper is as follows:
"What is the mediating role and impact of 'online flow experience' on the relationship between the experienced quality of the 'e-servicescape' and customers' purchase intention?"

By answering the main research question, we will provide new insights into the rather unexplored world of customer behaviours in the Dutch online grocery market. Therefore, the contribution of this research is twofold. First, we will contribute to the research area on customer behaviour toward virtual environments, by proposing online flow as a new mediating effect (Teng et al., 2018). Besides, we explore other constructs of the online 'servicescape' as possible significant antecedents of flow and customer behaviour (Kühn & Petzer, 2018). Second, this study provides managers of online grocery retailers with interesting insights to better design their websites, and which design features are important for customers in their intention to purchase at the respective online grocery retailer. By knowing this, managers thereby can influence the purchase intentions of current and potential customers. This is of

increasing importance since, due to the developments in the market, the customer has a greater choice between a wider range of online grocery retailers. Also, since many customers are still new with the service setting, their purchase intention could be influenced more easily.

This research will follow the stimulus-organism-response (S-O-R) framework (Mehrabian & Russell, 1974) as a theoretical background. This framework is frequently used in previous research on the relationship between environmental stimuli, consumer's inner reactions and behavioural responses (Tankovic & Benazic, 2018). Also, it is proven that the premises of the S-O-R framework are suitable in the context of online retail stores (Mummalaneni, 2005), and can be applied to a variety of virtual store contexts (Wu et al., 2013). Additionally, present research adopts the 'e-servicescape' conceptualization of Harris & Goode (2010), as it is proven as a robust framework in recent studies. Besides, in current research the concept of online flow is explained through the sub-dimensions enjoyment, perceived control, concentration, merging of actions and awareness, curiosity, and time distortion, as these dimensions are proven to be strong predictors of 'online flow experience' (Ozkara, Ozmen & Kim, 2017). Previous literature states a distinction must be made between 'hedonic flow' and 'utilitarian flow' to better understand the effect of flow in retail experiences (Huang et al., 2017). 'Hedonic flow' is more concerned with the emotional process, whereas 'utilitarian flow' focuses on the actual behavioural outcomes. While physical grocery shopping is mainly an outcome-oriented behaviour, also enjoyment is found to be a significant predictor of online grocery shopping (Childers, Carr, Peck & Carson, 2001). Therefore, we will not make a distinction between 'hedonic- and utilitarian flow' in this research.

In the next section, prior studies on 'e-servicescape', 'online flow experience', and purchase intention will be reviewed, hypotheses will be developed, and the conceptual model will be provided. Thereafter, the methodology used in this research and its results will be discussed. Last, a discussion on and conclusion of the results will be given, including theoretical- and managerial implications, limitations, and recommendations for further research.

2. Literature Review

In this chapter we review the literature on the concepts of quality of 'e-servicescape' and purchase intention.

2.1 Quality of E-servicescape

As mentioned earlier, the 'e-servicescape' concept emerged from the 'servicescape' typology as defined by Bitner (1992). She was one of the first to investigate how physical environmental stimuli affect customer emotions and behaviours, in the marketing discipline. However, as marketing research shifted its focus from physical service settings towards online service settings, a need to transform the 'servicescape' concept into a virtual oriented typology emerged. Following the dimensions of Bitner's (1992) 'servicescape' framework, Hopkins et al. (2009) adopted these three dimensions and proposed that the 'e-servicescape' comprises: ambient conditions, spatial layout and functionality, and signs, symbols, and artefacts. In their research, the researchers discussed the effects of the 'e-servicescape' on website-related attitudes, evaluations, and purchase intention (Hopkins et al., 2009). Yet, it is argued that the online environment is different from the physical environment, and therefore the 'e-servicescape' typology cannot be adopted completely (Harris & Goode, 2010). The researchers argue that the 'e-servicescape' consists of three dimensions: aesthetic appeal, online layout and functionality, and financial security. They define the 'e-servicescape' concept as *"the online environment factors that exist during service delivery"* (Harris & Goode, 2010). In the following years, the 'e-servicescape' model by Harris & Goode (2010) was applied multiple times to investigate the effects on for instance stickiness and loyalty (Kumar Roy et al., 2014), trust (Wu et al., 2016; Kühn & Petzer, 2018), and purchase intention (Huang et al., 2017; Teng et al., 2016). To better understand the concept of 'e-servicescape', the three previous mentioned dimensions by Harris & Goode (2010) are explained more extensively in the next sections.

First, online aesthetic appeal is related to the online ambient conditions occurring in a service setting, and to the extent to which consumers see the 'e-servicescape' as attractive or alluring (Harris & Goode, 2010; Huang et al., 2017). A website's aesthetic appeal is determined according to the perceived visual appeal, originality of design, and entertainment value (Teng et al., 2018). For example, when a customer experiences a website as visually appealing through an original design, and when the website provides entertainment for the customer, this will result in better web aesthetics. Also, the web aesthetics can be seen as the 'e-servicescape' cues

that yield an impression of beauty (Wang, Minor & Wei, 2011). Previous research showed us that consumers enjoy aesthetic design in a service setting, because for them the service will be more appealing, and this can result in a more positive outcome (Wang et al., 2011; Loureiro, 2017). Because of these findings we argue that online shopping experiences and the development of related outcomes are highly linked to the aesthetic appeal of the 'e-servicescape' environment (Chen & Chang, 2003).

Second, online layout and functionality refer to the arrangement, organization, structure, and adaptability of web sites, as well to the extent to which such items facilitate service goals (Harris & Goode, 2010). As such, instead of focussing on aesthetics, the online layout and functionality part of the 'e-servicescape' focuses on how the website is organized and structured, and how these structures facilitate the purchase goal of the customer. The website's layout and functionality are evaluated through the measures of usability, relevance of information, customization, and interactivity (Harris & Goode, 2010; Teng et al., 2018). Of course, it is of great importance that the customer can use the website in a proper way, and that the information provided is relevant. Also, research in internet usage concluded that the extent of online customization and personalization is central to customers' evaluation of the website and emphasized the importance of customized websites in retailing service settings (Huizingh, 2002; Menon & Kahn, 2002). Recent research identifies the website's layout and functionality as the overall arrangement, organization, structure, and adaptability of 'e-servicescape's, and the perceived usability and navigation of the used online interface (Huang et al., 2017).

Third, online financial security refers to the extent to which consumers perceive the payment processes and general policies of an 'e-servicescape' as secure or safe (Harris & Goode, 2010). This dimension of the 'e-servicescape' is measured through the sub-dimensions ease of payment and perceived security (Teng et al., 2018). Consequently, customers who use electronic payments on the internet, perceive a website to be financially secure when the payment process is easy and is perceived as safe (Huang et al., 2017). Previous research already mentioned the crucial aspect of perceived security in the context of online service environments (Zeithaml, Parasuraman & Malhotra, 2002). Subsequently, Flavian & Cuinaliu (2006), defined perceived security as *''the subjective probability in the customer's eyes that his or her personal or financial information will not be shown, saved, and/or stolen during e-commerce and storage by outside parties''.* To build a safer transaction environment, researchers have established

procedures and models through SQL (Structured Query Language), NTFS (New Technology File System) and UNIX system to enhance the security of online buying (Kesh, Ramanujan & Nerur, 2002; Yau, Phan & Heng, 2012; Bays, Oliveira, Barcellos, Gaspary & Madeira, 2015). Therefore, we argue that the issue of perceived security is already researched extensively. However, ease of payment is less intensively researched as a stand-alone dimension in the financial security part of the 'e-servicescape'. Moreover, ease of payment emerged as a significant antecedent for consumers when they make the decision to purchase online (Fu Tsang, Lai & Law, 2010).

Even though the 'e-servicescape' conceptualization by Harris & Goode (2010) is well grounded in related research through the years, there are some studies which propose different perspectives on the 'e-servicescape' model. For instance, previous literature proposed that the aesthetic appeal dimension has two sub-dimensions instead of three (visual appeal and entertainment value), layout and functionality has three sub-dimensions (interactivity, usability, and customization), excluding relevance of information, and financial security has two sub-dimensions (ease of payment and perceived security) (Tran, Strutton & Taylor, 2012). Another study focussed more on the aesthetics of the website and therefore classified 'e-servicescape' into classical aesthetics, expressive aesthetics and usability (Porat & Tractinsky, 2012). In the meantime, it is argued that the social part of online shopping should be included in the 'e-servicescape' framework, where the 'e-servicescape' should consist of ambient, design, and social dimensions (Lee & Jeong, 2012). In their research the ambient factor determines the extent to which a website cultivates a pleasant and light-hearted atmosphere among consumers, and these factors include images, font size, and overall layout (Lee & Jeong, 2012). Subsequently, it was proposed that the 'e-servicescape' model includes the dimensions: ambience, design, interactivity, and signs, symbols, and artefacts (Lai, Chong, Ismail & Tong, 2014). Design includes categorization, basic arrangement, and the navigation bar. Ambience includes photograph quality. Interactivity includes pricing information and the receipt of confirmation e-mails. Signs, symbols, and artefacts include the company logo (Lai et al., 2014). Overall, the researchers notice a great variety of conceptualizations on the 'e-servicescape' typology, as the framework can be used in many different online contexts.

2.2 Purchase Intention

Purchase intention is seen as a behavioural outcome of a customer in a purchase process. Intention is defined as *"the indicator of to what extent people are willing to approach certain behaviour and how many attempts they try in order to perform that certain behaviour"* (Ajzen, 1991). Consequently, purchase intention can be identified as a kind of decision-making by the customer, where the individual investigates the reason to buy a certain product or brand (Shah et al., 2012). As cited by Mirabi, Akbariyeh, & Tahmasebifard (2015), purchase intention is defined as a situation where a consumer tends to buy a certain product in a certain condition (Morinez et al., 2007). In this definition the focus is on the word 'tends', because the actual purchase has not occurred yet, but there is an 'intention' to buy the product. The purchase decision process is seen as complex, because the intention to purchase is related to the attitudes, perceptions, and behaviours of customers (Mirabi et al., 2015). For instance, Laohapensang (2009) found in his study that the perception of behavioural control and the attitudes for others affected the intention to purchase a product online. With the spread of the internet, and simultaneously the e-commerce, the concept of purchase intention has been extended to online environments. With this in mind, some studies suggested the antecedents of online purchase intention (Harris and Goode, 2010; Lim, 2015; King, Schilhavy, Chowa & Chin, 2016). Therefore, it is crucial to investigate why customers are motivated to purchase via internet, seek related information based on personal and environmental factors, and subsequently evaluate and compare several potential products before finally deciding which one to purchase online (Teng et al., 2018). Herewith, it is seen that online customers are affected by internal and external motivations during their online buying process (Gogoi, 2013), and that one can distinguish different stages. There are six different stages in the buying process before customers decide which product to buy. These are: awareness, knowledge, interest, preference, persuasion and purchase (Kotler & Armstrong, 2010; Kawa, Rahmadiani & Kumar, 2013).

Another important notion is the difference between purchase intention and the actual purchase. Although, many researchers determined the intention to purchase as an important predictor of the actual action to purchase online (Laohapensang, 2009; Lim et al., 2016), it should be recognized that the intention to purchase online does not result immediately in the actual purchase behaviour (Kim & Jones, 2009). Consequently, an online retailer should build its website in such a way, that he can map and understand the purchase behaviour of his customers, in order to build and maintain a good relationship (Kim & Hong, 2010). With building this relationship the retailer is able the transform the customer's intention to purchase into an actual

purchase (Lim et al., 2016). Also, when a customer lacks the intention to purchase a product or service online, it can form a major obstacle to develop a retailer's online commerce (He, Lu & Zhou, 2008).

3. Theoretical Background

In this chapter we first discuss the S-O-R framework. Thereafter, we explain how this theoretical model relates to the 'online flow experience' of customers, including the different sub-dimensions of 'online flow experience'. We conclude the chapter with the development of hypotheses, and we provide the conceptual model used in this study.

3.1 S-O-R Framework

In this research the S-O-R framework is used as a theoretical background. The framework consists of three different dimensions: the stimulus, the organism, and the response (Mehrabian & Russell, 1974). Rooted in environmental psychology, Mehrabian & Russel (1974) suggest the framework to describe the sequential relation between environmental stimuli (S), that evoke affective or cognitive reactions in an individual (O), which consequently result in behavioural responses of that individual (R), as shown in Figure 1.

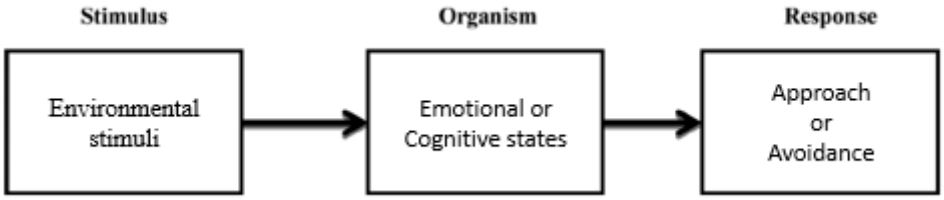

Figure 1: S-O-R framework as proposed by Mehrabian & Russel (1974)

Traditionally, research focused on the effects of physical environmental stimuli (the servicescape; Bitner, 1992) on individuals' cognitions and emotions (Donovan & Rositer, 1982). Subsequently, traditional research focused on the impact of specific atmospherics (e.g. sound, colour, lighting, scent) on customers' purchase behaviours (Wu, Hsiao & Fu, 2010; Lee & Rao, 2010; Cyr, Head & Larios, 2010). However, due to the development of the internet, the focus has shifted to virtual environmental stimuli and other various aspects of the S-O-R model in this new medium (Peng & Kim, 2014), such as atmospherics that online customers can see or hear during the online shopping experience (Eroglu, Machleit & Davies, 2001; Manganari, Siomkos & Vrechopoulos, 2009). For example, Koo & Ju (2010) confirm in their research that online environmental cues affect customers' emotions and purchase outcomes. In addition it is found that, based on the S-O-R framework, a website's aesthetic formality and aesthetic appeal can evoke arousal, satisfaction, and purchase outcomes in online shoppers' purchase tasks

(Wang et al., 2011). Also, a more recent study shows the effect of online shopping values and web atmospheric cues on consumers' web satisfaction, and consequently on their online purchase behaviour (Prashar, Sai Vijay & Parsad, 2017). Moreover, the extension of the S-O-R framework into online research settings is found to be evident, because e-commerce gets more important. Therefore, other recent studies elaborate on how to improve the understanding of consumers' reaction to, and resulting behaviour in, online retail environments (Kühn & Petzer, 2018; Mosteller, Donthu & Eroglu, 2014).

As a starting component of the S-O-R model, the stimulus (S) is defined as *"the factor or environmental cue that influences consumers' psychological states"* (Mehrabian & Russell, 1974). The stimulus was traditionally associated with physical environmental cues, and the most well-known conceptualization of a store's physical environment is Bitner's (1992) servicescape framework. Consequently, the servicescape framework is widely adopted to explain the store's online or virtual environment (e.g. e-commerce platforms) (Hopkins et al., 2009). The most used conceptualization to explain the virtual environmental cues, following the S-O-R sequence, is Harris & Goode's (2010) 'e-servicescape' framework. This model includes the aesthetic appeal, layout, functionality, and financial security of a website as stimuli for the customer-retailer interactions during the virtual shopping experience of a customer (Harris & Goode, 2010). Nonetheless, the virtual environment is different from the traditional physical environment of a company, in that the 'e-servicescape' does not include the physical cues, such as touch, smell, and taste. Customers can only be exposed to two senses – sight and hearing – during the interaction in the 'e-servicescape'. However, the online environment has other benefits over the physical environment, since customers are more flexible in terms of time and location (Lee & Jeong, 2012). In this research the 'e-servicescape' is used as the online environment stimulus including aesthetic appeal, layout & functionality, and financial security.

The organism component (O) in the S-O-R framework is defined as *"the customers' cognitive or emotional state, which converts perceived environmental stimuli into meaningful information"* (Mehrabian & Russell, 1974). Similarly, the organism is seen as the intervening component between external environmental stimuli and the internal actions, reactions, or responses of customers, consisting of cognitive and emotional activities (Bagozzi, 1986). Also, more recent research found that physical and online store stimuli elicit both emotional and cognitive actions within organisms (Ha & Im, 2012). The organism is described as the

intermediary state and process between external stimuli and internal cognitive and emotional states of a customer in a shopping experience (Tankovic & Benazic, 2018). Cognitive states represent consumers' mental processes involving the gaining, processing, and retrieval of information, whereas affective states refer to emotions (positive and negative) felt during interaction with environmental stimuli (Eroglu et al., 2001; Islam & Rahman, 2017). In this research the concept of online flow is seen as the organism component, including enjoyment, perceived control, concentration, merging of actions and awareness, curiosity, and time distortion, as suggested by Ozkara et al. (2017). Because flow is described as a holistic experience felt by consumers when immersed in a particular activity (Csikszentmihalyi & Csikszentmihalyi, 1975), it can be said that flow is characterized by cognitive and affective states (Kühn & Petzer, 2018).

