

Identification of online consumer review attributes and the associated route of information processing

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ABSTRACT

The number of means to communication have immensely exploded since the internet and Web 2.0 became available. In contrast to the past, consumers are no longer limited to time and geographical boundaries. Now, experiences and opinions about products and services can be freely exchanged across time and space. Sharing this information can help others to collect the necessary information needed for a product choice. However, literature has remain silent on the attributes that consumers deploy to navigate through their information seeking processes. Therefore, in this paper we conduct a systematic literature review and develop a framework that includes two routes of information processing including the attributes for each route. In addition, we develop a questionnaire with multiple items related to these attributes and routes to be of use for future research.

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Keywords

Web 2.0; (electronic) Word-of-Mouth ((e)WOM); Online Consumer Review (OCR); online review attributes information processing; central and peripheral route;

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1. INTRODUCTION

Every day, consumers all around the globe face the process of decision making when buying a product. While in the past, buying and information acquisition on products mainly happened offline, nowadays it can be either online or offline. The biggest difference between online and offline shopping is that in an offline setting consumers can use all their senses when buying a product, i.e. touch, feel, etc., while in an online environment consumers are dependent on the information provided by the seller (Park et al. 2007). Earlier, the Internet was mainly used and 'controlled by news media or large businesses' (Duan et al., 2008), and basically a passive tool for consumers to acquire information. Due to the technological shift through the emergence of Web 2.0 the setting changed to a highly interactive environment (Hanna et al., 2011). According to De Pelsmacker et al. (2013, p. 517) Web 2.0 'is a concept of web-as-participation-platform in which users' are offered the possibility 'to collaborate, add, edit, share and tag content of different kinds'. Consequently, consumers are no longer solely reliant on the information provided by a seller but also have access to participate in the online environment themselves and produce so called user-generated content (UGC) (Ayeh et al., 2013; Lu & Stepchenkova, 2014; Park et al., 2007).

When buying consumers are passing through the decision making process (see Appendix 1) in order to arrive at a choice for a purchase. During this process, consumers are passing the following stages where consumers first recognize their need or desire for a product, then search and evaluate information, purchase a product and finally consume the good (Blythe, 2009, p. 104-105). Obviously, this process is more complex than it seems. One major part of this process is information gathering, which can happen both online and offline. During information search, consumers try to overcome a gap in their knowledge about a product (Liu & Park, 2015). Information search (see Stage 2 of Appendix 1) is said to be 'the process whereby a consumer searches for appropriate information to make a reasonable decision' (Solomon et al., 2013, p.650). This stage of the decision making model is the relevant one for this research.

In traditional buying, some sort of information asymmetry exists as the sellers has more information about a product than the buyer (Liu & Park, 2015; Park & Nicolau, 2015). In order to gain more information, the buyer can get in contact with the seller to acquire more knowledge. Moreover, consumers can use people from their direct environment as their information source (Park et al., 2007). This kind of interaction between people communicating about a product is called word-of-mouth (WOM) (Park et al., 2007). Communication in the traditional buying setting can be described as one-way communication with a sender and a receiver. The sender gives a message to the receiver and the receiver absorbs the knowledge gained (Kardes et al., 2015 p. 533). Information acquisition can be seen as a kind of learning since a consumer gains new knowledge about a product. (Solomon et al., 2013, p. 261-262). In the learning setting, the consumer is defined as a 'black box', which gets influenced by external events (stimulus), processes the gained information and, in the end, acts as response to the stimulus (see Appendix 2). The stimulus can be either the information gained from a company or from WOM by interacting with known people. However, in traditional buying consumers have limited access to information due to time and demographic constraints (Jeong & Jang, 2011). Accordingly, the aforementioned emergence of Web 2.0 seems to reduce these constraints tremendously as consumers can now access information from all over the globe, at all times and interact with each other (Park et al., 2007). This new form of interaction between consumers

is called electronic word-of-mouth (eWOM). Within the eWOM environment, a variety of platforms are available via which consumers can interact with each other. Several authors (Hu et al., 2008; Jeong & Jang, 2011; Zhao et al., 2013) stated that consumers engage in eWOM in order to reduce risk and retrieve opinions from peers when passing through the decision making process. One way to disclose opinions from previous buyers is by reading online consumer reviews (OCR). Such reviews are user generated product information showing the experiences and sentiments of previous consumers (Chen & Xie, 2008; Park et al., 2007). With such reviews consumers can overcome the existing information asymmetry between companies and consumers (Liu & Park, 2015; Park & Nicolau, 2015). Since companies know all the strengths and weaknesses of their products and tested those intensively consumers depend on the information provided by firms. This contrariness of information creates a high degree of uncertainty prior to purchase (Zhao et al., 2013). The aforementioned OCRs can help consumers to overcome this uncertainty.

While acquiring information, consumers need to process the gained knowledge in order to arrive at a decision. As reported by Baek et al. (2012) a distinction can be made 'between two types of information processing, one of which takes relatively more effort and is more extensive than the other'. The elaboration likelihood model (ELM) by Cacioppo & Petty (1984) outlines the processing of information in order to arrive at a choice (see Appendix 3). Information processing can follow either the peripheral route or central route when consulting OCRs (Baek et al., 2012). The processing of information and deciding whether to follow the peripheral route or the central route depends on the motivation of a consumer. The basic principle is, when a consumer is highly motivated and involved in the information acquisition process, he follows the central route while if the motivation and involvement of procession information is low, a consumer most likely follows the peripheral route (Baek et al., 2012; Cacioppo & Petty, 1984; Chaiken, 1980; Davis & Tuttle, 2013; Park et al., 2007). Consequently, the choice of processing information can influence a consumers buying behaviour and decision.

As outlined above, the emergence of Web 2.0 provided a new form of information and communication, namely user-generated content and electronic word-of-mouth as being online consumer reviews the most popular form. This new technology extended possibilities for consumers to obtain information and to communicate with each other. While in the past, in the offline environment, interaction among peers and information gaining was only possible within demographic boundaries, nowadays, consumers are not restricted in such processes anymore. Existing literature has revealed that consumers extensively use these newly created possibilities and get influenced by the new information accessible. Moreover, it has been said that customers can process information in two different ways. One including higher involvement and engagement and the other following a less effortful route. All in all, it can be said that there is an influence by online consumer reviews on a product choice, made possible through user-generated content in the Web 2.0 setting, but according to ELM, not all consumers use online consumer reviews in the same way and include them in their information processing for their final buying decision.

Since not all consumers process information in the same way, it is interesting to find out which attributes in OCRs exist. Moreover, it is worthwhile to gain knowledge about whether these attributes are processed differently and have different effects on the route chosen by the consumer when processing information.

Hence, the purpose of this research is to find out which attributes of an online consumer review exist and are most important for consumers when acquiring information. Moreover, it is meant to find which attributes can be associated with each processing route.

Therefore, the main question which is intended to be answered throughout this study is:

Which attributes of online consumer reviews and their associated route of information processing have an influence on a consumer's choice?

The concept of OCRs has been studied extensively in the past and a lot of literature can be found. When entering online consumer reviews into a search engine like google scholar or Scopus, little attention has been drawn on the different attributes identified concerning online reviews. Therefore, the aim of this research is to identify and assemble different OCR attributes. Next to this, it has been found that consumers process information through different routes. Therefore, it can be assumed that consumers are processing information gained from OCRs differently. Accordingly, OCR attributes can probably be allocated to the different information processing routes. Hence, the second aim of the research is to find out which review attributes are processed via which information processing route. The main goal of this research is to create a questionnaire based on literature findings which can be tested and used for further research. It is meant that the survey can be used for different kinds of platforms (i.e. retailing websites or independent reviewing platforms) and product categories. Thus, the questionnaire will not be tested within this research as no example product has been chosen.

This research is relevant as, mentioned above, a lot of research has been done concerning online reviews but none identify the different attributes associated with OCRs. Furthermore, research has been done on online reviews and information processing but none take into account the several attributes of OCRs. Therefore, the study will add up to existing literature. Moreover, it makes it possible for further research to study the relations between different OCR attributes and information processing routes more in-depth, by using the developed questionnaire. This research shows some practical relevance as well. Since it will be identified which attributes of OCRs are most important to consumers, sellers can put these at the forefront when presenting online reviews. Moreover, it will give sellers an insight in which ways people extract and process information from online reviews. Bringing people to read online reviews can stimulate people to buy the product more often which probably results in more online reviews for a product. A correlation between OCRs and sales conversion, namely that the greater the number of reviews gets, the more sales are increasing (De Pelsmacker et al., 2013, p.129).

In the following, a review of existing literature will be conducted. The concept of online consumer reviews will be outlined more in-depth. Furthermore, attributes associated with OCRs are intended to be identified and elucidated from literature. Additionally, the central and peripheral route of information processing will be annotated. The literature review is intended to result in a conceptual model combining online review attributes and information processing routes. The conceptual model is the basis for further study. Next up the methodology within this paper will be outlined in which sub-factors regarding the different attributes identified previously will be adapted from earlier researches. The methodology of this paper is followed by the outline of the questionnaire, developed with the help of the prior literature review and identified conceptual model. Furthermore, the gathered

information will be used for a discussion and conclusion in order to answer the proposed research question. In the end, limitations and implications for further research will be provided.

