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**THE INFLUENCE OF ONLINE REVIEWS ON PRODUCT  
PERCEPTION AND PURCHASE INTENTION**

**(A study of hotels in Old Town and Ülemiste City, Tallinn)**

Master's thesis

INTERNATIONAL BUSINESS ADMINISTRATION, Marketing

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I hereby declare that I have compiled the thesis independently and all works, important standpoints and data by other authors have been properly referenced and the same paper has not been previously presented for grading.

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## TABLE OF CONTENTS

LIST OF TABLES .....	5
LIST OF FIGURES .....	6
ABSTRACT .....	7
INTRODUCTION .....	8
1. THEORETICAL BACKGROUND .....	12
1.1. User-Generated Content (UGC) .....	12
1.2. Electronic Word of Mouth (eWOM) .....	14
1.3. Online Consumer Decision Process from Perception to Intention .....	16
1.3.1 Product Perception.....	18
1.3.2 Purchase Intention .....	21
1.4. Online Reviews Characteristics.....	22
1.4.1. Valence .....	24
1.4.2. Review Length.....	25
1.4.3. Star Ratings .....	26
1.5. Conceptual Framework.....	27
2. RESEARCH METHODOLOGY .....	29
2.1. Research Design .....	29
2.2. Sampling, Procedure, and Sample Size .....	30
2.3. Data Collection, Instrument Reliability and Validation .....	32
2.4. Operationalization of Data.....	35
2.5. Method of Data Analysis.....	35
2.6. Limitation of the Chosen Methodology.....	36

3. DATA PRESENTATION AND ANALYSIS .....	37
3.1 The Empirical Context in the Tallinn Hotel Market .....	37
3.2. Inferential Analysis.....	39
3.2.1. Regression Analysis of Valence on Product Perception .....	39
3.2.2. Regression Analysis of Online Review Length on Product Perception .....	40
3.2.3 Regression Analysis of Product Perception on Purchase Intention.....	42
4. SUMMARY, CONCLUSION AND RECOMMENDATION.....	44
4.1. Summary of Findings .....	44
4.2. Limitations.....	46
4.3. Future Research .....	47
Conclusion and Implication.....	48
LIST OF REFERENCES .....	50
APPENDICES .....	59
Appendix 1. Questionnaire on Purchase Intentions .....	59
Appendix 2. Accommodated Tourists in Tallinn from 2015 to 2020 .....	60
Appendix 3. Summary of Sentiment Analysis .....	61
Appendix 4. Non-exclusive licence.....	62

## **LIST OF TABLES**

Table 2.1. Characteristics of Sample (online reviews)

Table 2.2. Characteristics of Sample (Survey)

Table 3.1. The Model Summary for Valence of Product Perception

Table 3.2. ANOVA for Valence on Product Perception

Table 3.3. The Estimated Coefficient for Valence on product Perception

Table 3.1. The Model Summary for Review Length on Product Perception

Table 3.2. ANOVA for Review Length on Product Perception

Table 3.3. The Estimated Coefficient for Review Length on Product Perception

Table 3.1. The Model Summary for Product Perception on Purchase Intention

Table 3.2. ANOVA for Product Perception on Purchase Intention

Table 3.3. The Estimated Coefficient for Product Perception on Purchase Intention

## **LIST OF FIGURES**

Figure 1.1. Buyer Decision Process

Figure 1.2. Conceptual Framework

Figure 2.1. Screenshot of Customer Online Review

Figure 3.1. Seasonality by Purpose of travel in Estonia

Figure 3.2. Net Occupancy rate of bedrooms

## **ABSTRACT**

Based on the rapid growth in information technology, the adoption of online reviews and purchasing products and services online has increased significantly. Online reviews have become a common way for both potential and existing customers to develop their product perception and purchase intention. The aim of this master thesis is to examine the influence of online reviews on product perception and purchase intention.

The data for this study was drawn using two methods. First, data was extracted from popular online review and hotel booking platforms like booking.com, tripadvisor.com, espedia.com and hotels.com, separately for each selected hotel. Secondly, an online survey technique was adopted for a better understanding of consumers' intentions towards online reviews. The author used a mining approach, sentiment analysis to determine the valence of the reviews and regression analysis to test the data gathered and findings reached. Analyses of the online review data collected in the above two ways focused on : (1) valence, (2) review length, and (3) review star rating. The results of the study show that valence and review length revealed a significant statistical influence on product perception, with the conceptual framework suggesting that they also have a significant influence on purchase intention. Star ratings by this study's methodology ought to by definition reflect product perception, however, star rating do not appear to influence purchase intention. In summary, this study bridges online reviews with product perception and purchase intentions to aid hotel business owners and managers get a better understanding of customer's needs through online reviews. Advantages of valence and review length for improving upon product perception are shown, calls for further research on links between product perception and purchase intentions, as well as on star ratings are made.

**Keywords:** Online reviews, Valence, Star rating, Review Length, Product perception, Purchase intention, Regression.

## **INTRODUCTION**

Over the last two decades, we have witnessed a new set of online tools, application, approaches, and participatory culture for end users. These online tools include social networking sites, blogs, customer review platforms, different online communities known as Web 2.0 (Stangl & Regler, 2016). This has changed the internet space from the traditional “broadcasting medium” to a more “interactive channel” that allows for a widespread social interaction and involvement through technology (Chua & Banerjee, 2015). The internet has evolved into a major source of customer awareness and unprecedented empowerment, acting as a platform that facilitates the “social customers” electronic word-of-mouth (Stangl & Regler, 2016; Constantinides, & Holleschovsky, 2016).