In the S-O-R framework, the response component is defined as *"the external reaction elicited from consumers in the form of approach or avoidance behaviour"* (Mehrabian & Russell, 1974). Responses reflect customers' final behavioural outcomes (Huang et al., 2017). For instance, consumers can show behavioural intentions (Brunner-Sperdin, Scholl-Grissemann & Stokburger-Sauer, 2014), actual purchase (Teng et al., 2018), online word of mouth (Wu et al., 2016), and loyalty (Islam & Rahman, 2017). It is argued that customers can respond to the stimulus and the organism in two different ways. They can exhibit either approach or avoidance behaviours (Mehrabian & Russell, 1974). Approach behaviours are mainly associated with the positive behaviours' customers demonstrate. For example, these behaviours are intentions to stay, explore, and be affiliated with the website of a particular company (Lee & Jeong, 2012). On the other hand, avoidance behaviours are the opposite of approach behaviours. These response behaviours are associated with the negative behaviours' customers can demonstrate. Deteriorated satisfaction, feelings of anxiety or boredom, and a desire to leave the website and not return are examples of avoidance behaviours represented in the S-O-R model research field (Lee & Jeong, 2012). Also, for instance the concept of satisfaction (Ha & Lennon, 2010), and intention to word of mouth (Ha & Im, 2012) are broadly used in research, to extend the S-O-R model in the response field. In this research the intention to purchase is used as a response behaviour, because it is argued that purchase intentions reflect approach behaviour and hence form the response component in the S-O-R model (Kühn & Petzer, 2018). The conceptual model of this research can be seen in Figure 2.

3.2 Online Flow

Originally, flow is defined as *''the holistic sensation that people feel when they act with total involvement''* (Csikszentmihalyi & Csikszentmihalyi, 1975). A state of flow occurs when a person's perceptions of his skills and the activity in which he is engaged, matches (Csikszentmihalyi & Csikszentmihalyi, 1975). This rather old view on flow experience was the basis of more intensive research into the phenomenon. The first noteworthy research is the one of Hoffman & Novak (1996), who were some of the first to use the flow concept in investigating online experiences. Like Csikszentmihalyi & Csikszentmihalyi's original description of flow, they define online flow as *"the state arising during network navigation that is characterized by a seamless sequence of responses facilitated by machine interactivity"* (Hoffman & Novak, 1996). Also, in more recent literature it is argued that customers can experience flow when they are completely involved in an online purchase activity (Hoffman & Novak, 2009). The online flow concept is characterized by four features: a seamless sequence of responses facilitated by machine interactivity, intrinsically enjoyable, accompanied by a loss of self-consciousness, and self-monitoring (Novak, Hoffman & Yung, 2000). 'online flow experience' is determined by high levels of skills and control, high levels of challenge and arousal, focused attention, and interactivity and telepresence (Hoffman & Novak, 1996). Therefore, it can be argued that customers should possess already some skills and attention with the shopping experience, before they can experience flow. However, if customers experience flow, online marketeers are convinced that these customers are willing to make more purchases and that they will visit the website in the future to repurchase and feel the same shopping experience again (Bridges & Florsheim, 2008). Also, when a flow state occurs, people are very involved with their ongoing activities and can experience positive emotions. These emotions can include great enjoyment as well as concentration (Hsu et al., 2017). Subsequently, another approach defines flow as a temporarily unaware experience in which an individual engages in a social shopping activity in a social shopping website with total concentration, control, and enjoyment (Liu, Chu, Huang & Chen, 2016).

However, in the aforementioned contexts the 'online flow experience' is very much linked to positive significant outcomes. Meanwhile, Ozkara et al. (2017) conducted a literature review on studies who examined the flow experience in the online purchasing context. These researchers found an interesting tendency regarding this issue, because flow can be either approached as a unidimensional or a multidimensional construct. Studies who investigated the

flow experience as a unidimensional construct, reported mainly positive significant effects of flow on purchase behaviour (Ozkara et al., 2017). However, in studies which investigated the experience of flow as a multidimensional construct, results show effects that are far from a general tendency. Of those studies that approached flow experience as multidimensional, some showed significant positive effects on purchase behaviour for all sub-dimensions (Hausman & Siekpe, 2009; Hsu, Chang & Chen, 2012; Mäntymäki, Merikivi & Islam, 2014), some even did not identify significant effects at all (Shang, Chen & Shen, 2005; Mohd Suki, Ramayah & Mohd Suki, 2008), and some studies concluded that some sub-dimensions showed negative effects on purchase behaviour, where other sub-dimensions simultaneously showed positive effects (Shang et al., 2005; Lee & Chen, 2010).

Nevertheless, 'online flow experience' can be explained as the pleasant experience that customers feel when they act with total involvement and when they are immersed with the online shopping activity (Huang et al., 2012; Gao & Bai, 2014). Also, both researchers and practitioners agree that flow is a key concept for the explanation of consumer behaviour in online environments (Huang et al., 2012; Teng et al., 2012). Furthermore, when people experience flow in an online environment, it can reduce the occurrence of negative behaviours, such as website avoidance (Dailey, 2004). Also, flow can help online retailers to create positive emotions in the minds of their customers, considering for instance mistrust still as an important issue in online shopping nowadays (Bilgihan et al., 2014). Consequently, there is a chance that a positive website interaction could increase the customers' purchase intention, because it is expected that an online customer is more likely to purchase from a particular website if he evokes positive emotions towards that website (Bilgihan et al., 2014).

Previous literature argues that flow is a multidimensional concept with different components (Wang, Baker, Wagner & Wakefield, 2007; Ozkara et al., 2017). For example, Ozkara et al. (2017) propose a flow experience framework with six sub-dimensions: enjoyment, perceived control, concentration, merging of actions and awareness, curiosity, and time distortion. Because of this view, we first approach the concept of flow experience as multidimensional. Accordingly, we believe that the six sub-dimensions proposed by Ozkara et al. (2017) will be of the greatest importance in the context of online grocery shopping, to connect the quality of the 'e-servicescape' with customers' purchase intention. We further elaborate on these six sub-dimensions in the following sections of this chapter.

3.2.1 Enjoyment

One of the sub-dimensions of 'online flow experience' is enjoyment. Enjoyment is defined as the degree to which using a virtual world is perceived to be enjoyable regardless of any performance consequences (Lu, Zhou & Wang, 2009; Domina, Lee & MacGillivray, 2012). Besides, enjoyment is defined as capturing an individual's subjective fun of the interaction with the technology at hand (Siekpe, 2005). In one of the first definitions of flow it is specified that experiencing a state of flow is extremely enjoyable (Csikszentmihalyi & Csikszentmihalyi, 1975). The importance of enjoyment is seen in the notion on when customers are enjoying themselves, they are more likely to be highly focused and more likely to evoke positive attitudes and emotions toward the online environment. Hereby, customers promote their intention to accept the new technology (Li & Huang, 2009). When studies about flow and the online purchase context are examined, we observe that enjoyment is one of the most frequently used dimensions to explain the 'online flow experience', and most of the time with significant positive effects on behavioural outcomes (Wu & Chang, 2005; Sanchez-Franco, 2006; Guo & Barnes, 2009; Domina et al., 2012). For example, Domina et al. (2012) indicated that the enjoyment dimension of flow has a positive significant effect on customers' online purchase intention. Similarly, Wu & Chang (2005) investigated the effect of enjoyment in the online travel context and found that customers who interacted with the 'e-servicescape' showed positive significant effects on transaction intention with which they carry out the intention to purchase. Guo & Barnes (2009) presented through interviews with their respondents a result with a similar meaning, that enjoyment has positive effects on the customer's online purchase intention. In contrast, some studies concluded non-significant effects. For instance, Lee & Chen (2010) were not able to find any significant effect of enjoyment neither on the attitude toward online purchase nor on the online purchase intention. Along with this example, it can be noted that the significant effects of enjoyment on unplanned purchases within the online retail context have not been determined yet (Ozkara et al., 2017).

3.2.2 Perceived Control

Another sub-dimension of 'online flow experience' is perceived control. Perceived control is defined as customers' perception of ease or difficulty in performing the behaviour of interest (Domina et al., 2012). Perceived control occurs when the person has a feeling that he is in control of his own actions and his interactions with his surroundings (Koufaris, 2002). This is not only in the physical context, since many researchers study perceived control as a sub-

dimension of flow experience in the virtual context (Hsu & Lu, 2004; Wang et al., 2007; Drengner, Gaus & Jahn, 2008; Deng, Turner, Gehling & Prince, 2010; Domina et al., 2012). In previous literature it has been argued that persons are more likely to show enthusiasm, interest, and sustained attention for the task at hand, while enduring setbacks and failures, when they have a perception of high degree of control (Kamis, Stern & Ladik, 2010). Thus, perceived control can have a positive influence on consumers' attitude and behavioural intention (Domina et al., 2012). Also, when a customer starts the process of online shopping with the intention to purchase a specific product, he can benefit from the feeling of perceived control because he is then able to concentrate on the task at hand, rather than focussing on maintaining the control (Hooker, Wasko & Paradice, 2009; Ozkara et al., 2017). Still, it is difficult to state that the effects of perceived control in the online shopping context show unilateral outcomes. While Domina et al. (2012) found a positive significant result of the perceived control on online purchase intention, Bridges & Florsheim (2008) were not able to find any significant effects in their research on online buying. Other researchers also found no significant effects of perceived control on purchasing in the context of online shopping (Koufaris, 2002; Koufaris, Kambil & LaBarbera, 2001). Even though not all studies show the same significant effect of perceived control of behavioural intentions, it is argued that if the customer perceives control throughout the entire online purchase process, it may have positive effects on online purchase intention (Ozkara et al., 2017).

3.2.3 Concentration

Concentration is another sub-dimension of 'online flow experience'. Concentration is defined as the extent to which the individual's attention is completely absorbed in the activity to the degree that nothing else matters (Csikszentmihalyi, 1990). More recent literature defines the concept as the intensity of focus, or attention given to the task at hand (Koufaris, 2002; Lu et al., 2009). Concentration is seen as a significant dimension of 'online flow experience' (Koufaris, 2002; Chen, Wigand & Nilan, 2000; Pelet, Ettis & Cowart, 2016). For instance, Chen et al. (2000) state in their research that concentration is the most frequently used dimension in 'online flow experience' studies. Significant outcomes of concentration as a sub-dimension of 'online flow experience' are technology adoption, intention to return to a website, and purchase intentions in a virtual world (Hooker et al., 2009). However, not all studies found significant or positive effects of concentration on customers' behavioural outcomes (Lee & Chen, 2010; Domina et al., 2012; Koufaris, 2002). For example, Lee & Chen (2010) found a positive

significant effect of concentration on the attitude towards purchasing, and an insignificant effect on the intention to purchase. However, it can be stated that a reason for this failure of determining a significant effect between concentration and purchase intention is that the attitude towards purchasing is fully mediating the relation (Ozkara et al., 2017). Other researchers were also not able to determine significant effects of concentration on purchase intention, in the context of online product purchase and unplanned purchase intention (Domina et al., 2012; Koufaris, 2002). Even though, it can be stated that a customer with an increased concentration during the purchase process is better able to understand the purchase phases in an online environment. Therefore concentration may have positive significant effects on online purchase intention (Ozkara et al., 2017).

3.2.4 Merging of Actions and Awareness

A fourth sub-dimension of 'online flow experience' is merging of action and awareness. Merging of actions and awareness is defined as a situation in which customers become so involved in the activity that they stop being aware of themselves as separate from the activity and the activity becomes spontaneous and automatic (Csikszentmihalyi, 1990). In previous literature it is stated that the concept of merging of actions and awareness is "perhaps the clearest sign of flow" (Csikszentmihalyi & Csikszentmihalyi, 1975). However, a limited number of researchers have used this concept in their study to investigate 'online flow experience' (Chen, 2006; Guo and Poole, 2009; Fang, Zang & Chan, 2013; Ozkara et al., 2017). Ozkara et al. (2017) were the first to find a direct positive significant effect of merging actions and awareness on online purchase intention. It can also be stated that a customer can perform the actions required during the online purchase process in a faster and more productive way, if his actions and awareness merge together, because it decreases the cognitive effort (Punj, 2012). Therefore, if a consumer perceives its intention to purchase a product online with much lower mental and physical effort, this can result in a positive attitude towards the online purchase process (Ozkara et al., 2017).

3.2.5 Curiosity

The sub-dimension curiosity is defined as the extent to which an experience arouses an individual's sensory and cognitive interest (Malone, 1981). Earlier research describes the dimension of curiosity as the combination of inquisitiveness and technical competence, while engaged in online shopping (Moon & Kim, 2001). Curiosity may be stimulated by a variety of

stimuli. Customers may engage in online purchasing not only for purchase outcomes, but also to obtain new information, knowledge, and novelty that ignite their curiosity (Pelet et al., 2016). Therefore, curiosity can be described as the customer's evoked interest in a topic and often inspires a desire for deeper insight into the subject (Pelet et al., 2016). When we analyse previous literature, we see that only a limited number of quantitative studies approach the effects of curiosity as a flow dimension (Pace, 2004; Lowry et al., 2012; Ozkara et al., 2017). For instance, Lowry et al. (2012) found a positive significant effect of curiosity on the intention to use hedonic information systems. However, Ozkara et al. (2017) did not discover a significant effect of curiosity on the intention to purchase online at all. We thus see that there is still not a unilateral conclusion on curiosity in the literature.

3.2.6 Time Distortion

The last sub-dimension of 'online flow experience' is time distortion. Time distortion is defined as the experienced emotion of an individual, who experiences the time moving faster than it actually is (Ozkara et al., 2017). Previous studies see time distortion as one of the fundamental dimensions in explaining 'online flow experience' (Novak et al., 2000; Wu & Chang, 2005; Chen, 2006; Guo & Poole, 2009). However, all these quantitative studies do not find a positive significant effect of time distortion on customers' purchasing (Wu & Chang, 2005; Lee & Chen, 2010). In contrast, qualitative studies rather conclude a negative significant effect of time distortion on online shopping behaviour (Pace, 2004; Rettie, 2001). For example, Pace (2004) states in his research that respondents experienced negative feelings (e.g. guilt) when they found out that the time went faster as a result of experiencing flow. Respondents of Rettie (2001) noted that they experienced complex feelings, as they thought that the time passing by was a cost. Therefore, if a customer experiences the distortion in time as a cost, the individual can see the time quickly passing by as a negative situation during the online buying process (Ozkara et al., 2017).

3.3 Hypothesis Development & Conceptual Model

In this research the three key building blocks of the quality of 'e-servicescape' are aesthetic appeal, layout and functionality, and financial security, as adopted from Harris & Goode (2010). Irrespective of how the 'e-servicescape' model is constructed, the quality of the 'e-servicescape' is of great importance when influencing consumers' emotions, encouraging them to respond cognitively, emotionally, and physically and thus form cognitive judgments and

beliefs that in turn lead to certain behavioural outcomes in the virtual retail shopping environment (Tran et al., 2012; Lai et al., 2014; Teng et al., 2018). As previous stated in this report, purchase intention can be seen as a behavioural outcome of a customer in an online purchase process. However, not only a customer's internal state can influence the intention to purchase, but also external influences such as the quality of 'e-servicescape' can have an effect (Gogoi, 2013). Therefore, we argue in this study that as the experienced quality of the different components which form the quality of 'e-servicescape' becomes higher, the customer's purchase intention in an online environment becomes higher too. We formulate the first hypothesis:

H1: The higher the experienced quality of the e-servicescape, the higher the intention to purchase.

Furthermore, when a website is visually attractive and is perceived as easily accessible, the 'e-servicescape' can assist consumers to enjoy flow optimally (Huang et al., 2017). In this research, due to the complexity of the concept, 'online flow experience' is approached as a unidimensional concept formed by six sub-dimensions: enjoyment, perceived control, concentration, merging of actions and awareness, curiosity, and time distortion. As mentioned in recent studies, the design of the website guided by both hedonic and utilitarian features, can enhance a customer's flow experience in general (Bilgihan et al., 2015). In other words, when the interaction of a customer with a well-established 'e-servicescape' is positive, this customer is more likely to experience online flow. Therefore, current study suggests that when the experienced quality of 'e-servicescape' gets higher, this has a positive effect on the 'online flow experience' of customers in general. This results in the following hypothesis:

H2: The higher the experienced quality of the e-servicescape, the higher the online flow experience.

