The impact of online consumer reviews and their perceived credibility on consumer behaviour

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& LEGAL STUDIES

A thesis submitted for the degree of

Master of Science (MSc) in Management

December 2019
Thessaloniki – Greece

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December 2019

Thessaloniki - Greece

Abstract

The advent of the Internet has transformed the word of mouth to a new form of communication. Electronic word of mouth has an essential role in changing consumer behavior towards products and services. More and more consumers are seeking for information about products from online consumer reviews, giving a great deal of weight to this type of communication. A great opportunity for organizations is derived from eWOM communication, as they can target their marketing efforts to potential customers by emphasizing the successful experiences of other consumers.

The current study aimed to identify the extent of the influence that eWOM have on the purchase behavior of the customers and indicate the review's characteristics that make it credible. Based on a thorough literature review, a survey research was conducted in order to validate the literature claims and define and quantify the influence of them on the buying behavior of customers. Factors that motivate consumers to write reviews, the main characteristics of eWOM communication, the extend of eWOM helpfulness and the perceived credibility of the online consumer reviews are examined in an effort to analyze in depth this new form of social communication. A model company strategy for eWOM management is being proposed, based on the results of the research, which could improve the quality of customer reviews and supplement company marketing strategy.

Keywords: eWOM; online consumer review; consumer behaviour; eWOM credibility;

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06/12/2019

Acknowledgment

I would like to express my appreciation to my supervisor Dr. Ioannis Magnisalis for his able guidance and support in completing my dissertation, my classmates who contributed with valuable feedback and the participants that dedicated their time to fill out the questionnaire.

I would also like to express my gratitude to my family for their constant support throughout my studies.

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1 Introduction

Traditional word – of – mouth (WOM) has played a major role through the years as the ancient and medieval societies relied on it as a catalyst for the majority of economic and social activities (Dellarocas, 2003). The arrival of Internet has offered fertile ground for transforming the traditional word-of-mouth to electronic word-of-mouth (eWOM) communication (Cheung and Thadani, 2012). The most widespread definition defines eWOM communication *"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"* (Hennig-Thurau *et al.*, 2004). As Internet's popularity grows, online consumer reviews have become an important source for consumers who are seeking information about product quality (Zhu, 2010). Customers are participating both actively and passively, where active consumers post their reviews on websites and share their opinions with others at the same time as passive consumers search for information and read online consumer reviews without participating themselves (Matute, Polo-Redondo and Utrillas, 2016). Based on research, 58% of the American adults research products and services before any purchase decision and 24% post reviews afterwards (Trenz and Berger, 2013), while according to Lee et al. (Lee *et al.*, 2011) the eWOM communication and the easy access though Web 2.0 applications are affecting buying decisions of customers, especially of those who have greater Internet experience (Zhu, 2010)

Moreover, this new product information channel with growing popularity and importance can be deployed for online marketplaces and sellers as a new element in the marketing communication mix, working as an online seller's free "sales assistant" (Chen and Xie, 2008). Most of the times they act as a substitute and also complement other forms of business-to-consumer and traditional word-of-mouth communication about product quality (Chevalier and Mayzlin, 2006). Furthermore, this kind of consumer-oriented information may be more credible and relevance than seller-oriented information (Baek, Ahn and Choi, 2012). Even if they can be used in order to increase trust in an online shop, many incidents of review manipulation or fraud have been

occurred in the past. By hiding behind the identity of anonymous customer, stakeholders of a company tried in many cases to inflate the rating or to improve the awareness of a product (Trenz and Berger, 2013). However, it is crucial for the organizations to understand how online reviews affect consumers' buying decision in order to disseminate information about their products (Zhu, 2010).

2 Theoretical background

2.1 Electronic word of mouth communication

2.1.1 From traditional WoM to eWoM

Even if a huge amount of information is provided to consumers through many different media, it seems that they trust opinions and experiences from former customers more than marketer's advertisement (Sen and Lerman, 2007). It is known that word-of-mouth has been used since the middle of the 20th century (Trenz and Berger, 2013) but it gained additional importance with the rise of the Internet and have been extended to eWOM in virtual environment (Matute, Polo-Redondo and Utrillas, 2016). It is the first time in history that individuals can make their opinions and personal experiences easily accessible to the global community of Internet users (Dellarocas, 2003). This new kind of word-of-mouth communication provides the user-oriented information as an independent information resource, resulting to increased popularity and importance (Park, Lee and Han, 2007)

2.1.2 Word of mouth

As it is mentioned above, WOM has been one of the most important resources of information which influence consumer's buying decision since the beginning of society (Duan, Gu and Whinston, 2008). Prior involvement with a product and knowledge about it are referred as significant consumer-related factors, which in most of the cases have a great influence in word-of-mouth effects (Doh and Hwang, 2009).They are playing an important role in changing customer's behaviour and attitude, as they are perceived as a more trustworthy source of information about a product or a service than company-generated persuasive messages (Chu and Kim, 2011). In most of the cases customer-to-customer communication is more credible and persuasive compared to traditional marketing actions (Reimer and Benkenstein, 2016). According to Trusov et al. (Trusov, Bucklin and Pauwels, 2009) the elasticity for WOM is approximately 20 times higher than that for marketing events and 30 times that of media appearances because of the significantly lower costs and fast delivery of information. Moreover, customer's opinion

are strongly affected by source credibility and trustworthiness in offline WOM (Filieri, 2016)

2.1.3 Electronic word of mouth

The Internet and information technology had changed the way that people communicate providing the opportunity for consumers to evaluate a product or a service online (Chen and Xie, 2008). It is observed a shift in power from producers to consumers as concerns the marketplace (Steffes and Burgee, 2009). Through the usage of Internet, consumers obtain information not only from the few people they know but from a boundless, geographically dispersed group of people with a relevant experience (Jalilvand, Esfahani and Samiei, 2011). Most of the time, a rating on a specific scale has to be provided by the consumer as a measure of the whole evaluation and in some cases a text of arbitrary length has to be written as a justification for this rating (Trenz and Berger, 2013). Based on anecdotal evidence, people now increasingly count on opinions which are posted on such systems in order to decide from what movie to watch to what stocks they will invest in (Dellarocas, 2003). The fact that 84% of Internet users or about 90 million Americans have participated in online groups indicates that online communities have been an important source for consumers (Mayzlin, 2006). Consequently, online consumers reviews have become one of the most powerful channels in order to generate electronic word-of-mouth (Duan, Gu and Whinston, 2008). In most of the cases, they serve as informant where they provide user-oriented product information and also as a recommender where previous consumers make recommendations in the form of electronic word-of-mouth (Park, Lee and Han, 2007). As a consequence of the influence that online consumer reviews have on consumer's decision (Zhu, 2010), they have become an important means of marketing (Matute, Polo-Redondo and Utrillas, 2016). Manufacturers can take as an indicator the conversations that usually take place between consumers to measure the product's popularity, since the number and content of reviews are related to the extent that consumers are satisfied with the product (Park, Lee and Han, 2007). Therefore, online consumer reviews can be used not only as an informant or recommender but also as an indicator of product sales (Duan, Gu and Whinston, 2008)

2.1.4 Differences between WoM and eWoM

Although some characteristics of eWOM are in common with the traditional WOM, electronic word-of-mouth is different in several dimensions (Cheung and Thadani, 2012). As with traditional WOM, information is usually exchanged between small groups of people in private conversations. In contrast, eWOM gives the opportunity to exchange information about a product without geographic boundaries (Trenz and Berger, 2013). Moreover, there is no need to exchange information when all communicators are present, as eWOM functions in an asynchronous mode and online consumer reviews are available for an indefinite period of time (Cheung and Thadani, 2012). Furthermore, the increased volume and diversity of judgments along with the anonymity of reviewer have been the major differences between traditional and electronic word-of-mouth (Trenz and Berger, 2013). As it concerns the anonymity of reviewer, it may be the key difference between those word-of-mouth communications. Traditional WOM usually becomes from a sender who is known to the receiver, in contrast with eWOM which eliminates the ability of receiver to judge the credibility of the sender and his/her message (Steffes and Burgee, 2009).

2.2 Reviewer's perspective

2.2.1 General Information

Trying to explore all the aspects of online consumer reviews from reviewer perspective until receiver perception, an analysis of the motives that affect a reviewer in order to provide information is conducted. Usually, satisfaction of a customer alone is not enough to make a customer to recommend a product or service, but in most of the cases customers need to feel motivated in order to provide word-of-mouth (Reimer and Benkenstein, 2016).

2.2.2 Motivators for writing reviews

Based on Hennig-Thurau et al. (Hennig-Thurau et al., 2004) there are eleven distinct motivators that would transform a consumer to reviewer on Web-based opinion platforms. Those motivators are organized in five types of social interaction utility, providing that way the economic and social framework of a virtual community.

Even though, the present analysis is based on those motivators, it is worth mentioning that Cheung and Lee (Cheung and Lee, 2012) have concurred with the previous research by proposing that consumer's eWOM intention is related with reputation, sense of belonging and enjoyment of helping. It seems that sense of belonging and enjoyment of helping have the most impact on consumers' eWOM intention but not reciprocity, moral obligation and knowledge self-efficacy which do not demonstrate a significant relationship (Cheung and Lee, 2012).

2.2.2.1   Focus related utility

Focus-related utility is based on the assumption that an important goal of a consumer is to add value to the community through his or her contributions. In a web-based opinion platform, such contributions include providing reviews and comments on products and services of interest to other community members (Hennig-Thurau *et al.*, 2004).

Concern for other consumers

Consumers usually feel a desire to help other consumers by sharing their buying experiences (Hennig-Thurau *et al.*, 2004). Most of the times, this desire can save others from bad decisions and negative experiences (Cheung and Lee, 2012). This type of concern is related to the concept of altruism.

Helping the company

Another factor that motivates customers to share their personal experience is the belief that the company is a social institution which worth support especially when they are satisfied with company's product or service. They are motivated to give something in return in order to equalize the provided experience with the recommendations over the Internet (Hennig-Thurau *et al.*, 2004)

Social Benefits

Consumers become a part of virtual community through their participation in Web based opinion platforms, which is an important characteristic of eWOM behavior. By their membership in the virtual community, they are able to receive social benefits which act as a motivator (Hennig-Thurau *et al.*, 2004).

Exerting power

With the advent of Internet, the eWOM communication provides a shift of power from companies to consumers. Moreover, the great number of potential receivers combined with the availability of the comments for a long time and their accessibility by companies provide an exertion of power over companies. This instrument of power can affect the way a company is perceived especially with negative comments by consumers (Hennig-Thurau *et al.*, 2004)

2.2.2.2 Consumption utility

Consumption utility refers to consumers obtaining value through "direct consumption of the contributions of other community constituents" (Hennig-Thurau *et al.*, 2004)

Post purchase advice seeking

When a consumption takes place, consumers may read the product reviews which are written by others and request to submit problem-solving information. By this post-purchase advise seeking behavior, they try to gain useful feedback and to better understand, operate and use the product (Hennig-Thurau *et al.*, 2004)

2.2.2.3 Approval utility

According to Hennig, approval utility is connected with a consumer's satisfaction that arises when other customers consume and approve of the past customer's own contributions. In the case of web-based platforms such feedback can be either formal or informal: Informal approval may come when another user either publicly approves one's review or recommendation to the group or privately communicates its approval to him. Online platforms are acknowledging useful contributions from users by creating contribution rankings or badges that accompany the reviewer's profile. (Hennig-Thurau *et al.*, 2004).

Self enhancement

The self enhancement motivation is related to a desire for positive recognition from others (Hennig-Thurau *et al.*, 2004). By spreading eWOM in online consumer-opinion

platforms, consumers are viewed as an expert which is related with their need for alter reputation (Cheung and Lee, 2012).

Economic rewards

Another form of approval utility is the receipt of economic rewards for eWOM communication. As an important driver of human behavior, economic rewards are considered as a sign of appreciation by the reward giver. For this reason, they can act as a motivator for writing online consumer reviews (Hennig-Thurau *et al.*, 2004).

2.2.2.4   Moderator-related utility

Moderator-related utility is derived when the complaining act of the community member is being facilitated by a third party. In a Web-based opinion platform environment, this could be realized by platform staff which is responsible for interaction with companies on behalf of the customer (Hennig-Thurau *et al.*, 2004).

Convenience

By writing a review, it can be a more convenient way for a consumer to report a complain about a product to the company. Consequently, the existence of an online opinion platform can make the complaining process easier and can provide the opportunity to consumer for seeking redress (Hennig-Thurau *et al.*, 2004).

Platform operators will support consumers

The ability to express consumers' dissatisfaction directly to the company with a low financial and psychological risk makes the consumers to believe that platform operators will actively support them in solving their problems. From this perspective, platform operator is viewed as an advocate for the consumer (Hennig-Thurau *et al.*, 2004).

2.2.2.5   Homeostase utility

This final utility is based on people's basic desire for balance in their lives. Even a strong positive or negative consumption experience can cause unbalance, which can be restored by writing a comment in an online opinion platform (Hennig-Thurau *et al.*, 2004).

Expressing positive emotions

When a successful consumption experience takes place, the aforementioned balance can be restored through expressing positive emotions. This behaviour derives from a strong desire to share the joyful experience with many others (Hennig-Thurau *et al.*, 2004)

Venting negative feelings

On the other hand, expressing negative feelings which are originated from a dissatisfying consumption experience can lessen the anxiety and frustration associated with the event. A major driving force for venting negative feelings is the consumer's desire for catharsis (Hennig-Thurau *et al.*, 2004).

2.3   Message characteristics

2.3.1   General information

As it is mentioned before, online consumer reviews are using the Internet's bidirectional communication in order to enlarge the scale that word of mouth communications act (Dellarocas, 2003). The free access in information and exchange of opinions are now easily feasible in real time (Duan, Gu and Whinston, 2008). Individuals share their opinions and experiences on a wide range of topics, using reviews as an informant and also as a recommender (Jalilvand, Esfahani and Samiei, 2011).

It is important for the reviews in order to play this dual role to be sufficiently informative, leading to an interaction between them (Chen and Xie, 2008). Additionally, the helpfulness of the review is affected by the readability, linguistic correctness and subjectivity of the message (Baek, Ahn and Choi, 2012). As consumers are seeking for information, most of the times are influenced from the reviews of a product. For this reason, online consumer reviews can be used from companies to gain their trust (Baek, Ahn and Choi, 2012). In most of the cases, consumers are aware of the existence of promotional chat from the companies and they try to rely on credible reviews (Mayzlin, 2006). A trustworthy review is perceived in most of the cases as the honest, truthful and non-commercial opinion of a customer for any experience of the product (Filieri, 2016)

2.3.2 Features of consumer review's message

2.3.2.1 Valence

An important characteristic of an online consumer review is its valence, where positively and negatively framed eWOM are playing a significant role during the evaluation and decision-making process (Cheung and Thadani, 2012). Based on previous research, it is known that consumers tend to take more under consideration any negative than positive information. As a result, negative eWOM is a stronger influencer than positive eWOM. It is interesting to mention that people tend to recognize reviews with more negative words as more helpful (Baek, Ahn and Choi, 2012). Additionally, eWOM valence has a positive relationship with eWOM credibility in its turn eWOM credibility is influenced from eWOM sidedness (Cheung and Thadani, 2012). The two-sided information enhances the completeness of a message and is perceived to be more credible than a negatively or positively valanced review.

2.3.2.2 Volume

Another important feature of eWOM, which may influence the helpfulness of an online consumer review is its volume. The volume of eWOM is referred to the number of comments which are published through a website (Matute, Polo-Redondo and Utrillas, 2016). As Internet users can find a significant quantity of reviews for a product or a service, information volume plays a critical role in e-commerce and is associated with product sales (Cheung and Thadani, 2012). Based on research, is not the review ratings which are associated with the product sales, but the number of reviews that may influence a consumer for the purchase.

2.3.2.3 Quality

The quantity of eWOM have also a significant role in its helpfulness. As a multidimensional construct, it is composed from four dimensions. The reviews must be relevant and appropriate, complete and in-depth in order to be considered accurate and reliable. Moreover, they must be current and up to date (Matute, Polo-Redondo and Utrillas, 2016). Based on research, people feel that reviews are most helpful when reviews are more parallel with the majority average rating; when reviews are written by

high-ranked reviewers and reviews are lengthy; and when there is frequent use of negative words (Baek, Ahn and Choi, 2012).

2.3.3 The role of perceived credibility

EWOM credibility refers to the degree of belief that users have in comments they read on the Internet (Matute, Polo-Redondo and Utrillas, 2016). As more and more people use product information from the eWOM network to make buying decision, information credibility plays an important role because eWOM occurs from an unlimited number of anonymous participants (Cheung *et al.*, 2009). The information uncertainty arises from the enormous amounts of unfiltered information and generates scepticism and distrust among consumers who use online consumer reviews as a recommendation for their buying process (Matute, Polo-Redondo and Utrillas, 2016). By the time that consumers will receive a review as credible will have more confidence in adopting the eWOM comments and using them for making purchase decision. On the other hand, if the review is perceived as less credible, its effect will be discounted, and the consumer, trying to avoid potential risk, will be unlikely to follow the recommendation. (Cheung *et al.*, 2009). As a result, it is important for eWOM credibility to be evaluated as it has a positive effect on eWOM adoption (Cheung and Thadani, 2012). In most of the cases, a closer match between an individual's interests and those exhibited by the website fostered stronger tie strength and homophily. If those two will be combined with some specific characteristics of the message itself, the perception of credibility will be improved and the effectiveness of eWOM will be increased (Kim, Kandampully and Bilgihan, 2017)

2.3.4 Factors that affect the perceived credibility of reviews

2.3.4.1 Review content and style

One of the most important characteristics of a message in order to be perceived as credible is the way that it is presented. The writing style combined with the length and the type of information and details that are provided through a review are key factors of its trustworthiness. It is observed that longer reviews include more product details about the way that it was used and for that reason they are more helpful for consumers to assess product's quality (Filieri, 2016). As a result, a review's helpfulness increases, as

the review lengthens because of the positive relationship between the logarithm of word count and its helpfulness (Baek, Ahn and Choi, 2012)

Furthermore, the type of details that longer reviews contain can affect the level of their credibility as it is crucial the provided information to be factual, detailed and relevant, using a 'consumer writing style'. In many cases, a short review which is written in a marketing writing style with irrelevant information about the product can affect consumers buying decision as it is perceived as untrustworthy (Filieri, 2016).