Another important aspect of eWOM is the User Generated Content (UGC). A platform that allows individuals to share their views, opinion and perceptions about businesses, various brands, products, services etc, thus creating a wider network to stimulate interaction among users (Huang & Benyoucef, 2013). These various platforms, enables consumers make their views and perspectives available to other users and the global communities at large who wish to use the information as an additional consideration to support their purchase decisions (Dellarocas, 2003). The ease with which this information can be accessed therefore weakens the power of marketing communication, as online users will stand a chance at making an informed decision without relying on the information provided by the company.

Interactive web has made it possible for easy market comparison of offers available and search for consumption-related recommendations given by customers about similar product in the context of product online reviews (Floh et al, 2013). Product online reviews are personal nonetheless subjective views based on consumers personal experiences, evaluations and viewpoints (Park & lee, 2008; Lu et al. 2014). Presently, online reviews in the context of opinion and experience have become the most valuable resource this is influential when making purchase decisions (Henning-Thurau & Walsh, 2003; Dellarocas, 2003; Chua & Banerjee, 2015).



Consumers now opt for online-based search as substitute for the conventional ways of gathering information, as interactions with more experienced users frequently occur (Klein & Ford, 2003). The eWOM channel reaches a larger audience building on the Web's low cost and several communication networks (Dellarocas, 2003). Hence, communication and messages control migrate from marketers and paid professionals to users who are critical, affirmative, and influential over the information they receive about companies' products and services. Through direct consumer-to-consumer interactions, consumers are seen as co-creators of demand as direct stakeholders. (Burton & Khammash, 2010). This ultimately makes the information obtained from consumer reviews much reliable than the information sponsored by companies or marketer (Bickart & Schindler, 2001; Hung & Li, 2007; Ho-Dac Carson, & Moore, 2013).

Consumer influence is rapidly evolving, posing threats and opportunities for companies. (Henning-Thurau & Walsh, 2003). As a result, companies are required to improve monitoring technologies and quick reaction times across several channels in order to handle these risks to revenue or brand image (Becker & Nobre, 2014; Chua & Banerjee, 2015). To this end, companies have to effectively study the complexities of online reviews and their influence the various websites and platforms where these comments are posted. These platforms include company website, independent review websites, online communities, blogs, and other new emerging platforms (Fan & Gordon, 2014; Lee & Youn, 2009). These online platforms vary in several ways, but they all have the same general purpose, to provide users with a wealth of knowledge about goods and services. (Lee, 2013).

The importance of online reviews on product sales is very essential, for instance Amazon.com in 1995 started giving customers the option of reviewing and posting product comments and feedback on its website. Amazon now has millions of customer reviews in all of its product categories, making it one of the most prominent and influential features on the site (AlZu'bi et al. 2019). This has further triggered suppliers in other product categories to adopt the same approach by providing platforms for customers to give their opinions.

Within the scholarly community, the popularity of online reviews has achieved a reasonable level of interest. Previous research has mostly focused on the significance of online reviews from different perspectives; promises and challenges of online feedbacks (Dellarocas, 2003), motivation to create reviews (Hennig-Thurau et al. 2004; Gretzel, Yoo & Purifoy, 2007), why consumers read and evaluate online review contents (Burton & Khammash, 2010; Lee J., 2013),

review helpfulness (Mudambi & Schuff 2012), as well as the mechanisms for average online ratings and elements (that is, number of online reviews, their depth, and length) of customer reviews (Zhu & Zhang, 2010). Trust expressed on reviewers' reputation, review rating, depth, and online review helpfulness has been analysed (Chua & Banerjee, 2015).

#### Research gap, focus of this study, and research question

Although previous studies have examined the influential factors of customers online reviews (Cheung, Lee & Rabjohn 2008; Lee, Park & Han 2007), there is still a literature gap and lack of insight about the influence of online reviews towards the growth of hospitality business. Nowadays, tourism images are formed through online information and reviews. This master thesis seeks to understand how online reviews influence tourists' booking perception and intention in Estonia.

After considering the points mentioned above, a central question arises to what the author considers is lacking in the current literature; How and why online reviews are influential on product perception and purchase intention for hotels in Estonia? Thus, to find answers to this main research question, it is important to perform the following tasks: -

- (1) select hotels which would represent similar businesses within Tallinn's Old town and Ülemiste;
- (2) extract and examine why a selection of online consumer reviews can influence consumers towards purchase intention? and,
- (3) understand how valence, star ratings and review length are linked to create product perception and purchase intentions for consumers?

The first chapter of this master thesis presents the theoretical foundations of online reviews and its influence on consumer perception for products and purchase intention, discussing necessary background to understand where this study has found the gap to be filled. In the second chapter, the research methodology discusses the research design, sampling procedure and size, data collection instrument, reliability validation, method of data analysis, and limitations of the study. The last chapter will address the findings made by the author and discuss the limitations and areas for future research on the influence of online reviews on product perception and purchase intention.

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# **1. THEORETICAL BACKGROUND**

This chapter provides an overview, for a better understanding of the existing literature and theories related to the research questions. In this chapter, attention is given to relevant concepts, while providing enough background about the key areas where the author has found opportunities to contribute with existing literature.