Thereafter, as a result of the positive mood and emotions that 'online flow experience' creates in the consumers' mind during the process, it is expected that 'online flow experience' may have positive significant effects on online purchase intention (Gao & Bai, 2014; Domina et al., 2012). However, significant positive effects are not expected for all sub-dimensions of the 'online flow experience' (Ozkara et al., 2017). While enjoyment, perceived control, and merging of actions and awareness are likely to show positive significant effects, this does not hold for concentration, curiosity and time distortion, where insignificant or even negative

significant effects on online purchase intention are expected (Domina et al., 2012; Ozkara et al., 2017). This enhances the complexity of the concept and therefore we approach the concept of 'online flow experience' as unidimensional, indicated by the six sub-dimensions. Therefore, this research suggests that when the general 'online flow experience' gets higher, this influences the purchase intention of customers in a positive way. The following hypothesis is related to this notion:

H3: The higher the online flow experience, the higher the intention to purchase.

Next, this study expects significant relationships between the experienced quality of the 'e-servicescape', the 'online flow experience', and the customers' purchase intention respectively. While we expect a significant direct effect of experienced quality of the 'e-servicescape' on purchase intention, we also expect that this effect disappears when 'online flow experience' mediates the relation. Therefore, we expect a full-mediating role of 'online flow experience' in this relationship (Kühn & Petzer, 2018; Hsu et al., 2017). Therefore, we propose the following hypothesis:

H4: Online flow experience fully mediates the relation between the experienced quality of the e-servicescape and purchase intention.

Finally, to add to the existing literature, we want to investigate the moderating effect of 'previous online grocery buying experience', and whether this has a significant negative effect on the relation between the experienced quality of the 'e-servicescape' and 'online flow experience'. Accordingly, we propose the following hypothesis:

H5: Previous online grocery buying experience negatively moderates the relationship between the experienced quality of the e-servicescape and online flow experience.

These hypotheses build the conceptual model of this research, illustrated in Figure 2 below.

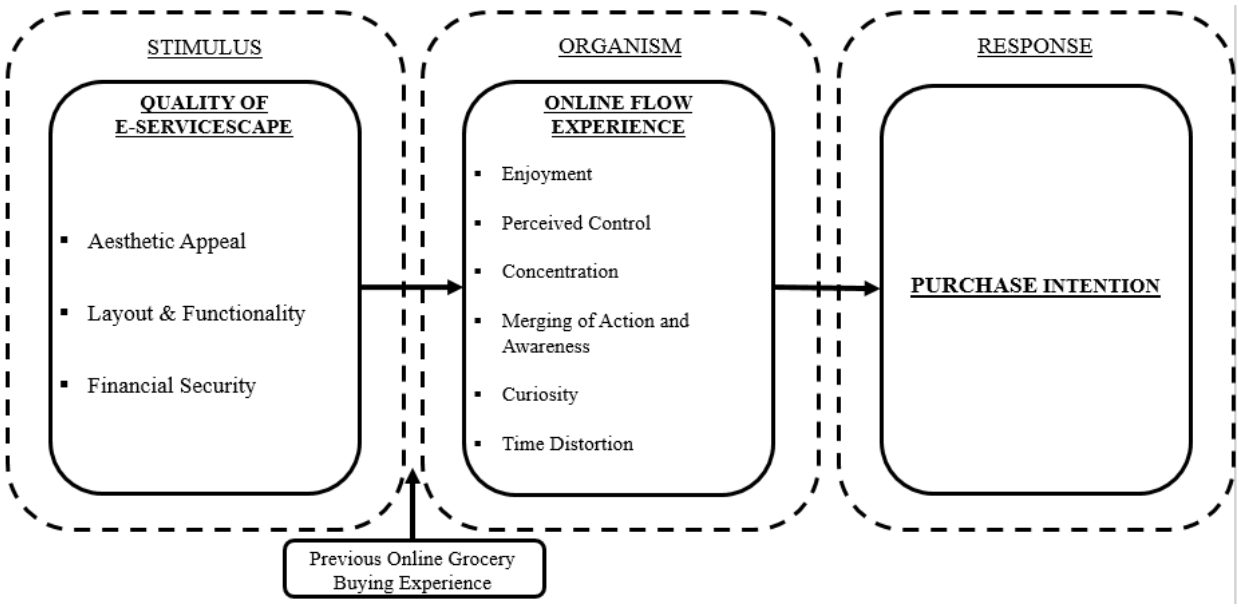

Figure 2: Conceptual model of the mediating effect of 'online flow experience'

4. Methodology

In this chapter we first describe our research strategy. We then discuss the collected sample, the construct measurements, and the data analysis procedure. We finally discuss the research ethics involved.

4.1 Research Strategy

Since this research has a quantitative design, and to answer and test the introduced hypotheses, we have addressed the respondents via an online survey. A survey is chosen, because it is a good research design when measuring emotions, feelings and perceptions of customers (Vennix, 2016). The online survey was distributed through social media (e.g. Facebook, LinkedIn), e-mail, and several Dutch survey-collecting web sites. The survey was split into two parts. First, before answering any questions, the respondents were asked to perform a grocery buying task at the web site of Jumbo Supermarkets. We selected this website for performing the task because the respondents did not have to log into an account. Second, after the buying task, the respondents were directed back to the online questionnaire. While filling out the questionnaire, all respondents were expected to refer to the performed grocery buying task. Therefore, an introductory text was included. In the questionnaire, respondents were asked about their opinions on the experienced quality of the 'e-servicescape', their 'online flow experience', and their intention to purchase. Also, some questions about demographics were included at the end of the survey. An important question included in the survey is related to whether the respondents already had experiences with buying groceries online before they performed the experimental grocery buying task. This enables us check for our moderating variable included in the conceptual model.

4.2 Sample

The sample of this research is taken in the Netherlands. In order to recuit respondents, this study has used a convenience sampling technique. Convenience sampling is classified as a nonprobabilistic sampling technique and is used for reasons of easy accessibility and availability of limited time (Hair, Black, Babin & Anderson., 2010; Field, 2013). For this research it is not relevant whether the respondents did or did not purchase via an online grocery retailer before, as the questions are based on the performed buying task included in the survey. In the current research partial least squares-based structural equation modelling (PLS-SEM) is

used to analyse the data. To calculate the minimum required number of respondents we used a power analysis program called G*Power (Faul, Erdfelder, Lang & Buchner, 2007). An effect size ($f^2 = 0.15$), significance level ($\alpha = 0.05$), power level ($1\text{-}\beta = 0.95$), and nine predictors, gave us a total minimum sample size of $N = 166$. In the response collection of the survey a total sample size of $N=199$ was collected. However, some respondents filled in the survey to quickly, and therefore they were excluded from the analysis (*Duration_in_seconds* < *190*). After excluding these non-usable responses, a sample size of $N=181$ remained. An overview of the demographic characteristics of the sample is seen in Table 1.

Table 1: Demographic Characteristics of the sample

	Frequency	**Percentage**
Gender		
Male	65	35.9
Female	116	64.1
Age		
< 18	2	1.1
18 – 24	125	69.1
25 – 30	37	20.4
31 – 40	4	2.2
41 – 50	2	1.1
51 – 60	8	4.4
61 +	3	1.7
Shopped Before		
Jumbo	10	5.6
Albert Heijn	37	20.4
Picnic	12	6.6
Did not shop online before	122	67.4
Occupation		
Paid employment	19	10.5
Entrepreneur	11	6.1
Unemployed and looking for a job	1	0.6
Unemployed and not looking for a job	0	0
Student	145	80.1
Retired	2	1.1
Incapacitated	1	0.6
Living Situation		
Single, without child(ren)	19	10.5
Single, with child(ren)	1	0.6
Living together, without child(ren)	38	21
Living together, with child(ren)	10	5.5
Student (Living at home or away from home)	110	60.8
Other:	2	1.1
Education		
Secondary education	4	2.2
Secondary vocational education	3	1.7
Higher professional education – Bachelor	35	19.3
Higher professional education – Master	5	2.8
University education – Bachelor	36	19.9
University education – Master	9	54.1

4.3 Construct Measurements

The constructs employed in this research were designed on the basis of widely accepted multi-item scales which, in turn, were developed based on previous literature. The wording of the items used in each scale have been adjusted to match the context of this research. All constructs used were measured using a seven-point Likert scale, ranging from 1 (totally disagree) to 7 (totally agree). All constructs, measures, and items can be found in Table 2.

First, we define the construct of the experienced quality of the 'e-servicescape' as *"the experienced excellence of the online environment components that exist during the online service process".* This construct was originally composed of three measures, nine scales, and 52 items (Harris & Goode, 2010). To improve the usefulness of the measure Harris & Goode (2010) themselves developed a shortened 24-item version of the scale, which is used in this study (see Appendix I). We have used the shortened version, as previous literature demonstrated the usability of this measurement scale (Tankovic & Benazic, 2018; Wu et al., 2016). The three measures used are aesthetic appeal (formed by visual appeal, originality of design, and entertainment value), layout and functionality (formed by usability, relevance of information, customization/personalisation, and interactivity), and financial security (formed by ease of payment and perceived security).

Second, 'online flow experience' is defined as *"the positive experience an individual perceives when he is totally involved in the online buying process"*. To measure this construct, a combination of items from Domina (2012), Agarwal & Karahanna, (2000), and Guo & Poole (2009) were used (see Appendix I). As mentioned in the theoretical background, we approach the construct of 'online flow experience' as a second-order construct, and this is in line with a well-established multidimensional model on the different measures of 'online flow experience', given in previous literature (Ozkara et al., 2017). Given this model, we use the six measures enjoyment, perceived control, concentration, merging of action and awareness, curiosity, and time distortion to explain the construct of 'online flow experience'. To explain the measure enjoyment we used a mixture of six items adopted from Domina (2012) and Agarwal & Karahanna (2000). For the measure perceived control five items adopted from Domina (2012) and Guo & Poole (2009) were used. Besides, we used five items to measure concentration, three items to measure merging of action and awareness, and four items to measure time distortion, respectively. All these items are based on Agarwal & Karahanna (2000) and Guo & Poole

(2009). To explain the measure curiosity we adopted three items from Agarwal & Karahanna (2000).

Lastly, the construct of purchase intention is defined as *"the situation where an individual investigates the reason to buy a certain product in a certain circumstance".* The validated scale of Guo & Bai (2014) was used to measure the construct. The scale comprises four items, which measure the willingness, likelihood, probability, and intention of customers on purchasing (see Appendix I).

To validate the questionnaire, a pre-test was conducted. All items used were translated into Dutch and the quality of the translation was checked by a knowledgeable Dutch professional in English. A meeting with fellow students was arranged to discuss the measures. The questions in the survey have also been discussed with twelve other people not so experienced in the field, in order to test the understandability of the measures. For that purpose we used the plus/minus-method. The pre-test respondents were asked to note a (+) behind the items that were clear, and a (-) behind the items that they found difficult to understand or that did not make sense in their opinion. They provided also some minor comments to improve the questionnaire. The items with a (-) were checked again, and reformulated or deleted if they did not fit the construct well. After the collection of data, the answers were translated back into English. This was done to prevent possible interpretation and measurement errors.

Table 2: Overview of Constructs, Measures, Items, and respective CFA outcomes.

	Factor Loadings	**VIF Values**	**Indicator Weights**	**Dijkstra-Henseler's *ρA***
Quality of E-servicescape				
Aesthetic Appeal				.8463
AesthApp1	.737	2.5321	.2716	
AesthApp2	.858	3.0879	.3113	
AesthApp3*	.604	1.5212	.2154	
AesthApp4*	.467	1.2252	.0860	
AesthApp5	.635	1.7723	.1983	
AesthApp6	.698	1.9162	.2614	
Layout and Functionality				.8742
LayoutFunc1*	.565	1.5828	.1369	
LayoutFunc2	.815	2.8941	.1696	
LayoutFunc3	.840	2.9958	.1689	
LayoutFunc4*	.677	1.9974	.1517	
LayoutFunc5	.880	3.6964	.1804	
LayoutFunc6*	.328	1.2373	.0825	
LayoutFunc7	.551	1.5281	.1368	
LayoutFunc8	.467	1.3198	.1183	

LayoutFunc9**	-	-	-	
LayoutFunc10*	.549	1.2166	.0604	
LayoutFunc11	.401	1.2639	.0924	
LayoutFunc12	.640	1.3446	.0939	
LayoutFunc13*	.529	1.3877	.1606	
Financial Security				.7203
FinanSec1*	.768	1.5659	.3453	
FinanSec2	.625	1.5175	.4369	
FinanSec3* **	-	-	-	
FinanSec4*	.541	1.2509	.1807	
FinanSec5	.462	1.2421	.3965	
Online flow experience				
Enjoyment				.9089
Enjoy1	.904	3.5989	.2527	
Enjoy2	.500	1.5226	.0745	
Enjoy3	.812	2.4579	.2037	
Enjoy4*	.704	1.9383	.1949	
Enjoy5	.632	1.9105	.2647	
Enjoy6	.895	3.5639	.2359	
Perceived Control				.8760
PCont1	.746	2.4327	.2452	
PCont2*	.733	2.0368	.2363	
PCont3	.866	3.3900	.2447	
PCont4	.839	2.5984	.2494	
PCont5*	.645	1.8485	.2477	
Concentration				.8780
Concent1	.732	1.9666	.2927	
Concent2	.559	1.5275	.2878	
Concent3	.882	3.7617	.2149	
Concent4*	.799	2.2472	.2422	
Concent5	.831	3.3672	.1997	
Merging of Action and Awareness				.6858
MergAA1	.688	1.3721	.5608	
MergAA2	.822	1.3721	.5859	
MergAA3* **	-	-	-	
Curiosity				.8950
Cur1	.839	2.7624	.3967	
Cur2	.943	3.4800	.3552	
Cur3	.788	2.3052	.3516	
Time Distortion				.7319
TimeDist1	.832	1.6671	.5205	
TimeDist2	.534	1.1718	.2019	
TimeDist3*	.700	1.4619	.5263	
TimeDist4**	-	-	-	
Purchase Intention				.8997
PurchInt1	.804	2.4179	.3256	
PurchInt2*	.800	2.3574	.2427	
PurchInt3	.885	3.1321	.2845	
PurchInt4	.794	2.5018	.2975	
Items are reversed-coded items				
***** Items are deleted before analysis due to loading < .20***				

4.4 Data Analysis Procedure

Because we collected data to analyse our conceptual model using a single online survey, we had to test for common methods bias. To test for common methods variance (CMV) we used the Harman's single-factor test, as suggested in earlier research (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). This widely used technique tests for CMV by loading all variables into a confirmatory factor analysis with one factor, using the unrotated factor solution. The variance explained by that one factor should be lower than 50%.

Thereafter, we used partial least squares (PLS), as a form of variance based structural equation modelling (SEM). We chose PLS-SEM because the technique allows us to investigate multiple relationships in the model at the same time (Hair, Sarstedt, Hopkins & Kuppelwieser, 2014). Since the model of this research is rather complex, PLS is the right method to use (Henseler, Hubona & Ray, 2016). This meant that we could test different versions of the proposed conceptual model, with indirect and direct effects simultaneously. PLS-SEM was executed in the program ADANCO. This allowed us to see which impact the quality of the 'e-servicescape' had on 'online flow experience', and whether this relationship was moderated by the 'previous online grocery buying experience' of customers. Consequently, we could see how these 'online flow experiences' in turn influenced the customers' intention to purchase. Also, through PLS-SEM we were able to include the control variables age and gender into the model. As the study of Nielsen (2015) shows differences in the willingness to purchase among different age generations and genders, we assume that these consumer characteristics control the relationship. As the model used in this research is complex, and because the constructs of 'e-servicescape' and 'online flow experience' consist of several dimensions, we had to follow the Three-Stage Approach to include second-order constructs in the model (van Riel, Henseler, Kemény & Sasovona, 2017). Figure 3 depicts the Three-Stage Approach and its steps. We first analysed the linear equations of the measurement model. The measurement model specified the relations between the constructs and its measures and items. A requirement of PLS is that each construct has at least one indicator variable (Henseler et al., 2016). After analysing the measurement model, we analysed the structural model in PLS. This model is theory-based and analyses the relations between the latent constructs (Henseler et al., 2016). The structural model is the primary focus in the analysis to test the hypotheses and answer the research question.