2.3.4.2   Review valence and extremity

It is important to mention that consumers do not only take under consideration the content of a review but also its valence and extremity. As a valence of a review, it is referred the negative or positive evaluation of a product based on customers' experience. Usually, consumers who have a positive experience of a product will include pleasant and vivid descriptions of their experience. In contrast, consumers with a negative experience will include unpleasant descriptions complaining about the product. Consequently, a two-sided information about consumers' experience which combines both negative and positive details is perceived as more trustworthy because they provide a balanced opinion than extreme reviews. It is believed that extreme reviews are more likely to perceived as untrustworthy, especially if they are combined with emotional language and few details. However, as negative eWOM has a stronger influence on eWOM effect than positive eWOM (Cheung and Thadani, 2012), consumers tend to focus more in the content of overly negative reviews than overly positive. As a result, extremely positive reviews are more likely to perceived as manipulated instead of an extremely negative review (Filieri, 2016).

2.3.4.3   Source of communication

Based on the previous analysis, a review message may be considered untrustworthy from its content information and its valence. In that case, consumers search for more information from reviewer's profile in order to identify if the comment is credible or not. As it is mentioned before, the anonymity which is afforded by online communities provides the opportunity to firms for disguise their promotion as consumer recommendation (Mayzlin, 2006). As a result, consumers tend to be extremely careful

trying to identify the aforementioned manipulation. For this purpose, they usually take under consideration more characteristics than valence and information of the content.

The profile characteristics of an eWOMer such as reviewer's profile picture, registration date and range of activities may influence the development of trust (Xu, 2014). Moreover, the number of posted reviews by an individual have a key role as a measure of credibility because reviewers who have posted many reviews are considered more trustworthy and experienced than those who have posted one or few reviews (Filieri, 2016).

2.3.4.4 The pattern in reviews

Another characteristic that may influence the perceived credibility is the patterns in reviews. During the information search stage, consumers read more than one review in order to take a purchase decision. By reading those messages in online discussion forums, consumer's preexisting beliefs about the product tend to be reinforced resulting to enhance their confidence in these beliefs (Lee *et al.*, 2011).

It is observed that if several reviews present similar comments in a short time, it is more likely to be perceived as untrustworthy. Furthermore, an extreme positive review immediately posted after several negative reviews would be an indicator of manipulation. In many cases, firms can observe the conversations that take place between real customers and they have the opportunity to react rapidly in order to maintain the company's image (Mayzlin, 2006). In contrast, consumers believe that if there is consistency between reviews by complaining about the same issues or praising the same features of the product is an indicator of trustworthiness (Filieri, 2016).

2.4 Receiver's perception

2.4.1 General Information

Nowadays, more than 91% of consumers consult online reviews and other user-generated information before the purchasing decision and 46% of them are influenced during the buying process (Cheung and Thadani, 2012). Even if online reviews are posted by unknown consumers, Internet users tend to trust them more than traditional media.

2.4.2   Online reviews in the consumer purchase process

The buying process begins when costumers identify a need or a desire in the actual state, knowing as problem recognition process. During this process, consumers are recognizing their problems and they are trying to fulfil their needs (Hussain *et al.*, 2018). After this stage, they start to search for information from internal or external sources. Following Zhang et al. (Zhang *et al.*, 2014), the online shopping behavior is usually composed by the consumers' concern about the perceived risk that online purchase include such as doubts about the payment or product receipt and the quality of the product (Matute, Polo-Redondo and Utrillas, 2016). With the presence of eWOM, it is provided the opportunity to consumers to compare the alternatives about a product when they seek for information. Moreover, as the purchase decision comes to the end, eWOM has a great impact on consumer's decision by reducing the aforementioned risk (Hussain *et al.*, 2018).

2.4.3   Models of influence by the perceived information

In this stage, it is important to mention the theories which explain how a receiver is influenced by a perceived information. Studying the impact of eWOM communication, the most commonly used theories are the Yale's model, the Elaboration Likelihood Model (ELM), the heuristic systematic model (HSM) and Deutsch and Gerrard's dual process theory of human information processing (Cheung *et al.*, 2009; Cheung and Thadani, 2012). By referring briefly to the context of each one, it can be provided an integrated perception of the theoretical foundation.

2.4.3.1   Yale's model

The Yale's attitude change model was introduced by Carl Hovland and his colleagues in 1953 at Yale university (Wikipedia, 2019c). This approach has been useful to social psychologists in order to understand the persuasion process but also to companies in order to generate effective marketing and advertising strategies. Based on their research, Yale's model posits three major factors that influence people's attention, comprehension and acceptance of a persuasive message (Cheung *et al.*, 2009).The source of the review, the content of the review and the receiver of the review are the main three factors that affect consumers opinions, perceptions and actions

(Chakraborty and Bhat, 2018).As a result, the attractiveness and credibility of the source combined with the quality and sincerity of the message itself as well as the intelligence, the attention and the age of the audience are the key factors that make a comment credible.

2.4.3.2 Elaboration likelihood model

The Elaboration Likelihood Model (ELM) was developed by Richard E. Petty and John Cacioppo in 1980 (Wikipedia, 2019a). The model is referred to the different ways that people process messages and how they influence their attitude. Based on it, people's attitudes and behaviours can be influenced by two information-processing routes, centrally and peripherally. The central route refers to the nature of arguments in a message and entails careful scrutiny of the information while the peripheral uses environmental cues of the message to ultimately decide whether to accept a message or not and refers to issues that are not directly related to the subject of the message (Cheung, Lee and Rabjohn, 2008; Cheung et al., 2009)

2.4.3.3 Heuristic systematic model

The heuristic-systematic model of information processing (HSM) was developed by Shelly Chaiken in 1980 and is recognized as a communication model which explains the process that people receive and process persuasive messages (Wikipedia, 2019b). Two routes of message processing are invoked through heuristic-systematic model, the systematic and the heuristic (Cheung *et al.*, 2009). In order to decide if a message is persuasive or not, systematic processing weighs the merits of the message by entailing careful and deliberative processing of a message, whereas heuristic processing uses simplifying decision rules (Chaiken, 1980). There are a lot of similarities that can be identified between heuristic-systematic model and elaboration likelihood model, as both were developed in the early to mid-1980s and share many of the same concepts and ideas.

2.4.3.4 Deutsch and Gerard's dual process theory

On the other hand, the Dual Process Model was developed by Deutsch & Gerard in 1955 and identifies the two different types of influences that affect the persuasiveness of a message, namely normative and informational factors. According to the theory,

normative and informational influence cooperate to form the reader's information-credibility judgement. Informational influence is based in the content of the message, whereas normative influence reflects the impact of social aggregation mechanisms available in today's on-line consumer forums (Cheung *et al.*, 2009).

2.4.4   Impact of online consumer reviews on the purchase decision

The role of online product reviews in purchase behaviour of consumers and product sales is increasingly important, as they tend to be an emerging market phenomenon. Based on research, half of those who visited the retailer's sites with consumer postings mentioned that consumers reviews are important or extremely important in their buying decision (Chen and Xie, 2008). Online customer reviews increasingly influence customers' purchase decisions when they make their purchases online, giving that way new importance to the concept of word-of-mouth (Trenz and Berger, 2013).

Information usefulness had a strong and significant impact on the consumer decision to adopt information within online communities (Cheung, Lee and Rabjohn, 2008), as information from external sources usually enhance consumer purchase decision, similar to the role of social influence in theory of reasoned action (Cheung and Thadani, 2012). Moreover, information obtained from strong tie connections are more influential in decision making than weak tie information (Steffes and Burgee, 2009). To be more specific, positive informational social influence strengthened the relationship between consumer's attitude toward online shopping and their intention to shop, as well as on the relationship between consumer's and their attitude. (Lee *et al.*, 2011). Furthermore, consumers' purchase decisions are influenced by reviews according to their perceptions about the review websites, thereby suggesting the important role of the website as a source of information (Kim, Kandampully and Bilgihan, 2017) Reviews that are considered more helpful by consumers have stronger effects on consumer purchase decisions than other reviews (Baek, Ahn and Choi, 2012). An exogenous variable, positive informational social influence, affects consumer decision to shop online. (Lee *et al.*, 2011)

2.5 Managerial implications of eWOM communication

As electronic word-of-mouth starts to play a significant role in people's routine life, it is important for the companies and organizations to understand the effects of online consumer reviews on their managerial decisions (Duan, Gu and Whinston, 2008). Nowadays, most of the companies are taking advantage of the new marketing tool (Zhu, 2010). They make an effort to understand the factors that motivate consumers in the review system in order to maximize eWOM effectiveness (Kim, Kandampully and Bilgihan, 2017). As Internet users tend to spend very short time reading information on a Web page, it is crucial for the companies to present the most relevant messages in order to affect customer's decision making (Hussain *et al.*, 2018). Following Dellarocas (Dellarocas, 2003), organizations are affected by online feedback mechanisms in a wide range of activities. Online feedback mechanisms can acquire and retain customers by acting as a low cost and effective channel of information about the product. At the same time, online reviews allow an organization to understand the consumers reaction to its production line and respond quickly to anything that may harm brand equity. Even though, eWOM seems to have higher credibility, empathy and relevance to consumers than information of marketers (Gruen, Osmonbekov and Czaplewski, 2006) some companies are manipulating online consumer reviews in order to influence the buying decisions of the customers (Zhu, 2010).

3 Methodology

3.1 Scope

The survey research has been conducted with the utilisation of a questionnaire that has being circulated to the general public. The questionnaire had the objective of validating known findings from the literature review. While the various motivators and influences reported by authors are well defined in a qualitative manner, they lack a quantitative weighting of their importance. For example, the motivators for an online consumer review are reported without a comparative indication of importance. This prompted the need for a quantitative analysis that will define the weighted importance of various key parameters in comparison with each other and their quantitative influence on the customer buying behaviour.

3.2 Methodological approach

After the literature review of the impact that online consumers reviews have on consumers' buying decision, a need for further research was identified. The main need was to quantify the influence of online reviews on the consumers' buying behaviour and cross-validate the findings with the literature. A survey research was designed, as it is cited as the most systematic way in order to collect, handle and analyse information from individuals (Laaksonen, 2018). Survey research offers the opportunity to gather reliable, accurate and representative results in a cost-efficient way of the population of interest (Gideon, 2012).

The initial research idea was based on a deterministic analysis of user data from a virtual e-shop. While this approach is more accurate and can lead to more in-depth results, it needs a longer period for data collection and depends on the users of the specific store, making the data product category specific. On the contrary the survey research can lead to fast data collection, which are targeted and structured. After significant consideration about the appropriate data collection scheme, a mixed approach has been selected. The survey research method has been chosen as a

collection scheme, while the questions were constructed in a way to mimic the exposure of customers in real life e-shops.

The design of the questionnaire was based on parameters that were identified in the literature review and aimed to quantify the importance of the answers. This is achieved by asking the participants to give answers in a 5-point Likert scale. In order to achieve a mixed experience of the users, different product pages of a virtual e-shop were created that where fictionally reviewed. Then, different snapshots were produced in order to accompany the questions of the questionnaire.

The questionnaire was created using the free service of Google, Google Forms (Google, 2019). The system was selected because of its high reliability, availability and the easiness of data collection. The produced link was published and sent electronically to diverse group of persons, with the kind request to be forwarded to more persons by the responders. The goal was to achieve a diverse sample of at least 100 responses. After the collection of the responses, the data was statistically analyzed and discussed.

3.3 Data collection method

The design procedure of the questionnaire has a key role in the whole survey process. The questions must be valid and reliable, as they are the implementations of the measurement that is desired to study (Laaksonen, 2018). Furthermore, it is important for a questionnaire to have an appropriate size. It should not be too long, but neither too short to avoid losing useful information.

Taking this under consideration, an electronic questionnaire was created in order to conduct the survey research and collect the response data. The questionnaire was divided into four sections, each of which was presented in a different page. In each section, a variety of questions was placed carefully based on the literature findings. The key questions were presented with an accompanying photo of a virtual product page, allowing the participant to immerge himself to a virtual shopping situation. The time needed for the completion of the questionnaire was tested, in order to assure that the time needed is not too long and to minimize the probability of drop-outs. The questionnaire was electronically circulated to the participants through e-mails and social media and they have been asked to fill it and to forward it to different users in order to

create a chain of respondents. It is important to mention that the selection of participants was made randomly, trying to avoid any influence on the results.

4 Survey results and discussion

4.1 Sample demographics

The first section was consisted of five questions, four of which were general demographic multiple questions, in order to identify the basic demographics of the sample. The respondents had to declare their gender, their age, their educational level and their annual household income, providing background information about the sample which may influence the online consumers reviews' impact.

The questionnaire was answered from 159 participants, while 72 of them were male and 86 were female (Figure 4.1). Only one of the participants didn't prefer to report the gender. 13 out of 159 respondents were between the ages of 18-24, 51 were between the ages of 25-29, 27 were between the ages of 30-34 and 39 were between the ages of 35-39. Between 40-44 years old were 13 of the respondents and the rest 16 respondents were over 45 years old. The weighted average age of the participants was 33.7 years old (Figure 4.2).
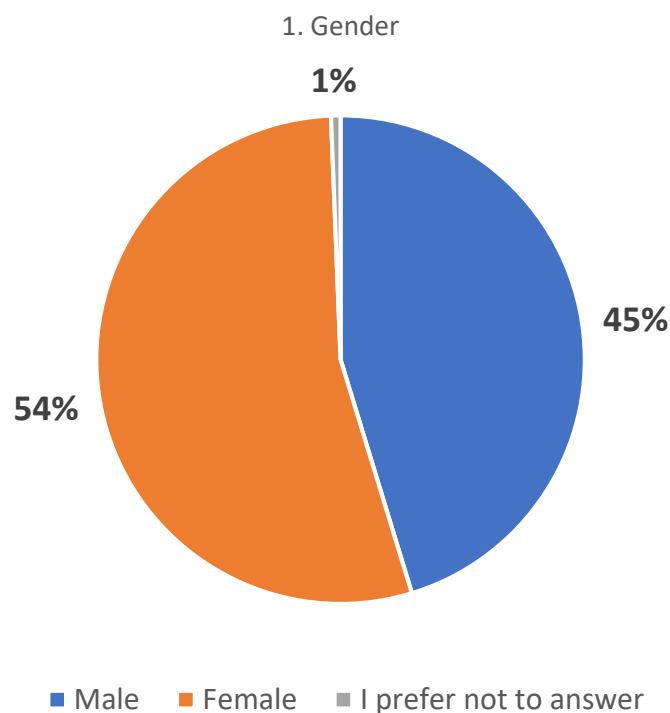
1. Gender

Figure 4.1. Gender distribution of the participants.
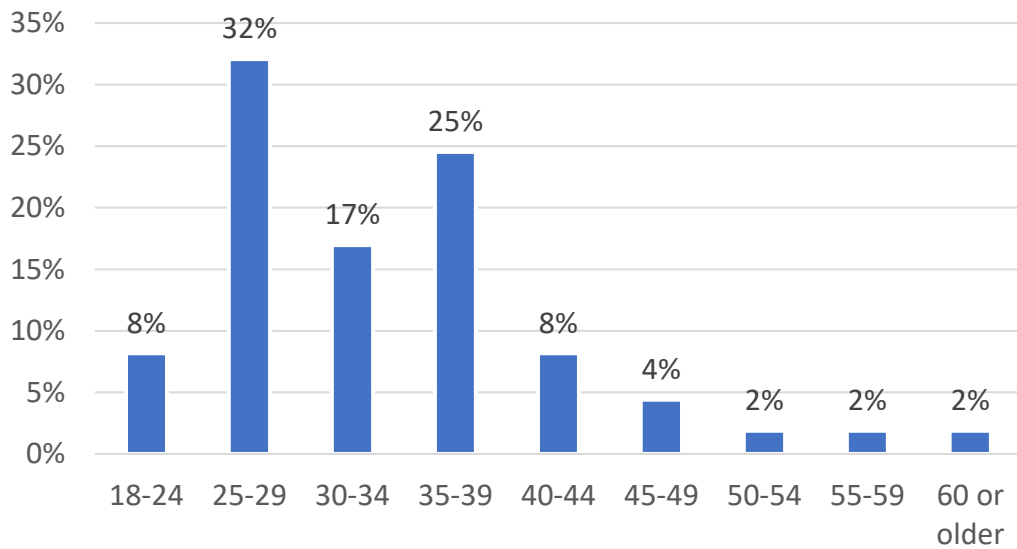
2. Age Distribution

Figure 4.2. Age distribution of the participants.