## **1.1. User-Generated Content (UGC)**

In 2006, Time Magazine named those that add value through user-generated content (UGC) as their honoured Persons of the Year (you! yes you!). Pointing out the essence for people to make small contributions on the world wide web and making them matter, Lev Grossman (2006) wrote in an inspiring style; “Look at 2006 through a different view and you will see a different story, one that is not about conflict or great men. It is a narrative about community and collaboration on a level never seen before. In addition, it is also about the cosmic compendium of knowledge Wikipedia, the million-channel people network YouTube, and the online metropolis MySpace. It is about the influential nature and power of information from the few and assisting one another for nothing and how that will in addition to changing the world, but also change the way the world changes”.

New technological improvements within the marketplace, have modified the media environment, which has impacted on the role advertising plays in today’s media consumption. Since the emergency and adoption of Web 2.0, consumers in addition to being able to create their own content, express a greater control over their media exposure. This implies that consumers are now more focused on creating an interactive environment rather than relying on tradition channels to receive information. Thus, customer interactivity, media fragmentation, and the ability to create personalised information and content are the results of these technological advancements which greatly empowers the consumers (Bright, 2011).

User-Generated Content also known as consumer-generated content (CGC), is defined as the media content created and distributed on the internet by consumers or users, which is different from the usual practices and routines of a paid professional (Daugherty, Bright & Eastin 2008). Hence, with the aid of UGC, consumers have become assertive information receivers. They now have increased control over the information they find on various media platforms, with the ability and right to create, distribute and post review content online. The media content creation has been steadily moving towards a “user-centric model”, different from the earlier model characterized as “publisher-centric” (Morrissey, 2005). According to Benkler (2006), most active users aren't driven purely by monetary benefit since most UGCs aren't designed to produce immediate income.

Since the emergence of Web 2.0 platforms, UGC has become not only one of the fastest-growing sources of information on the internet, but has also become a driving force behind the growth and advancement of some of the well-known digital brands. With the likes of Facebook, Instagram, Twitter, LinkedIn, Myspace, personal blogs and other Web 2.0 sites and web platforms that promotes the development, dissemination, and utilization of UGC are notable examples (Wang, 2014). “In 2013, 134.9 million unique followers visited Facebook, while 128 million Americans view video content posted on YouTube each month” (Nielsen, 2013). Olmstead (2014), stated that “12% of social media users have posted their own video content to various social networking sites. 11% of new online consumers have shared their own content (videos, photos, articles, reviews, etc) to blogs or news organizations”. In 2013, NBC following the acquisition of Stringwire, adopted user-generated content, a technology that allows live video options for the purpose of news gathering.

Due to the intangible nature of tourism and hospitality products and its experiential nature, eWOM has become an important part of travel planning. Thus, with the advancement of the Internet, the conventional word of mouth (WOM) which includes, verbal communication, mass media, commercials, etc can longer satisfy tourist requirements. However, according to Blackshaw and Nazzaro (2006), UGC supported through online review platforms and social media is “a mixture of fact and opinion, impression and sentiment, founded and unfounded tidbits, experiences and even rumour”.

## **1.2. Electronic Word of Mouth (eWOM)**

Online reviews and recommendations cannot be ignored when buying products and services from the internet. Online reviews and online recommendations are part of word of mouth (WOM). WOM is described as when a non-commercial consumer exchange information with another who receives information about a specific brand. (Dichter, 1966). Furthermore, WOM can also refer to a discussion between customers regarding a product or service. It is, in essence, a customer-driven marketing engagement medium (Bambauer-Sachse & Mangold, 2011).

WOM is often spread via social platforms where consumers collect information from others and then pass it on to other users (Allsop et al., 2007). Traditional word-of-mouth has an influence on purchase decisions (Purnawirawan et al., 2012). However, with the rising online economy and the yet-to-come technological transitions, online customers now have a space to share their opinion with the other users around the world, thus giving rise to the new term eWOM (Somohardjo, 2017).

Electronic word-of-mouth (eWOM) refers to customers who share their views, opinions, and experiences through the internet (i.e., social networking websites and online platforms) about a company's products or services (Kietzmann, Canhoto 2013). In other words, these reviews can be positive or negative as satisfied consumers inform other users about their good encounter with the product. Customers who are dissatisfied, on the other hand, are likely to inform the whole community of their negative experience. (Chatterjee, 2001). eWOM network and interactions plays a larger and more importance role in the hospitality industry due to its ease of use and broad reach (Bambauer-Sachse & Mangold, 2011). Since, consumers nowadays receive information while booking online, understanding the intricacies of eWOM is valuable (Sparks & Browning, 2011).

Now, advanced digital technology has made it convenient for customers to read online reviews of brands during their purchase process. In other words, online reviews can be defined as “product ratings and evaluation posted on a company's or third-party websites (Mudambi & Schuff, 2010)”. Whether it is has a favourable or negative influence on decision making, the importance of online reviews during the consumers purchase process cannot be overemphasized (Arndt, 1967).

Online reviews are regarded as one of the most influential types of recommender (Bambauer-Sachse & Mangold, 2011). Online recommendations are considered among the most important

strategies for business, as most potential customers seem to trust the recommendation of others when considering a product (Nielsen, 2012). According to Nielsen (2012), “78% of consumers trust the recommendation of other consumers they do not know. 90% of internet consumers worldwide have faith in recommendations from people within their circle and 70% of internet consumers worldwide trust opinions of consumers posted online by people they do not know”. eWOM and the trend of more people online make its influence on product perception and purchase intention a more interesting field to study. This is because online reviews are one of the most critical sources of recommendation, thus the author will concentrate on the influence of online reviews for the purpose of this study.