2. LITERATURE REVIEW

When buying online, as well as offline, consumers are following the decision making process in order to arrive at a purchase. Consumers can take a variety of forms, which can be either single purchasers, a group of people or a company. The consumer within a purchase is also called the decision making unit defined as 'a group of people who, between, them, decide on purchases' (Blythe, 2009, p.151). The decision making unit consists out of six roles (see Appendix 4) which can be taken by a buyer, namely initiators, gatekeepers, buyers, deciders, users and influencers (Blythe, 2009, p. 152-153). A person can take one role or be in the process and in buying roles throughout the whole decision making process, thus, taking more than one role within the decision making unit (Blythe, 2009, p. 152-153). The constellation and amount of people involved can even have an impact on the information gathering and processing, as in the end, people have to agree upon on a product or service to purchase, and people can be differently motivated to search for information. According to Burton & Khammash (2010), 'motivation is an internal phenomenon causing individuals to conduct a particular action, arising due to perceived unfulfilled need(s)'. One motive for being active in information acquisition is risk reduction (Hennig-Thurau & Walsh, 2003), as when there is an increase in risk, there will be an increase in information search as well (Blackwell et al., 2006, p.123). According to Blackwell et al. (2006, p. 123), perceived risk is 'representing consumers uncertainty about the potential positive and negative consequences of the purchase decision' (Burton & Khammash, 2010). Such risks can be for instance financial or functional (Blythe, 2009, p. 109). Therefore, consumers are trying to reduce uncertainty by searching for different kinds of information online as well as offline. Such information can be either consumer- or company-created (Park et al., 2007). While company-created information is displayed in an objective manner with technical specifications, consumer-created information, in form of online consumer reviews, is more subjective and gives the reader an indirect product experience (Baek et al., 2012; Park et al., 2007). Moreover, consumers tend to trust previous consumers more than companies (Ayeh et al., 2013; Burton & Khammash, 2010; Chen & Xie, 2008; Cheung & Thadani, 2012; Park et al., 2007). Therefore, the concept of word-of-mouth plays an important role within information acquisition.

2.1 WOM & eWOM

Since information available online is not only from companies but UGC as well, consumers, nowadays, have access to a completely new source of information provided by consumers for consumers. Consumers can interact and acquire information on a variety of platforms, for instance blogs, social networking sites or consumer review platforms (Cheung & Thadani, 2012). This interaction and communication of consumers about products online is a new form of WOM and called electronic word-of-mouth (eWOM). According to Hartman et al. (2013) 'Word of mouth (WOM) represents interpersonal communication about products and services between consumers', thus, 'people sharing their assessment of their experiences' (Susskind, 2002). While traditional WOM happened mainly between friends, families and acquaintances, this newly emerged form, called electronic word-of-mouth (eWOM), makes interaction possible between total strangers and 'is often shared by anonymous users' (Cheng & Ho, 2015).

Hennig-Thurau et al., (2004) defines eWOM as ‘any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet’. This already implies the nature of this new information source and form of communication made available, through the emergence of Web 2.0. As outlined in the previous section, traditional WOM happened in form of one-to-one communication, consisting of one sender and receiver (Cheung & Thadani, 2012). This new form of communication, the eWOM, has a completely new setting, which is highly interconnected and based on interaction (see Appendix 5 and Appendix 6). Accordingly, in the Web 2.0 environment, when consumers engage with each other in form of WOM, there is no longer only one sender existing, but many senders as well as receivers at the same time (Cheung & Thadani, 2012) as can be seen in Appendix 6. According to Cheung & Thadani (2012), there are three major differences between WOM and eWOM:

1. eWOM exists in a greater variety and spreads much faster than traditional WOM, since it happens in a many-to-many communication setting in multiple ways and is not limited to temporary boundaries.
2. eWOM is always accessible and even after years still available on the internet, while WOM communication is perishable.
3. there is a much greater volume of eWOM existing than of traditional WOM. Additionally, ‘WOM is typically face-to-face and eWOM is online’ (Jeong & Jang, 2011).

Greatest motives for consumers to engage in WOM during their decision making process is to seek advice by peers and to reduce risks during the buying process due to uncertainty concerning the product (Hu et al., 2008; Jeong & Jang, 2011; Zhao et al., 2013). When seeking advice consumers are in the stage of information search within the decision making process (see Appendix 1). Moreover, it is assumed that consumers are more influenced by other consumers than by experts (Bae & Lee, 2011) since they are perceived to be more trustworthy (Bickart & Schindler, 2001). According to Cheung & Thadani (2012), there are five major types of eWOM existing in form of online discussion forums, online consumer review sites, blogs, social networking sites and online shopping sites. On all these platforms, consumers contribute information in terms of UGC on products, while the most popular form of such contribution is eWOM appearing as OCRs (Bae & Lee, 2011).

In the following paragraph the concept of online consumer reviews will be defined and explained more in-depth.

2.2 Online Consumer Reviews (OCR)

‘Online consumer reviews have increasingly become important sources of information to help consumers in their purchasing decision’ (Baek et al., 2012). For a better understanding in the following a definition of OCR will be given. According to Bae & Lee (2011) ‘online consumer reviews are consumer-generated online information’. Regarding this, it is said that OCRs are a ‘new kind of word-of-mouth communication’ (Park et al., 2007). Moreover, it is ‘information presented from the perspective of consumers who have purchased and used’ (Park et al., 2007) a product. Moreover, OCRs are expressing experiences, evaluations and opinions (Chen & Xie, 2008; Park et al., 2007). In reference to Baek et al. (2012) and Jalilvand et al., (2011) OCRs are indirect product experiences which are used by consumers throughout the decision making process during ‘information search and evaluation of alternatives’ (Baek et al., 2012).

In previous studies it has been found that eWOM and thus OCRs influence the buying decision of consumers and have

become an integral part of the decision making process (Channeladvisor, 2010; Chen & Xie, 2008; Cheung & Thadani, 2012; Moe & Trusov, 2011; Park & Nicolau, 2015). Moreover, it has been shown that 92% of consumers read OCRs prior to purchase and 43% of these even get positively influenced and decide to buy a certain product based on information gained from OCRs (Channeladvisor, 2010).

Hence, sellers make use of this by providing consumers with two types of product information. The seller ‘can offer seller-created product information via its Web site or other traditional communication channels such as advertisements, but can also offer consumer-created product information by allowing consumers to post comments on their Web site’ (Park et al., 2007). According to Park et al. (2007) information about products provided by sellers differ in three aspects from information provided by consumers.

1. Consumers tend to be more credible and trustworthy than sellers, as sellers are said to hide drawbacks of their products and put only emphasis on positive aspects while consumers also reveal negative aspects.
2. Seller generated information is mainly objective and information provided by the consumer is presented in a more subjective manner.
3. Sellers use a standard setting to provide their information online, with a structured approach to provide all relevant information. On the other hand OCRs are non-structured influenced by emotions and can be either objective and/or subjective.

Accordingly, consumers get provided with a variety of information while in an offline setting this is not even possible. One of the biggest advantages of online shopping ‘is that online stores often offer greater choice and greater information customization’ (Kardes et al., 2015). Nevertheless, there is one major obstacle namely that ‘consumers shopping online cannot touch or smell products, as would be possible in traditional retail outlets, so their purchase judgements must be based on the product information presented on the Web site’ (Park et al., 2007). This underpins the afore-noted proposition that OCRs have an influence on consumers’ product choice, since consumers rely on indirect experiences when gaining knowledge on different products.

OCRs can be objective as well as subjective, but are most often from a more subjective and emotional perspective (Park et al., 2007). Reviews can consist of open-ended comments and or ratings (Park & Kim, 2008), also labelled as qualitative and quantitative ratings (Kostyra et al., 2015). Open-ended comments can be short or long without limitations. OCRs can take two different roles, being either an informant or recommender. ‘As informant, it provides user-oriented product information, while as recommender, it provides recommendations by previous consumers in the form of electronic word-of-mouth (eWOM)’ (Park et al., 2007). According to Park et al. (2007), recommender reviews are described as high quality reviews because they are ‘more logical and persuasive and gives reasons based on specific facts about the product’. On the other hand informant reviews are said to be low quality reviews, since ‘they are emotional, subjective, and vacuous, offer no factual information, and simply make a recommendation’ (Park et al., 2007).

Next to the review form, thus, being either qualitative or quantitative there are a few more easily accessible characteristics which can be associated with OCRs. One attribute is the quantity, thus, the total number of reviews posted and available to consumers (Cheung & Thadani, 2012). The amount of reviews available is important, since it can be said that the more reviews existing, the more popular the

product is, and hence, worth buying (Park et al., 2007). Moreover, it is important that information is up-to-date, since most recent information seems to be of greater helpfulness (Filieri & McLeay, 2014; Liu, Huang, An, & Yu, 2008). Furthermore, the credibility of online reviews is of great importance, as it is said that information provided by peer is more trustworthy than information from sellers (Ayeh et al., 2013; Baek et al., 2012; Burton & Khammash, 2010; Chen & Xie, 2008; Park & Nicolau, 2015). Another aspect of OCRs is the review quality and valence which directly concerns the content of written review more specific (Cheung et al., 2005; Park et al., 2007; Willemsen et al., 2011). Within this study the concepts of quality and valence will not be taken further into account since only directly visible features of online reviews will be assessed. Whereas the aforementioned two attributes are concerning the content of a review itself which is not easily observable by looking at a review. In order to assess these two, a content analysis would be needed.