Between the two genders, the age distribution is similar (Figure 4.3).
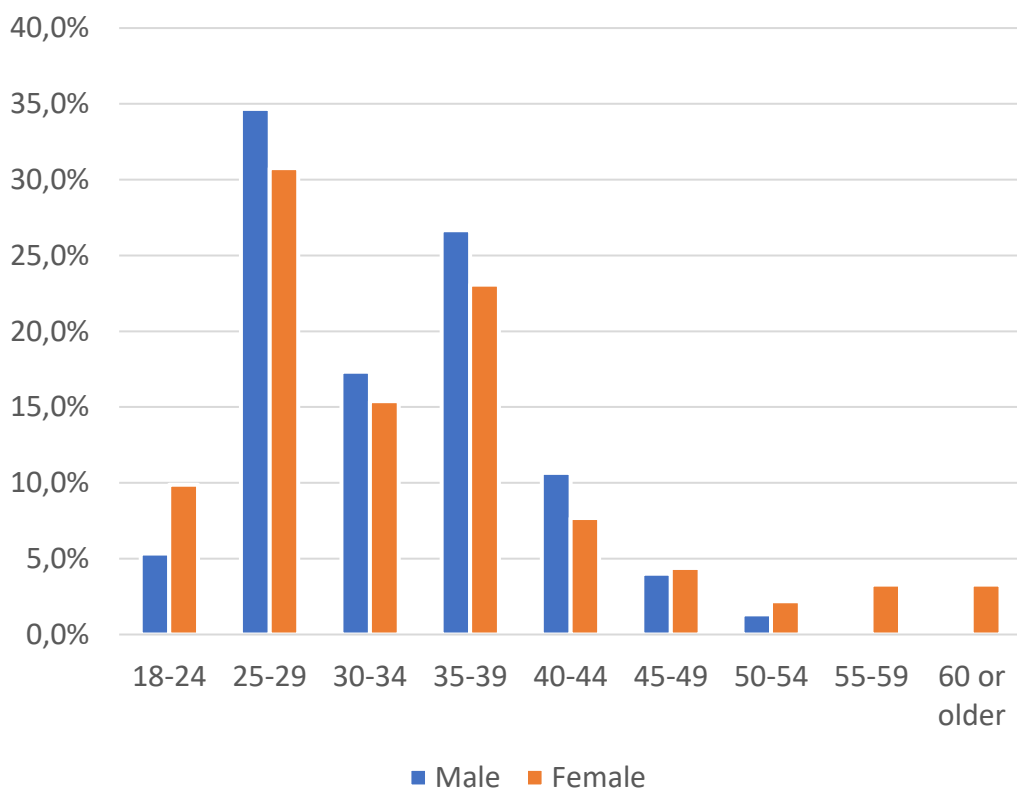
Age distribution of the two genders

Figure 4.3. Age distribution of the two genders.

Concerning the education level of the sample, 53.5% of the respondents have a MSc and 27% have a bachelor's degree. Moreover, 10.1% have a high school degree, while 7.5% have a PhD. Only 1.9% of the sample have an education level lower than high school degree (Figure 4.4).
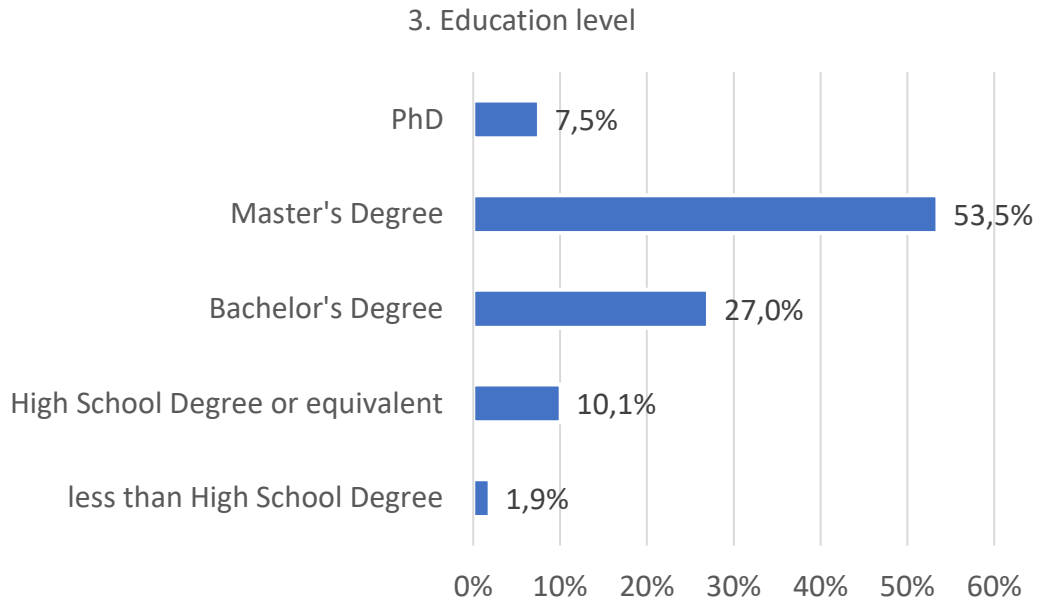
3. Education level

Figure 4.4. Education level of the participants.

Furthermore, the respondents were asked to state their household income. From their answers derives that 36.5% of the participants have a household income between 10,000€ and 20,000€, while 27.7% have less than 10,000€. In addition, 13.2% of the participants state that their household income is between 20,000€ and 30,000€, which is close to the 12.6% of the participants with an income more than 40,000€. As this question is confidential, 3.8% of the respondents were preferred not to answer.
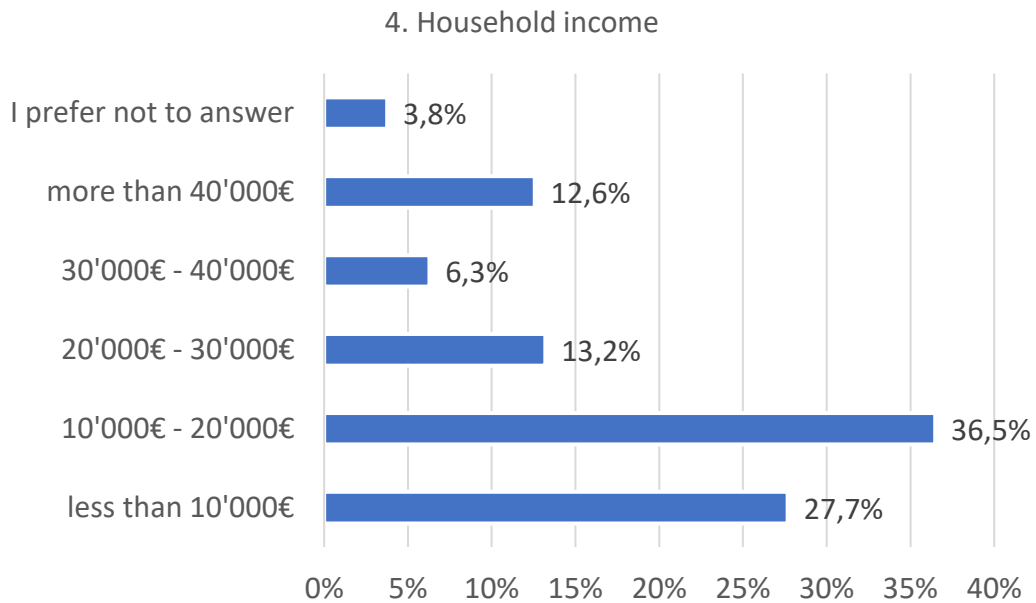
4. Household income

Figure 4.5. Reported household income of the participants.

The fifth question was settled in order to identify the extend of experience that respondents have in the Internet usage. Based on the literature findings, consumers with greater experience in online environment are more influenced by online consumers reviews than those who are less experienced (Zhu, 2010). Consequently, they were asked to answer how often they use Internet in order to interact in social platforms, to surf in different websites, to be informed and to purchase products or services. By dividing the time in five categories, they had the choice to select one of them, providing feedback of their Internet usage experience.

Based on the results, social networking sites and web browsing are used more frequently from the respondents, as 59.7% of them use social networking sites more than once a day, while 30.8% use them every day. The rest 9.4% stated that use social networking sites once a week or less (Figure 4.6).
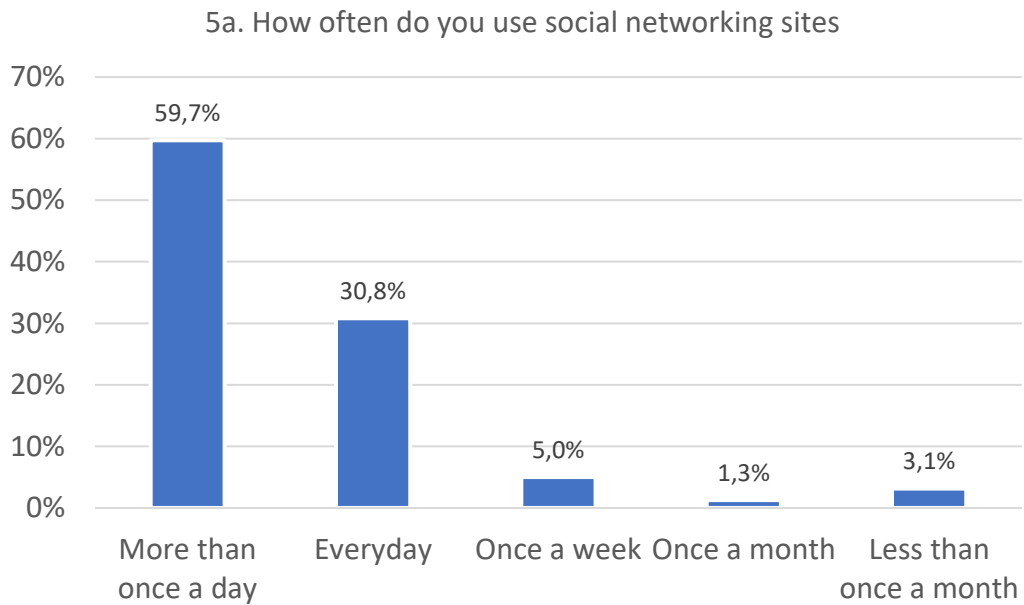
Figure 4.6. Frequency of usage of social networking sites by the participants.

Moreover, Web browsing is used from 67.3% of participants more than once a day and 25.8% stated that they use it every day. Only 6.9% of the respondents declare that they browse through web once a week or less (Figure 4.7).
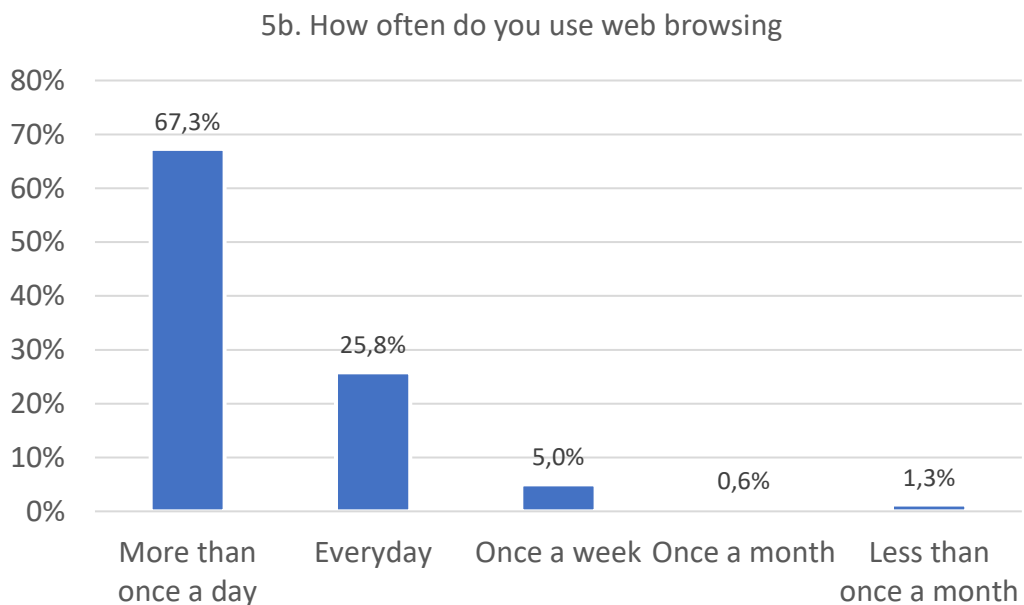

Figure 4.7. Frequency of web browsing by the participants.

In addition, participants were asked to answer how often they use Internet for their purchases. 38.4% of the participants state that they buy products online once a week and 26.4% of them once a month, while 23.9% of the respondents use to purchase

through Internet less than once a month. However, there is a percentage of 11.3% which declares that use e-shopping every day or more than once a day (Figure 4.8).
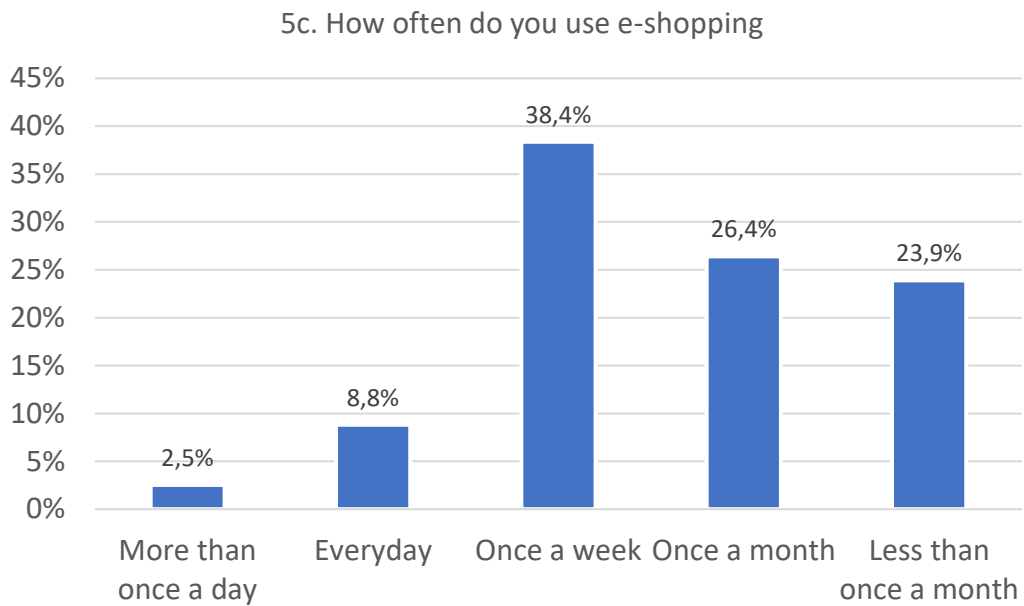

Figure 4.8. Frequency of e-shopping by the participants.

Likewise, 57.2% of the respondents use Internet every day in order to be informed by the news, while 30.2% of them read the news through Internet more than once a day. The rest 12.6% states that use Internet for news once a week or less (Figure 4.9).
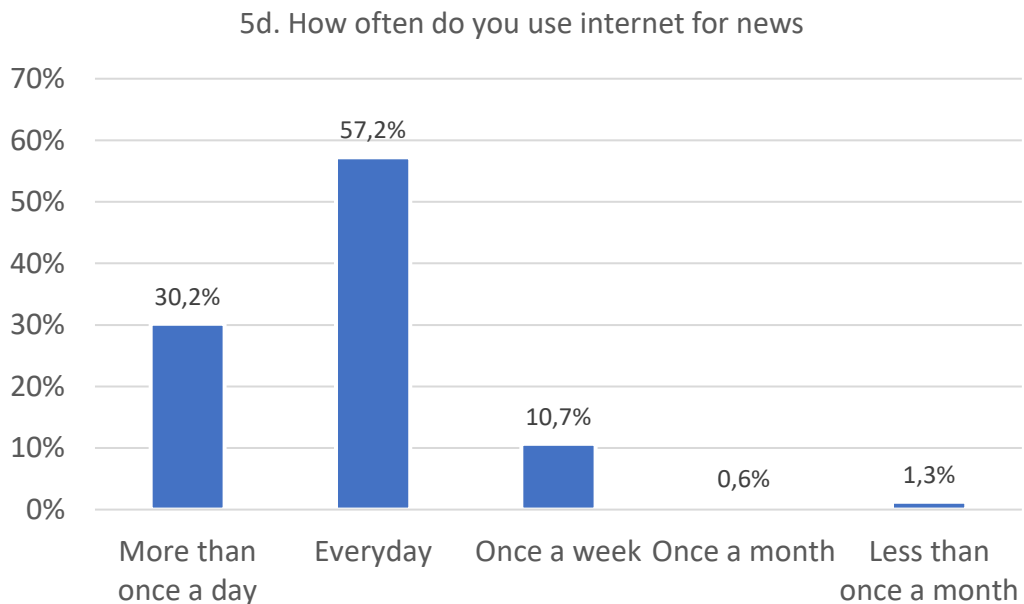

Figure 4.9. Frequency of use of internet for news from the participants.

A simple comparison of the above-mentioned answers about the frequency of usage of internet is being presented in Figure 4.10. It is clear that the majority of participants **c**ommunicate through the Internet every day while they shop on weekly to monthly basis. As it is expected, the responders are active members of the online community and they could be classified as experienced users.