Online reviews are becoming more widely accessible on a variety of goods and services including, music, fashion, books, movies, automotive, videos, food, video games etc. Since 1995, Amazon one of the world’s largest online marketplace has empowered its consumers to write their product reviews on its webpage, these features for online reviews on Amazon has been considered the most popular and influential for customer reactions (Somohardjo, 2017). Amazon is recognised as a pioneer in the innovation of online reviews and encourages feedback in various modes. This allows for both visuals and audio, in contrast to the standard textual reviews. Over the years, websites/companies offering a similar type of customer reviews in specialty areas have been on the rise, such as automobile (Edmunds.com), tourism (Espedia.com, TripAdvisor.com), electronics (CNet.com), etc.

Previous research has been undertaken to investigate the influence of online reviews. However, these studies can be grouped into two perspectives: consumer and market perspectives. Studies based on customer perspective revealed that online reviews have been an integral part of consumer purchase decisions (Park, lee & Han 2007, Duan, Gu & Whinston 2008). The five (5) phases of the purchasing decision (Kotler, Armstrong 2010, 152) are “need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase evaluation”.

Thus, as customers read online reviews, most are likely to seek more helpful reviews about the product or service, and understand the need for the product. After the need has been identified, the consumer continues the search for more information about the product, with the aim of obtaining feedback and suggestions from other customers through online reviews (Kotler & Armstrong, 2010). These reviews can be used for comparison and evaluation of alternatives, then follows the

purchase decision. During the post-purchase phase, some users would likely to share reviews about the product according to their purchase and usage experience.

Online consumer reviews in addition to been a key element for purchasing decisions, also influences product sales. On the market perspective, previous studies have examined the effects of online reviews through data collected from various review websites and online review platforms (Duan, Gu & Whinston 2008; Clemons, Zhu & Zhang 2010; Chen & Xie 2005). Following the data collected from Amazon.com, Chevalier & Mayzlim (2006) suggested that online reviews on books have a substantial influence on book sales. Accordingly, Liu (2006) found out that box office revenue is greatly influenced by customer reviews on the yahoo movie website.

### **1.3. Online Consumer Decision Process from Perception to Intention**

The way and manner consumers are seeking for information, and make purchases is evolving, and this is mostly driven by the internet and technology (Court et al., 2009). Today's consumers do not like to sit quietly and wait for commercials to bombard them. They are actively browsing through websites, blogging platforms, and online review platforms to learn more about their options. The possible changes that occurs as consumers consider a product or service, makes online reviews a step in the active evaluation phase in the consumer decision making journey (Court et al., 2009).

Following the five stages of the consumer decision making process postulated by Kotler & Armstrong (2010); "need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase evaluation", most often consumers when evaluating a product, go through these phases. In this study, hotel products and services. The first stage is the need recognition stage in which the consumer recognizes a need or concern and then determines what commodity or kind of product will be able to fulfil this need.

The second phase of the customer decision making process is the information search stage which this study links to online reviews. This is because consumers would usually create awareness and attention for a product based on the information presented to the customer. Hence, the consumer becomes aware and attentive to what is available, where to buy it, and the reasons they should buy it (Armstrong & Kotler, 2010). How consumers perceive and believe the information regarding the product or service will influence them into the next stages. The evaluation of alternatives and



purchase decision stage. The theory of planned behaviour developed by Ajzen (1991) has been used to determine the relations among information systems, advertising, health, etc. The five-stage process is shown in Figure 1.1.

Online reviews can be used as a free sales assistant without charges to assist consumers (Chen & Xie, 2008). Following the information search phase, the evaluation of alternatives stage can be compared to the perceived behavioural control factor, which directly affects consumers' perception. In this phase, consumers can perceive product attributes in two ways. The objective characteristics which includes the features and functions of the product and the subjective characteristics, such as the experience and perceived value of the product or service. These perceptions can differ in variety of ways, as well as across various categories such as emotions, attitudes, experience, and behaviours (Petty & Wegener 1998). The perception in this study is the "product perception".

After reading several product online reviews, consumers can determine and shape their own intention whether they will purchase the product or not. The fourth phase of the consumer decision process is where the dependent variable of this study, purchase intention plays a key role. This stage follows after the evaluation of alternatives stage, which makes consumers purchase intentions an important variable for this study. Purchase intention can be described as the possibility of purchasing a product or service based on the assumption that a certain number of consumers will eventually buy the product (Whitlark et al., 1993). This research would describe purchase intention as a consumer's intentions to book a hotel reservation in the future.

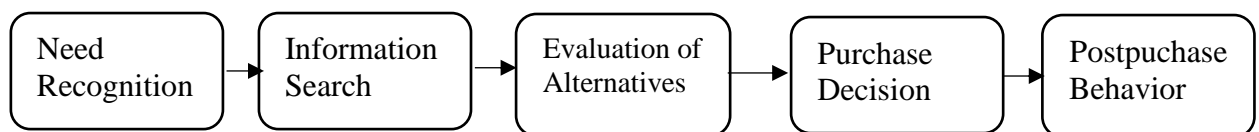


Figure 1.1. Buyer Decision Process

Source: Kotler & Armstrong (2010, 152)

According to Morwitz (2012), theoretical support has proven that marketing and brand managers have a compelling basis to use consumers purchase intention as a predictor of consumers behaviour in the marketplace. This theory emanates from the social psychological model which links consumer attitude and purchase intention to behaviour (Ajzen & Fishbein, 1975). This theory assumes that different psychological concepts such as subjective measures and behavioural control

can predict a consumer's intention to engage in the behaviour. On the other hand, a consumer's intention to engage in the behaviour, as well as other psychological constructs, can predict the real behaviour.