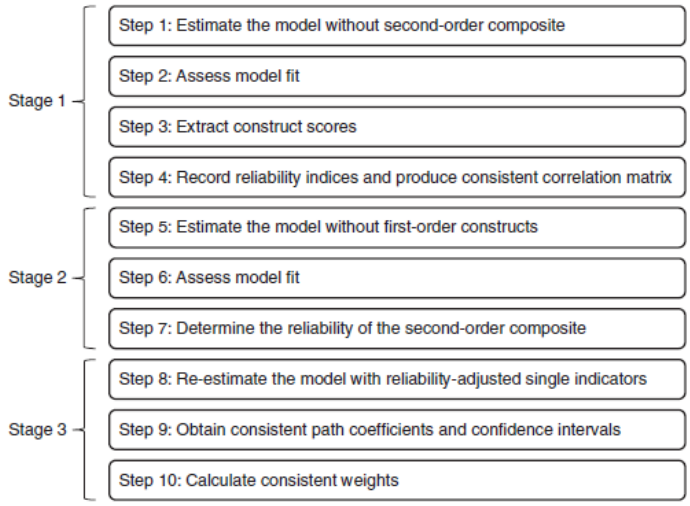

Figure 3: The steps of the Three-Stage Approach

4.5 Research Ethics

To safeguard the research ethics of this master thesis, the five general principles of research ethics have been considered (American Psychological Association, 2017). First, the researchers strived to benefit the participants involved in this research, and to avoid doing them any physical or mental harm. For instance, when we interacted with the recruited participants, we constantly made them aware of their rights and that they had to contact us if personal, financial, social, organizational, or political conflicts occurred. Moreover, the researchers have been aware of their professional and scientific responsibilities toward the people involved in the research. The privacy of the respondents was very much considered and therefore no personal information which could lead back to any specific person was asked in the questionnaire. Furthermore, participation in the research was on voluntary basis and if respondents agreed on participating, this was completely anonymously. The answers of the participants were handled in a responsible and confidential way, not used for other purposes than this master thesis. Additionally, fairness and justice played an important role in this master thesis. Every respondent was handled the same way and was treated equally. The cultural, individual and role differences of all participants were respected, and no discrimination based on age, gender, gender identity, race, ethnicity, culture, national origin, religion, sexual orientation, disability, language, and socioeconomic status has been present. Last, the researchers seek to promote accuracy, honesty, and truthfulness in the collection, analysis and report of information in current research.

5. Results

In this chapter we describe the outcomes from the analysis done in this research. First, we describe the outcome of the Harman's single-factor analysis. Second, we display the outcomes of the Three-Stage Approach used in this study. We describe the outcomes of the measurement model as well as the structural model. Thereafter, the outcomes of the model including the control variables are summarized. To close the chapter, we provide answers to our hypotheses.

5.1 Harman's Single-Factor Analysis

A Harman's single-factor analysis was executed first, using the IBM SPSS Statistics software. This test was executed, because common method variance can play a role in our analysis. In order for CMV not be an issue the explained variance of the one common factor should not exceed 50%. In our model the explained common variance is 26% (see Appendix II), and therefore CMV should not be an issue in the analysis of the results. We can use this output, since the Kaiser-Mayer-Olkin (KMO) measure is >0.50 and significant (*KMO=0.868, p<0.001*). Next, we conducted an exploratory factor analysis for each construct in the model separately, with the unrotated solution. This enabled us to test how our specification of the factors matched reality. Factor loadings for all the indicators can be found in Table 2. Besides, an overview of all the performed tasks done in SPSS is shown in the SPSS Syntax in Appendix XIII.

Due to the complexity of our model, for some constructs the indicators loaded on more than one factor. Therefore, we decided to carry out a confirmatory factor analysis (CFA) in ADANCO (Henseler & Dijkstra, 2015) as well. In this analysis all sub-dimensions of the constructs and their indicators are embedded in a nomological net in which all possible connections between the dimensions are included. A representation of this model is given in Appendix III. By analysing this CFA in ADANCO, we were able to obtain the *VIF*, *indicator weights*, and *Dijkstra-Henseler's ρA* of the indicators and constructs, which are displayed in Table 2. For *VIF* values much larger than 1, multicollinearity might play a role (Henseler et al., 2016). This is the case in our model, however they are not exceeding the value of 4, so we must interpret the results with caution in further analysis. When looking to *Dijkstra-Henseler's ρA*, values higher than 0.7 are applicable. This is the case for almost all our constructs. Only 'Merging of Action and Awareness' has a value lower than 0.7 (*ρA=.6858)*, albeit close to the critical value. Therefore, we did not act on this matter.

5.2 Three-Stage Approach

The CFA executed in ADANCO was also part of the subsequently performed Three-Stage Approach. This approach consists of ten steps (with the tenth step not included in this research), whose outcomes are explained below.

Step 1 contained the estimation of the model without the second-order constructs. This model is the same as the CFA performed earlier (see Appendix III), where every construct is sufficiently embedded in a nomological net and where all possible connections between the constructs are included (van Riel et al., 2017). The weighting scheme of all the constructs was set to 'Mode A consistent', to estimate the first-order constructs correctly.

Step 2 consisted of the assessment of the model fit. Various assessment procedures of model fit were considered, being the 'standardized root mean square residual' (*SRMR*) the 'geodesic discrepancy' (*dG*), and the 'unweighted least squares discrepancy' (*dULS*) both for the saturated model (*SRMR=0.0761, dG=2.9842, dULS=7.3870*) and the estimated model (*SRMR=0.0802, dG=3.0602, dULS=8.1963*). For PLS-path models a cut-off value of *SRMR<0.08* is stated (Henseler et al., 2016), which is met both for the saturated and the estimated model. However, the values of *dG* and *dULS* are exceeding the *"HI95"* and *"HI99"* values (see Appendix IV). Nevertheless, we continued with the next step.

In Step 3 we extracted the standardized scores of the first-order constructs and appended them to the data file as additional variables. These variables made up the composites of the second-order constructs in the model (van Riel et al., 2017).

Step 4 contained the recording of reliability scores (*Dijkstra-Henseler's ρA*) of the first-order constructs, and the inter-construct correlation matrix. These scores are shown in Table 3. By completing the 4th step the first stage was concluded.

Stage 2 continues with Step 5. In this step we estimated the model without the first-order constructs, leaving only the second-order constructs. For a representation of the model we refer to Appendix V. This step is opposite to Step 1, where only the first-order constructs were estimated. Now, we used the approximated composite scores from Step 1, and appended these to the dataset from Step 3, as indicators for the second-order constructs (van Riel et al., 2017).

Table 3: Dijkstra-Henseler's ρA & Inter-construct correlation matrix

Indicators	*ρA*	Aesth App	Layout Func	Finan Sec	Enjoy	PCont	Con cent	Merg AA	Cur	Time Dist	Purch Int
AesthApp	.8463	1.000									
LayoutFunc	.8742	.6999	1.000								
FinanSec	.7203	.4072	.6688	1.000							
Enjoy	.9098	.8143	.6996	.5557	1.000						
PCont	.8760	.4544	.8293	.5732	.5807	1.000					
Concent	.8780	.2624	.4853	.4543	.4022	.5125	1.000				
MergAA	.6858	.2785	.4919	.4152	.3364	.5143	.5213	1.000			
Cur	.8950	.7579	.5343	.4024	.8248	.4247	.2671	.2666	1.000		
TimeDist	.7319	.4332	.4793	.3793	.4981	.5893	.4821	.2288	.4501	1.000	
PurchInt	.8997	.5665	.4299	.2234	5659	.3907	.1712	.0938	.6106	.4313	1.000

Therefore, we had to set the measurement model to 'composite'. Because of the rather high *VIF* values, as seen in Table 2, there is a chance of multicollinearity. Therefore, the weighting scheme was set to 'Mode A', which controls for multicollinearity between the indicators of the second-order constructs (van Riel et al., 2017). An overview of the indicator weights is seen in Table 4.

Table 4: Indicator weights of second-order constructs

Indicators	Quality of E-servicescape	Online flow experience	Purchase Intention
Aesthetic Appeal	.4602		
Layout and Functionality	.4597		
Financial Security	.2987		
Enjoyment		.3314	
Perceived Control		.2676	
Concentration		.1546	
Merg. Act & Aware		.1243	
Curiosity		.2983	
Time Distortion		.1969	
Purchase Intention			1.000

In Step 6 we had to assess the model fit for the new composite model. Various assessment procedures of model fit were considered, being the 'standardized root mean square residual' (*SRMR*) the 'geodesic discrepancy' (*dG*), and the 'unweighted least squares discrepancy' (*dULS*) both for the saturated model (*SRMR=0.0718, dG=0.1348, dULS=0.2832*) and estimated model (*SRMR=0.0718, dG=0.1348, dULS=0.2832*). For PLS-path models a cut-off value of *SRMR<0.08* is stated (Henseler et al., 2016), which is met both for the saturated and the estimated model. However, the values of *dG* and *dULS* are exceeding the *"HI95"* and

"HI99" values (see Appendix VI). Nevertheless, we continued with the next step. Besides, it must be stated that the Goodness of Fit measures for both the saturated as the estimated model are the same. This indicates a consistent execution of the second-order model.

Step 7 continued with the determination of the reliability of the second-order constructs. Unfortunately, existing reliability coefficients (*Dijkstra-Henseler's ρA*, *Jöreskog's ρC*, *Cronbach's α*) are not applicable to composite constructs. This is because these coefficients rely on inter-item correlations or loadings to quantify the amount of random measurement error in the scores. In case of composites, neither the inter-item correlations nor the loadings are informative about the amount of measurement error (van Riel et al., 2017). However, we were able to use the simplified equation of Mosier (1943), to determine the reliability of a weighted composite (*ρS*) as stated in Henseler (2017):

$$\rho S = \mathbf{w}' \, S^{*} \mathbf{w},$$

where **w** is a column vector containing the indicator weights of the second-order construct (obtained in Step 5), and *S** is the inter-construct correlation matrix of the second-order construct's indicators (obtained in Step 1), with the respective reliabilities (*ρA*; obtained in Step 4) on the diagonal (van Riel et al., 2017), see Table 5. Following this equation gave a reliability for 'e-servicescape' of *ρS=0.8328*, and for 'online flow experience' of *ρS=0.9050*. Since 'purchase intention' only has one indicator, its reliability was the same as its *ρA*, namely *ρS=0.8997*.

We continued with the next stage, Stage 3. The purpose of the third stage is to obtain consistent estimates for the structural model including the relationships between the first-order common factors and the second-order composite (van Riel et al., 2017). Therefore, in Step 8 we re-estimated the model with the use of the obtained reliabilities of the weighted composites (*ρS*). We manually set the reliabilities of the composite constructs, in order to correct the construct's correlations for attenuation. A representation of the model can be found in Appendix VII.

In Step 9 we had to obtain the consistent path coefficients and confidence intervals of the structural model built in Step 8. This was done by bootstrapping. With the use of bootstrapping we were also able to obtain the estimates of the indirect and total effects between the constructs in the model.

Table 5: Overview Weights and Inter-construct correlation matrix

Composites	Weights	Consistent Correlations, Reliabilities in Diagonal
Quality of E-servicescape *ρS=0.8328*	0,4602 0,4597 0,2987	0,8463 0,6999 0,4072 0,6999 0,8742 0,6688 0,4072 0,6688 0,7203
Online flow experience *ρS=0.9050*	0,3314 0,2676 0,1546 0,1243 0,2983 0,1969	0,9098 0,5807 0,4022 0,3364 0,8248 0,4981 0,5807 0,8760 0,5125 0,5143 0,4247 0,5893 0,4022 0,5125 0,8780 0,5213 0,2671 0,4821 0,3364 0,5143 0,5213 0,6858 0,2666 0,2288 0,8248 0,4247 0,2671 0,2666 0,8950 0,4501 0,4981 0,5893 0,4821 0,2288 0,4501 0,7319
Purchase Intention *ρS=0.8997*	1.0000	0.8997

5.3 ADANCO Outcomes

ADANCO gave us the following outcomes. The adjusted coefficient of determination (*R2*) quantifies the proportion of an endogenous variables' variance that the independent variables explain, adjusted for the model (Henseler, 2017). The values for the coefficients of determination (*R2*) in our model are for 'online flow experience' (*R2=0.8398*) and for 'purchase intention' (*R2=0.3349*), which are both rather high to high values. The results show an effect of 'quality of e-servicescape' on 'online flow experience': direct effect (*B=0.9169*), and no indirect effect, which results in the same total effect (*B=0.9169*), and an effect size of *f2=5.2771*, which is a strong effect. The results show an effect of 'quality of e-servicescape' on 'purchase intention': direct effect (*B=-0.0551*), and an indirect effect (*B=0.5824*), which results in a total effect (*B=0.5273*), and an effect size of *f2=0.0007*, which is a non-effect. The results show an effect of 'online flow experience' on 'purchase intention': direct effect (B=0.*6351*), no indirect effect, which results in the same total effect (*B=0.6351*), and an effect size of *f2=0.0977*, which is a weak effect.

To assess to what extent the aforementioned effects are significant, we use bootstrapping. For the direct and total effects of 'quality of e-servicescape' on 'online flow experience' it shows a value of *t=28.0733, p<0.001*, which is significant. For the effect of 'quality of e-servicescape' on 'purchase intention', both the direct effect (*t=-0.0235, p=0.9812*), and the indirect effect (*t=0.2492, p=0.8032*) show a non-significant effect. However, the total effect (*t=7.3274, p<0.001*) shows a significant effect. For the direct and total effects of 'online flow experience' on 'purchase intention' we find a value of *t=0.2712, p=0.7863*, which is non-significant. An overview of these effects is seen in Appendix VIII.

When looking to the overall model Goodness of Fit the results are: *SRMR=0.0863*, which is slightly above the critical value of *SRMR<0.08*, *dG=0.2055<"HI95"*, and *dULS=0.4100>"HI95"* both for the saturated and the estimated model (see Appendix IX). These values indicate that it is unlikely that the theoretical model is true.

We extended our model with the construct 'shopped before', which represents the moderating variable 'previous online grocery buying experience', since the conceptual model of this study includes a moderating variable. To test the influence of this variable on the relationship of 'quality of e-servicescape' and 'online flow experience', the extended model was re-run again. In addition, the control variables 'age' and 'gender' were added to the model. To include these nominal variables into the model 'dummification' was used, with the dominant group as reference category (Benitez, Henseler, Castillo & Schuberth, in press). A representation of the model can be found in Appendix X.

ADANCO gave us the following outcomes. The values for the coefficients of determination (*R2*) in our extended model are for 'quality of e-servicescape' (*R2=0.013*), which is small, and for 'online flow experience' (*R2=0.841*) and 'purchase intention' (*R2=0.348*), which are both rather high to high values. The results show an effect of 'quality of e-servicescape' on 'online flow experience': direct effect (*B=0.9197*), no indirect effect, which results in the same total effect (*B=0.9197*), and an effect size of *f2=5.2541*, which is a strong effect. The results show an effect of 'quality of e-servicescape' on 'purchase intention': direct effect (*B=-0.0805*), and an indirect effect (*B=0.5916*), which results in a total effect (*B=0.5111*), and an effect size of *f2=0.0015*, which is a non-effect. The results show an effect of 'online flow experience' on 'purchase intention': direct effect (*B=0.6432*), and no indirect effect, which results in the same total effect (*B=0.6432*), and an effect size of *f2=0.1008*, which is a weak effect. The results show an effect of 'shopped before' on 'quality of e-servicescape': direct effect (*B=0.1124*), and no indirect effect, which results in the same total effect (*B=0.1124*), and an effect size of *f2=0.0128*, which is a non-effect. The results show an effect of 'purchased before' on 'online flow experience': direct effect (*B=-0.0265*), and an indirect effect (*B=0.1034*), which results in a total effect (*B=0.0769*), and an effect size of *f2=0.0044*, which is a non-effect. The results show an effect of 'shopped before' on 'purchase intention': no direct effect, and an indirect effect (*B=0.0404*), which results in the same total effect (*B=0.0404*), and due to the no direct effect, also no effect size. The results show an effect of 'age' on 'purchase intention': direct effect (*B=-0.0713*), no indirect effect, which results in the same total effect (*B=-0.0713*), and

an effect size of *f2=0.0069*, which is a non-effect. The results show an effect of 'gender' on 'purchase intention': direct effect (*B=0.0510*), no indirect effect, which results in the same total effect (*B=0.0510*), and an effect size of *f2=0.0039*, which is a non-effect.

To assess whether the aforementioned effects are significant, we use bootstrapping. For the direct and total effects of 'quality of e-servicescape' on 'online flow experience' it shows a value of *t=27.3599, p<0.001*, which is significant. For the effect of 'quality of e-servicescape' on 'purchase intention', both the direct effect (*t=-0.0345, p=0.9725*), and the indirect effect (*t=0.2577, p=0.7967*) show a non-significant effect. However, the total effect (*t=5.8325, p<0.001*) shows a significant effect. For the direct and total effects of 'online flow experience' on 'purchase intention' it shows a value of *t=0.2802, p=0.7794*, which is non-significant. For the direct and total effects of 'shopped before' on 'quality of e-servicescape' it shows a value of *t=1.3259, p=0.1852*, which is non-significant. For the effect of 'shopped before' on 'online flow experience', the direct effect (*t=-0.5129, p=0.6082*), the indirect effect (*t=1.3018, p=0.1933*), and the total effect (*t=0.9699, p=0.3323*) all show an non-significant effect. For the indirect and total effects of 'shopped before' on 'purchase intention' it shows a value of *t=0.5599, p=0.5757*, which is non-significant. For the direct and total effects of 'age' on 'purchase intention' it shows a value of *t=-0.6838, p=0.4942*, which is non-significant. For the direct and total effects of 'gender' on 'purchase intention' it shows a value of *t=0.3719, p=0.7101*, which is non-significant. An overview of these effects is seen in Appendix XI.