Comparison frequency of usage of internet
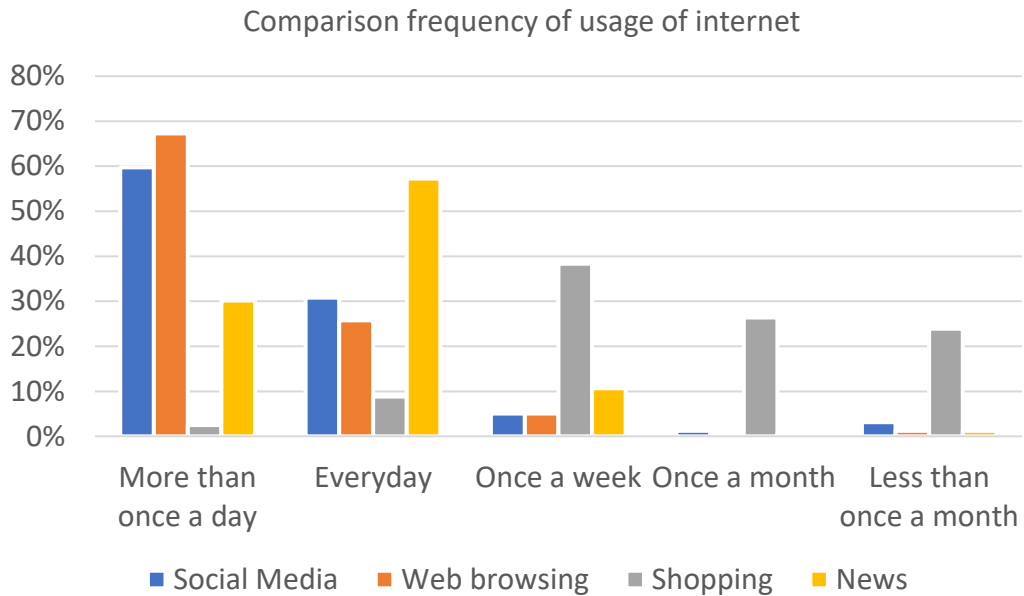
Figure 4.10. Comparison of the frequency of usage of internet for four different reasons from the participants.

Even though communication and information seeking are daily functions for the users, shopping hasn't matched the frequency of these functions. Half of the participants (50.3%) reported a shopping frequency of once a month or less. Comparing the shopping frequency with the annual income is provided the insight that frequency of e-shopping is independent of annual income (Figure 4.11).

Comparison of e-shopping frequency with annual income

Figure 4.11. Comparison of e-shopping frequency with annual income.

4.2 Reviewing experience and motivation of consumers

The second section was composed of three questions. The first two were formed based on the literature findings that have been mentioned before but in a way that now fo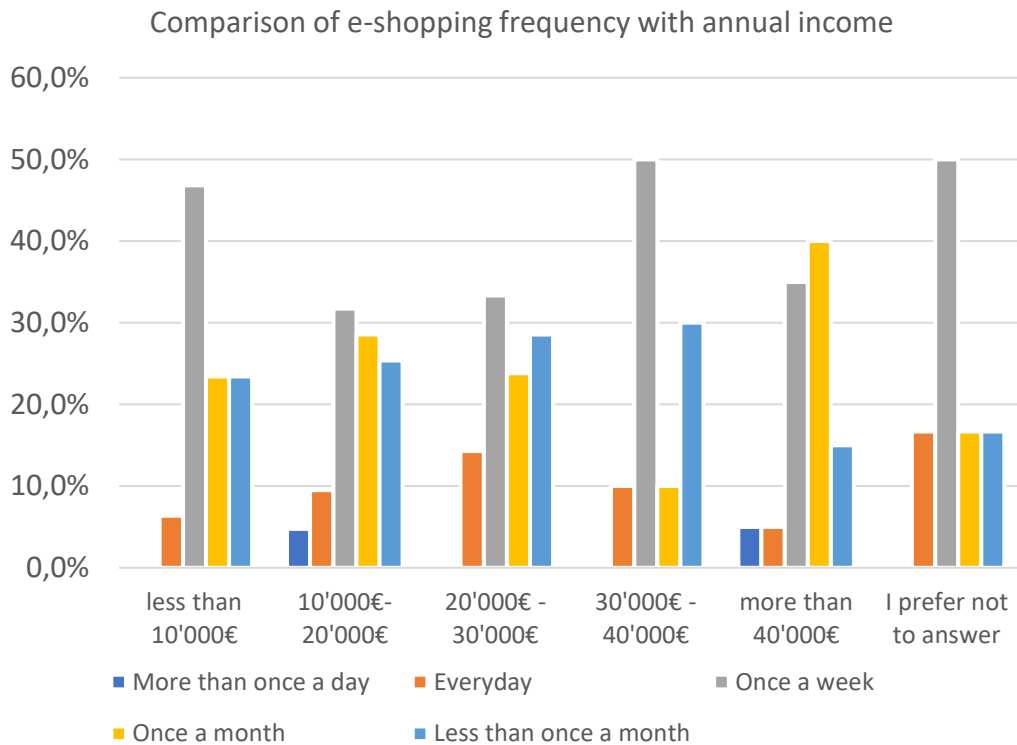cuses on their experience with online consumer reviews. Besides their general Internet usage experience, the respondents were asked to indicate if they are familiar with the eWOM communication or not by answering two multiple choice questions.

In the following graphs is indicated that 79% of respondents have rated a product or service based on their experience (Figure 4.12), while 67% of them have also wrote a review (Figure 4.13). Those findings indicate that most of the respondents are familiar with the eWOM process. It is interesting to mention that more responders give star ratings than writing an online consumer review. This could be a result of the time needed for a customer to write a review combined with the lack of incentive and motivation.

6. Have you ever rated (star rating or other) a product or service based on your experience on a web platform?

21%

79%

■ Yes ■ No

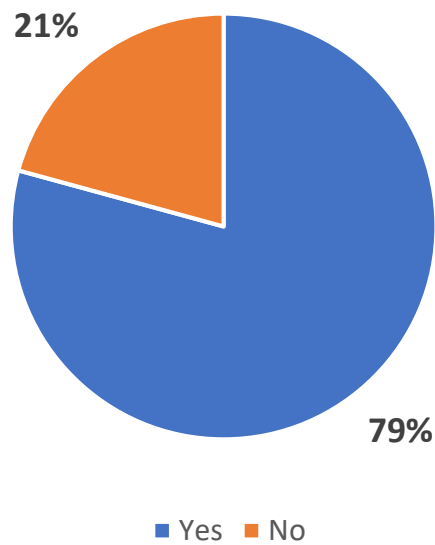Figure 4.12. Ratings of products by participants.

7. Have you ever written an online review for a product or service providing information about your experience?
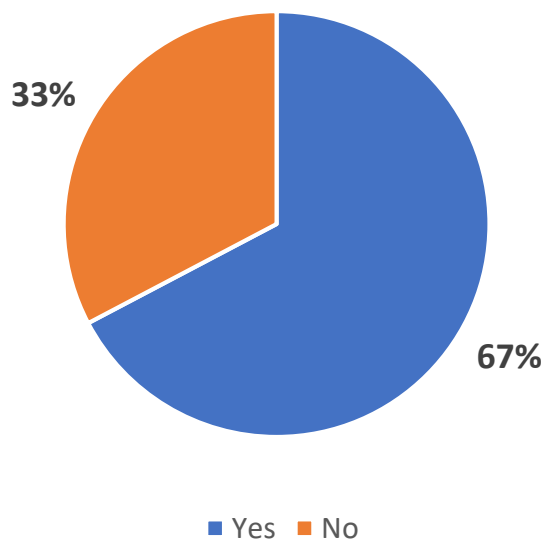
33%

67%

■ Yes ■ No

Figure 4.13. Reviews of products by participants.

The third question aimed to identify the importance of the motivation factors that influence consumers in order to write a review. Although, Hennig et al. (Hennig-Thurau

et al., 2004) claims that there are eleven motivators that inspire consumers to review a product or a service, some of them were combined resulting to the nine motivators that were used. In this question, participants had to choose between a five-point Likert scale of importance for each factor, providing a semi-quantitative indication of importance. The participants' responses are presented to the following group of figures (Figure 4.14 -Figure 4.22).

In the first figure (Figure 4.14), 75% of the respondents stated that they are motivated by the concern for other consumers, while 19% were neutral with this declaration. Only the 6% of the sample will not be motivated from the above-mentioned factor.

8a. Define the importance of the following factors that would motivate you to write an online review for a product or service. [Concern for other consumers]
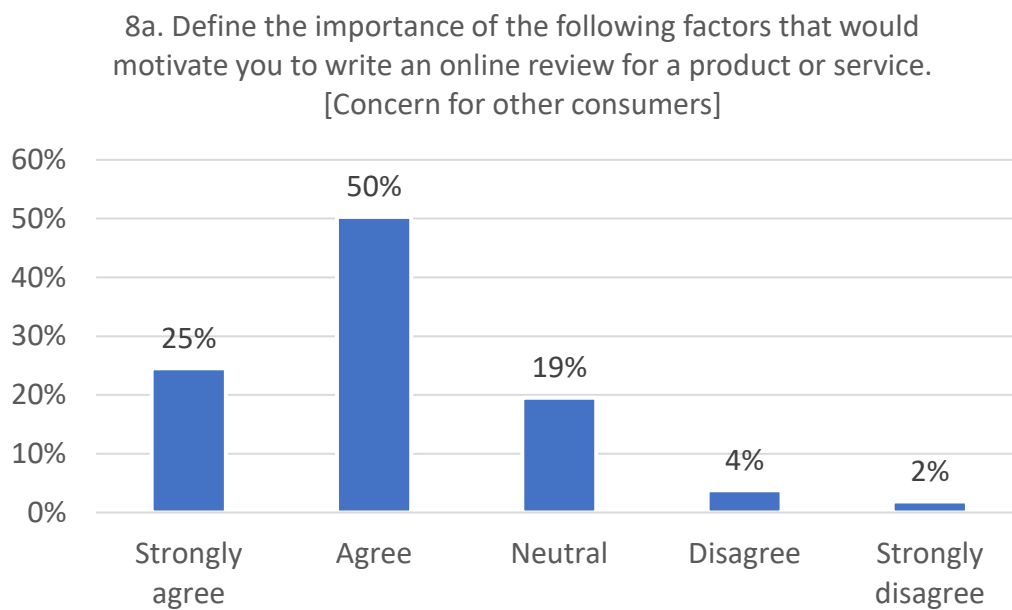

Figure 4.14. Motivation for writing a review for the concern for other consumers.

51% of the respondents' state that they would write a review in order to help the company (Figure 4.15), while 38% gave a neutral response. The other 12% responded that helping the company wouldn't motivate them to share their experiences.

8b. Define the importance of the following factors that would
motivate you to write an online review for a product or service.
[Helping the company]

Figure 4.15. Motivation for writing a review in order to help the company.

Most of the participants (42%) provided a neutral answer that being an active member of the virtual community would motivate them to write a review (Figure 4.16). 30% of the participants state their disagreement with this motivation factor, contrary to the 28% of the responders who declare their agreement.

8c. Define the importance of the following factors that would
motivate you to write an online review for a product or service.
[Active member of the virtual community]

Figure 4.16. Motivation for writing a review in order to become an active member of the virtual community.

The shift of the power from companies to the consumers was one of the factors that have been considered. 31% of the respondents gave a neutral answer, while those who agree and disagree were balanced, with 26% and 25% respectively (Figure 4.17). 13% state that they strongly disagree while only 6% strongly agree with this motivator.

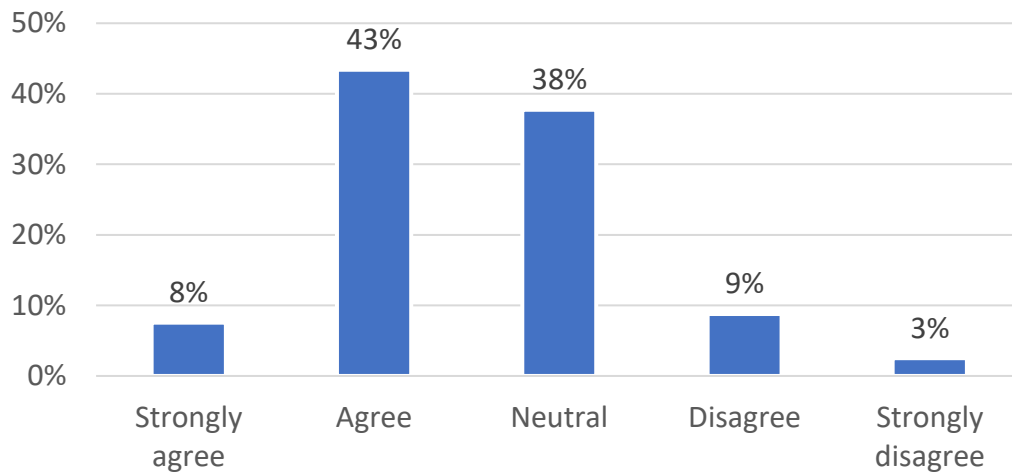8d. Define the importance of the following factors that would motivate you to write an online review for a product or service. [Having power over the companies]

Figure 4.17. Motivation for writing a review in order to have power over the companies.

The desire for personal recognition is not regarded as an important factor by the participants. 68% of respondents declare that they disagree with this statement, while only 9% that they agree. 22% of the participants have taken a neutral stance against this motivation factor (Figure 4.18).

8e. Define the importance of the following factors that would
motivate you to write an online review for a product or service.
[Desire for personal recognition]

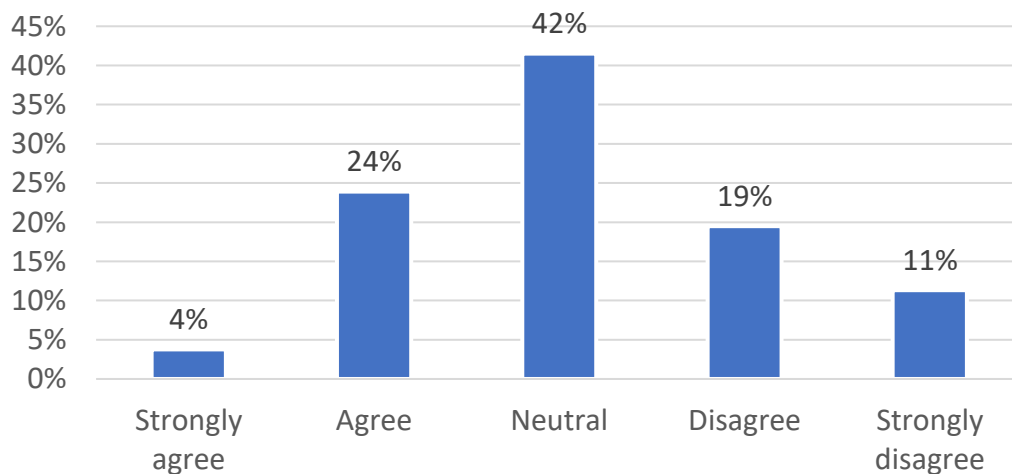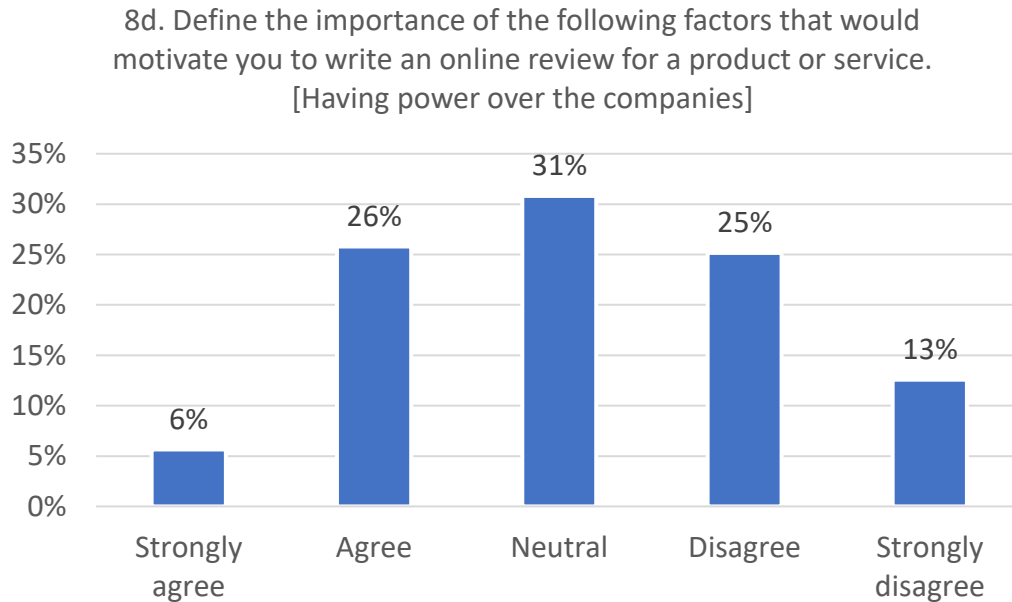Figure 4.18. Motivation for writing a review for personal recognition.

Asking if the economic rewards would motivate the participants to share their opinion for a product, 56% of the respondents answered that they don't regard this motivator as important. 22% of the sample provided a neutral answer, while 23% stated its agreement (Figure 4.19).

8f. Define the importance of the following factors that would
motivate you to write an online review for a product or service.
[Personal economic rewards]
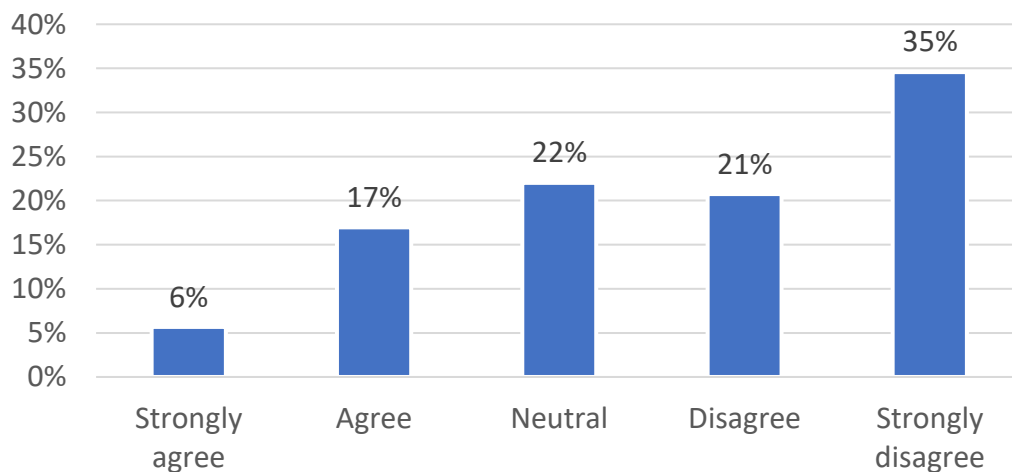
Figure 4.19. Motivation for writing a review for personal economic rewards.