These concepts have been used within the general and marketing contexts, indicating that the close relationship between purpose and behaviour is well supported. According to the results of these models, intention is the single best determinant of customer behaviour (Morwitz, 2012). As a result, the definition of purchasing motive remains valid within marketing scope (Morrison, 1979).

The impact of online reviews on product perception or vice versa is still unknown. Not much is known about product perception because the most commonly compared concept is advertisement attitude, which is the choice for consumers to either react positively or negatively to a specific advertisement (Kaushal & Kumar, 2016). This is analogous to the idea of product perception, in which customers refer to online reviews, as well as other useful, insightful, and beneficial knowledge that aids purchasing intention. Many studies have identified advertisement attitude as the primary source of product perception that influences purchase intentions (Kaushal & Kumar 2016; Pantelic, 2017).

Customers who have a positive perception tend to have a higher purchase intention than those who have negative perception (Hung, Kok & Verbeke, 2016). Due to limited literature that combines product perception and purchase intention, the predicted relationship between product perception and purchase intention will be suggested following the findings on consumer behaviour towards online review contents and its characteristics.

### **1.3.1 Product Perception**

Product perception for the purpose of this study stems towards the general understanding of consumer's perception of online reviews. Perception describes consumers' reaction towards products and services. Perception describes the process of choosing, organizing and interpreting sensation in to a meaningful whole. Thus, businesses with the ability to create and offer products and services with good value, maybe be deemed to have a positive perception. On the other hand, negative perception mirrors an impact that the product or service may not be favourable for users.

There are several schools of thoughts in the area of product perception, which consumers rely on online reviews for evaluation and purchase of a product or service. The study will focus on 3 key aspects: perceived quality, perceived value, and perceived price.

### **Perceived Quality**

One important aspect that should be considered is the quality of service rendered by hotels. Perceived quality is described as the personal assessment of the overall quality of product or service offered (Zeithaml, 1988). This element is very important in determining consumer decisions, especially in the case of services. This assessment is usually made by a potential customer who do not know the real quality of the product or service while the provider knows (Ogut & Tas, 2012). Hence, online reviews have emerged one of the most influential variables for brands.

Previous studies have shown that customers' intention to purchase is greatly influenced by perceived quality than value (Richardson et al., 1994). Also, Kittilertpaisan and Chanchitpreecha (2013) demonstrated that perceived quality has an influence on purchase intention, they believe high quality assures high security of consumption for Koa Hang, and most importantly builds good relationship and trust. Tih and Lee (2013), also suggested that perceived quality has a significant effect on purchase intention for store products.

In view of these findings above, it is evident and clear that perceived quality is a key element in consumers' purchase intention. It could also be said that this influence on their intention will also result in their interest to record their pleasure or disappointment about the products or services. In addition, perceived quality may be a component of perceived value for money, which is the most important predictor of purchase intention.

### **Perceived Value**

Perceived value is considered one of the most important factors for understanding consumers' behaviour. A function of quality issue, price, product delivery, product features, etc. Perceived value according to Zeithaml (1988) is "the consumers' overall assessment of the utility of a product based on perceptions of what is received and what is given". Perceived value is described as perceived preference and evaluation for a product or service attributes, performance, and its effects in terms of goals and objectives (Sweeney and Soutar, 2001).

Perceived value has been studied by observing consumer's choice as a function of multiple consumption dimension (Sheth et al., 1991). The findings were that these dimensions vary in different choice situations. Kittilertpaisan & Chanchitpreecha (2013), also found out that perceived value is very important in relation to the studied product (Koa Hang) in the process of purchase. In addition, consumers are willing to pay if the perceived value is of high-quality level and low in price.

Furthermore, Veronika (2013) stated that the value of consciousness has a positive influence on purchase intention. This result implies that consumers purchase intention for hotel product is influenced by value of consciousness, as they pay attention to preferred product or service attributes. Jaafar et al., (2012) also found out that during the purchasing process, most consumers are value sensitive, and they would ensure that they obtain the best value for money. This means that customers might check for price differences before purchase. In addition, Woodruff (1997) identified that for consumers' satisfaction, without fulfilling their perceived value cannot meet their expectation. Thus, the influence of consumers' perceived value is complementary towards achieving customer satisfaction.

### **Perceived Price**

From the consumers' perspective, price is the monetary value given in exchange to obtain a product or service (Nagle & Holden, 2002). Consumers perceive price in positive or negative ways. By positive perception, price represents worthiness to a consumer. On the other hand, price is perceived negatively, when it signals economic sacrifice or less. Price is considered as the main indicator for consumers while making decisions about purchasing and product or service. Price also holds an important form of information for consumers when considering a purchase decision (Smith & Carsky, 1996).

Zeithaml (1988) describes price as consumer's subjective perception of what is given to acquire a product. According to Zeithaml, consumers may not remember or know the price of a product, but rather judge the price for the product or service as "expensive" or "cheap". However, others may not consider encoding the price. Thus, suggesting that consumer's perception of price may vary for the objective price. Jacoby & Olson (1977) also differentiated between objective pricing (the product's actual price) and perceived price (price encoded by consumers).