In this paragraph the concept of online consumer reviews has been explained and defined. Moreover, differences have been shown between the business-to-consumer (B2C) and consumer-to-consumer (C2C) information provision. In the following paragraph a closer look will be taken at the attributes associated with online consumer reviews.

2.3 Online Consumer Review Attributes

This paragraph is devoted to the four attributes identified, relevant for this research, namely, the review form, quantity of reviews, age of review and review credibility.

Review Form

As mentioned previously OCRs can be either qualitative or quantitative (Kostyra et al., 2015). Qualitative reviews generally contain a written description of the product with an evaluation as well as critique and/or praise for the purchased good (Kostyra et al., 2015; Willemsen et al., 2011). While a qualitative review contains a personal written text, in quantitative reviews consumers have to give a rating for a product and do not have to express themselves literally (Kostyra et al., 2015; Liu & Park, 2015). According to Liu & Park (2015), such ratings 'are considered as a useful cue to reflect the extent of consumers' attitude and in turn helps consumers to evaluate the quality of the products'. Most often quantitative review systems are based on a five star basis from extremely negative (one star) to extremely positive (5 stars) (Willemsen et al., 2011). It can be said that quantitative OCRs can be more helpful than qualitative reviews, since the customer directly gets a general overall impression of the popularity of a good (Liu & Park, 2015). Nevertheless, quantitative reviews have the drawback of having the possibility to be moderate, thus having three stars, while qualitative reviews are more often tending to be one sided (Kostyra et al., 2015; Liu & Park, 2015; Park & Nicolau, 2015). It has been found that consumers find extremely positive or extremely negative reviews to be most helpful but research cannot agree on whether positive or negative reviews have a higher influence on a purchasing decision (East et al., 2008; Hartman et al., 2013; Liu & Park, 2015; Park et al., 2007). Moreover, the most effective reviews are said to be those combining qualitative and quantitative elements. Therefore, 'most review sites allow a user to provide both an overall rating (often denoted by a letter or star grade) and a detailed review' (Duan et al., 2008).

Volume of Reviews

The volume of reviews is the quantity of OCRs available to consumers. One advantage of online UGC is that much more information is available at a time than in an offline setting (Lu & Stepchenkova, 2014). It has been found that the number of

reviews available for consumers is quite important, since the number of reviews is associated with the popularity of a product (Lee et al. 2008; Park et al., 2007; Park & Nicolau, 2015; Zhang et al., 2010). Thus, the more reviews there are, the more popular the product is (Cheung & Thadani, 2012; Lee et al., 2008; Park et al., 2007; Zhang et al., 2010). According to Park et al. (2007) 'the number of reviews is likely to lead consumers to rationalize their purchasing decisions by telling themselves, 'Many other people also bought the product', therefore, the product is likely to be good and I have to buy it as well. This statement gets encouraged by the finding that review quantity is positively related to product sales (Cheung & Thadani, 2012; Park et al., 2007). Moreover, the more reviews there are available, the more information on a product consumers can collect and know how many people recommend it (Park et al., 2007). Additionally, a high number of reviews 'attract the interest of online consumers' (Zhang et al., 2010) and people are more likely to view a webpage. Moreover, Zhang et al. (2010) found that people are more likely to buy a product when there are more reviews available. This supports findings from other studies that the quantity of reviews is positively related to purchase intention (Cheung & Thadani, 2012).

Age of Reviews

While, in the past, several studies have been conducted on the form of the review (qualitative vs. quantitative) and on review quantity, only a few could be identified on the importance of the age of reviews. In traditional WOM consumer reviews are just available at one point in time, while OCRs are always available and can even be found back after years (Filieri & McLeay, 2014). According to Filieri & McLeay (2014), 'most recent OCRs are displayed first [...] so consumers can easily access the latest reviews published', therefore gaining most recent information on a product first and not some outdated not valid anymore. Liu et al. (2008) state that the helpfulness of a review depends on the time when it was published. Moreover, information timeliness seems to be of great importance. Thus, how up-to-date and recent information is (Filieri & McLeay, 2014; Liu et al., 2008). Additionally, it has been found that consumers tend to take into account more recent information compared to older ones throughout information processing (Filieri & McLeay, 2014). As has been found by Liu et al. (2008) the helpfulness of 'reviews declines as time passes by'. Therefore, it can be concluded that most recent reviews are the most helpful and that age of reviews matters within information processing.

Review Credibility

As implied previously within this paper, consumers tend to trust peers more than sellers (Bickart & Schindler, 2001; Chen & Xie, 2008; Cheung & Thadani, 2012; Park et al., 2007; Senecal & Nantel, 2004; Zhang et al., 2010). Additionally, consumer information often seems to be more relevant than the ones from sellers (Chen & Xie, 2008). One reason for consumers to see UGC as more credible is that OCRs come from other consumers 'who are regarded as having no commercial interest' (Ayeh et al., 2013). Moreover, they 'are perceived to be similar in terms of worldview, mindset, and [travel] behavior' (Ayeh et al., 2013; Bickart & Schindler, 2001; Burton & Khammash, 2010; Zhao et al., 2013). Another reason why OCRs are more credible than seller-generated information is that consumers think that they can gain indirect experiences which are unbiased and honest (Bae & Lee, 2011). Seller-generated information seems to be less credible, since it can be 'founded or sponsored by sellers to pursue commercial benefits' (Bae & Lee, 2011). Moreover, seller information is product oriented with describing product attributes and no usage information is provided in terms of errors and performance (Chen & Xie,

2008). Even though it has been made clear that consumers tend to be more credible than sellers, credibility still needs to be defined. According to Ayeh et al. (2013), 'Credibility can simply be defined as believability of some information and/or its source'. Moreover, it has been said that 'credible people are believable people and credible information is believable' (Ayeh et al., 2013). Ayeh et al. (2013) 'conceptualize credibility as a two-dimensional construct, with expertise and trustworthiness as distinct dimensions. Trustworthiness describes the degree of confidence in the source's "intent to communicate the assertions" they consider "most valid [true]"', whereas expertise refers to the extent to which UGC contributors are perceived to be "a source of valid assertions [truth]"'. According to Baek et al. (2012), a consumer says a review to be trustworthy and to be most helpful when the reviews 'rating is consistent with the average rating'. Furthermore, it is said that the more reviews available, and the more they coincide with each other the more credible information is (Chen et al., 2004; Zhu & Zhang, 2010). One of the biggest problems associated with the credibility of OCRs is that 'it is generally unknown who the producers of UGC are' (Lu & Stepchenkova, 2014). Since, people can post reviews anonymously or even under a different name and probably no control is possible (Ayeh et al., 2013; Lu & Stepchenkova, 2014). It can never be clear if reviews are not faked and honest and trustworthy (BBC, 2012). Especially, when it has been found that sellers use fake identities or pay users to post favoured comments (Ayeh et al., 2013). Even if these concerns regarding credibility exist according to ChannelAdvisor (2010) still 92% of consumers read online reviews prior to purchase and many are influenced by these. To conclude it can be said that consumers perceive OCRs as more credible than seller information and probably, to a certain extent, do not take into account that reviews can be faked when processing information found online.

Within this section of the paper, four different online review attributes have been envisaged in depth. The next section is dedicated to the question on how people process information gained from information search.

2.4 Information Processing

Communication process

Nowadays, a lot of information gets transmitted every day without any timely or geographic boundaries. Within the consumer buying process, information exchange is mainly happening during the stage of information acquisition (Blythe, 2009, p. 105). In order to gain required information a form of communication needs to happen. According to Hovland (1948), communication between individuals also expressed as social communication is 'the process by which an individual (the communicator) transmits stimuli (usually verbal symbols) to modify the behaviour of other individuals (communicates)'. Basically, it can be said that a sender gives a message (stimulus) to the receiver and the receiver absorbs the knowledge gained (Kardes et al., 2015 p. 533). Cheung & Thadani (2012) summarized this process as follows. First, 'the communicator (source) refers to the person who transmits the communication' in form of a stimulus. 'The stimulus (content) refers to the message transmitted by the communicator'. At the other end of the communication process stands 'the receiver (audience) [which] is the individual who responds to the communication'. 'The response (main effect) is made to the communicator by the receiver'. The receiver of information can also be seen as a 'Black Box', since it is hard to assess what happens within the consumer during processing of information by the stimulus in order to give a response (Kardes et al., 2015, p. 533), (see Appendix 2). Even though it is not directly

observable what happens within the 'Black Box', it has been at least found that there are two ways of processing the information gained.

A dual process model (see Appendix 3) has been developed namely the Elaboration Likelihood Model (ELM), by Cacioppo & Petty (1984). In the following, the model will be outlined in order to provide knowledge on how information can be processed by consumers gained for instance through OCRs. Within this theory it will be distinguished 'between two types of information processing, one of which takes relatively more effort and is more extensive than the other' (Baek et al., 2012).