Moreover, 58% of the respondents stated that they would write a review in order to express their positive feelings and satisfaction of their experience. On the contrary,

13% of the respondents wouldn't use online reviews as a tool for expressing their positive feelings (Figure 4.20).

8g. Define the importance of the following factors that would motivate you to write an online review for a product or service. [Expressing positive feelings]
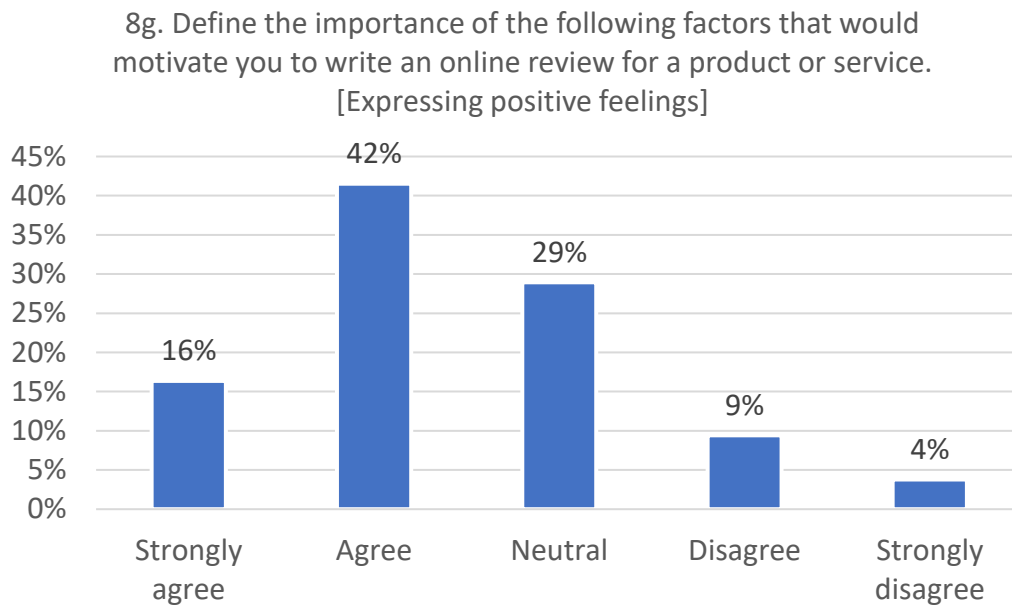
Figure 4.20. Motivation for writing a review in order to express positive feelings.

47% of the participants agree that venting negative feelings would motivate them to write an online review. With this motivation factor disagrees 26% of the responders, while 27% assume a neutral position (Figure 4.21).

8h. Define the importance of the following factors that would motivate you to write an online review for a product or service. [Venting negative feelings]

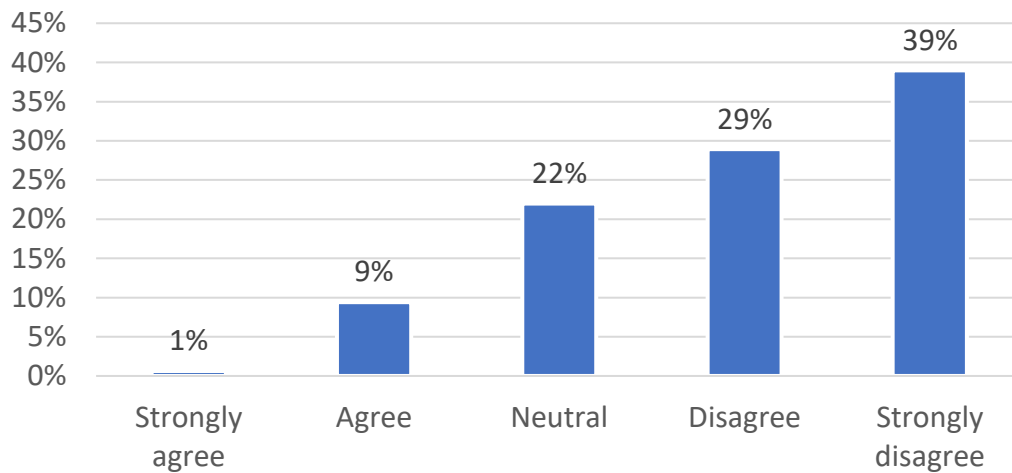Figure 4.21. Motivation for writing a review in order to vent negative feelings.

39% of the sample agree that they would write an online review in order to receive support from the company. 30% of the sample would disagree with this claim and 31% expressed a neutral position (Figure 4.22).

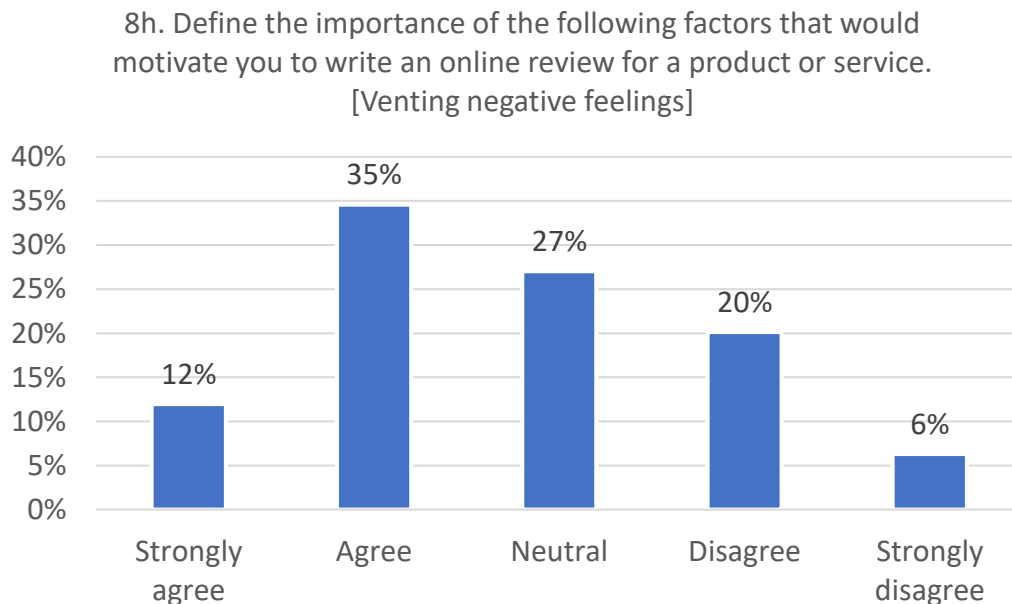8i. Define the importance of the following factors that would motivate you to write an online review for a product or service. [Receive support from the company]
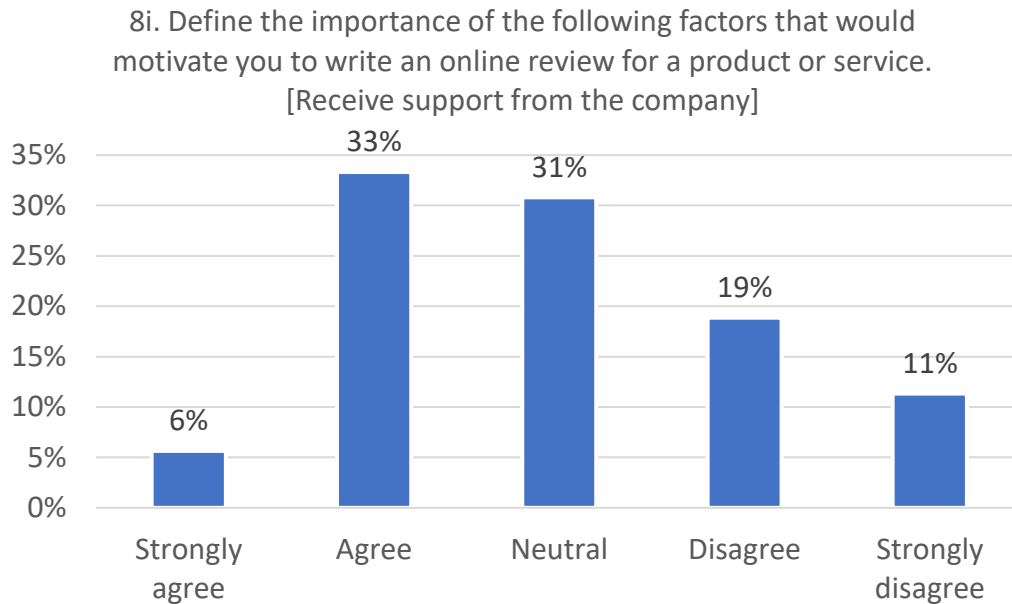
Figure 4.22. Motivation for writing a review in order to receive support from the company.

The most important motivator for writing an online review is the concern for other consumers, followed by the need to express good feelings (Figure 4.23). Based on the survey, the third most important motivator for reviewing a product is helping the company. The top three motivators are based on positive feelings and cooperation from the customers. The findings suggest that a product that triggers positive feelings, experience and satisfaction to the customers will strongly motivate the customers to positively review it. Satisfied customers will be more motivated to help the company by positively reviewing the products.

On the other hand, the less important motivators cited in literature are having power over the companies, being an active member of the community, the personal economic rewards and the desire for personal recognition.

Figure 4.23. Positive responses (strongly agree plus agree) for the motivators for online reviews.

4.3 The influence of reviews on purchase behaviour

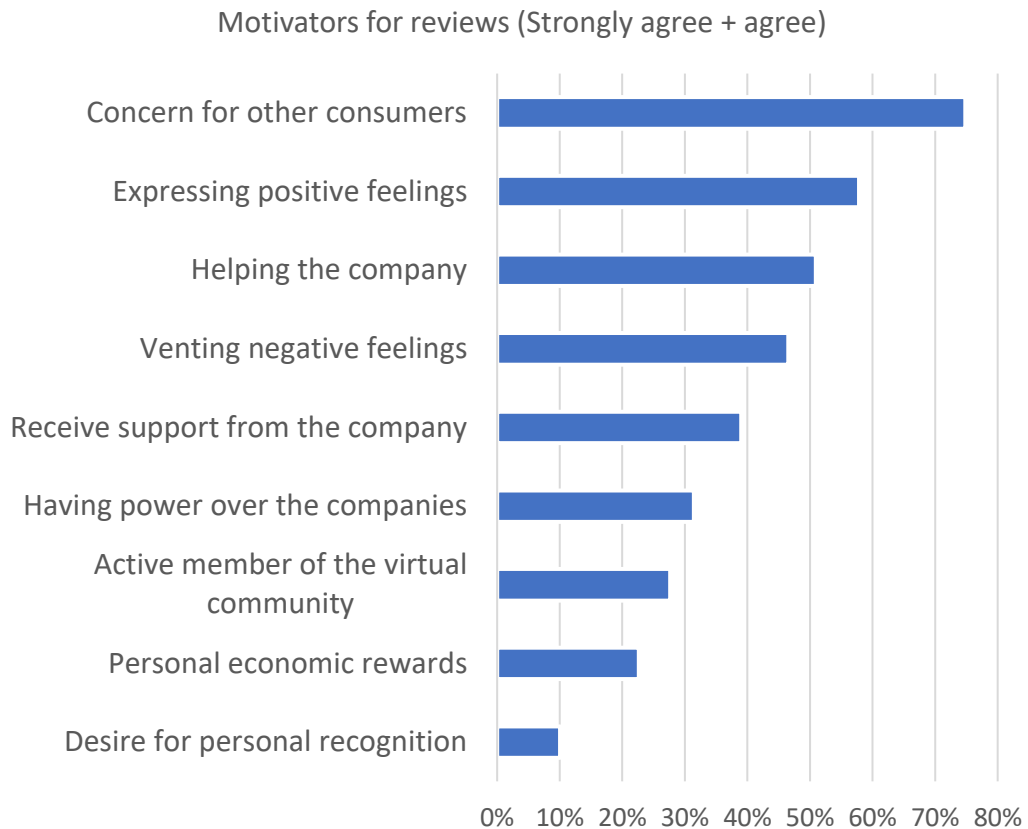According to literature, consumers tend to take more under consideration the volume of online reviews than online star-ratings. In most of the cases, higher ratings do not lead to higher sales, but the number of posts is significantly associated with product sales (Duan, Gu and Whinston, 2008).

In order to research this topic, in the third section of the questionnaire four questions have been presented in order to identify the influence of the online reviews in buying decision. The participants were asked if they search for online review and ratings before considering of buying a specific product. The answer has been provided with a five-point Likert scale with the purpose to quantify the importance and document the variance of the responses. As it is evident on the following figures (Figure 4.24 and Figure 4.25), the vast majority of the responders would definitely search for eWOM for the product that they are interested to purchase. The 77% of the responders would search for ratings of the product in question and 82% would search for reviews of the product. Those findings

indicate that there is a strong need for eWOM by the participants through which they tend to exchange marketing information (Chu and Kim, 2011).

9a. Before every purchase of a product... [I search for online ratings of the product]
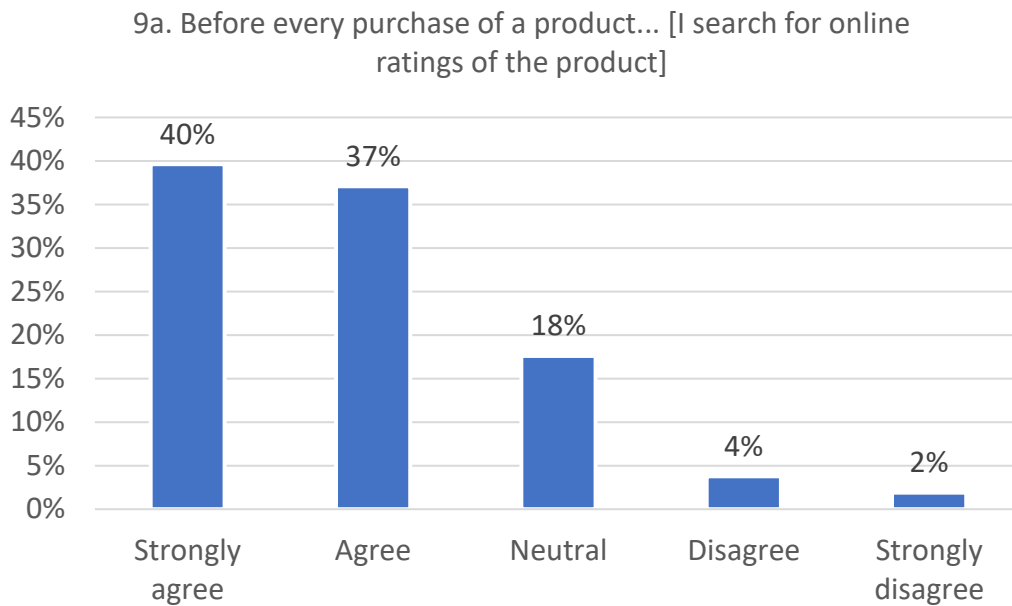
Figure 4.24. Importance of searching for online ratings for a product before the purchase.

9b. Before every purchase of a product... [I search for online consumer reviews for the product]
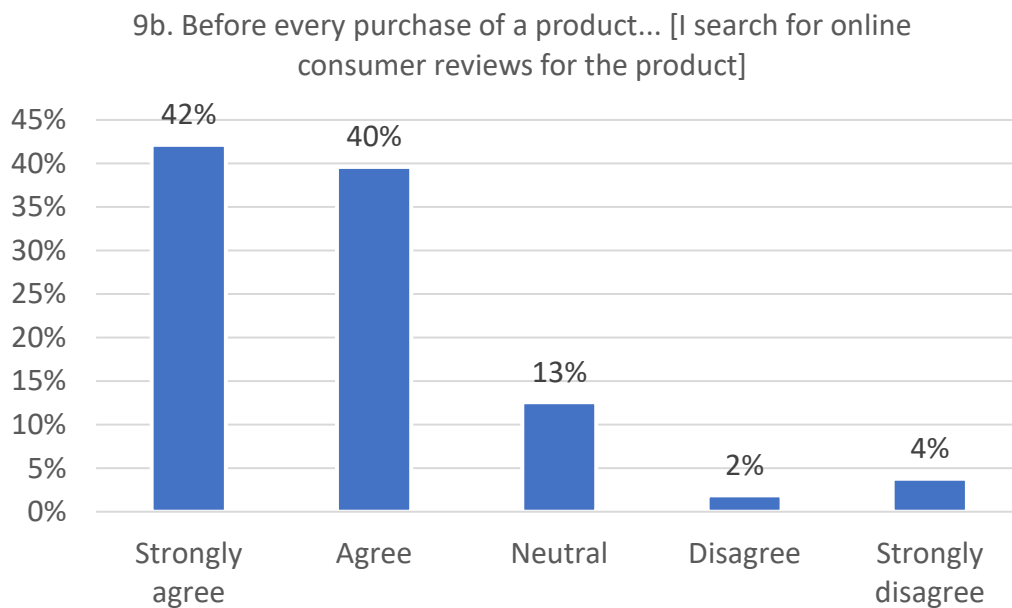
Figure 4.25. Importance of searching for online reviews for a product before the purchase.