For most consumers, perceived price such as time, effort, search cost, etc is more valuable than the actual monetary price for the product. Hence, consumers tend to evaluate price and quality based on the concept of interpersonal equity, through which the level of satisfaction or dissatisfaction emerges (Oliver, 1997). Thus, following the evaluation of price fairness, consumers would like to consider both monetary and non-monetary costs for obtaining the product or service.

Price significantly influences consumer's purchase behaviour on their choice of preferred destinations. Among other information evaluated, the use of price by consumers to arrive at a perception has been the most frequently examined (Monroe & Krishnan, 1985). Price can be a clue regarding the expectations of the performance of the product or service. In addition, can affect consumer's satisfaction, repurchase intention, which may have a psychological effect on their assessments (Kim & Jang, 2013).

### **1.3.2 Purchase Intention**

Intention is the behaviour that motivates a consumer to engage in a particular action (Rezvani et al., 2012). Purchase intention involves how consumers think, that is, whether he/she will buy. Lin & Lu (2016) described this as a physiological action of purchase towards a product. Ajzen (1991) explained in the theory of planned behaviour (TPB) and theory of reasoned action (TRA), that "intention is presumed to be a measure of what extent people willing to approach certain behaviour and how many attempts they are trying in order to perform certain behaviour". Blackwell et al, (2001) describe purchase intention to mean what consumers think they will buy. Hence, consumers with the intention to buy the product or services will show a greater and actual buying rate compared to consumers who do not demonstrate any intention of buying.

Consumers' buying intention is quite complex. Generally, purchase intention is associated with customer's behaviour, product perception, and their attitude. Purchase intention is a significant key aspect for consumers during consideration and evaluation of a particular product or service (Keller, 2001). According to Gosh (1990), "purchase intention is an important tool used in predicting purchase process". Hence, when consumers decide to book a hotel for their preferred destination, they are driven by their intention. However, Zeithaml (1988) suggests that purchase intention could be altered through the influence of quality, price perception and value perception.

The influence of online reviews on purchase intentions has also been discussed in many literatures (Zhang et al., 2013; Chen et al., 2013; Wen, 2009). Brown et al. (2017) suggests that most

consumers who are involved in online consumer communities and platforms are likely to channel their perception towards those online interactions within the community-related activities that influences their purchase intentions. Park et al (2007) also stated that the quality and volume of online reviews in terms of its relevance, consumers' understandability, review depth and subjectivity are essential at influencing consumers information processing. Based on theories mentioned above, intention depends on a consumer's positive attitude when performing a behaviour. Thus, if an intending user reads positive online review about a product or service, their purchase intention will likely be high. Thus, purchase intention considered a dependent variable for the purpose of this study.

#### **1.4. Online Reviews Characteristics**

In the digital space, there are fewer constraints, and this is especially true for online reviews, which can reach a large number of online audiences. Online reviews consist of product information created and written by customers. These contents are usually based on consumers' actual experience from using the product or services. As a result, online reviews are considered one of the most powerful and effective tools for generating online word of mouth for today's businesses (Duan et al., 2008). According to Hennig et al. (2004), "an online review is any positive or negative explanation or description made by a past or existing customer about a product or service of a company, written on the internet".

For online reviews, different factors are considered very important for respective consumers who wish to rely on these reviews in making their final decisions. Some of these elements found in an online review include the name of the customer, date, ratings (stars or number), length, perceived level of enjoyment, etc. Basically, these elements make up the quantitative and qualitative components of online reviews.

Thus, the interesting parts to analyse are those features that specifically focus on the content of customer online reviews: valence, recency, review ratings and the length of the review. Following the activities of online reviews, previous studies have investigated several aspects ranging from posting online reviews, using online reviews, and purchasing decisions influenced by online reviews (Zhang et al. 2014).

Chen and Xie (2008), suggested two different kind of online reviews which are: “consumer reviews” and “professional” reviews”. The professional reviews usually focused on product attributes, performance and features formed by results of lab testing and expert evaluations. On the other hand, online consumer reviews are based on consumer encounter and experience, upon which this study is carried out.

Since eWOM is made up of varieties of social and website platforms, the most accessible and available types of eWOM are online customer reviews and product ratings (Cheung & Thadani, 2012). According to Zendesk (2013), “online reviews have adopted a bigger role in the purchase intention and process of the modern consumer. 88% of consumers’ purchase have been influenced after reading an online review, over 90% of consumers used online reviews prior to purchasing (OpenCompany, 2015), and 83% customers purchase decisions are affected having read online reviews (ChannelAdvisor, 2011)”.

Online reviews play two important roles firstly, by giving product and service information, and secondly, by playing a recommendation role. Generally, recommendations are considered as those important services that sends personalized content inform of online reviews to users. In addition to online reviews, recommendations via social media are also considered one of the most essential means for sending personalized tips to users on other social media platforms (Wang et al., 2015).

The key research question in this study is How and why online reviews are influential on product perception and purchase intention for hotels in Estonia? Following the concept that online reviews are considered as one of the most effective means of sending a personalized recommendation to both existing and potential consumers, online reviews could have a major influence on product perception and purchase intention.

The relative importance of an online review, as well as its final influence after reading it, is determined by a number of factors (Aljukhadar et al. 2014; Chevalier, Mayzlin 2004). Hence, the author has chosen three (3) online review characteristics for this study which includes; valence, length of review and review ratings. These various factors found in the content of online reviews are discussed in the following subparagraphs.