ELM

The basic idea behind ELM is 'that a message can influence people's attitudes and behaviors [in] two ways centrally and peripherally' (Jalilvand et al., 2011). According to Park et al. (2007), information processing depends on a consumers involvement, which 'is associated with the motivation to process information' (Park et al., 2007) and the ability to do so. The higher the involvement of an individual is the 'greater motivation to engage in effortful cognitive activity through the central route' (Cheung & Thadani, 2012). Within the central route, a message receiver 'considers an idea logically' (Baek et al., 2012) and 'is motivated and is able to think on the issue' (Baek et al., 2012). Thus, people 'generate their own thoughts in relation to the arguments' (Park et al., 2007). On the other hand, the peripheral route is more chosen by people who lack motivation or are not able to process the more complex information (Baek et al., 2012; Cacioppo & Petty, 1984; Cheung & Thadani, 2012; Park et al., 2007). Such individuals, are according to Park et al. (2007), 'low-involvement consumers simply accept what other consumers recommend because they have low motivation to process other consumers' opinions'. Within the peripheral route people tend to rely on peripheral cues (Park et al., 2007) and to 'to issues or themes that are not directly related to the subject matter of the message' (Jalilvand et al., 2011). These cues, can be for instance, the number or arguments coming from the stimulus, thus concerning OCRs the review quantity (Park et al., 2007). Other peripheral cues are referring to Baek et al. (2012) 'review star rating, reviewer's ranking, and reviewer's real name exposure'. On the other hand high-involvement consumers, thus those who follow the central route, 'refers to the nature of arguments in the message' (Jalilvand et al., 2011) when processing information. According to Park et al. (2007) they 'seek as much useful information as they can from on-line consumer reviews. They want high-quality reviews that are logical and persuasive, with sufficient reasons based on specific facts about the product'.

According to ELM, information can be processed differently by consumers. This accounts also for OCRs available. As has been outlined above, if people follow the peripheral route, they rely on non-content cues like an online reviews overall star rating or the quantity of reviews available. On the other hand, when following the central route, people focus on content cues of reviews like the arguments given in the message i.e. a description of the taste of food.

2.5 Conceptual Model

Throughout previous paragraphs the concept of online consumer reviews with their associated attributes and the elaboration likelihood model (see Appendix 3) have been outlined. In Appendix 7, identified concepts are summarised in order to gain a better overview. With the help of the literature envisaged previously the following conceptual model can be built (see Figure 1). The foundation of this model is the sender-receiver model, introduced earlier. According to Hovland (1948), a stimulus is sent by the communicator or sender to the

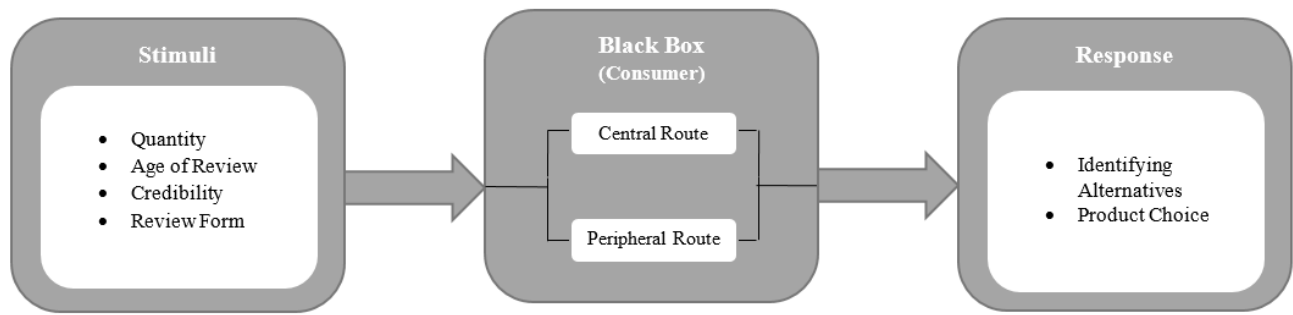


Figure 1: Conceptual Model

receiver. In this study the stimulus is the online consumer review with the associated attributes, thus, quantity, age of review, credibility and review form. The receiver receives the message by the sender. Within the case of communicating UGC the receiver is the black box, thus the consumer, since it is not possible to directly assess what happens within the consumer (Solomon et al., 2013, p. 261). In order to overcome this obstacle the ELM has been developed by Cacioppo & Petty (1984). Within this model, the ELM expresses what happens within the black box (consumer) and provides information on how the consumer processes the information gained from the sender. The consumer can follow either the central or the peripheral route. After processing the newly gained knowledge, it results in a response which, in this case can take different forms, i.e. identifying alternatives or even making a final product choice.

3. METHODOLOGY

This section is devoted to the methodology used throughout this study. Within the previous section, a literature review has been conducted on online consumer reviews, their attributes and information processing of consumers. From the information gathered a conceptual model has been rendered. The literature collected functions as basis for the conceptual model and further research. In the following, the measurement of the different attributes in terms of their measures will be introduced.

3.1 Sub-Factors & Measurement

Within this paragraph of the paper, the different sub-factors of the review attributes will be outlined as well as the associated measurements (see Appendix 8).

Review Form

The form of a review can be either qualitative or quantitative. In order to measure qualitative reviews, characteristics of online reviews identified by Liu & Park (2015) will be used. These are elaborateness, perceived enjoyment and readability. All sub-factors will be measured on a five point Likert-scale. The aspects of quantitative reviews will be adapted from Kostyra et al. (2015). Where such reviews are characterized in valence, volume and variance. All three will be transformed into a five point Likert-scale

Volume of Reviews

The volume of reviews concerns the number of reviews available. Park et al. (2007) divide the quantity attribute into the following sub-factors: number of reviews and quantity of review information. Both aspects will be measured on a five point Likert-scale.

Age of Review

Based on McKinney et al. (2002) the age of a review, also called timeliness, can be subdivided into two factors, Namely, whether the information is current or continuously updated.

Rabjohn et al., (2008) extended these with a third factor, timely. Therefore, the used sub-factors for this study will be whether a review is current, timely and up-to-date.

Review Credibility

The review credibility can be categorized as trustworthiness and expertise. Thus whether the source is a true source and the writer tells the truth. Based on Ohanian (1990, 1991) trustworthiness and expertise can each be categorized into five sub-factors measured on a five point Likert-scale.

Trustworthiness

- Dependable
- Honest
- Reliable
- Sincere
- Trustworthy

Expertise

- Expert
- Experienced
- Knowledgeable
- Qualified
- Skilled

3.2 Questionnaire Structure

In the following section of this paper the questionnaire will be developed with the help of the literature introduced (see Appendix 9). It will be structured as follows. There are three parts: (1) general part to get an overview of the sample and associated demographics; (2) questions concerning the different attributes and associated sub-factors will be asked; (3) and as last a thank you page will be displayed. The format of the questions differs across the questionnaire. While in the first and general part dichotomous (e.g. gender) and multiple-choice questions (i.e. nationality) will be used in the second part statements have to be assessed based on a five point Likert-scale. The five point Likert-scale is labelled from (1) strongly disagree up to (5) strongly agree.

As mentioned earlier, the following section will be devoted to the development and outline of the questionnaire.

4. DISCUSSION

4.1 Literature Review Findings

This paragraph of the paper is meant to present an overview of findings derived from the literature review.

Nowadays, people engage in information search online in order to reduce risk (Hennig-Thurau & Walsh, 2003) and to gain consumer-generated information concerning products. According to literature (Ayeh et al., 2013; Burton & Khammash, 2010; Chen & Xie, 2008; Cheung & Thadani, 2012; Park et al., 2007), consumers tend to trust peers more than sellers. Therefore, a popular source of consumer-generated information are online consumer reviews. OCRs can be defined as information from a consumer's point of view from which indirect experiences can be acquired. In reference to Channeladvisor (2010) it can be said that many people are using OCRs and get influenced by these.

Throughout the literature review, several online review attributes have been identified, namely, review form, volume of reviews, age of reviews and review credibility. Moreover, the attributes quality and valence of a review are existing but have been excluded from this research since these are concerned with review content and are not directly observable without an in-depth content analysis based on specific chosen texts. In the following the different attributes and associated findings will be summarized.

An online consumer review can be qualitative or quantitative in nature, but also a combination of both is possible. While qualitative reviews consist of a text written by the reviewer, within a quantitative setting, a reviewer just has to rate a product on a scale. Most often this is five point Likert-scale where consumers have to assess the product with stars, one star equals to extremely negative up to five stars equal to extremely positive (Kostyra et al., 2015; Willemsen et al., 2011). Qualitative reviews can sometimes seem to be more helpful as with one view already, it can be seen whether the product is according to previous consumers a good or a bad one (Liu & Park, 2015). Though, it has been found that a combination of both review forms is most effective (Duan et al., 2008).

Since more and more consumers are buying online, it is likely that the number of reviews available increases as well. Therefore, it can be said that the quantity of reviews available is quite important since research has shown that people associate many reviews with a product's popularity. Hence, many reviews mean that many people bought a product thus it is a popular and good one (Park et al., 2007). Moreover, many reviews mean that much more information is available concerning a product. This coincides with the finding that review quantity is positively related to product sales (Cheung & Thadani, 2012; Park et al., 2007).

As there are more and more reviews available time passes by as well. Even though, reviews are always available at all times (Filieri & McLeay, 2014), they are getting older in and might be outdated and lose their validity as well as relevance. Within literature it has been said that a review's helpfulness declines over time and most recent reviews are important ones (Filieri & McLeay, 2014; Liu et al., 2008).