In the following question, an attempt to combine findings from the literature review and measure their importance was made. Based on this findings, eWOM tend to be more trustworthy for consumers than traditional marketing media and negative eWOM can increase purchase likelihood more than positive eWOM by creating an awareness

effect (Cheung and Thadani, 2012). Consequently, the main goal behind this question was to identify and quantify the predominance of negative online reviews over positive reviews and the perceived credibility of online consumer reviews compared to traditional marketing advertisement. The respondents were asked to express their agreement or disagreement in a five-point Likert scale where four statements related with the previous findings were presented (Figure 4.26 -- Figure 4.30).

In Figure 4.26, 73% of the participants agrees or strongly agrees that online consumer reviews influence the decision to buy a product or to use a service. Only 7% of the responders disagrees with this claim and the rest 21% gave a neutral response. The majority of participants is self-aware of the importance of online reviews.

10a. In what extend do you agree or disagree with the following sentences [Online consumer reviews influence my decision to buy a product/to use a service]
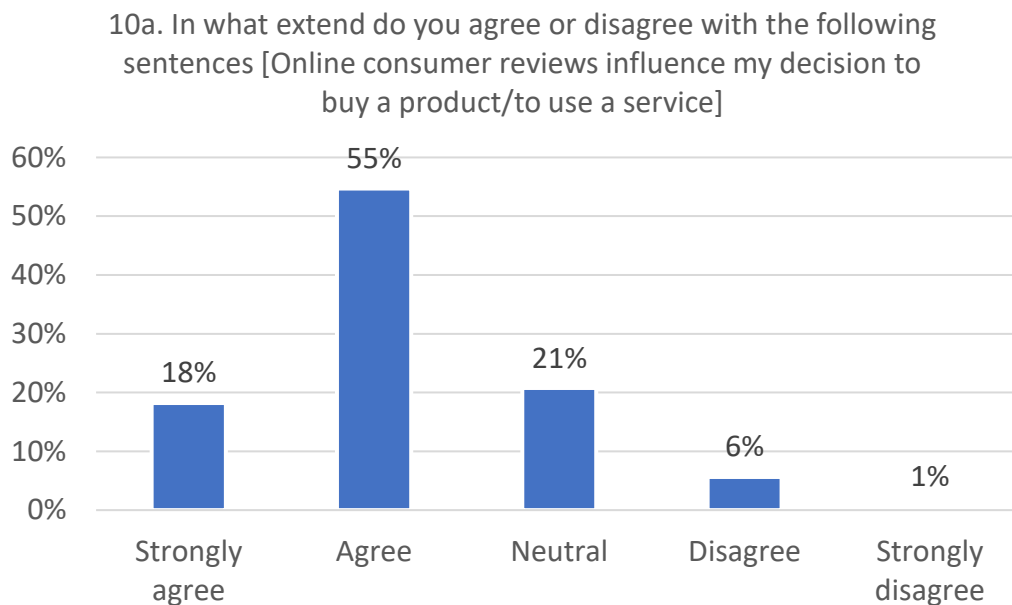

Figure 4.26. How online consumer review influence the participants' buying decision.

The responders were asked if reading a positive review will make it more likely to buy a product or use a service. Even though the three out of four responders (76%) agree or strongly agree with the claim, there is a 21% with a neutral attitude against the claim and a 4% that disagrees.

10b. In what extend do you agree or disagree with the following sentences [Positive reviews make me more likely to buy a product/to use a service]
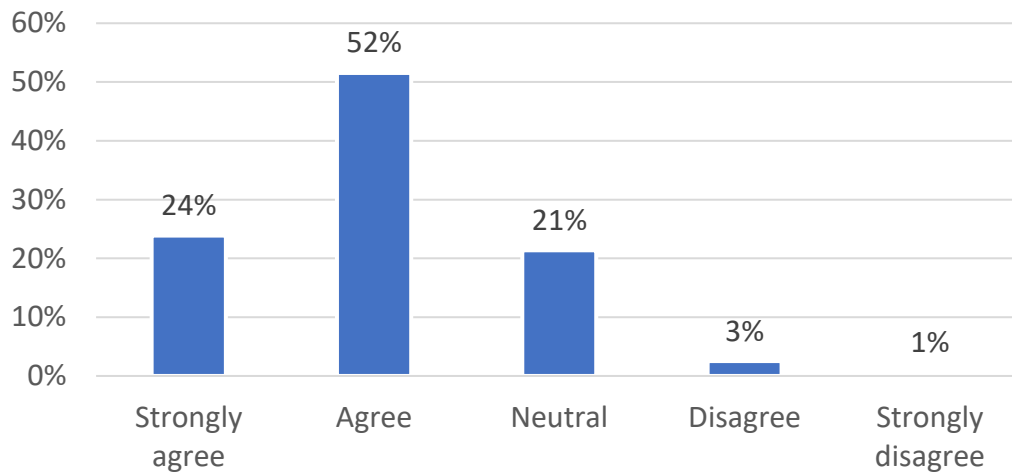
Figure 4.27. How positive reviews affect the purchase behavior of the participants.

The first question on how online consumer reviews influence the buying decision (self-evaluation from the participants) presented on Figure 4.26, was also asked inverted because of its central importance for the present thesis. After one question, the participants were prompted to declare if they agree with the claim that they read reviews, but they don't influence their decision. The responses are presented in Figure 4.28 and in theory they should be inverted with the responses of Figure 4.26.

10c. In what extend do you agree or disagree with the following sentences [I read consumer reviews but they don't influence my decisions]
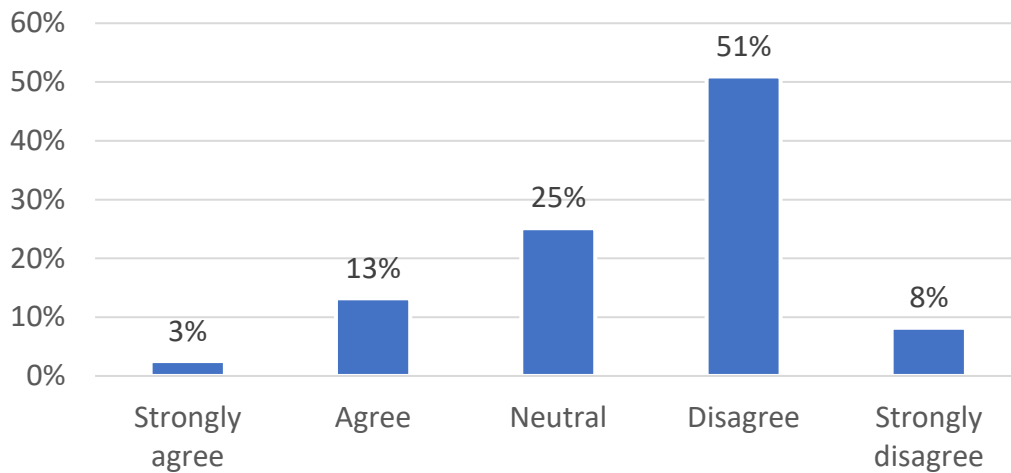
Figure 4.28. How online consumer review influence the participants' buying decision II.

Comparison of influence of reviews on purchase decisions

■ I read consumer reviews but they don't influence my decisions

■ Online consumer reviews influence my decision to buy a product/to use a service
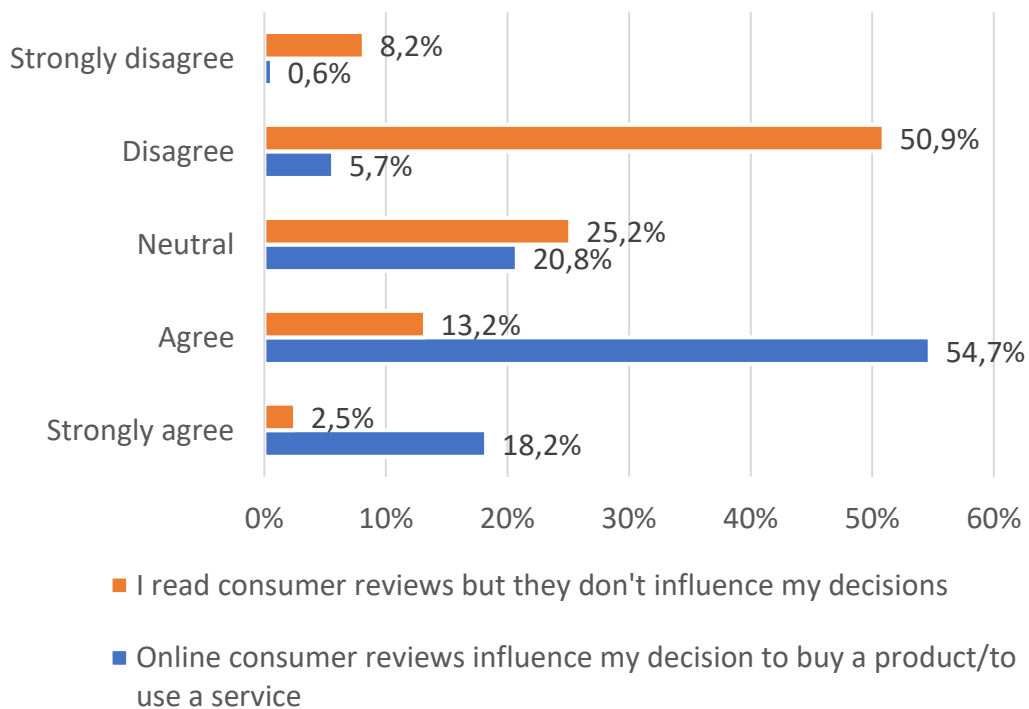
Figure 4.29. Comparison of influence of reviews on purchase decisions between positive and negative expression of the question.

Even though the responses seem to have a symmetrically inverted distributions for the two questions, which was expected, there is positive difference for the positive

expression of the question, where the more responders strongly agree than those that in the inverted question strongly disagreed. Moreover, it seems that the sample which responded to the questionnaire can be considered as trustworthy.

The last claim, with which the responders had to agree or disagree, was formulated so that the trustworthiness of the eWOM against the traditional advertisements could be compared. According to the responses (Figure 4.30), 69% agree that eWOM is more trustworthy than traditional advertisement.

10d. In what extend do you agree or disagree with the following sentences [I trust consumer reviews more than traditional media advertisement]
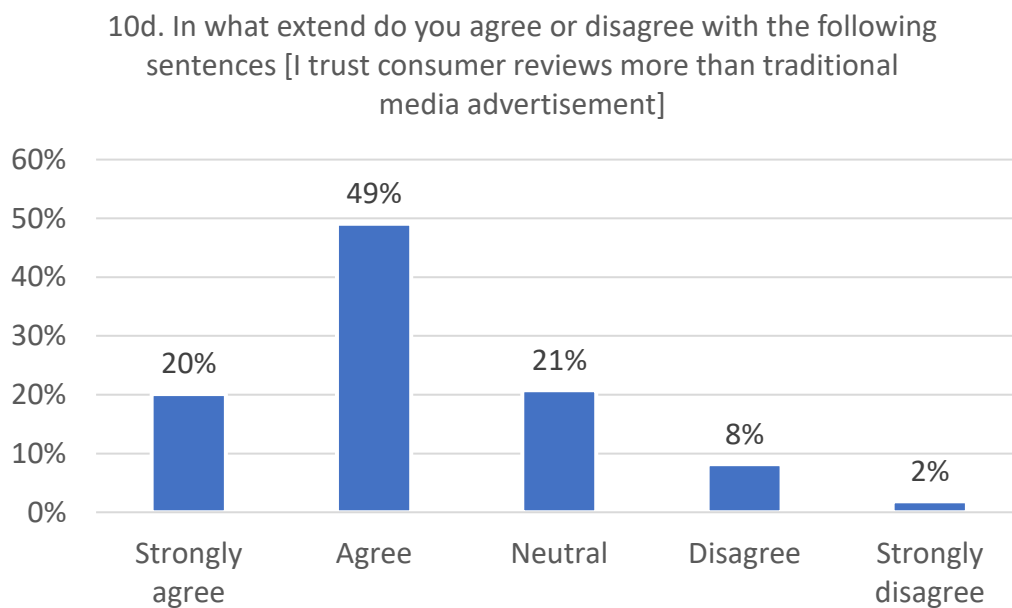
Figure 4.30. Trustworthiness of reviews compared to advertisement.

The following set of two questions was created in order to create a virtual e-shop environment in a more experimental way. The research idea behind this strategy was to have the participants self-declare the importance of the parameters that play a significant role for the buying decisions and then test the validity of these claims, by asking them to choose between products based on reviews in virtual buying exercises. For this reason, a virtual e-shop was created with the popular industry tools of WordPress (WordPress, 2019) and its plugin WooCommerce (WooCommerce, 2019). In this way it would be possible to create virtual product pages with different reviews and rating for the purposes of the research.

Having created a virtual online shop, a neutral product that may interest most participants has been selected and virtual product pages have been created. The product which was selected to be presented to the participants was a pillow, because of

its universal character for all customers. An identical brand-neutral photograph was used for the two products to avoid any visual influence on the respondents, while the two virtual products were named differently and had the same price. The only thing that changed was the number of reviews in the first question (Figure 4.31) and the star-rating in the second (Figure 4.33). Then, the respondents were asked to choose one of the products, based on the reviews that were interpreted from the image. The research goal was to identify the importance of the reviews over the star-rating and vice versa and compare those answers with the literature review.

11. Based on the following reviews, which product would you choose to buy? *
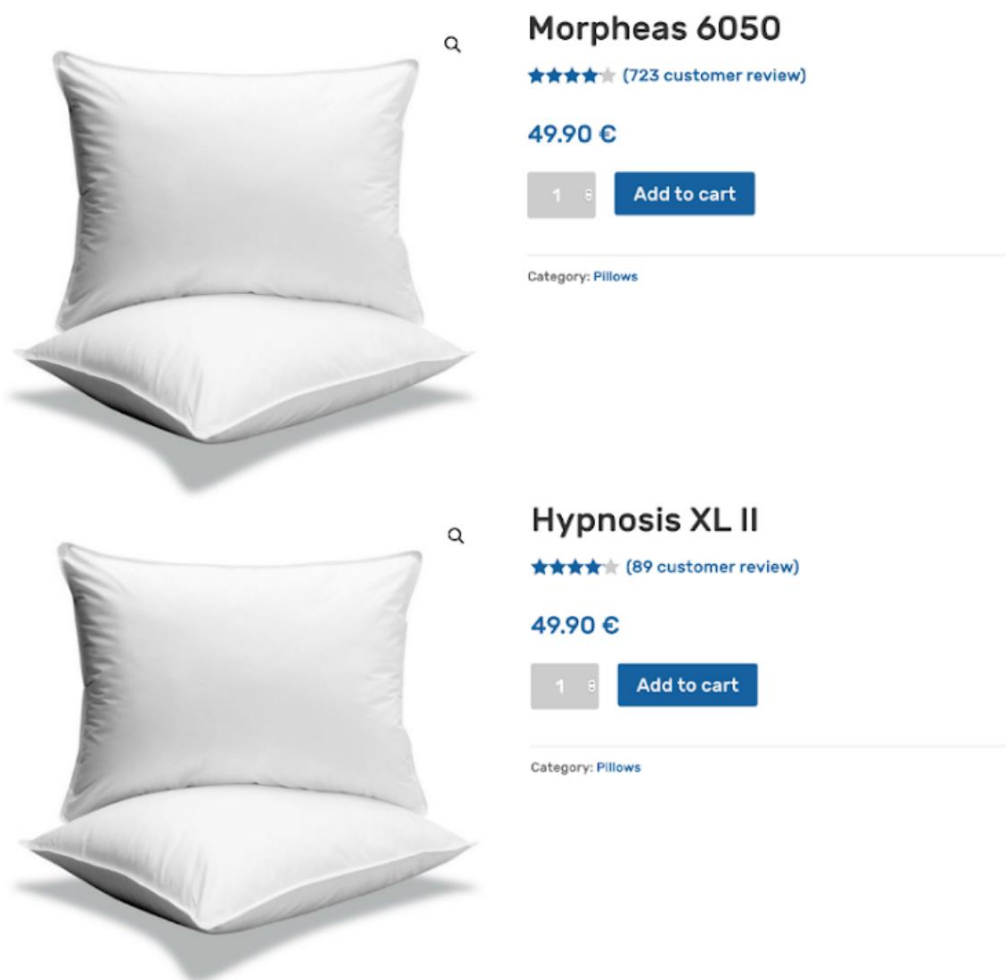
Figure 4.31. Question 11 as it was presented to the participants.

The participants had to choose between two identical products with the same price and the same star rating but with different number of review number (approximately 8 times more). The 89 customer reviews were deemed enough for the rating to be

accepted as trustworthy, so that the comparison between the two virtual products to be effective. The majority of the participants choose the expected from the literature product by 89% (Figure 4.32). The rest 11% of the responders reported that they would choose the product with less reviews.