When looking to the overall model Goodness of Fit the results are: *SRMR=0.0661*, which is below the critical value of *SRMR<0.08*, *dG=0.3059<"HI95"*, and *dULS=0.7461<"HI95"* for the saturated model. For the estimated model these values are *SRMR=0.0824*, *dG=0.3290*, and *dULS=1.1612*, all values are *<"HI95"* (see Appendix XII). These values indicate that it is likely that the theoretical model is true.

Since the constructs in our model are all second-order constructs it is also interesting to highlight how these constructs are formed by the first-order constructs. For 'quality of e-servicescape'' the indicators are aesthetic appeal (*B=0.459*), layout and functionality (*B=0.459*), and financial security (*B=0.301*). For 'online flow experience' the indicators are enjoyment (*B=0.330*), perceived control (*B=0.269*), concentration (*B=0.155*), merging of action and awareness (*B=0.126*), curiosity (*B=0.297*), and time distortion (*B=0.197*). 'Purchase intention' is only formed by one indicator and therefore its outcome is (*B=1.000*).

Table 6: Hypothesis results overview

Path-model	Hypotheses	Significance	Results
E-servicescape → Purchase intention	H1: *The higher the experienced quality of the e-servicescape, the higher the intention to purchase.*	0.5273***	Supported
E-servicescape → Online flow experience	H2: *The higher the experienced quality of the e-servicescape, the higher the online flow experience.*	0.9169***	Supported
Online flow experience → Purchase intention	H3: *The higher the online flow experience, the higher the intention to purchase.*	0.6351, n.s.	Rejected
E-servicescape → Online flow experience → Purchase intention	H4: *Online flow experience fully mediates the relation between the experienced quality of e-servicescape and purchase intention.*	0.5824, n.s.	Rejected
Shopped before → Online flow experience	H5: *Previous online grocery buying experience negatively moderates the relationship between the experienced quality of e-servicescape and online flow experience.*	0.0769, n.s.	Rejected

*Note: *** = p<0.001, n.s. = non-significant*

By taking all the above results into account we were able to provide answers to the hypotheses of this research. As can be seen in Table 6, H1 is supported. This means that the experienced quality of the 'e-servicescape' has a significant total effect on the customer's intention to purchase when 'online flow experience' is not involved. Besides, the experienced quality of the 'e-servicescape' has a significant direct influence on 'online flow experience', and therefore H2 is also supported. Taken the overall model into account, H3 and H4 are rejected. This implies that the 'online flow experience' of customers does not have a significant effect on their intention to purchase, and 'online flow experience' does not mediate the relationship between the experienced quality of the 'e-servicescape' and purchase intention in this study. Additionally, the previous online grocery buying experience does not have a significant effect on the relation between the experienced quality of the 'e-servicescape' and 'online flow experience', and therefore H5 is rejected. Furthermore, the control variables age and gender both do not significantly influence the intention to purchase.

6. Discussion

The purpose of this study was to analyse the effect of the experienced quality of the design of an online grocery retailer's website on the purchase intention of customers. In addition we wanted to know if certain evoked emotions of customer and their prior online buying experience had an influence on this previous mentioned relationship. Therefore, the first aim of the study was to discover if there is a positive relationship between the experienced quality of the 'e-servicescape' and purchase intention. The second aim was to investigate if 'online flow experience' mediates the relationship between the experienced quality of the 'e-servicescape' and purchase intention. The third aim of our research was to determine if prior online grocery buying experience moderates this relationship. To answer these questions, an online survey was conducted in which the respondents had to perform an online grocery buying task on a Dutch grocery retailer's website.

6.1 Discussion of Hypotheses

The first hypothesis states that the experienced quality of the 'e-servicescape' has a positive effect on purchase intention. The 'e-servicescape' relates to the experience with the design-features of the specific website. In our research we find support for the first hypothesis, and therefore we can argue that the higher the experienced quality of the design of an online grocery retailer's website, the higher is the customer's intention to purchase. This finding relates to the first aim of the present research. Both aesthetic appeal and layout and functionality are perceived as equally important indicators for the quality of the 'e-servicescape', and financial security is perceived as somewhat less important. Although current literature agrees that a more comprehensive explanation of the concept of 'e-servicescape' can be obtained by using a second-order construct, little research has been conducted to examine this (Teng et al., 2018; Wu et al., 2016). We add to the existing literature by investigating the concept of 'e-servicescape' as a second-order construct, with the three aforementioned indicators. The established correctness of this hypothesis is in partial accordance with previous research by Teng et al. (2018), in which they found support for only aesthetic appeal to have a positive influence and financial security to have a negative influence on the intention to purchase. In addition, Wu et al. (2013) propose that visual aspects and atmosphere in the online store layout increase online purchase intention, which we found in present research to be important indicators as well.

The second hypothesis states that the experienced quality of the 'e-servicescape' has a positive effect on 'online flow experience'. 'Online flow experience' can be seen as the emotions of the customers, evoked during the online purchase process. We find a strong significant effect of 'quality of e-servicescape' on 'online flow experience', and therefore also support for our second hypothesis. Consequently, we can argue that the higher the experienced quality of the 'e-servicescape', the higher is the 'online flow experience' of the customer. Both enjoyment and curiosity are displayed as important indicators of 'online flow experience'. Also, perceived control denotes a substantial amount to 'online flow experience'. Thus, we propose that when the experienced quality of a website is higher, the customer experiences a higher level of enjoyment, curiosity, and perceived control over the online grocery buying task. This result is not that surprising, as prior studies also found a positive influence of the 'e-servicescape' on 'online flow experience' in an hotel booking context (Huang et al., 2017), and a social shopping context (Lee & Jeong, 2012). However, the present research adds to existing literature by using different indicators to structure both 'e-servicescape' and 'online flow experience', with the use of pre-defined scales assembled together. Besides, 'online flow experience' is also composed as a second-order construct to provide a more comprehensive explanation of the concept.

The third hypothesis suggests that the 'online flow experience' during the online grocery buying task has a positive effect on purchase intention. We argue that the higher the 'online flow experience', the higher is the intention from the customer to purchase. Even though, the outcomes of the model show a substantial moderate effect, this effect is not significant. Consequently, we have to reject the hypothesis, and therefore we are not able to confirm that the experience of online flow raises the intention to purchase in our context of online grocery buying. This is an interesting and surprising result compared with previous studies on 'online flow experience'. For instance, Kühn & Petzer (2018) found support for their hypotheses on flow experience directly and positively influencing customers' purchase intentions. Moreover, other existing literature found both positive and negative significant effects of unidimensional and multidimensional conceptualisations of flow experience on purchase intention (Bilgihan et al., 2014; Ozkara et al., 2017). This discrepancy in our outcome could be explained through the concepts of hedonic and utilitarian shopping. (Online) Grocery shopping in general could be seen as a strongly goal-oriented instrumental behaviour (Childers et al., 2001). This relates to utilitarian shopping behaviour. In contrast, in the present study 'online flow experience' is defined as emotion-oriented. This relates to hedonic shopping behaviour. In the present research

we do not distinguish between hedonic and utilitarian behaviour. Probably, different outcomes would have been obtained if we had made this distinction.

The fourth hypothesis states that 'online flow experience' has a full-mediating effect on the relationship between the experienced quality of the 'e-servicescape' and purchase intention. We argue that when 'online flow experience' is added to the model, the significant effect of the experienced quality of the 'e-servicescape' on purchase intentions disappears, and only an indirect effect through 'online flow experience' remains. However, when we inspect the results, we do not see a significant effect regarding this matter. When we further break down the effect overview, a significant direct effect of 'quality of e-servicescape' on 'online flow experience' is seen (path *a*), a non-significant direct effect of 'online flow experience' on 'purchase intention' is seen (path *b*), a non-significant direct effect of 'quality of e-servicescape' on 'purchase intention' is seen (path *c'*), and a non-significant indirect effect of 'quality of e-servicescape' on 'purchase intention' is seen (path *a* × path *b*). Since neither the direct effect nor the indirect effect exists, a no-effect nonmediation is demonstrated (Zhao, Lynch & Chen, 2010; Nitzl, Roldan & Cepeda, 2016). This finding relates to the second aim of the present study. To our knowledge, the only researchers who have investigated the mediating effect of flow between 'e-servicescape' and purchase intention found a complementary mediation effect (Kühn & Petzer, 2018). Therefore, the result of our research is somewhat surprising. A possible explanation for our outcome could be that the sample size does not give enough statistical power to show an effect when there actually is an effect (Nitzl et al., 2016). Besides, the complexity of the model could hinder the finding of significant results.

The fifth hypothesis states that previous online grocery buying experience has a negative effect on the relation between the experienced quality of the 'e-servicescape' and 'online flow experience'. We suggest that, when a customer already has experience with online grocery shopping on a grocery retailer's website, this diminishes the occurrence of positive emotional reactions towards the shopping experience. Nevertheless, in our present research we find no support for the mechanism, and consequently had to reject the hypothesis. Therefore, we are not able to assert that customers who have performed online grocery shopping before, compared to customers who have not, do experience less online flow. This finding relates to the third aim of this study. Furthermore, when the model is controlled by both age and gender, no significant differences are found.

6.2 Limitations & Future Research

The high complexity of the investigated model is one of the limitations of present research. Since we developed a PLS-SEM model with second-order constructs, we followed the guidelines given by van Riel et al. (2017). These researchers state that this rather new approach in developing a PLS-SEM model with second-order constructs, is the only approach that yields consistent estimates. Therefore, we used the Three-Stage Approach. In the earlier stages of this approach, our model and hence the mediating effect, was still significant and showed a full-mediation. However, in later stages, after adjustment of the reliabilities of the second-order constructs, this mediating effect became non-significant. Future research should further elaborate on this relationship, to provide a more consistent overview. This first limitation also relates to the second limitation of the present study. In spite of the fact that we collected more respondents than the minimum required sample size, as calculated by G*Power, the sample obtained in this study could still be too small to provide enough statistical power relative to the complexity of the model. Besides, the collected sample is not diverse, since the vast majority of the respondents are student with ages between 18 and 24. Although this age group is very much familiar with online grocery shopping, a more diverse sample could provide better outcomes. Unfortunately, this was not within the reach of this research. Therefore, we suggest future research to collect a large and more diverse sample, to give the sample more predictive power over the model. A third limitation relates to the fact that the present research does not distinguish between hedonic and utilitarian shopping behaviour. Since grocery shopping is more utilitarian and goal-oriented, and the experience of flow is more hedonic and emotion-oriented, prior studies call for a separation of these characteristics (Ozkara et al., 2017; Mpinganjira, 2015). Accordingly, future research could distinguish between hedonic and utilitarian characteristics, when analysing the mediating effect of ‘online flow experience’ between ‘quality of e-servicescape’ and ‘purchase intention’. Since ‘online flow experience’ was measured by incorporating three different predefined scales from prior research, a flaw could have entered in the operationalisation of the measured construct, which is the fourth limitation of the present research. Hence, future research should measure ‘online flow experience’ in a more consistent way. In addition, future research could investigate other mediating variables with more goal-oriented characteristics, since these relate more to online grocery shopping. Also, other moderating variables, such as social-class or tech savviness, could be of interest for future research. Last, websites of different grocery retailers could be compared or an experimental design with manipulation could be set up in future research.

7. Conclusion

The results of the conducted research indicate that the quality of the 'e-servicescape' influences both the purchase intention of customers, as well as the 'online flow experience' in a positive way. Although the effect size of the 'quality of e-servicescape' on 'online flow experience' is extremely high (*f2=5.2771*), the effect size of the 'quality of e-servicescape' on 'purchase intention' is negligible (*f2=0.0007*). Therefore, we must interpret latter relationship with caution. Also, the theoretical second-order construct model is rather complex, since we find a significant indirect effect in early stages (*B=0.3568, p<0.001*). However, after adjusting the reliabilities of the constructs, the indirect effect becomes non-significant (*B=0.5824, p=0.8032*), probably because the effect of 'online flow experience' on 'purchase intention' becomes non-significant too (*B=0.6351, p=0.7863*). A possible explanation for this outcome could be that the sample size does not have enough statistical power to show an effect when there actually is an effect, since the path-coefficients are rather high. Besides, the moderating effect is non-significant (*B=0.0763, p=0.3323*), meaning that it does not make a difference for customers whether they already have purchased through a grocery retailer's website before or not.

To conclude, we provide an answer to our main research question:
"What is the mediating role and impact of online flow experience on the relationship between the experienced quality of the e-servicescape and customers' purchase intention?"

Our research shows support for the first two hypotheses, which means that the quality of the design of the online grocery retailer's website, positively influences customer's intention to purchase and emotional experiences. In contrast, we find no support for hypotheses H3, H4, and H5. Therefore, we are unable to say if customer's 'online flow experience' reinforces purchase intention, and if the 'online flow experience' positively mediates the relationship between the experienced quality of the 'e-servicescape' and purchase intention. Finally, we find no significant differences on the experience of online flow, between customers who have purchased online groceries before and customers who have not.

Concerning the outcomes of our research, we find no mediating effect of 'online flow experience' on the relationship between the experienced 'quality of e-servicescape' and 'purchase intention'. In the mediated model, there is also no direct effect of experienced 'quality

of e-servicescape' on 'purchase intention'. Therefore, a no-effect nonmediation is demonstrated.

7.1 Theoretical Implications

The outcomes of present research provide new insights in the underdeveloped field of 'online flow experience' as a mediating variable. We used the S-O-R framework as a theoretical background to model the sequential order of 'e-servicescape', through 'online flow experience', on purchase intention. In doing so, we have extended the research on this framework.

To our knowledge, only one study has investigated the mediating relationship of 'online flow experience' on 'e-servicescape' and purchase intention (Kühn & Petzer, 2018), in the context of online retail in emerging markets. The present research provides new and additive insights in this context.

Furthermore, we confirmed the application of an established 'e-servicescape' scale (Harris & Goode, 2010), by implementing the scale in the context of our research. With the use of 'e-servicescape' as a second-order construct, we found aesthetic appeal and layout and functionality as the equally strongest indicators of the 'e-servicescape' concept. This enhances our understanding of this scale, and responds to the calls in previous literature to provide a more comprehensive explanation of the concept (Teng et al., 2018; Wu et al., 2016). Besides, we used 'online flow experience' as a second-order construct too and provided a more comprehensive explanation of the concept. For this concept we found enjoyment, curiosity, and perceived control as the strongest indicators. With the use of a more comprehensive conceptualisation of 'e-servicescape' (Harris & Goode, 2010) and 'online flow experience', we found strong support for 'e-servicescape' being an antecedent for 'online flow experience' and purchase intention. However, contrary to previous literature (Kühn & Petzer, 2018), by applying more thorough conceptualisations, we found no support for the mediating effect of 'online flow experience' between the 'e-servicescape' and purchase intention.

Finally, positioning 'online flow experience' as a mediating variable extends the existing literature, in which flow is mainly seen as a predictor or outcome variable (Ozkara et al., 2017; Jeon et al., 2018).

7.2 Practical Implications

For practitioners the results provide interesting insights into which design features of the website, and which components of flow to use to foster online purchase intentions of their customers. The aesthetic appeal (visuality, entertainment, and originality of the design), as well as the layout and functionality (usability, relevance, and interactivity of information) are of equal importance, when improving the intention to purchase of customers. Financial security is found to be less important. This dimension is probably seen as a hygiene factor, as customers already expect a website to be secure nowadays.

Flow experience is generally seen as an important accelerator of purchase intention. However, in the context of this study we found no proof for this notion. Still, we argue that fostering a customer's positive emotions toward a website, could improve its shopping experience. Important indicators of 'online flow experience' are enjoyment, curiosity, and perceived control. Accordingly, marketing managers of online grocery retailers need to alter the design of the website in such a way that it improves the customer's enjoyment, curiosity, and perceived control. Since other research finds a significant effect between customers' emotional responses and their purchase intention, we strongly recommend practitioners to take this notion into account when improving customers' intention to purchase.

While our research is conducted in an online grocery retail setting, we believe the results of this study are also applicable to other online retail contexts that are similar to online grocery retailing. Therefore, we would advise managers outside the remit and context of this research to investigate its results.

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Appendix I: Overview of Constructs, Measures, and Questions

Quality of E-servicescape

Aesthetic appeal (six items)

1 The way the web site displays its products is attractive.
2 I like the way this web site looks.
3 I think that this web site is conservative. *
4 I think that this web site is unadventurous. *
5 I think that this web site is very entertaining.
6 The enthusiasm of this web site is catching, it picks me up.