The last attribute outline is the credibility of the source, where a review can be found and its writer. As has been indicated earlier, consumers tend to trust peers more than sellers since they do not have any commercial interest. These indirect experiences are said to be unbiased and honest (Bae & Lee, 2011). Credibility can also be defined as believability of the source and information provided (Ayeh et al., 2013). Moreover, credibility consists of trustworthiness (valid and true source) and expertise (contributor tells truth). Even if it is hard to identify an identity online, as people can stay anonymously, it seems that people accept the risk that the reviews can be fake (Ayeh et al., 2013; Channeladvisor, 2010) just to gain more knowledge on a product as it is probably their only information source.

Once these four attributes have been identified, it is reasonable to ask in which ways these are processed throughout information processing. Therefore, the elaboration likelihood model has been introduced throughout the literature review. When processing information people can either follow the central or peripheral route of processing information. Within the central route people are highly motivated and take a high involvement route when processing information. On the other people following the peripheral route, lack motivation to process information or are not able to do so. Such consumers are just accepting what others recommend and do not scrutinize critically (Park et al., 2007). People following the central route

are taking the nature of arguments into account and like to acquire a lot of information probably preferring quantitative reviews (Baek et al., 2012; Jalilvand et al., 2011). Within the peripheral route, people tend to rely on non-content cues, like star ratings (Baek et al., 2012).

4.2 Combining Attributes and Routes

As summarised above, within literature it has been identified that consumers are differently motivated; namely, either in a high or low manner to process information. Therefore, identified OCR attributes have been allocated to the two processing routes (see Appendix 10). Associated characteristics are marked with an X. Since the peripheral route indicated a low-involvement and motivation to process opinions from previous consumers lesser attributes have been affiliated. Contrarily, the central route stands for high motivation and involvement when processing information and thus, all attributes and their characteristics seem to be relevant. It can be said that consumers following the peripheral route take into account information that is not directly linked to the 'subject matter of the message' (Jalilvand et al., 2011), while people following the central route additionally take the nature of arguments into account. Qualitative and quantitative reviews seem to be important to people following the central route, whereas within the peripheral route, only quantitative reviews seem to be relevant (Baek et al., 2012; Park et al., 2007). In accordance with findings from Park et al (2007) review quantity has been associated with the central and peripheral route of information processing since it seems important to both groups of people. The age of reviews has been allocated to the central route, as it has been found that concerned and motivated people require latest information (Rabjohn et al., 2008). For people following the peripheral route this attribute seems to be less interesting as some more effort would be required to find whether the information sources are contemporary. Last but not least, the issue of credibility has been allocated to both routes since according to (Baek et al., 2012) and (Jalilvand et al., 2011) have been found that both groups are concerned with credibility. Although, people following the peripheral route are concerned somewhat less.

4.3 Questionnaire Development

4.3.1 Description Questionnaire Parts

Part 1 – General Questions

The first part of the survey is meant to acquire some general information about the participants and whether they read online reviews prior to purchase. With the help of Q1 to Q4 demographic information is gained (see Part 1 – General Questions from Appendix 9 for Q1-Q4). Demographic data will be needed to identify whether there are different patterns existing among various population groups (e.g. differences between male and female). The questions Q5 until Q8 are meant to find out if people read online reviews. As from the second part of the survey, questions will concern the reading and using of online consumer reviews, it is essential to filter those people from the sample group, who are not reading reviews. Therefore, Q5 asks whether the participant has ever read an online review/opinion before purchasing a product. The question is dichotomous, which can be answered either with yes or no. If the question is answered with no, the survey will end at this point and no further questions will be asked. If the question is answered with yes, the respondent will be directed to the following questions concerning the general use of online reviews (see Part 1 – General Questions from Appendix 9 for Q6-Q8). Moreover, Q7 is asking how often participants read online reviews prior to a purchase. If this question is answered with 'Never', the questionnaire ends here for the respondent.

Since it indicates that the person has according to Q5 at least once read online reviews prior to a purchase but is not doing so anymore. Participants who chose one of the other four answers will be directed further through the questionnaire.

The following paragraph is devoted to questions asked concerning the attributes and related sub-factors.

Part 2 – Questions concerning online consumer reviews

After eliminating participants from the sample who do not read online reviews remaining respondents are directed to the second part of the questionnaire. This part of the questionnaire contains statements derived from the different attributes and their sub-factors identified previously (see Part 2 – questions concerning online consumer reviews from Appendix 9). For every attribute several statements have been created, which are required to be rated on a five point Likert-scale by the respondents. The scale is divided as follows: (1) strongly disagree; (2) somewhat disagree; (3) neutral; (4) somewhat agree; and (5) strongly agree.

This part of the questionnaire consists of 59 statements and is divided into seven sections. The first three segments (statements concerning the form of review, statements concerning qualitative reviews, statements concerning quantitative reviews) belong to the attribute reviews form. As fourth section statements are made concerning the attribute quantity. The fifth section concerns the attribute age of review, and the last two sections (statements concerning the trustworthiness of a source, statements concerning the expertise of a reviewer) are associated to the attribute credibility. An overview of which questions belong to which attribute and associated sub-factors can be found in Appendix 11. Questions are always associated to the element in which favour the statement is.

4.3.2 Outline Statements

Review Form

Within the review form, it has been previously distinguished that there is a difference between qualitative and quantitative reviews. In the first three sections participants were asked to assess statements concerning qualitative and quantitative reviews forms and their associated sub-factors.

Qualitative review form

In the first segment of the second part of the questionnaire, statements have been made concerning qualitative reviews in general. Within the second section the different sub-factors come to attention.

The participant is asked whether he or she prefers qualitative reviews or qualitative ratings over quantitative ratings (Q14; Q15) and sees them as most helpful (Q10). Moreover, it is requested whether a combination of both, thus qualitative and quantitative ratings, are preferred and used (Q11; Q13; Q17). This second aspect can also be associated to the part about quantitative review forms, since it concerns both qualitative and quantitative aspects.

Qualitative reviews consist, according to Liu & Park (2015), out of the sub-factors elaborateness, perceived enjoyment and readability. Concerning elaborateness four statements have been made. Two of them (Q18; Q19) concern the length and depth of the review, and whether the participant finds that longer reviewer are more helpful and contain more extensive and in-depth information. The other two (Q20; Q21) concern the preferred content of the review. For the other two sub-factors one statement each has been made. Firstly, whether the reading of a review needs to be enjoyable (Q22) and secondly, if it is important that a message is easily understandable (Q23).

Quantitative review form

As already stated in the previous passage, a few statements have been made applicable to both the quantitative and qualitative review form. These statements (Q11, Q13; Q17) concern a combination of both review forms and whether the participant prefers this combination and uses both review forms at a time. Next to these shared statements, naturally, there are also statements solely associated to the quantitative review form and its sub-factors. Q9 asks whether the respondent perceives quantitative reviews to be the most helpful ones. Moreover, it has been asked whether the respondent only takes the average overall star rating into account when making a decision (Q12) or if he or she maintains more effort and looks through the various star ratings given by prior consumers (Q16).

Within the third paragraph, statements have been associated to the three sub-factors (valence, volume and variance) derived from Kostyra et al. (2015). For the first sub-factor it has been made a statement whether the respondent perceives the overall star rating of a product as important (Q24) and for the second whether the distribution among the different rating levels is important (Q25; example of distribution see Appendix 12). The last sub-factor concerns the variance among reviews. Thus whether it is important for the participants that all reviews have the same rating (Q26) and that people agree on an opinion (Q27; Q28; Q29).

Review Quantity

The quantity of the reviews concerns the availability of reviews and its total number existing. According to Park et al. (2007), the attribute quantity can be divided into the sub-factors number of reviews and quantity of review information.

For the first sub-factor, has been asked whether it is important to the respondents that there are many reviews existing for a product (Q30; Q34). As indicated by several authors (i.e. Cheung & Thadani, 2012; Lee et al., 2008) the more reviews are existing, the more popular a product seems to be. Therefore, several statements (Q31; Q32; Q33; Q35) needed to be assessed whether respondents think that a product is more popular, when there is a large number of reviews available, and if they are more likely to buy it. For the second aspect, quantity of review information, it was asked whether participants believe that when more reviews are existing, the information existing is richer (Q36), and whether this information available is more helpful than if there would be less reviews existing (Q37).

Age of Review

The age of a review concerns its timeliness and, thus, whether a review is still relevant. The sub-factors, currency and up-to-date, have been adopted from McKinney et al. (2002). These two have been extended by Rabjohn et al. (2008) with the sub-factor timely. Moreover, for this questionnaire, the questions introduced by Rabjohn et al. (2008) have been adapted. Accordingly, the respondents need to assess the statements whether they find it important that reviews are current (Q44), timely (Q45) and up-to-date (Q46) in order to take them into account for a purchasing decision.

Credibility of Review

The credibility of reviews has been divided into trustworthiness and expertise. While trustworthiness concerns the sources of a review, expertise is about the writer of a review. Both aspects can be divided into five sub-factors (Ohanian, 1990). Statements for both have been adapted from Ohanian (1990). Consequently, for trustworthiness the respondents have to state whether they think that the review source needs to seem dependable (Q52), honest (Q53), reliable (Q54), sincere (Q55) and trustworthy (Q56). For expertise of the reviewer it is asked whether the writer of the reviews needs to seem like an expert

(Q60), experienced (Q61), knowledgeable (Q62), qualified (Q63) and skilled (Q64).