11. Based on the following reviews, which product would you choose to buy?
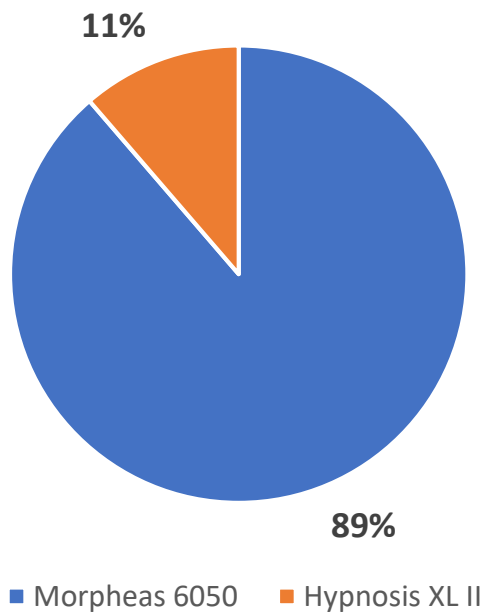
Figure 4.32. Participant choice between same star rating but different number of reviews.

The second question as mentioned above presented the products with similar number of reviews but with different star rating. The name of the products was inverted in order not to create a consecutive influence of the two questions.

12. Based on the following reviews, which product would you choose to buy? *
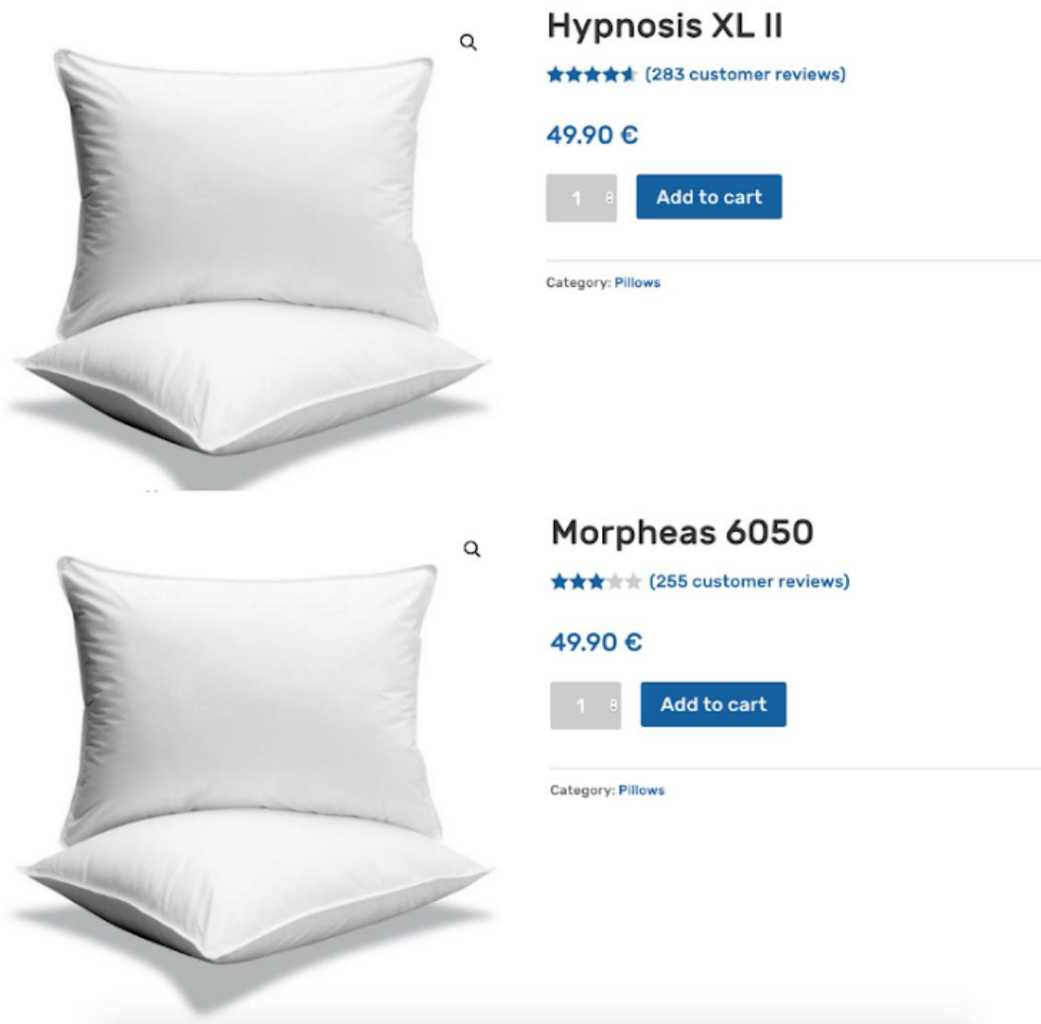
Figure 4.33. Question 12 as it was presented to the participants.

The results (Figure 4.34) show a 91% choice of the product with a moderate four-star rating. However, the responses of the participants gave a different result than the expected. Based on literature, the number of reviews affects more the consumers in their buying decision than the ratings of the products (Duan, Gu and Whinston, 2008). On the contrary, 91% of the respondents in this sample are influenced from the rating of the chosen product, while 89% of them are influenced from the reviews. The difference is only 2%, but it is still different than the expected result.

12. Based on the following reviews, which
product would you choose to buy?

9%

91%

■ Morpheas 6050   ■ Hypnosis XL II
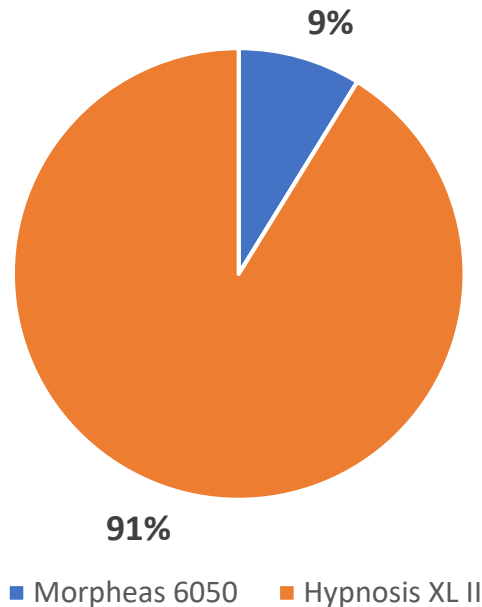
Figure 4.34. Participant choice between similar number of reviews but different rating.

4.4   The influence of reviews on perceived credibility

The fourth section is consisted of four questions in order to identify how the credibility of the online reviews affects the purchase decision. Firstly, the questions were designed in the virtual e-shop by using original comments from the Amazon.com (Amazon, 2019) in order to be more realistic. The comments were actual comments for pillow products and the names and profile pictures of the actual persons were changed. The selection of the comments was based on the literature findings with the goal to identify the factors that have an impact on perceived credibility of the online reviews.

The first question was made in order to indicate how the length of a message affect the trustworthiness of a review. Based on literature findings (Filieri, 2016), the length of reviews is a key factor of their trustworthiness, as more information about the product's usage are provided. In most of the cases, short reviews tend to be less credible for consumers, especially if they are extremely positive (Filieri, 2016). Moreover, the review's helpfulness is affected from the details that are provided through the message. As a result, a two-sided information is perceived as more helpful and credible than an extremely positive or negative information (Cheung and Thadani, 2012). Taking those findings under consideration, two reviews were chosen (Figure 4.35). The first one was

short and extremely positive with a five-star-rating and the second one was lengthy with two-sided information and four-star-rated. The respondents were asked to rate comments' usefulness with a five-point Likert scale in order to indicate how the previous factors affect their helpfulness.

13. You find the following reviews on the product page. Rate their usefulness. *

Figure 4.35. Question 13 as it was presented to the participants.

From the responses of the participants, it is evident that short extreme positive reviews do not influence the same the eWOM receiver as a positive review with two-sided information. 45% of the participants stated that they are neutral over the first short review as considers its helpfulness, while 35% stated that they find this comment not useful or useless (Figure 4.36).
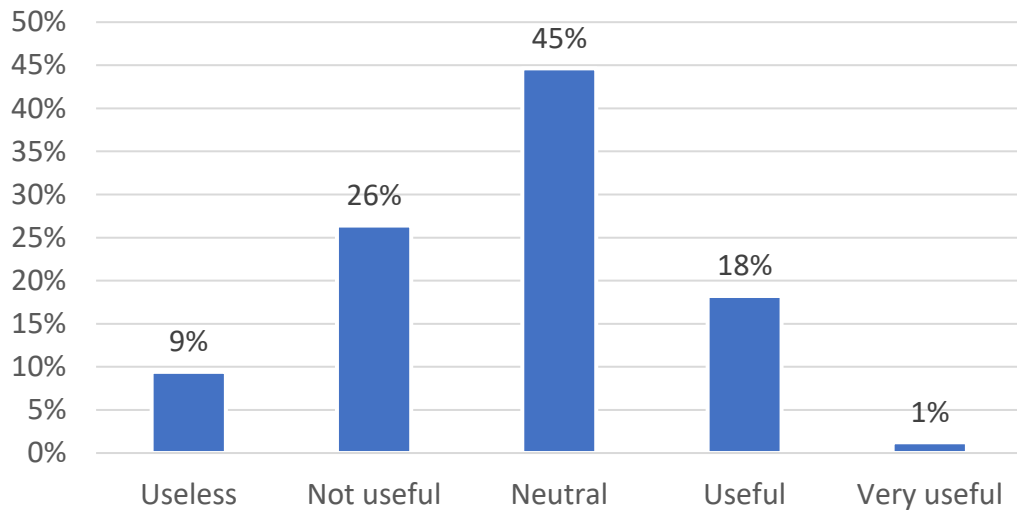
Figure 4.36. Usefulness of an extreme positive short review.

On the contrary, 52% of the respondents found the second two-sided information review useful and 40% of them very useful (Figure 4.37). By analyzing the results, it is indicated that participants received the two-sided information with moderate length and writing style as more trustworthy than the extreme positive and short, without details, review.

13b. You find the following reviews on the product page. Rate their usefulness. [Robert's review]

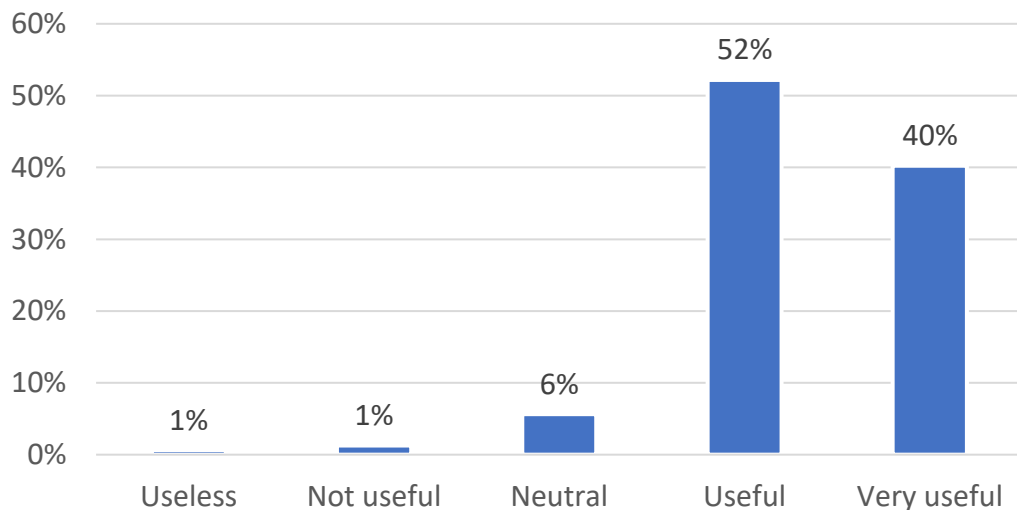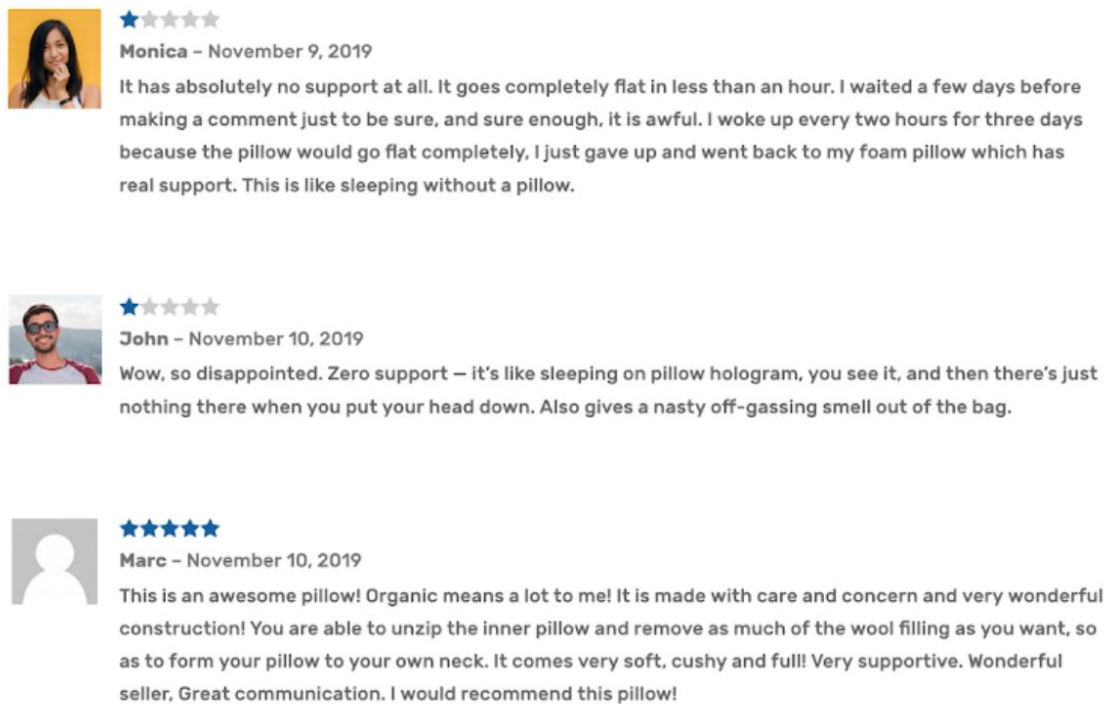Figure 4.37. Usefulness of positive lengthy with two-sided information review.

The second question was designed by using three reviews, two of which were extremely negative and the third was extremely positive (Figure 4.38). Based on literature, the presence of an extremely positive review after more than one extremely negative reviews is perceived as an effort for manipulation from the company (Filieri, 2016). Moreover, in order to identify if the writing style and the profile picture affect consumers' behavior, the third review was designed without a profile photo of the reviewer and with a marketing writing style. Participants were asked to answer how likely would it be for them to buy this product in a five-point Likert scale, with 1 being not likely and 5 very likely.

14. You find the following reviews on the product page. How likely it would be for you to buy the product? *

Monica – November 9, 2019

It has absolutely no support at all. It goes completely flat in less than an hour. I waited a few days before making a comment just to be sure, and sure enough, it is awful. I woke up every two hours for three days because the pillow would go flat completely, I just gave up and went back to my foam pillow which has real support. This is like sleeping without a pillow.

John – November 10, 2019

Wow, so disappointed. Zero support — it's like sleeping on pillow hologram, you see it, and then there's just nothing there when you put your head down. Also gives a nasty off-gassing smell out of the bag.

Marc – November 10, 2019

This is an awesome pillow! Organic means a lot to me! It is made with care and concern and very wonderful construction! You are able to unzip the inner pillow and remove as much of the wool filling as you want, so as to form your pillow to your own neck. It comes very soft, cushy and full! Very supportive. Wonderful seller, Great communication. I would recommend this pillow!

Figure 4.38. Question 14 as it was presented to the participants.

According to the responses (Figure 4.39), the positive review after the two negative reviews won't effectively affect the 57% of the participants (1 plus 2 responses). 35% of the respondents will be neutral towards the purchase decision. Only 8% of the participants were positively affected by the last review in such a way, that they would likely purchase the product (4 plus 5 responses). As a result, most of the respondents wouldn't purchase the product influenced by the reviews. However, if it is assumed that

the manipulated review has influenced 8% of the sample, it is interesting to point out that firms could affect the buying decision of a small minority of the customers by posting manipulated reviews.

14. You find the following reviews on the product page. How likely it would be for you to buy the product?
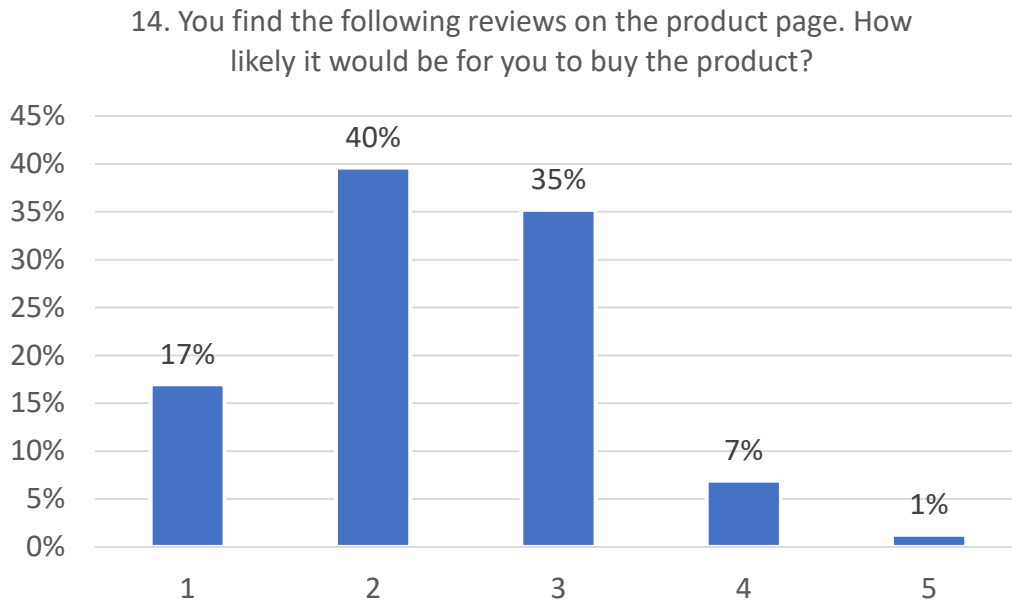
Figure 4.39. Likeliness of purchase for two extreme negative comments followed by an extreme positive with marketing writing style. (1=not likely, 5=very likely)

The third (Figure 4.40) and fourth (Figure 4.42) question of the section were designed in an effort to identify the power of negative online reviews over positive online reviews in consumers' behavior. The reviews were selected to have the same length and the same writing style with detailed information about the reviewer's experience but with different valence. The participants were asked to define how likely would it be to purchase the product after reading those reviews in a five-point Likert scale.