Layout & Functionality (thirteen items)

1 The web site is not easy to navigate. *
2 There are convenient ways to manoeuvre among related pages and between different sections.
3 Navigation through this web site is logical.
4 This web site is difficult to use. *
5 This web site is user-friendly.
6 There is a great deal of irrelevant information on this web site. *
7 Product information can be easily accessed.
8 This web site is tailored toward me.
9 If I want to, I could customize this web site to what I like (e.g. changing colours, layout, fonts etc.).
10 When communicating with this web site I am rarely addressed by my name. *
11 This web site makes purchase recommendations that match my needs.
12 This web site helps me to compare products and prices.
13 I feel that this is not a very engaging web site. *

Financial Security (five items)

1 Payment procedures seem to take a long time. *
2 Paying for goods is straightforward.
3 Paying for goods involves entering a lot of details. *
4 When buying from this web site I am not comforted by the security procedures. *
5 Overall, this web site seems secure.

Online flow experience

Enjoyment (six items)

1 I found shopping at this web site to be enjoyable.
2 I found shopping at this web site to be exciting.
3 I found shopping at this web site to be interesting.
4 I found shopping at this web site to be boring. *
5 The actual process of using this web site is pleasant.
6 I had fun shopping at this web site.

Perceived Control (five items)

1 I felt in total control while shopping on this web site.
2 I felt confused while shopping on this web site. *
3 I felt like I could control what I was doing.
4 I felt calm while shopping on this web site.
5 I felt frustrated while shopping on this web site. *

Concentration (five items)

1 My attention was focused entirely on the online buying task.
2 It was no effort to keep my mind on the online buying task.

3 I had total concentration.
4 I got distracted by other attentions very easily. *
5 I was completely focused on the task at hand.

Merging of Action and Awareness (three items)

1 I reacted to the online buying task automatically.
2 I did things spontaneously and automatically without having to think.
3 I was not aware of the tasks I was performing. *

Curiosity (three items)

1 Shopping at this web site excited my curiosity.
2 Interacting with this web site was making me curious.
3 Using this web site aroused my imagination.

Time Distortion (four items)

1 Time appeared to go by very quickly when I was performing the online buying task.
2 I lost track of time when I was performing the online buying task.
3 Time went really slow when I was performing the online buying task. *
4 When performing the online buying task, I spent more time on the web site than I had intended.

Purchase Intention (four items)

1 I am willing to buy products from this web site.
2 The likelihood of me purchasing products from this web site is low. *
3 The probability that I would consider buying through this web site is high.
4 I intend to purchase products through this web site in the future.

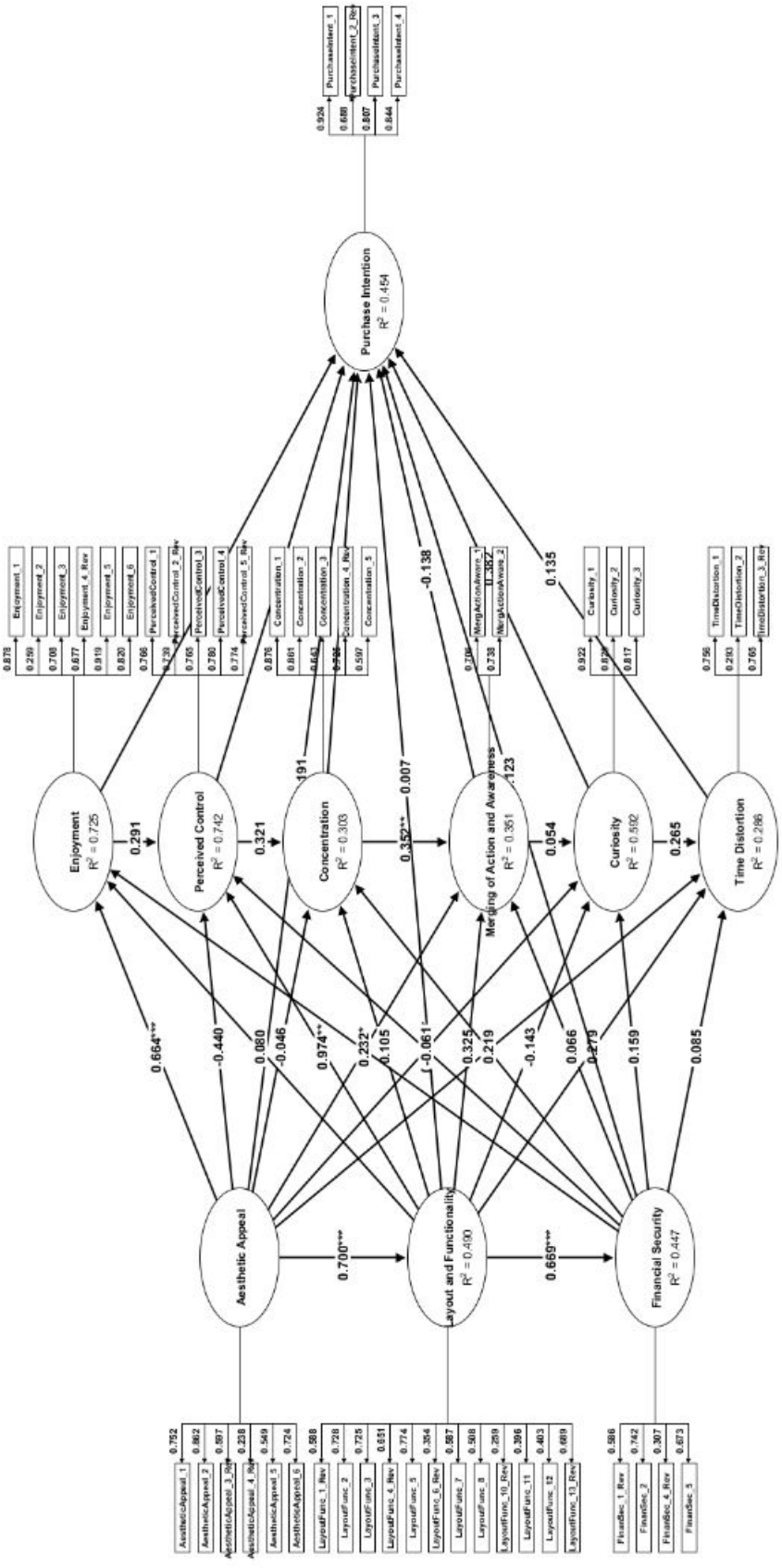
Questions with an asterisk are reversed coded questions.

Appendix II: Harman's Single-Factor Analysis

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14,687	27,199	27,199	14,046	26,012	26,012
2	4,812	8,912	36,110			
3	2,635	4,879	40,990			
4	2,281	4,223	45,213			
5	2,138	3,959	49,172			
6	1,869	3,460	52,632			
7	1,586	2,937	55,569			
8	1,423	2,634	58,204			
9	1,347	2,495	60,698			

Appendix III: Representation First-order Construct Model



Appendix IV: Goodness of Fit First-order Construct Model

Overall Model

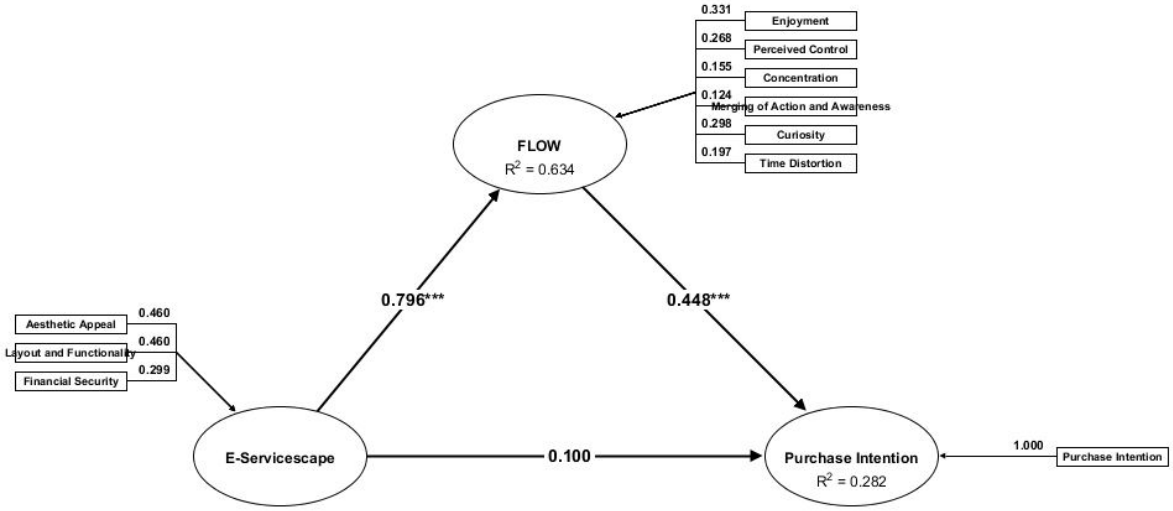
Goodness of model fit (saturated model)

	Value	HI95	HI99
SRMR	0.0761	0.0570	0.0597
d_{ULS}	7.3870	4.1443	4.5476
d_G	2.9842	2.5133	2.7533

Goodness of model fit (estimated model)

	Value	HI95	HI99
SRMR	0.0802	0.0593	0.0625
d_{ULS}	8.1963	4.4904	4.9822
d_G	3.0602	2.5305	2.7545

Appendix V: Representation Second-order Construct Model



Appendix VI: Goodness of Fit Second-order Construct Model

Overall Model

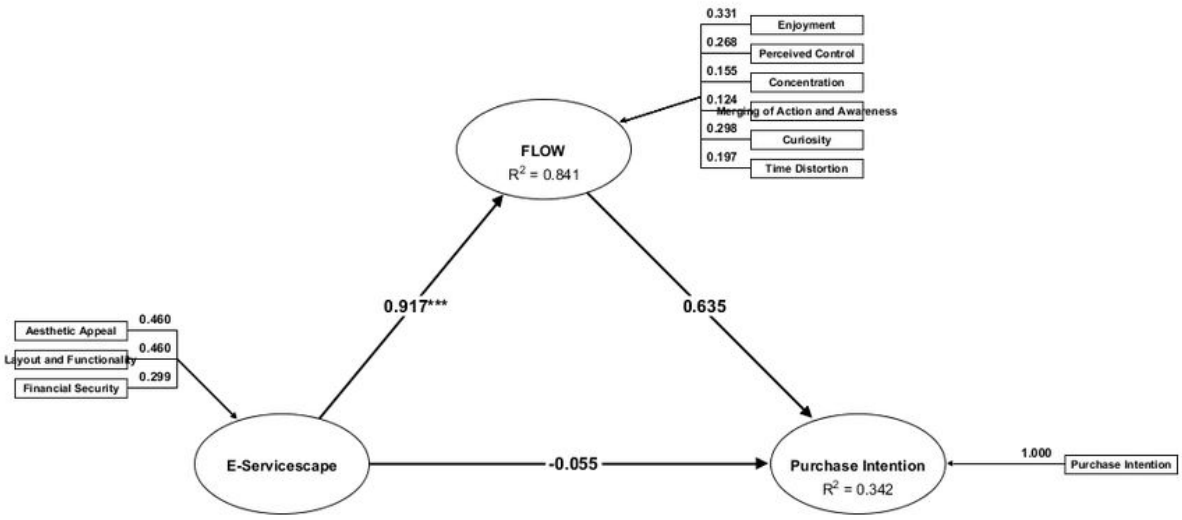
Goodness of model fit (saturated model)

	Value	HI95	HI99
SRMR	0.0718	0.0439	0.0478
d_{ULS}	0.2832	0.1059	0.1256
d_G	0.1348	0.0496	0.0586

Goodness of model fit (estimated model)

	Value	HI95	HI99
SRMR	0.0718	0.0439	0.0478
d_{ULS}	0.2832	0.1059	0.1256
d_G	0.1348	0.0496	0.0586

Appendix VII: Representation Re-estimated Reliabilities Model



Appendix VIII: Effect Overview & Bootstrap Results Re-Estimated Reliabilities Model

Effect Overview

Effect	Beta	Indirect effects	Total effect	Cohen's f^2
E-Servicescape -> FLOW	0.9169		0.9169	5.2771
E-Servicescape -> Purchase Intention	-0.0551	0.5824	0.5273	0.0007
FLOW -> Purchase Intention	0.6351		0.6351	0.0977

Direct Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
E-Servicescape -> FLOW	0.9169	0.9190	0.0327	28.0733	0.0000	0.0000	0.8285	0.8524	0.9762	0.9930
E-Servicescape -> Purchase Intention	-0.0551	-0.0164	2.3413	-0.0235	0.9812	0.4906	-1.4752	-0.8342	0.6374	1.7755
FLOW -> Purchase Intention	0.6351	0.5988	2.3418	0.2712	0.7863	0.3931	-1.2871	-0.0374	1.3941	1.9326

Indirect Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
E-Servicescape -> Purchase Intention	0.5824	0.5446	2.3365	0.2492	0.8032	0.4016	-1.3023	-0.0339	1.3359	1.8204

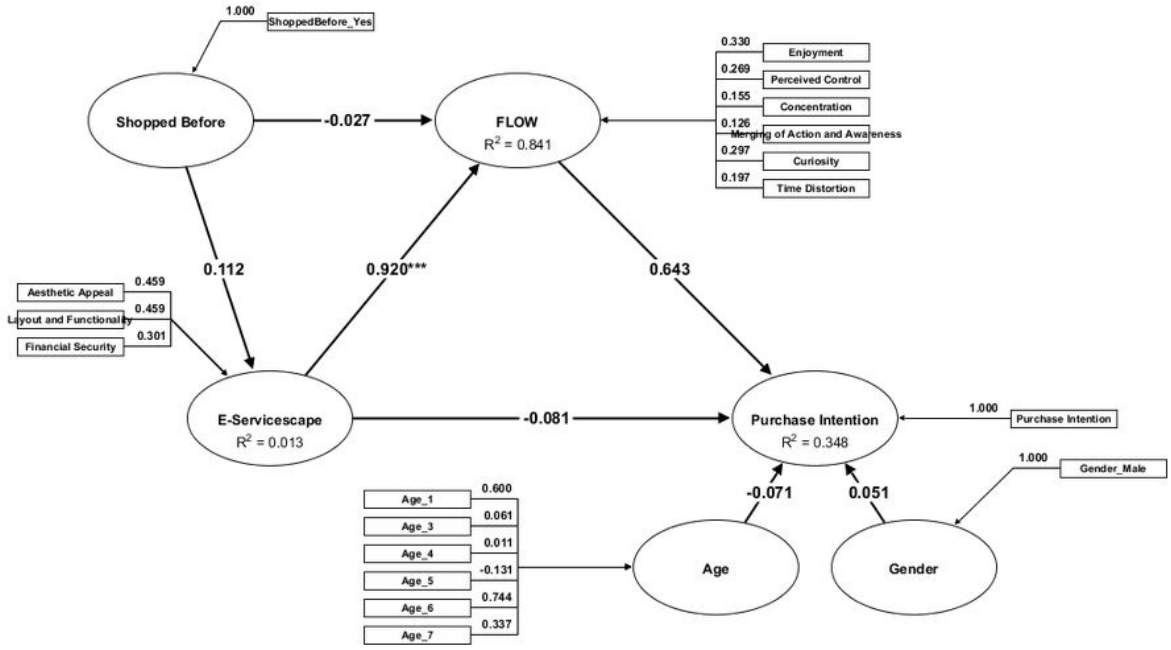
Total Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
E-Servicescape -> FLOW	0.9169	0.9190	0.0327	28.0733	0.0000	0.0000	0.8285	0.8524	0.9762	0.9930
E-Servicescape -> Purchase Intention	0.5273	0.5283	0.0720	7.3274	0.0000	0.0000	0.3418	0.3827	0.6663	0.7092
FLOW -> Purchase Intention	0.6351	0.5988	2.3418	0.2712	0.7863	0.3931	-1.2871	-0.0374	1.3941	1.9326

Appendix IX: Goodness of Fit Re-estimated Reliabilities Model

Due to circumstances this figure has not been obtained.