Questions concerning information processing

Next to the questions concerning the different online consumer review attributes and their sub-factors associated questions have been developed in regard to the opinion and the behaviour of respondents. Statements have been made concerning the importance of different elements, which aspects of reviews they like to take into account, and whether they prefer to process a lot of information or not. According to several studies (Baek et al., 2012; Jalilvand et al., 2011; Park et al., 2007), people like to process review information in different manners. There are highly motivated people following the central route, who like to search for information more extensively and processing it to a greater extent. On the other hand, there are less motivated people who do not like to search a long time for information concerning a product and want to keep effort low to process the found information. In reference to Jalilvand et al. (2011), people following the peripheral route are taking into account 'issues or themes not directly related to the subject matter of the message', and people following the central route additionally consider the nature of arguments. Accordingly, it is likely to assume that the different attributes and sub-factors are processed differently among respondents as well as differ in their importance. Several statements throughout the questionnaire needed to be assessed associated to the different attributes and the two routes of information processing (see Appendix 10).

Review Form

Since it has been said that people following the central route like to process content issues, it is likely that they are preferring qualitative reviews over quantitative ones, or a mixture of both. Statements concerning the attribute review form, regarding the central route therefore, state whether respondents prefer qualitative over quantitative reviews or a mixture of both (Q13; Q14; Q15; Q17). Moreover, it has been asked whether it is important to the participant, that reviews need to have long texts (Q18), as according to Park et al. (2007), the number of words increases when the reviews helpfulness does as well. Regarding this, it can be assumed that long reviews contain more extensive and in-depth information (Q19). Another aspect was regarding the context of the reviews, thus, whether the reader prefers to gain some technical knowledge or indirect experiences made with a product (Q20; Q21). Furthermore, it was requested to gain knowledge on whether it matters to people, if a review is easily understandable and enjoyable to read (Q22; Q23) to make information processing easier.

Next to qualitative reviews, quantitative reviews also need to be taken into account. While qualitative reviews seem, according to literature, relevant only to people following the central route quantitative ones assumedly concern both, thus people following the central route and the ones following the peripheral route. For the peripheral route, statements have been made whether people prefer quantitative reviews over qualitative ones (Q12; Q16) and perceive them as important (Q24). It has been found that star ratings consistent with the average overall rating are the most helpful ones (Baek et al., 2012; Park et al., 2007). Therefore, statements have been made whether it is important to respondents that star ratings need to be consistent and are perceived as most valid (Q26; Q28; Q29). The latter four statements named are also applicable for the central route. Additionally, statements have been made whether the distribution among each star level needs to be considered and the heterogeneity among reviews (Q25; Q27).

Review Quantity

Regarding Park et al. (2007), the quantity of reviews available concerns both people following the central and peripheral route. For the peripheral route, statements needed to be assessed whether the total number of reviews available is important and that the more reviews available the more people bought a product the more popular and better it has to be (Q34; Q35). Since the peripheral route indicates a lack of motivation to process a lot of information, one statement obviously is whether the respondent does not like to process much information (Q39), and furthermore, whether they are likely to process more than ten reviews (Q40). For people following the central route, it is assumed that they like to process much more information and are highly motivated in doing so. As the same as for the peripheral route, the basic statement whether it is important to have many reviews available for a product needs to be assessed (Q34). As said earlier, people following the central route like to have much information available, therefore, statements have been made whether respondents like to read many reviews and process information from it (Q38). Additionally, it has been asked if participants believe that if many reviews are available, more helpful information is present (Q36; Q37). Q40 until Q43 asks if a respondent likes to process more than ten, 25, 50 or 100 reviews during information acquisition.

Age of Review

People following the peripheral route are not likely to process a large amount of information, therefore, it can be assumed that a reviews timeliness is not important to them. Since, otherwise, a processing would be needed for every review and when it was written, which indicates that some effort would be needed for that. Therefore, one statements has been developed concerning timeliness and the peripheral route, namely that respondents think that the age of review does not matter (Q51). Accordingly, for the central route more statements have been made, since concerned people require current, timely and up-to-date information (Rabjohn et al., 2008). It was interesting to assess which reviews are considerable, thus only recent reviews, reviews not older than a month, six months or a year (Q47; Q48; Q49; Q50).

Review Credibility

As people following the central route are likely to be concerned about the trustworthiness of the source and a reviewers expertise, assumedly, these people like to assess the source and the writer, prior to taking reviews into account. Therefore, statements have been made whether participants evaluate trustworthiness and expertise as important (Q57; Q65) and if a source seems credible or if a writer seems to have expertise, then a review is taken into account (Q58; Q66). As indicated by several authors (Chen & Xie, 2008; Park et al., 2007) people tend to trust online reviews created by peers more than seller created information, since previous consumers tend to have a concern for others. Regarding to this two statements have been made (Q59; Q67). According to Baek et al. (2012) and Jalilvand et al. (2011) the credibility of a review seems to concern people following the peripheral route to some extent as well. Since, these people are not highly motivated to process a lot of information it can be assumed that the issue of credibility is only take into account to a limited extent. Therefore, three statements have been made to be assessed by the participants. Namely, that consumer generated information is preferred over seller generated (Q59) and whether it is important to the respondent that a source needs to seem credible (Q58) and the reviewer to have expertise (Q66).

5. CONCLUSION

Throughout this paper, four different online consumer review attributes, relevant for this research, have been identified. These were: review form, quantity of reviews, age of review and review credibility. Moreover, the central and peripheral route of information processing has been described, in order to identify in accordance to literature, which attributes are most relevant to people, when following one of the two routes (see Appendix 10). Based on this, a conceptual model has been developed.

As mentioned earlier, one aim of this research was to develop a questionnaire which can be used for further research. Moreover, the goal was that the survey can be used for nearly every review platform and product category. In order to reach this goal a literature review was essential. Questions and statements made within the questionnaire, therefore, have been constructed or adopted from literature, identified previously. The resulting questionnaire (see Appendix 9) has been outlined throughout the previous section. However, it has not been tested yet.

Consequently, it can be said that the research question can be answered as follows. In accordance to literature findings, all four identified attributes have an influence on a consumers product choice during information acquisition within the decision making process. Furthermore, it was possible to allocate, with the help of literature, all attributes to an information processing route. Moreover, the goal of creating a questionnaire with the help from literature is reached.

Limitations

There are a few limitations concerning this study. Firstly, the available research was conducted within a limited time frame and capabilities. Due to a limit of ten weeks in time, no full research was possible to be conducted. Accordingly, it was not possible to test the questionnaire in form of a pilot study and see whether it fulfils all needs or misses relevant elements. The situation that this research and, therefore, the questionnaire development was conducted by a bachelor student can be seen as drawback, due to the fact that students at this level of education can miss some level of expertise concerning the development of such surveys.

Another aspect is that online review attributes have been solely identified based on literature but it is possible that other factors of influence could be identified as well when applying the questionnaire (i.e. prior knowledge or brand influence). Moreover, just attributes directly observable without the need of a content analysis were included.

Implications for further research

The first and foremost priority of further research would be to test the questionnaire in terms of weaknesses, its validity and reliability. One of the best ways would be by conducting a pilot study with a small sample size.

Since, the questionnaire has been developed to be adjustable to nearly every review platform and product category it can be chosen freely on how to use it. One option would be to carry out studies across different product categories in order to identify differences and similarities. Under this aspect the differences between experience and search need to be kept in mind (Nelson, 1970).

Another aspect would be to search for further attributes and maybe use the content attributes quality and valence as well and add them to the developed model. Moreover, factors not directly related to online consumer reviews but important to the decision making process, like prior knowledge and brand awareness, could be taken into account as influences when processing information.

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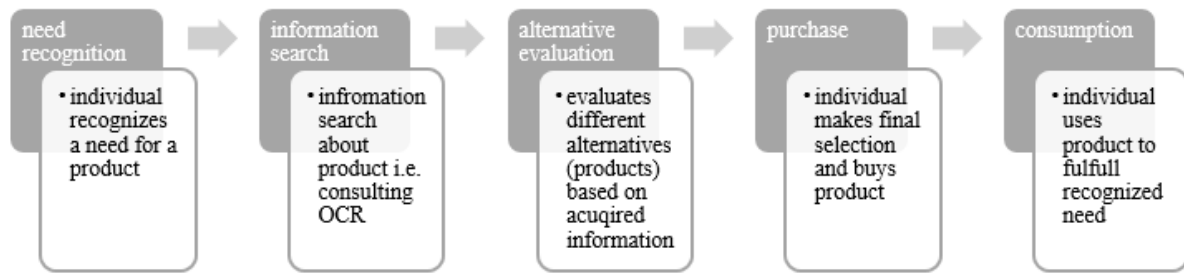
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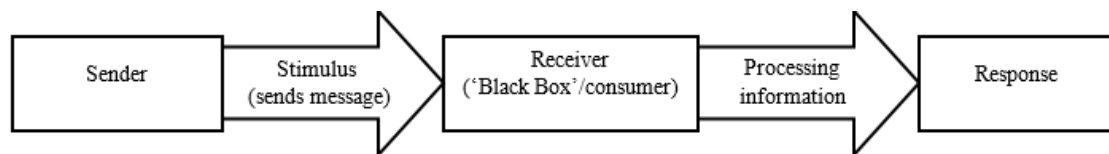
7. APPENDIX