15. You find the following reviews on the product page. How likely it would be for you to buy the product? *

Figure 4.40. Question 15 as it was presented to the participants.

According to the responses from the participants (Figure 4.41), 71% of them would likely purchase the product. The average likeliness on the 5-points Likert scale for the question of Figure 4.40 is calculated at 3.78 with a variance of 0.603.

15. You find the following reviews on the product page. How likely it would be for you to buy the product?

Figure 4.41. Likeliness of purchase for positive detailed comment. (1=not likely, 5=very likely)

16. You find the following reviews on the product page. How likely it would be for you to buy the product? *

★☆☆☆☆
Emma – November 19, 2019
I was so excited to order these pillows after reading the reviews. They arrived in a very small box, I opened them and tried forever to fluff them, but no. They are flat as a pancake and absolutely NOT for side sleepers – or any sleeper – for that matter. There is no "gel" in them anywhere. These pillows are so thin that when I laid my head on this pillow, I could feel the bed under my head. I can't help but think I got a bad batch because my experience was nothing like any of the reviews.

Figure 4.42. Question 16 as it was presented to the participants.

According to the responses from the participants (Figure 4.43), 69% of them wouldn't likely purchase the product. The average likeliness on the 5-points Likert scale for the question of Figure 4.42 is calculated at 2.13 with a variance of 1.09.
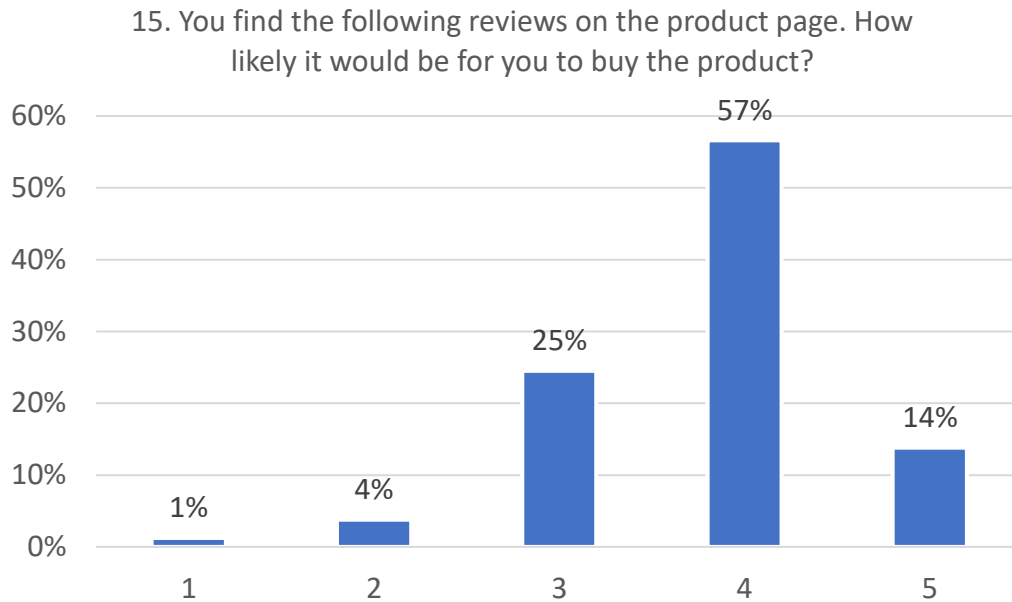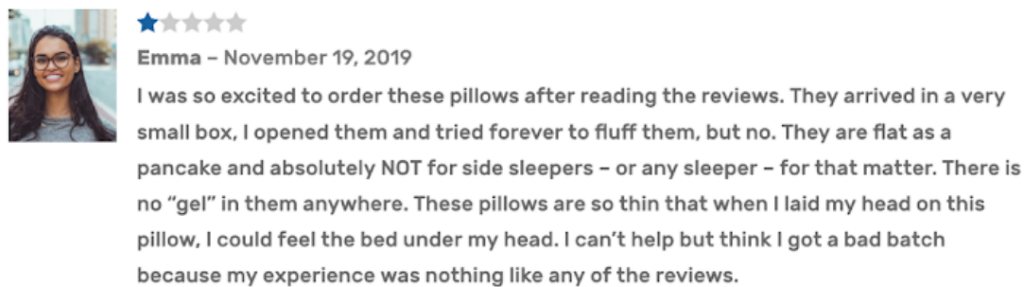
16. You find the following reviews on the product page. How likely it would be for you to buy the product?
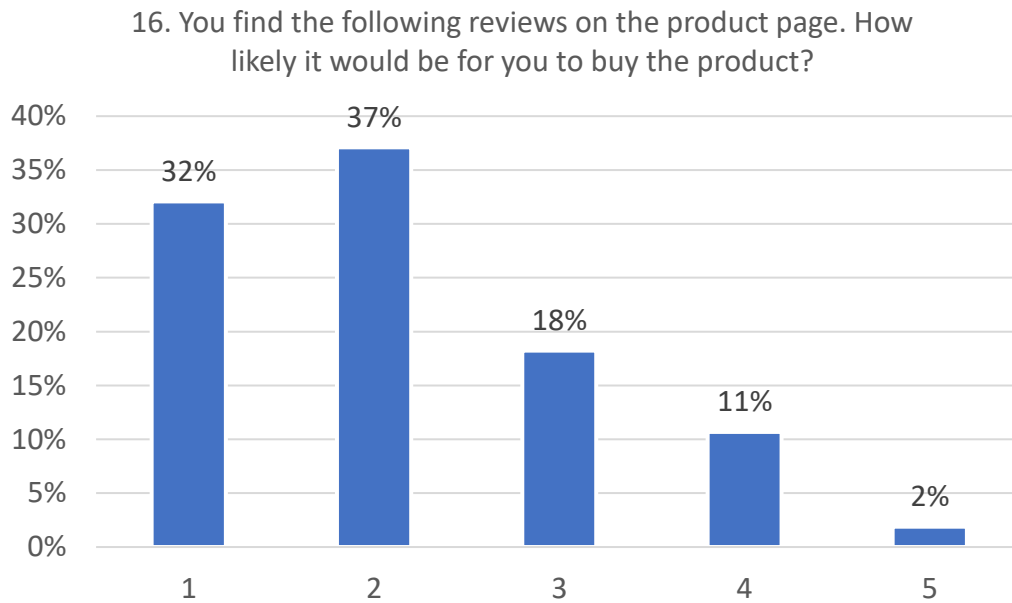
Figure 4.43. Likeliness of purchase for negative detailed comment. (1=not likely, 5=very likely)

Based on these results, the negative review's average has a difference from the minimum Likert score 2.13 - 1 = 1.13 points. Respectively the positive review's average has a difference from the maximum Likert score 5 - 3.78 = 1.22. Even though negative review made less likely the purchase of the product by the responders, which is consistent with the literature (Baek, Ahn and Choi, 2012; Cheung and Thadani, 2012; Filieri, 2016), the difference with the positive influence of the positive review is not significant. At the same time, the participants responded with higher variance (80.7% higher than the positive review) to the negative review. This finding partially contradicts with the literature, meaning there could be more complicated influence, with more factors, such as sentiment of the message, star rating and more.

5   Conclusions

This thesis aimed to clarify the influence of eWOM in the form of online consumer reviews on the purchase behavior of the customers. Based on a thorough literature review, a survey research was conducted in order to validate the literature claims and define and quantify the influence of them on the buying behavior.

Most of the participants in this research have an active role in online communities and they can be categorized as experienced users in the virtual environment, while the majority of them are familiar with the eWOM communication process. Trying to identify all the aspects of eWOM communication from the reviewer perspective until receiver perception, the main motives that affect a reviewer in order to provide information have been investigated. The most important motivator for the participants to write a review is solidarity and concern for other customers, while the expression of positive feelings comes in the second place. The third most important motivator is the interest of the customer to help the company by sharing the product experience, especially when the purchase experience is satisfying. After these motivators of positive feelings, venting negative feelings would motivate the participants to review the product or service, with searching for support by the company following closely.

According to the responses, reviews and ratings have a strong influence on the consumers. The vast majority of the sample is self-aware of the importance of eWOM communication, as they would definitely search for online consumer reviews relevant to the product that they are interested to purchase. 91% of the respondents are influenced from the rating of the chosen product, while 89% of them are influenced from the reviews. Even if the difference is only 2%, it is still different than the expected result.

Although, eWOM communication is more trustworthy than traditional advertisement, a review in order to be considered as credible needs to have some specific characteristics. The findings indicate that participants received the two-sided information with moderate length and writing style as more trustworthy than the extreme positive and short, without details, review (Figure 4.35). The review should be long enough to transmit a satisfying amount of information and to the point, but not too

long or containing non-essential information about the product. Consequently, short extreme positive reviews do not influence the same the eWOM receiver as a positive review with two-sided information, while extreme positive or negative ratings can be perceived as less credible than a moderate detailed rating which contains two-sided information. Furthermore, more than half of the respondents (57%) aren't effectively affected by a positive review after two negatives as they doubt about its credibility. As it concerns the review's writing style, a marketing writing style can negatively affect the perceived credibility, while a consumer writing style can improve it (Figure 4.40).

By improving the overall quality and credibility of eWOM communication process, companies can benefit by seeing customers converge and buy a product or service faster and well informed. At the same time, customers can benefit by expediting their information seeking phase for the appropriate product, which has the desirable characteristics, saving time and money and improving their overall satisfaction.

5.1 Proposed company strategy

Based on the conclusions formulated above, organizations should focus more on their marketing efforts in order to develop a successful strategy for eWOM management rather than trying to manipulate online reviews. Businesses must consider the quantified influence of motivators for writing a review, as they have an interest to motivate past satisfied customers to return to the reviewing platform (e-shop, review webpage or other media) and write a detailed review. By utilizing the findings of this research, they can trigger the interest of consumers for writing a review with the usage of notification messages. Those messages usually are sent to product experienced consumers some days after the purchase. In order to persuade them to write a review, the text of notification message should outline the key motivators defined above. The text should be formulated to invite reviewers to help future customers by describing their experience and to help the company to improve itself and its stock of good products or services.

The reviewing system that would be set-in place for the future reviewers by the company needs to guide them through a set of questions, to assist them provide structured and complete reviews. By investing in relevant technologies, manipulation of reviews will be more difficult, leading to a trustworthy relationship between the

company and its customers. The commenting – reviewing section of a webpage acts as a public stage, where the company needs to publicly display its motivation for customer satisfaction and support. Because of that the company should appoint communication officers that would answer any review that would be classified as a request for support by the reviewers. The digital transformation of the economy through utilization of big data analysis will advance our understanding of consumer behavior, allowing more advanced, targeted or personalized strategies to be developed.

5.2 Proposed future research

The present research defined the importance of key factors for modern eWOM and quantified some of them in a comparative way. Future research can be carried out on the following points:

- Deterministic analysis of big data sets from actual e-shops like Amazon.com (https://registry.opendata.aws/)
- More complex and advanced virtual e-shop experiments that control the live behavior of customers (number of reviews read by scroll depth and heat maps etc.)
- Validation of the proposed strategy on an actual real-life application and a consecutive analysis of the changes achieved.
- Sentiment analysis of text of reviews that have been rated as useful.

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Appendix

Questionnaire

The impact of Online Consumer Reviews on buying behavior

This research is part of the Master Thesis of Ms Vasiliki Koukoutselou for the MSc in Management of the International Hellenic University.

*Required

1. Gender *

○ Female

○ Male

○ I prefer not to answer

2. Age group *

Choose ▼

3. Your education level is... *

○ less than High School Degree

○ High School Degree or equivalent

○ Bachelor's Degree

○ Master's Degree

○ PhD

○ Other:

4. You annual household income is... *

○ less than 10'000€

○ 10'000€ - 20'000€

○ 20'000€ - 30'000€

○ 30'000€ - 40'000€

○ more than 40'000€

○ I prefer not to answer

5. How often do you use... *

	More than once a day	Everyday	Once a week	Once a month	Less than once a month
Social Networking sites	○	○	○	○	○
Web Browsing	○	○	○	○	○
Shopping	○	○	○	○	○
News	○	○	○	○	○

Reviewing Experience and Motivation

6. Have you ever rated (star rating or other) a product or service based on your experience on a web platform? *

○ Yes

○ No

7. Have you ever written an online review for a product or service providing information about your experience? *

○ Yes

○ No

8. Define the importance of the following factors that would motivate you to write an online review for a product or service. *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Concern for other consumers	○	○	○	○	○
Helping the company	○	○	○	○	○
Active member of the virtual community	○	○	○	○	○
Having power over the companies	○	○	○	○	○
Desire for personal recognition	○	○	○	○	○
Personal economic rewards	○	○	○	○	○
Expressing positive feelings	○	○	○	○	○
Venting negative feelings	○	○	○	○	○
Receive support from the company	○	○	○	○	○

The influence of reviews on purchase behaviour

9. Before every purchase of a product... *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I search for online ratings of the product	○	○	○	○	○
I search for online consumer reviews for the product	○	○	○	○	○

10. In what extend do you agree or disagree with the following sentences *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Online consumer reviews influence my decision to buy a product/to use a service	○	○	○	○	○
Positive reviews make me more likely to buy a product/to use a service	○	○	○	○	○
I read consumer reviews but they don't influence my decisions	○	○	○	○	○
I trust consumer reviews more than traditional media advertisement	○	○	○	○	○

11. Based on the following reviews, which product would you choose to buy? *

Morpheas 6050

★★★★☆ (723 customer review)

49.90 €

| 1 | ⊖ | Add to cart |

Category: Pillows

Hypnosis XL II

★★★★☆ (89 customer review)

49.90 €

| 1 | ⊖ | Add to cart |

Category: Pillows

○ Morpheas 6050

○ Hypnosis XL II

12. Based on the following reviews, which product would you choose to buy? *

Hypnosis XL II

★★★★⯪ (283 customer reviews)

49.90 €

| 1 | Add to cart |

Category: **Pillows**

Morpheas 6050

★★★☆☆ (255 customer reviews)

49.90 €

| 1 | Add to cart |

Category: **Pillows**

○ Hypnosis XL II

○ Morpheas 6050

13. You find the following reviews on the product page. Rate their usefulness. *

★★★★★

Jane – November 12, 2019

Best pillow ever! I love it!

★★★★☆

Robert – November 14, 2019

I was nervous to buy a pillow online. However, I was made a good choice! I was expecting just a little more firmness to the pillows, but they are still comfortable, and they support your head without falling through.

	Useless	Not useful	Neutral	Useful	Very useful
Jane's review	○	○	○	○	○
Robert's review	○	○	○	○	○

14. You find the following reviews on the product page. How likely it would be for you to buy the product? *

★☆☆☆☆

Monica – November 9, 2019

It has absolutely no support at all. It goes completely flat in less than an hour. I waited a few days before making a comment just to be sure, and sure enough, it is awful. I woke up every two hours for three days because the pillow would go flat completely, I just gave up and went back to my foam pillow which has real support. This is like sleeping without a pillow.

★☆☆☆☆

John – November 10, 2019

Wow, so disappointed. Zero support — it's like sleeping on pillow hologram, you see it, and then there's just nothing there when you put your head down. Also gives a nasty off-gassing smell out of the bag.

★★★★★

Marc – November 10, 2019

This is an awesome pillow! Organic means a lot to me! It is made with care and concern and very wonderful construction! You are able to unzip the inner pillow and remove as much of the wool filling as you want, so as to form your pillow to your own neck. It comes very soft, cushy and full! Very supportive. Wonderful seller, Great communication. I would recommend this pillow!

	1	2	3	4	5	
Not likely	○	○	○	○	○	Very likely

15. You find the following reviews on the product page. How likely it would be for you to buy the product? *

★★★★☆

James – November 17, 2019

I was pleasantly surprised when these pillows arrived. Firstly, they came vacuum sealed, but quickly took shape when released. Secondly, they have provided great comfort as they are not too hard or too soft. I am a side sleeper and these works great; like sleeping on a cloud. They are hypo-allergenic and are queen size also. Whatever they are filled with makes it cool to the head. The best part is you cannot beat the price for pillows of this quality

	1	2	3	4	5	
Not likely	○	○	○	○	○	Very likely

16. You find the following reviews on the product page. How likely it would be for you to buy the product? *

★☆☆☆☆

Emma – November 19, 2019

I was so excited to order these pillows after reading the reviews. They arrived in a very small box, I opened them and tried forever to fluff them, but no. They are flat as a pancake and absolutely NOT for side sleepers – or any sleeper – for that matter. There is no "gel" in them anywhere. These pillows are so thin that when I laid my head on this pillow, I could feel the bed under my head. I can't help but think I got a bad batch because my experience was nothing like any of the reviews.

	1	2	3	4	5	
Not likely	○	○	○	○	○	Very likely

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Participant Responses

The responses from the participants have been uploaded to Mendeley Data and they are publicly available (Koukoutselou, 2019).