### **1.4.1. Valence**

Valence refers to the tone of an online review, which could either be positive or negative. A positively toned online review highlights the strength of a product, encouraging other consumers to buy the product or service. A negatively framed online review, on the other hand, reveals weaknesses and negative features that discourage people from buying the product (Lee, Youn, 2009). Cheung and Thadani (2012) identified that valence is associated with responses, implying that valence of a favourable online review is positive, in contrast to the valence of a poor review which is negative. The strongest influence of online reviews is highly evaluated within industries specialized in experience products and services, considering it is impossible for consumers to understand the products or services without using it (Somohardjo, 2017).

Previous studies have suggested that experience products get the most reactions from online reviews (Park & Lee, 2009). Most times, customers post online reviews because their level of expectations for the product were either too high or too low (Bone, 1995). Thus, online customer reviews can mostly be positive or negative (Chatterjee, 2001). A positive online review can result to a positive product perception and purchase intention while a negative review on the otherhand, can result to a negative product perception and purchase intention (Sorensen & Rasmussen, 2004). Furthermore, online reviews have been found to be beneficial for consumers' purchase intention towards a reviewed product (Cheng et al., 2009). Previous studies on the impact of online reviews towards booking intentions, suggested that consumer's purchase intention is highly influenced by positive reviews than negative reviews (Sparks & Browning, 2011). Previous studies have investigated the effects of review valence on shopping behaviour (Floh et al. 2013); hence, the first hypothesis will concentrate on valence.

In addition to negative perception and intention, negative reviews can reduce the level of trust for the original advert. (Huang & Chen 2006; Ye et al. 2009). Skowronski and Carlston's (1987) study is a remarkable conclusion on the negativity effect, which suggests that consumers place more confidence on negative information than positive information. Negative reviews are quite noticeable and draws more interest than positive information. Additionally, there are previous studies with regards to information processing, which also suggests that influence of negative reviews outweighs that of the positive reviews. Fiske (1980) suggested that negative reviews have a greater influence on the mind of the reader than positive reviews, which implies that attention effects are greater for negative online reviews.



In comparison to the notion about negative feedback, previous research has shown that favourable reviews result in positive product perception and vice versa. Online reviews are trustworthy and have a substantial influence on consumers purchase intention (Cheng & Zhou, 2010). Several findings indicate that positive online reviews increase purchase intention more than negative online reviews (Eastin et al., 2008, Sparks, Browning 2011). This is also to clarified with the understanding that positive online reviews hit the readers' positive emotional perceptions, bearing in mind all of the positive feedback published in the online review (Xia & Xia Bechwati, 2008).

#### **1.4.2. Review Length**

The length of an online review is a valuable consideration when reviewing its content, that is, the total number of typed words (Chevalier, Mayzlin, 2004). In comparison to longer online reviews, shorter online reviews are likely to contain less detail, while longer online reviews usually contain more detail and may be found more convincing than concise online reviews (Pan, Zhang, 2011). As a result, more detailed online reviews appear to attract more interest from users hoping to find the answers they need. Therefore, the length of an online review is one of the most essential elements used by consumers when gathering information about a product (Jarvelainen et al., 2013). There is a boost of confidence when there is more information available for consumers (Anderson, 2018).

The distinctions among search and experience products could have an influence on the length of an online review. According to Mudambi & Schuff (2010), “the length of online reviews increases the diagnosticity of search products review compared to that of an experienced products review”. Customer’s open-ended reviews provides additional information and explanation in addition to the review star rating which can influence consumers’ perception. Hence, when customers are willing to read and make comparisons, the number of reviews and/or information could matter (Mudambi & Schuff, 2010; Wang, 2010). Nelson (1970, 1974) suggests that it is quite convenient for users to collect detailed information about the quality of search goods before its purchase, hence the length of an online review has a link with the interest of the reader (Chevalier, Mayzlin, 2004, Zhang et al. 2014).

Consumers often spend additional time and conscious effort while evaluating alternatives, and still not have the confidence or motivation towards their purchase intentions or the actual purchase. Consumers are mostly confident about their intentions when the product information is highly diagnostic. Previous studies suggest that with increased amount of information to aid a purchase

decision, the confidence of the decision maker increases (Mudambi & Schuff, 2010). Similarly, the opinion of senior marketing managers was considered more persuading when they presented more information. In other words, a customer may exhibit positive tendency towards a product or service but is yet to make cognitive efforts in identifying the pros and cons or, make a list reasons for choosing the product. On the other hand, a consumer may have a negative perception towards a product but lacks the desire or motivation to search and consider information regarding about other alternatives. In such situations, a well detailed review from customers who have experienced the product or expended the effort is diagnostic, which would help influence the customer's purchase intentions (Mudambi & Schuff, 2010).

Longer online reviews are considered more convincing, with more detailed information about the product and the circumstances under which the product had been used (Mudambi & Schuff, 2010). Thus, the second hypothesis for this study considers these findings to examine whether the length of online reviews could have an influence on product perception.

### **1.4.3. Star Ratings**

There are two forms of star ratings in the tourism and hospitality sector. The hotel classification rating system and the online guest review. These features are of great interest and importance to the accommodation industry and tourism sector. These features act as independent and trusted source of information for consumers about the quality and standard of hotels' products and services, facilities, and influence consumer's choice (United Nation World Tourism Organization, 2014). In addition, they also provide hoteliers with the opportunity to position their brand appropriately, leveraging on the quality of their product-service offerings. In comparison with hotel classification system, critics have argued that online guest reviews are better at providing the benchmark for the quality and set of services a hotel offers (United Nation World Tourism Organization, 2014).