7.1 Decision making process



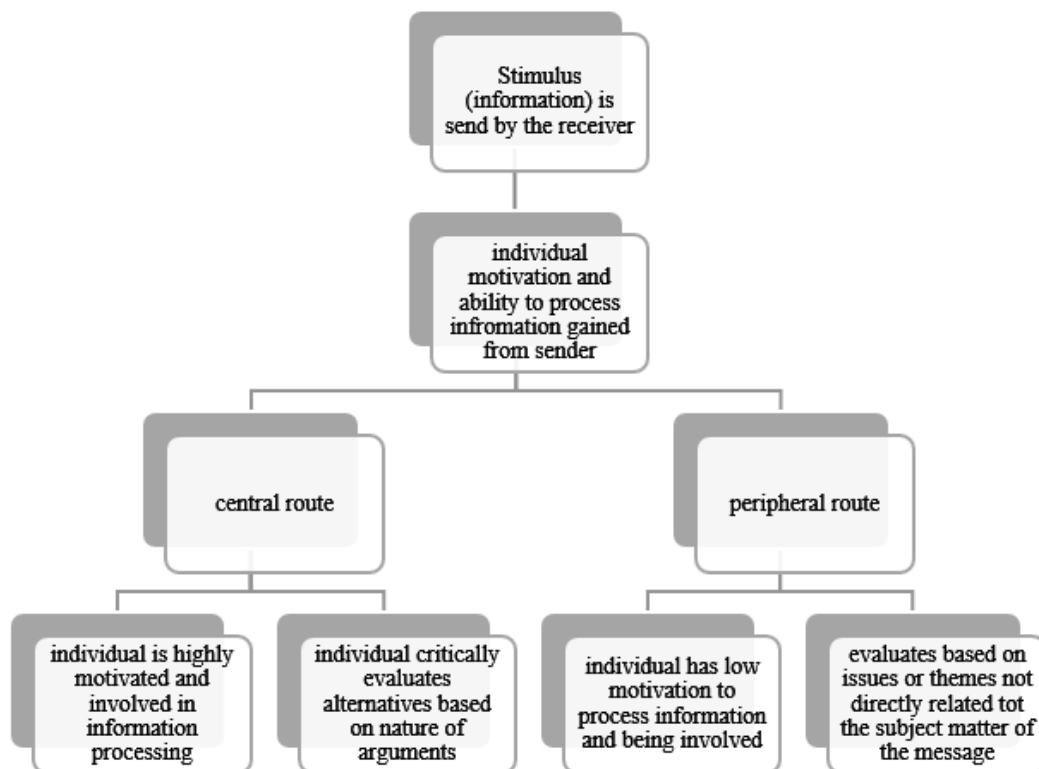
Appendix 1: The Decision Making Process adopted from Blythe (2009, p. 104-105)

7.2 Sender – Receiver model



Appendix 2: Sender – Receiver model based upon Kardes et al. (2015, p. 533) and Solomon et al. (2013, p. 161-162)

7.3 Elaboration Likelihood Model



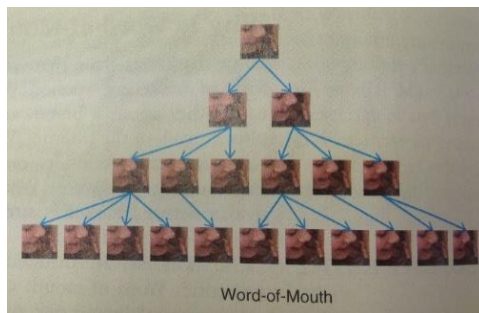
Appendix 3: The Elaboration Likelihood Model (ELM)

7.4 Decision Making Unit (DMU) Roles

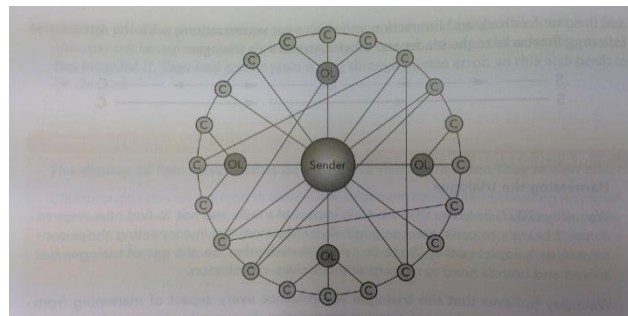
Roles within decision making unit	Definition
Initiator	The person who first recognizes a problem.
Gatekeeper	The person who controls the flow of information.
Buyer	The person who negotiates the purchase.
Decider	The person who has the power to agree a purchase.
User	The person who uses the product.
Influencer	The person who has the ability to sway the judgement of a decider.

Appendix 4: Roles within decision making unit adopted from Blythe (200, p. 152-153)

7.5 Word-of-mouth communication



Appendix 5: Word-of-Mouth distribution, adopted from Kardes et al. (2015, p.469)



Appendix 6: Communication Interconnectedness adopted from De Pelsmacker et al., (2013, p. 122)

7.6 Summary of Attributes and ELM

OCR Attributes		Literature	Outline
Review Form	Qualitative	(Kostyra, Reiner, Natter, & Klapper, 2015; Willemsen, Neijens, Bronner, & de Ridder, 2011)	Evaluation in form of written description of a product or brand
	Quantitative	(Kostyra et al., 2015; Z. Liu & Park, 2015; Willemsen et al., 2011)	Numbered rating of product or brand. Often based on a Likert scale in form of a five star ranking
Quantity	Number of reviews	(Cheung & Thadani, 2012; Lee, Park, & Han, 2008; Park, Lee, & Han, 2007; Zhang, Ye, Law, & Li, 2010)	Total number of reviews available for a product or brand
Age of review	Timeliness	(Filieri & McLeay, 2014; Y. Liu, Huang, An, & Yu, 2008)	Currency of information provided
Credibility	Trustworthiness	(Ayeh, Au, & Law, 2013; Baek, Ahn, & Choi, 2012; Lu & Stepchenkova, 2014)	Believability and credibility of the source.
	Expertise	(Ayeh, Au, & Law, 2013; Baek, Ahn, & Choi, 2012; Lu & Stepchenkova, 2014)	Believability and credibility of the information provided by the writer.
ELM			
Central route		(Baek et al., 2012; Jalilvand, Esfahani, & Samiei, 2011; Park et al., 2007)	Motivation to process information is great in form of high-involvement in order to arrive at a decision
Peripheral Route		(Baek et al., 2012; Jalilvand et al., 2011; Park et al., 2007)	Low motivation to process information. Least effort possible is made to arrive at decision

Appendix 7: Summary of identified attributes and routes of information processing

7.7 Summary of OCR attributes and sub-factors

OCR Attributes	Short definition		Literature (examples)	Sub factors		Sub-factor definition	Source
	Qualitative	evaluation in form of written description of a product.		Elaborateness	extensiveness/debt of the information offered in the review		
Review Form			(Kostyra, Reiner, Natter, & Klapper, 2015; Willemssen, Neijens, Bronner, & de Ridder, 2011)	Perceived enjoyment	extent to which the reading and understanding of review is enjoyable		(Z. Liu & Park, 2015)
				Readability	extent to which an individual requires to comprehend the product information		
	Quantitative	numbered rating of product or brand. Often based on a Likert scale in form of a five star ranking	(Kostyra et al., 2015; Z. Liu & Park, 2015; Willemssen et al., 2011)	Valence	overall average rating		(Kostyra et al., 2015)
				Volume	number of reviews for each rating level		
Quantity	Reviews available	total number of reviews available for a product.		Variance	variations on rating among rating levels		
			(Cheung & Thadani, 2012; Lee, Park, & Han, 2008; Park, Lee, & Han, 2007; Zhang, Ye, Law, & Li, 2010)	Number of reviews	number of reviews available for a product		(Park et al., 2007)
			(Filiari & McLeay, 2014; Y. Liu, Huang, An, & Yu, 2008)	Quantity of review information	information richness available from all reviews		
Age of review	Timeliness	currency of information provided	(Aye, Au, & Law, 2013; Baek, Ahn, & Choi, 2012; Lu & Stepchenkova, 2014)	Currency Timely Up-to-date	degree to which information available is current, timely and up-to-date		(McKinney, Yoon, & Zahedi, 2002; Rabbjohn, Cheung, & Lee, 2008) (Ohanian, 1990)
Credibility	Trustworthiness	believability and credibility of the source.		Dependable Honest Reliable Sincere Trustworthy	Source is: dependable or undependable honest or dishonest reliable or unreliable sincere or insincere trustworthy or untrustworthy		
	Expertise	believability and credibility of the information provided by the writer.	(Aye, Au, & Law, 2013; Baek et al., 2012; Lu & Stepchenkova, 2014)	Expert Experienced Knowledgeable Qualified Skilled	Writer is: expert or not an expert experienced or inexperienced knowledgeable or unknowledgeable qualified or unqualified skilled or unskilled		(Ohanian, 1990)

Appendix 8: Identified OCR attributes and their allocated sub-factors

7.8 Questionnaire

Appendix 9: Questionnaire

Part 1 - General Questions

This part of the questionnaire is divided into two set of questions, one concerning yourself and one with regard to your use of online reviews. The questions asked are multiple choice questions mainly with choosing one answer. Even though there are two questions with multiple answers possible.