Appendix X: Representation Re-estimated Reliabilities Model Including Moderating and Control Variables



Appendix XI: Effect Overview & Bootstrap Results Re-Estimated Reliabilities Model Including Moderating and Control Variables

Effect Overview

Effect	Beta	Indirect effects	Total effect	Cohen's f^2
E-Servicescape -> FLOW	0.9197		0.9197	5.2541
E-Servicescape -> Purchase Intention	-0.0805	0.5916	0.5111	0.0015
FLOW -> Purchase Intention	0.6432		0.6432	0.1008
Shopped Before -> E-Servicescape	0.1124		0.1124	0.0128
Shopped Before -> FLOW	-0.0265	0.1034	0.0769	0.0044
Shopped Before -> Purchase Intention		0.0404	0.0404	
Age -> Purchase Intention	-0.0713		-0.0713	0.0069
Gender -> Purchase Intention	0.0510		0.0510	0.0039

Direct Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
E-Servicescape -> FLOW	0.9197	0.9248	0.0336	27.3699	0.0000	0.0000	0.8280	0.8558	0.9855	0.9992
E-Servicescape -> Purchase Intention	-0.0805	-0.1568	2.3334	-0.0345	0.9725	0.4862	-1.8708	-1.0834	0.5426	1.5887
FLOW -> Purchase Intention	0.6432	0.7106	2.2956	0.2802	0.7794	0.3897	-1.2693	0.0071	1.6054	2.2728
Shopped Before -> E-Servicescape	0.1124	0.1213	0.0848	1.3259	0.1852	0.0926	-0.0883	-0.0478	0.2813	0.3212
Shopped Before -> FLOW	-0.0265	-0.0265	0.0517	-0.5129	0.6082	0.3041	-0.1543	-0.1289	0.0716	0.0993
Age -> Purchase Intention	-0.0713	-0.1120	0.1042	-0.6838	0.4942	0.2471	-0.3163	-0.2420	0.0879	0.1545
Gender -> Purchase Intention	0.0510	0.0475	0.1372	0.3719	0.7101	0.3550	-0.1761	-0.0949	0.2018	0.2454

Indirect Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
E-Servicescape -> Purchase Intention	0.5916	0.6595	2.2952	0.2577	0.7967	0.3983	-1.2760	0.0068	1.5484	2.2352
Shopped Before -> FLOW	0.1034	0.1126	0.0794	1.3018	0.1933	0.0967	-0.0826	-0.0446	0.2666	0.3149
Shopped Before -> Purchase Intention	0.0404	0.0447	0.0722	0.5599	0.5757	0.2878	-0.0859	-0.0556	0.1459	0.1845

Total Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
E-Servicescape -> FLOW	0.9197	0.9248	0.0336	27.3699	0.0000	0.0000	0.8280	0.8558	0.9855	0.9992
E-Servicescape -> Purchase Intention	0.5111	0.5027	0.0876	5.8325	0.0000	0.0000	0.2967	0.3410	0.6566	0.7106
FLOW -> Purchase Intention	0.6432	0.7106	2.2956	0.2802	0.7794	0.3897	-1.2693	0.0071	1.6054	2.2728
Shopped Before -> E-Servicescape	0.1124	0.1213	0.0848	1.3259	0.1852	0.0926	-0.0883	-0.0478	0.2813	0.3212
Shopped Before -> FLOW	0.0769	0.0861	0.0793	0.9699	0.3323	0.1662	-0.1219	-0.0647	0.2410	0.2701
Shopped Before -> Purchase Intention	0.0404	0.0447	0.0722	0.5599	0.5757	0.2878	-0.0859	-0.0556	0.1459	0.1845
Age -> Purchase Intention	-0.0713	-0.1120	0.1042	-0.6838	0.4942	0.2471	-0.3163	-0.2420	0.0879	0.1545
Gender -> Purchase Intention	0.0510	0.0475	0.1372	0.3719	0.7101	0.3550	-0.1761	-0.0949	0.2018	0.2454

Appendix XII: Goodness of Fit Re-estimated Reliabilities Model Including Moderating and Control Variables

Goodness of model fit (saturated model)

	Value	HI95	HI99
SRMR	0.0661	0.0931	0.1078
d_{ULS}	0.7461	1.4818	1.9854
d_G	0.3059	122.1733	136.5542

Goodness of model fit (estimated model)

	Value	HI95	HI99
SRMR	0.0824	0.1201	0.1344
d_{ULS}	1.1612	2.4680	3.0898
d_G	0.3290	121.3498	127.4267

Appendix XIII: Output SPSS Syntax

```
* Encoding: UTF-8.

DATASET ACTIVATE DataSet1/* Dataset: Survey Thesis Online Grocery Shopping.
FILTER OFF.
USE ALL.
SELECT IF (Duration__in_seconds_ > 190).
EXECUTE.

*Non-important variables are excluded from the dataset.
DELETE VARIABLES StartDate EndDate Status Progress Finished RecordedDate ResponseId
DistributionChannel UserLanguage Q11_1_TEXT___Topics.
EXECUTE.

*Two variables had to be recoded, so the values are in the right order.
RECODE Q13 (4=1) (5=2) (6=3) (7=4) (8=5) (9=6) (10=7) (11=8).
RECODE Q15 (1=1) (2=2) (3=3) (4=4) (6=5) (7=6) (8=7).
EXECUTE.

*All variables are renamed to be understandable.
RENAME VARIABLES (Q1_1=AestheticAppeal_1) (Q1_2=AestheticAppeal_2)
(Q1_3=AestheticAppeal_3) (Q1_4=AestheticAppeal_4) (Q1_5=AestheticAppeal_5)
(Q1_6=AestheticAppeal_6)
(Q2_1=LayoutFunc_1) (Q2_2=LayoutFunc_2) (Q2_3=LayoutFunc_3) (Q2_4=LayoutFunc_4)
(Q2_5=LayoutFunc_5) (Q2_6=LayoutFunc_6) (Q2_7=LayoutFunc_7) (Q2_8=LayoutFunc_8)
(Q2_9=LayoutFunc_9) (Q2_10=LayoutFunc_10) (Q2_11=LayoutFunc_11) (Q2_12=LayoutFunc_12)
(Q2_13=LayoutFunc_13)
(Q3_1=FinanSec_1) (Q3_2=FinanSec_2) (Q3_3=FinanSec_3) (Q3_4=FinanSec_4)
(Q3_5=FinanSec_5) (Q4_1=Enjoyment_1) (Q4_2=Enjoyment_2) (Q4_3=Enjoyment_3)
(Q4_4=Enjoyment_4) (Q4_5=Enjoyment_5) (Q4_6=Enjoyment_6)
(Q5_1=PerceivedControl_1) (Q5_2=PerceivedControl_2) (Q5_3=PerceivedControl_3)
(Q5_4=PerceivedControl_4) (Q5_5=PerceivedControl_5)
(Q6_1=Concentration_1) (Q6_2=Concentration_2) (Q6_3=Concentration_3) (Q6_4=Concentration_4)
(Q6_5=Concentration_5)
(Q7_1=MergActionAware_1) (Q7_2=MergActionAware_2) (Q7_3=MergActionAware_3)
(Q8_1=Curiosity_1) (Q8_2=Curiosity_2) (Q8_3=Curiosity_3)
(Q9_1=TimeDistortion_1) (Q9_2=TimeDistortion_2) (Q9_3=TimeDistortion_3)
(Q9_4=TimeDistortion_4)
(Q10_1=PurchaseIntent_1) (Q10_2=PurchaseIntent_2) (Q10_3=PurchaseIntent_3)
(Q10_4=PurchaseIntent_4)
(Q11=ShoppedBefore) (Q11_1_TEXT=ShoppedBefore_TEXT) (Q12=Gender) (Q13=Age)
(Q14=Occupation)
 (Q15=LivingSituation) (Q15_7_TEXT=LivingSituation_TEXT) (Q16=Education).
EXECUTE.

*All variable labels are back translated into English.
VARIABLE LABELS AestheticAppeal_1 'The way the web site displays its products is attractive.'
AestheticAppeal_2 'I like the way this web site looks.'
AestheticAppeal_3 ‘I think that this web site is conservative. *' AestheticAppeal_4 'I think that this
web site is unadventurous. *'
AestheticAppeal_5 'I think that this web site is very entertaining.' AestheticAppeal_6 'The enthusiasm
of this web site is catching; it picks me up.'
```

LayoutFunc_1 'The web site is not easy to navigate. *' LayoutFunc_2 'There are convenient ways to manoeuvre among related pages and between different sections.'
LayoutFunc_3 'Navigation through this web site is logical.' LayoutFunc_4 'This web site is difficult to use. *' LayoutFunc_5 'This web site is user-friendly.'
LayoutFunc_6 'There is a great deal of irrelevant information on this web site. *' LayoutFunc_7 'Product information can be easily accessed.' LayoutFunc_8 'This web site is tailored toward me.'
LayoutFunc_9 'If I want to, I could customize this web site to what I like (e.g. changing colours, layout, fonts etc.).'
LayoutFunc_10 'When communicating with this web site I am rarely addressed by my name. *'
LayoutFunc_11 'This web site makes purchase recommendations that match my needs.'
LayoutFunc_12 'This web site helps me to compare products and prices.' LayoutFunc_13 'I feel that this is not a very engaging web site. *'
FinanSec_1 'Payment procedures seem to take a long time. *' FinanSec_2 'Paying for goods is straightforward.' FinanSec_3 'Paying for goods involves entering a lot of details. *'
FinanSec_4 'When buying from this web site I am not comforted by the security procedures. *'
FinanSec_5 'Overall, this web site seems secure.'
Enjoyment_1 'I found shopping at this web site to be enjoyable.' Enjoyment_2 'I found shopping at this web site to be exciting.'
Enjoyment_3 'I found shopping at this web site to be interesting.' Enjoyment_4 'I found shopping at this web site to be boring. *'
Enjoyment_5 'The actual process of using this web site is pleasant.' Enjoyment_6 'I had fun shopping at this web site.'
PerceivedControl_1 'I felt in total control while shopping on this web site.' PerceivedControl_2 'I felt confused while shopping on this web site. *'
PerceivedControl_3 'I felt like I could control what I was doing.' PerceivedControl_4 'I felt calm while shopping on this web site.'
PerceivedControl_5 'I felt frustrated while shopping on this web site. *' Concentration_1 'My attention was focused entirely on the online buying task.'
Concentration_2 'It was no effort to keep my mind on the online buying task.' Concentration_3 'I had total concentration.' Concentration_4 'I got distracted by other attentions very easily. *'
Concentration_5 'I was completely focused on the task at hand.' MergActionAware_1 'I reacted to the online buying task automatically.'
MergActionAware_2 'I did things spontaneously and automatically without having to think.'
MergActionAware_3 'I was not aware of the tasks I was performing. *'
Curiosity_1 'Shopping at this web site excited my curiosity.' Curiosity_2 'Interacting with this web site was making me curious.' Curiosity_3 'Using this web site aroused my imagination.'
TimeDistortion_1 'Time appeared to go by very quickly when I was performing the online buying task.' TimeDistortion_2 'I lost track of time when I was performing the online buying task.'
TimeDistortion_3 'Time went really slow when I was performing the online buying task. *'
TimeDistortion_4 'When performing the online buying task, I spent more time on the web site than I had intended.' PurchaseIntent_1 'I am willing to buy products from this web site.'
PurchaseIntent_2 'The likelihood of me purchasing products from this web site is low. *'
PurchaseIntent_3 'The probability that I would consider buying through this web site is high.'
PurchaseIntent_4 'I intend to purchase products through this web site in the future.'
ShoppedBefore 'Did you ever purchased groceries through a Dutch supermarkets web site before? Selected Choice'
ShoppedBefore_TEXT 'Did you ever purchased groceries through a Dutch supermarkets web site before? Yes, via: Tekst'
Gender 'What is your gender?' Age 'What is your age?' Occupation 'What is your current occupation?'
LivingSituation 'What is your current living situation? Selected Choice'
LivingSituation_TEXT 'What is your current living situation? Other: Tekst' Education 'What is your highest acheived education (with or without diploma)?'.
EXECUTE.

*All value labels are back translated into English.
VALUE LABELS AestheticAppeal_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
AestheticAppeal_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
AestheticAppeal_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
AestheticAppeal_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
AestheticAppeal_5 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
AestheticAppeal_6 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_5 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_6 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_7 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_8 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_9 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_10 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_11 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_12 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
LayoutFunc_13 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
FinanSec_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
FinanSec_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
FinanSec_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
FinanSec_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
FinanSec_5 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Enjoyment_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Enjoyment_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/

Enjoyment_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Enjoyment_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Enjoyment_5 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Enjoyment_6 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PerceivedControl_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PerceivedControl_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PerceivedControl_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PerceivedControl_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PerceivedControl_5 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Concentration_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Concentration_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Concentration_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Concentration_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Concentration_5 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
MergActionAware_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
MergActionAware_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
MergActionAware_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Curiosity_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Curiosity_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
Curiosity_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
TimeDistortion_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
TimeDistortion_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
TimeDistortion_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
TimeDistortion_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PurchaseIntent_1 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PurchaseIntent_2 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/
PurchaseIntent_3 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'/

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PurchaseIntent_4 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral' 5 'Somewhat
Agree' 6 'Agree' 7 'Totally Agree'/
ShoppedBefore 1 'Yes, via:' 2 'No'/
Gender 1 'Male' 2 'Female' 3 'Prefer not to answer'/
Age 1 '<18' 2 '18 - 24' 3 '25 - 30' 4 '31 - 40' 5 '41 - 50' 6 '51 - 60' 7 '61+' 8 'Prefer not to answer'/
Occupation 1 'Paid Employment' 2 'Entrepreneur' 3 'Unemployed and looking for a job' 4
'Unemployed and not looking for a job' 5 'Student' 6 'Retired' 7 'Incapacitated' 8 'Prefer not to answer'/
LivingSituation 1 'Single, without child(ren)' 2 'Single, with child(ren)' 3 'Living together, without
child(ren)' 4 'Living together, with child(ren)' 5 'Student (Living at home or away from home)'
6 'Other:' 7 'Prefer not to answer'/
Education 1 'Secondary education' 2 'Secondary vocational education' 3 'Higher professional
education-Bachelor' 4 'Higher professional education-Master' 5 'University education-Bachelor'
6 'University education-Master' 7 'Prefer not to answer'.
EXECUTE.

*All negative formulated variables are Reverse-coded.
RECODE AestheticAppeal_3 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO
AestheticAppeal_3_Rev.
VALUE LABELS AestheticAppeal_3_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE AestheticAppeal_4 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO
AestheticAppeal_4_Rev.
VALUE LABELS AestheticAppeal_4_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE LayoutFunc_1 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO LayoutFunc_1_Rev.
VALUE LABELS LayoutFunc_1_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE LayoutFunc_4 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO LayoutFunc_4_Rev.
VALUE LABELS LayoutFunc_4_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE LayoutFunc_6 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO LayoutFunc_6_Rev.
VALUE LABELS LayoutFunc_6_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE LayoutFunc_10 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO LayoutFunc_10_Rev.
VALUE LABELS LayoutFunc_10_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE LayoutFunc_13 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO LayoutFunc_13_Rev.
VALUE LABELS LayoutFunc_13_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE FinanSec_1 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO FinanSec_1_Rev.
VALUE LABELS FinanSec_1_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral'
5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE FinanSec_3 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO FinanSec_3_Rev.
VALUE LABELS FinanSec_3_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral'
5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
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RECODE FinanSec_4 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO FinanSec_4_Rev.
VALUE LABELS FinanSec_4_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4 'Neutral'
5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE Enjoyment_4 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO Enjoyment_4_Rev.
VALUE LABELS Enjoyment_4_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE PerceivedControl_2 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO
PerceivedControl_2_Rev.
VALUE LABELS PerceivedControl_2_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE PerceivedControl_5 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO
PerceivedControl_5_Rev.
VALUE LABELS PerceivedControl_5_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE Concentration_4 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO Concentration_4_Rev.
VALUE LABELS Concentration_4_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE MergActionAware_3 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO
MergActionAware_3_Rev.
VALUE LABELS MergActionAware_3_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree'
4 'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE TimeDistortion_3 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO TimeDistortion_3_Rev.
VALUE LABELS TimeDistortion_3_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.
RECODE PurchaseIntent_2 (1=7) (2=6) (3=5) (4=4) (5=3) (6=2) (7=1) INTO PurchaseIntent_2_Rev.
VALUE LABELS PurchaseIntent_2_Rev 1 'Totally Disagree' 2 'Disagree' 3 'Somewhat Disagree' 4
'Neutral' 5 'Somewhat Agree' 6 'Agree' 7 'Totally Agree'.
EXECUTE.