General questions concerning yourself:

1. Gender
 - ☐ Male
 - ☐ Female
2. Age
 - ☐ under 20 years old
 - ☐ 21-30 years old
 - ☐ 31-40 years old
 - ☐ 41-50 years old
 - ☐ 51-60 years old
 - ☐ Above 60 years old
3. Nationality
 - ☐ Dutch
 - ☐ German
 - ☐ Other:
4. What is your current main occupation:
 - ☐ Student
 - ☐ Self-employed
 - ☐ Employed
 - ☐ Unemployment
 - ☐ Homemaker
 - ☐ Retired
 - ☐ Unable to work

General questions concerning your use of online consumer reviews:

5. Have you ever checked online customer reviews/opinions before purchasing a product?
 - ☐ Yes
 - ☐ No

If this questions has been answered with 'No' the questionnaire ends here.

6. For which product categories are you reading online reviews? (Multiple answers possible.)
 - ☐ Electronics
 - ☐ Books
 - ☐ Clothing and apparel
 - ☐ Toys & Games
 - ☐ Vacations
 - ☐ Food and groceries
 - ☐ Health & Beauty
 - ☐ Home
 - ☐ Other: _____
7. How often are you reading online reviews prior to a purchase?
 - ☐ Never
 - ☐ Rarely
 - ☐ Sometimes
 - ☐ Quite often
 - ☐ Often

If this question has been answered with 'Never' the questionnaire ends here. Since it indicates that the person has according to question five (Q5) at least once read online reviews prior to a purchase but is not doing so anymore.

8. When consulting online reviews which kind of platforms do you mostly choose? (Multiple answers possible.)
- ☐ Retailing websites (e.g. Amazon)
 - ☐ Independent reviewing platforms (e.g. Tripadvisor)
 - ☐ Video platforms (e.g. YouTube)
 - ☐ Personal (reviewing) blogs
 - ☐ Other: _____

Part 2 – Questions concerning online consumer reviews

This is the second part of the questionnaire and is totally devoted to your opinion and use of online consumer reviews. In the following several statements will be presented to you and need to be answered on a five point Likert-scale. Answers vary from (1) strongly disagree up to (5) strongly agree.

Division of rating:

(1) Strongly disagree (2) somewhat disagree (3) neutral (4) somewhat agree (5) strongly agree

Statement	1	2	3	4	5
<i>Statements concerning the form of review (Qualitative vs. Quantitative)</i>					
9. Quantitative reviews (scale ratings, i.e. 5 star rating) are the most helpful reviews.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Qualitative reviews (written text) are the most helpful reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Combining quantitative and qualitative reviews into one (i.e. star rating and written text) creates most helpful reviews.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. When consulting online reviews I only take the average overall star rating into account given for a product when making my decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. When consulting online reviews I first look at the overall star rating of a product and then look at the different reviews more in-depth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I never take star ratings into account, just qualitative reviews are important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. When consulting several online reviews I only take into account reviews containing written text.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. When consulting several online reviews I just take into account the different star ratings given by each reviewer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. When consulting several online reviews I take into account the different star ratings and written texts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Statements concerning qualitative reviews (written texts)</i>					
18. Reviews with long texts are the most helpful ones.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Long reviews are more extensive and in-depth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Reviews need to evaluate technical and functional specifications.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Reviews need to express prior users own experiences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. The reading of the review needs to be enjoyable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. The review needs to be clearly understandable, without taking too much effort to comprehend the message.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Statements concerning quantitative reviews (scale ratings)</i>					
24. The overall star rating is important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. The distribution among each rating level is important to me. (thus the number of people who rated the product with five stars, four stars, and so forth)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. For me it is important that most reviews have the same star ratings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. For me the degree of heterogeneity among the different reviews is relevant, since it shows negative and positive sides of a product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. The degree of agreement among different reviewers is important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Review ratings being the same as the average overall rating are the most valid ones.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Statements concerning the quantity of reviews available</i>					
30. The more reviews available the better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. The more reviews available the better the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. The more reviews available the higher the popularity of the product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. The more reviews available the more likely I am buying a product.	o	o	o	o	o
34. The total number of reviews available is important to me.	o	o	o	o	o
35. When many reviews are available, the product needs to be a good one since many people bought it.	o	o	o	o	o
36. The more reviews existing the higher the information richness.	o	o	o	o	o
37. The more reviews existing the more helpful is the information available.	o	o	o	o	o
38. I like to read many reviews before I make a decision.	o	o	o	o	o
39. I do not like to process a lot of information prior to a purchasing decision.	o	o	o	o	o
40. I take not more than ten reviews into account. <i>If this question is answered with strongly agree or somewhat agree the questionnaire continues with question 44.</i>	o	o	o	o	o
41. I take up to 25 reviews into account. <i>If this question is answered with strongly agree or somewhat agree the questionnaire continues with question 44.</i>	o	o	o	o	o
42. I take up to 50 reviews into account. <i>If this question is answered with strongly agree or somewhat agree the questionnaire continues with question 44.</i>	o	o	o	o	o
43. I take up to 100 or more reviews into account.	o	o	o	o	o
<i>Statements concerning the age of reviews</i>					
44. It is important for me that reviews are current.	o	o	o	o	o
45. It is important for me that reviews are timely.	o	o	o	o	o
46. It is important to me that reviews are up-to-date.	o	o	o	o	o
47. Only recent reviews (one or two weeks old) are relevant and can be taken into account.	o	o	o	o	o
48. Reviews older than a month are not valid anymore.	o	o	o	o	o
49. Reviews older than six month are not valid anymore.	o	o	o	o	o
50. Reviews older than a year are not valid anymore.	o	o	o	o	o
51. The age of a review does not matter to me.	o	o	o	o	o
<i>Statements concerning the trustworthiness of a source</i>					
52. The review source needs to seem dependable.	o	o	o	o	o
53. The review source needs to seem honest.	o	o	o	o	o
54. The review source needs to seem reliable.	o	o	o	o	o
55. The review source needs to seem sincere.	o	o	o	o	o
56. The review source needs to seem trustworthy.	o	o	o	o	o
57. The review source and its trustworthiness is important to me.	o	o	o	o	o
58. When a source seems credible I take reviews from it into account.	o	o	o	o	o
59. I trust consumer generated information (online reviews) more than seller created.	o	o	o	o	o
<i>Statements concerning the expertise of a reviewer</i>					
60. The reviewer need to seem like an expert.	o	o	o	o	o
61. The reviewer need to seem experienced	o	o	o	o	o
62. The reviewer need to seem knowledgeable.	o	o	o	o	o
63. The reviewer need to seem qualified.	o	o	o	o	o
64. The reviewer need to seem skilled.	o	o	o	o	o
65. The writer of the review and its expertise does matter to me.	o	o	o	o	o
66. When a writer seems to have expertise I take the review into account.	o	o	o	o	o
67. It is important for me that the writer of a review show a concern for others.	o	o	o	o	o

7.9 Allocation of attributes to routes

Stimuli		Black Box (Consumer)	
OCR Attributes		Central route	Peripheral route
Review form	Qualitative	X	
	Quantitative	X	X
Quantity	Number of reviews	X	X
Age of review	Timeliness	X	
Credibility	Trustworthiness	X	X (partially)
	Expertise	X	X (partially)

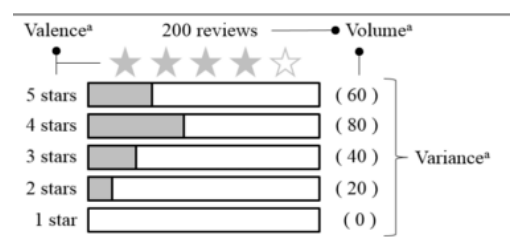
Appendix 10: Online consumer review attributes allocated to routes of information processing

7.10 Allocation of Questions

OCR Attributes	Questions related to attributes	Sub-factors	Questions related to sub-factors	ELM	
				Central Route	Peripheral Route
Review Form	Qualitative	Elaborateness Perceived enjoyment Readability Valence Volume Variance	Q18; Q19; Q20; Q21; Q22; Q23; Q24; Q25; Q26; Q27; Q28; Q29;	Q13; Q14; Q15; Q17; Q18; Q19; Q20; Q21; Q22; Q23;	
Quantity	Quantitative	Number of reviews Quantity of review information	Q30; Q31; Q32; Q33; Q34; Q35; Q36; Q37;	Q13; Q17; Q24; Q25; Q26; Q27; Q28; Q29;	Q12; Q16; Q24; Q26; Q28; Q29;
Age of review	Timeliness	Currency Timely Up-to-date	Q44; Q45; Q46;	Q34; Q36; Q37; Q38; Q40; Q41; Q42; Q43;	Q34; Q35; Q39; Q40;
Credibility	Trustworthiness	Dependable Honest Reliable Sincere Trustworthy	Q47; Q48; Q49; Q50; Q52; Q53; Q54; Q55; Q56;	Q47; Q48; Q49; Q50;	Q51;
Expertise	Expertise	Expert Experienced Knowledgeable Qualified Skilled	Q60; Q61; Q62; Q63; Q64;	Q57; Q58; Q59;	Q58; Q59;
				Q65; Q66; Q67;	Q66

Appendix 11: Display of questions associated to attributes and sub-factors

7.11 Online Review Display



Appendix 12: Example of quantitative online review, adopted from Kostyra et al. (2015)