*Main constructs are computed from their indicators.
COMPUTE
CompAestheticAppeal=MEAN(AestheticAppeal_1,AestheticAppeal_2,AestheticAppeal_3_Rev,Aesth
eticAppeal_4_Rev,AestheticAppeal_5,AestheticAppeal_6).
EXECUTE.
COMPUTE
CompLayoutFunc=MEAN(LayoutFunc_1_Rev,LayoutFunc_2,LayoutFunc_3,LayoutFunc_4_Rev,Lay
outFunc_5,LayoutFunc_6_Rev,LayoutFunc_7,LayoutFunc_8,
LayoutFunc_9,LayoutFunc_10_Rev,LayoutFunc_11,LayoutFunc_12,LayoutFunc_13_Rev).
EXECUTE.
COMPUTE
CompFinanSec=MEAN(FinanSec_1_Rev,FinanSec_2,FinanSec_3_Rev,FinanSec_4_Rev,FinanSec_5
).
EXECUTE.
COMPUTE
CompEnjoyment=MEAN(Enjoyment_1,Enjoyment_2,Enjoyment_3,Enjoyment_4_Rev,Enjoyment_5,
Enjoyment_6).
EXECUTE.
```

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COMPUTE
CompPerceivedControl=MEAN(PerceivedControl_1,PerceivedControl_2_Rev,PerceivedControl_3,Pe
rceivedControl_4,PerceivedControl_5_Rev).
EXECUTE.
COMPUTE
CompConcentration=MEAN(Concentration_1,Concentration_2,Concentration_3,Concentration_4_Re
v,Concentration_5).
EXECUTE.
COMPUTE
CompMergActionAwareness=MEAN(MergActionAware_1,MergActionAware_2,MergActionAware_
3_Rev).
EXECUTE.
COMPUTE CompCuriosity=MEAN(Curiosity_1,Curiosity_2,Curiosity_3).
EXECUTE.
COMPUTE
CompTimeDistortion=MEAN(TimeDistortion_1,TimeDistortion_2,TimeDistortion_3_Rev,TimeDisto
rtion_4).
EXECUTE.
COMPUTE
CompPurchaseIntent=MEAN(PurchaseIntent_1,PurchaseIntent_2_Rev,PurchaseIntent_3,PurchaseInte
nt_4).
EXECUTE.

*Frequency tables of all variables are executed.
FREQUENCIES VARIABLES=AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
    AestheticAppeal_4_Rev AestheticAppeal_5 AestheticAppeal_6 LayoutFunc_1_Rev LayoutFunc_2
    LayoutFunc_3 LayoutFunc_4_Rev LayoutFunc_5 LayoutFunc_6_Rev LayoutFunc_7
LayoutFunc_8 LayoutFunc_9
    LayoutFunc_10_Rev LayoutFunc_11 LayoutFunc_12 LayoutFunc_13_Rev FinanSec_1_Rev
FinanSec_2
    FinanSec_3_Rev FinanSec_4_Rev FinanSec_5 Enjoyment_1 Enjoyment_2 Enjoyment_3
Enjoyment_4_Rev
    Enjoyment_5 Enjoyment_6 PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
    PerceivedControl_4 PerceivedControl_5_Rev Concentration_1 Concentration_2 Concentration_3
    Concentration_4_Rev Concentration_5 MergActionAware_1 MergActionAware_2
MergActionAware_3_Rev
    Curiosity_1 Curiosity_2 Curiosity_3 TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev
    TimeDistortion_4 PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
ShoppedBefore Gender Age Occupation LivingSituation Education
  /STATISTICS=STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN
MEDIAN MODE SKEWNESS SESKEW
    KURTOSIS SEKURT
  /ORDER=ANALYSIS.
EXECUTE.

*Missing values are noted as system missing values.
RECODE Gender (3=SYSMIS).
EXECUTE.
RECODE Age (8=SYSMIS).
EXECUTE.
RECODE Occupation (SYSMIS = 99) (8=SYSMIS).
EXECUTE.
RECODE  LivingSituation (7=SYSMIS).
EXECUTE.
```

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RECODE Education (7=SYSMIS).
EXECUTE.

*Descriptive tables of all variables are executed.
DESCRIPTIVES VARIABLES=AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
    AestheticAppeal_4_Rev AestheticAppeal_5 AestheticAppeal_6 LayoutFunc_1_Rev LayoutFunc_2
    LayoutFunc_3 LayoutFunc_4_Rev LayoutFunc_5 LayoutFunc_6_Rev LayoutFunc_7
LayoutFunc_8 LayoutFunc_9
    LayoutFunc_10_Rev LayoutFunc_11 LayoutFunc_12 LayoutFunc_13_Rev FinanSec_1_Rev
FinanSec_2
    FinanSec_3_Rev FinanSec_4_Rev FinanSec_5 Enjoyment_1 Enjoyment_2 Enjoyment_3
Enjoyment_4_Rev
    Enjoyment_5 Enjoyment_6 PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
    PerceivedControl_4 PerceivedControl_5_Rev Concentration_1 Concentration_2 Concentration_3
    Concentration_4_Rev Concentration_5 MergActionAware_1 MergActionAware_2
MergActionAware_3_Rev
    Curiosity_1 Curiosity_2 Curiosity_3 TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev
    TimeDistortion_4 PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
    ShoppedBefore Gender Age Occupation LivingSituation Education
  /STATISTICS=MEAN STDDEV MIN MAX KURTOSIS SKEWNESS.
EXECUTE.

*Correlation-matrices of all variables are executed.
CORRELATIONS
  /VARIABLES= AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
    AestheticAppeal_4_Rev AestheticAppeal_5 AestheticAppeal_6 LayoutFunc_1_Rev LayoutFunc_2
    LayoutFunc_3 LayoutFunc_4_Rev LayoutFunc_5 LayoutFunc_6_Rev LayoutFunc_7
LayoutFunc_8 LayoutFunc_9 LayoutFunc_10_Rev
    LayoutFunc_11 LayoutFunc_12 LayoutFunc_13_Rev FinanSec_1_Rev FinanSec_2
FinanSec_3_Rev
    FinanSec_4_Rev FinanSec_5 Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev
Enjoyment_5
    Enjoyment_6 PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
PerceivedControl_4
    PerceivedControl_5_Rev Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
    Concentration_5 MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev Curiosity_1
Curiosity_2
    Curiosity_3 TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
    PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4 ShoppedBefore
Gender Age
    Occupation LivingSituation Education
  /PRINT=TWOTAIL NOSIG
  /STATISTICS DESCRIPTIVES
  /MISSING=PAIRWISE.
NONPAR CORR
  /VARIABLES= AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
    AestheticAppeal_4_Rev AestheticAppeal_5 AestheticAppeal_6 LayoutFunc_1_Rev LayoutFunc_2
    LayoutFunc_3 LayoutFunc_4_Rev LayoutFunc_5 LayoutFunc_6_Rev LayoutFunc_7
LayoutFunc_8 LayoutFunc_9 LayoutFunc_10_Rev
    LayoutFunc_11 LayoutFunc_12 LayoutFunc_13_Rev FinanSec_1_Rev FinanSec_2
FinanSec_3_Rev
    FinanSec_4_Rev FinanSec_5 Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev
Enjoyment_5
```

```
   Enjoyment_6 PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
PerceivedControl_4
   PerceivedControl_5_Rev Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
   Concentration_5 MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev Curiosity_1
Curiosity_2
   Curiosity_3 TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
   PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4 ShoppedBefore
Gender Age
   Occupation LivingSituation Education
  /PRINT=BOTH TWOTAIL NOSIG
  /MISSING=PAIRWISE.
EXECUTE.

*To test for Common Method Variance (CMV) a Harman's Single-Factor analysis was executed.
FACTOR
  /VARIABLES AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
AestheticAppeal_4_Rev
   AestheticAppeal_5 AestheticAppeal_6 LayoutFunc_1_Rev LayoutFunc_2 LayoutFunc_3
LayoutFunc_4_Rev
   LayoutFunc_5 LayoutFunc_6_Rev LayoutFunc_7 LayoutFunc_8 LayoutFunc_9
LayoutFunc_10_Rev
   LayoutFunc_11 LayoutFunc_12 LayoutFunc_13_Rev FinanSec_1_Rev FinanSec_2
FinanSec_3_Rev
   FinanSec_4_Rev FinanSec_5 Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev
Enjoyment_5
   Enjoyment_6 PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
PerceivedControl_4
   PerceivedControl_5_Rev Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
   Concentration_5 MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev Curiosity_1
Curiosity_2
   Curiosity_3 TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
   PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
  /MISSING LISTWISE
  /ANALYSIS AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
AestheticAppeal_4_Rev
   AestheticAppeal_5 AestheticAppeal_6 LayoutFunc_1_Rev LayoutFunc_2 LayoutFunc_3
LayoutFunc_4_Rev
   LayoutFunc_5 LayoutFunc_6_Rev LayoutFunc_7 LayoutFunc_8 LayoutFunc_9
LayoutFunc_10_Rev
   LayoutFunc_11 LayoutFunc_12 LayoutFunc_13_Rev FinanSec_1_Rev FinanSec_2
FinanSec_3_Rev
   FinanSec_4_Rev FinanSec_5 Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev
Enjoyment_5
   Enjoyment_6 PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
PerceivedControl_4
   PerceivedControl_5_Rev Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
   Concentration_5 MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev Curiosity_1
Curiosity_2
   Curiosity_3 TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
   PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
FSCORE
  /FORMAT BLANK(.30)
  /PLOT EIGEN
```

```
  /CRITERIA FACTORS(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.

*For each construct a factor analysis was executed to test if the variables each load on one factor, and
also a reliability analysis was executed.
FACTOR
  /VARIABLES AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
AestheticAppeal_4_Rev
    AestheticAppeal_5 AestheticAppeal_6
  /MISSING LISTWISE
  /ANALYSIS AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
AestheticAppeal_4_Rev
    AestheticAppeal_5 AestheticAppeal_6
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=AestheticAppeal_1 AestheticAppeal_2 AestheticAppeal_3_Rev
AestheticAppeal_4_Rev
    AestheticAppeal_5 AestheticAppeal_6
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES LayoutFunc_1_Rev LayoutFunc_2 LayoutFunc_3 LayoutFunc_4_Rev LayoutFunc_5
    LayoutFunc_6_Rev LayoutFunc_7 LayoutFunc_8 LayoutFunc_9 LayoutFunc_10_Rev
LayoutFunc_11
    LayoutFunc_12 LayoutFunc_13_Rev
  /MISSING LISTWISE
  /ANALYSIS LayoutFunc_1_Rev LayoutFunc_2 LayoutFunc_3 LayoutFunc_4_Rev LayoutFunc_5
    LayoutFunc_6_Rev LayoutFunc_7 LayoutFunc_8 LayoutFunc_9 LayoutFunc_10_Rev
LayoutFunc_11
    LayoutFunc_12 LayoutFunc_13_Rev
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
```

```
  /VARIABLES=LayoutFunc_1_Rev LayoutFunc_2 LayoutFunc_3 LayoutFunc_4_Rev
LayoutFunc_5
    LayoutFunc_6_Rev LayoutFunc_7 LayoutFunc_8 LayoutFunc_9 LayoutFunc_10_Rev
LayoutFunc_11
    LayoutFunc_12 LayoutFunc_13_Rev
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES FinanSec_1_Rev FinanSec_2 FinanSec_3_Rev FinanSec_4_Rev FinanSec_5
  /MISSING LISTWISE
  /ANALYSIS FinanSec_1_Rev FinanSec_2 FinanSec_3_Rev FinanSec_4_Rev FinanSec_5
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=FinanSec_1_Rev FinanSec_2 FinanSec_3_Rev FinanSec_4_Rev FinanSec_5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev Enjoyment_5
Enjoyment_6
  /MISSING LISTWISE
  /ANALYSIS Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev Enjoyment_5
Enjoyment_6
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=Enjoyment_1 Enjoyment_2 Enjoyment_3 Enjoyment_4_Rev Enjoyment_5
Enjoyment_6
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.
```

```
FACTOR
  /VARIABLES PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
PerceivedControl_4
    PerceivedControl_5_Rev
  /MISSING LISTWISE
  /ANALYSIS PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3 PerceivedControl_4
    PerceivedControl_5_Rev
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=PerceivedControl_1 PerceivedControl_2_Rev PerceivedControl_3
PerceivedControl_4
    PerceivedControl_5_Rev
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
Concentration_5
  /MISSING LISTWISE
  /ANALYSIS Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
Concentration_5
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=Concentration_1 Concentration_2 Concentration_3 Concentration_4_Rev
Concentration_5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev
  /MISSING LISTWISE
  /ANALYSIS MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
```

```
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=MergActionAware_1 MergActionAware_2 MergActionAware_3_Rev
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES Curiosity_1 Curiosity_2 Curiosity_3
  /MISSING LISTWISE
  /ANALYSIS Curiosity_1 Curiosity_2 Curiosity_3
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=Curiosity_1 Curiosity_2 Curiosity_3
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

FACTOR
  /VARIABLES TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
  /MISSING LISTWISE
  /ANALYSIS TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=TimeDistortion_1 TimeDistortion_2 TimeDistortion_3_Rev TimeDistortion_4
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.
```

```
FACTOR
  /VARIABLES PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
  /MISSING LISTWISE
  /ANALYSIS PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
  /PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO REPR EXTRACTION
  /FORMAT BLANK(.30)
  /PLOT EIGEN
  /CRITERIA MINEIGEN(1) ITERATE(200)
  /EXTRACTION PAF
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
EXECUTE.
RELIABILITY
  /VARIABLES=PurchaseIntent_1 PurchaseIntent_2_Rev PurchaseIntent_3 PurchaseIntent_4
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
EXECUTE.

*To implement the control variables, for each variable groups had to be made.
RECODE ShoppedBefore (1=1) (2=0) INTO ShoppedBefore_Yes.
EXECUTE.
RECODE ShoppedBefore (1=0) (2=1) INTO ShoppedBefore_No.
EXECUTE.
RECODE Gender (1=1) (2=0) INTO Gender_Male.
EXECUTE.
RECODE Gender (2=1) (1=0) INTO Gender_Female.
EXECUTE.
RECODE Age (1=1) (2=0) (3=0) (4=0) (5=0) (6=0) (7=0) INTO Age_1.
EXECUTE.
RECODE Age (1=0) (2=1) (3=0) (4=0) (5=0) (6=0) (7=0) INTO Age_2.
EXECUTE.
RECODE Age (1=0) (2=0) (3=1) (4=0) (5=0) (6=0) (7=0) INTO Age_3.
EXECUTE.
RECODE Age (1=0) (2=0) (3=0) (4=1) (5=0) (6=0) (7=0) INTO Age_4.
EXECUTE.
RECODE Age (1=0) (2=0) (3=0) (4=0) (5=1) (6=0) (7=0) INTO Age_5.
EXECUTE.
RECODE Age (1=0) (2=0) (3=0) (4=0) (5=0) (6=1) (7=0) INTO Age_6.
EXECUTE.
RECODE Age (1=0) (2=0) (3=0) (4=0) (5=0) (6=0) (7=1) INTO Age_7.
EXECUTE.
RECODE Occupation (1=1) (2=0) (3=0) (4=0) (5=0) (6=0) (7=0) INTO Occupation_1.
EXECUTE.
RECODE Occupation (1=0) (2=1) (3=0) (4=0) (5=0) (6=0) (7=0) INTO Occupation_2.
EXECUTE.
RECODE Occupation (1=0) (2=0) (3=1) (4=0) (5=0) (6=0) (7=0) INTO Occupation_3.
EXECUTE.
RECODE Occupation (1=0) (2=0) (3=0) (4=1) (5=0) (6=0) (7=0) INTO Occupation_4.
EXECUTE.
RECODE Occupation (1=0) (2=0) (3=0) (4=0) (5=1) (6=0) (7=0) INTO Occupation_5.
EXECUTE.
RECODE Occupation (1=0) (2=0) (3=0) (4=0) (5=0) (6=1) (7=0) INTO Occupation_6.
```

```
EXECUTE.
RECODE Occupation (1=0) (2=0) (3=0) (4=0) (5=0) (6=0) (7=1) INTO Occupation_7.
EXECUTE.
RECODE LivingSituation (1=1) (2=0) (3=0) (4=0) (5=0) (6=0) INTO LivingSituation_1.
EXECUTE.
RECODE LivingSituation (1=0) (2=1) (3=0) (4=0) (5=0) (6=0) INTO LivingSituation_2.
EXECUTE.
RECODE LivingSituation (1=0) (2=0) (3=1) (4=0) (5=0) (6=0) INTO LivingSituation_3.
EXECUTE.
RECODE LivingSituation (1=0) (2=0) (3=0) (4=1) (5=0) (6=0) INTO LivingSituation_4.
EXECUTE.
RECODE LivingSituation (1=0) (2=0) (3=0) (4=0) (5=1) (6=0) INTO LivingSituation_5.
EXECUTE.
RECODE LivingSituation (1=0) (2=0) (3=0) (4=0) (5=0) (6=1) INTO LivingSituation_6.
EXECUTE.
RECODE Education (1=1) (2=0) (3=0) (4=0) (5=0) (6=0) INTO Education_1.
EXECUTE.
RECODE Education (1=0) (2=1) (3=0) (4=0) (5=0) (6=0) INTO Education_2.
EXECUTE.
RECODE Education (1=0) (2=0) (3=1) (4=0) (5=0) (6=0) INTO Education_3.
EXECUTE.
RECODE Education (1=0) (2=0) (3=0) (4=1) (5=0) (6=0) INTO Education_4.
EXECUTE.
RECODE Education (1=0) (2=0) (3=0) (4=0) (5=1) (6=0) INTO Education_5.
EXECUTE.
RECODE Education (1=0) (2=0) (3=0) (4=0) (5=0) (6=1) INTO Education_6.
EXECUTE.
```