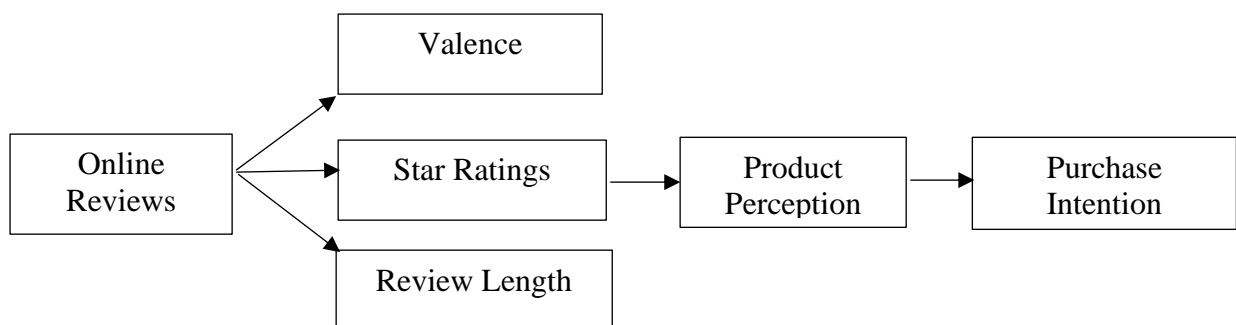
Most review platforms have features that allows reviewers rate their experience about the product or services. This single indicator reflects the overall valence of their review (Wu et al., 2011). Basically, these ratings numerically summarize the overall review content, ranges mostly from one star to five stars (Chevalier & Mayzlun, 2016). One star denotes extreme disapproval compared to five star which connotes utmost appreciation and satisfaction. The ratings are conspicuously

displayed to capture the immediate attention of readers. This important characteristic is usually found at the beginning of the reviews in most online review platforms.

On a five-point rating scale, reviewers may express a moderate view through three-star ratings. Previous studies reveal that, reviews with such neutrality are often perceived as less influential than those with extreme ratings (Pavlou & Dimoka, 2006). On the contrary, reviews that presents a strong argument with either recommending or criticizing a product or service helps intending users eliminate alternatives. Korfiatis et al. (2012) therefore argues that extreme reviews are more helpful in purchase decisions. Another school of thought considers moderate rating for online reviews to be more helpful compared to those with highest ratings (Crowley & Hoyer, 1994). This is based on the findings that moderate reviews presents positive (pros) and negative (cons) attributes of the product or service (Connors, Mudambi & Schuff, 2011). Hence, giving room to consumers to make their own purchase intention.

## 1.5. Conceptual Framework

This study focuses on the influence of online reviews towards hotel products and services. These products can be considered as experienced goods, whose characteristics or benefits are difficult to observe until they are consumed (Nielsen, 2012). Therefore, online reviews are considered useful in reducing purchasing risk of such product or services. Thus, it is expected that online reviews would influence consumer's perception especially when they highly rely on these reviews, to shape their purchase intentions. In addition, other elements such as the online review characteristics: valence which depicts how the message is framed, review length which focuses on the depth of information regarding the product as service, review star ratings which is the numerical valence and the online review design system, that is, how the star ratings are displayed and how easy it is to review and rate an item, can affect the product perception and purchase intentions.



## Figure 1.2: Conceptual Framework

The conceptual framework of this study, shown in Figure 1.2, is closely associated to the psychological choice model found in the study by Hansen (1976). This model expresses the effectiveness of online reviews as an influencer moderated by its characteristics (valence, star rating and review length) and the interaction among these variables that eventually determines the purchase intention. The conceptual framework of this study is consistent with previous research (Cheema & Papatla, 2010), which showed that the relative influence of online reviews is higher for experience product than search product. Klein & Ford (2010) suggest that consumer online experience is determined by their interest in multiple information sources.

Like these studies, the author adopts the view that online reviews and its characteristics can significantly influence product perception and purchase intentions. For this purpose, this study focuses on hotels whose online reviews will be analysed to examine its influence on their products and services, adopted methodology is well discussed in the following chapter.

## **2. RESEARCH METHODOLOGY**

This chapter focuses on the methodology used to conduct an analysis of online reviews' influence on product perception and booking intention of hotels in Estonia. To achieve the objectives of this study, this chapter is further divided into subchapters: research design, sampling, sample size, data collection instrument and validation, method of analysis and the limitation of the methodology.

### **2.1. Research Design**

The author, in order to achieve the aim of this study, adopted a quantitative and descriptive approach. This approach can be applied to research work than can be expressed in terms of quantity (Kothari, 2004).

The author through this research, wants to understand how online reviews influence consumers perception and purchase intention. The research is designed to use online review content and quantitative online survey to understand consumer perception and purchase intentions for hotels located in the well-known traditional medieval Hanseatic Old Town and the modern Ülemiste City.

Tallinn's Old Town is regarded as the beauty of Tallinn and inscribed as a World Heritage Site by UNESCO in 1997, gaining the position among the world's most recognised milestones ([www.visitestonia.com](http://www.visitestonia.com)). The town is situated in the heart of Tallinn which is regarded as one of the most beautiful cities in Northern Europe. The town is beautifully designed with medieval stone walls, narrow cobbled alleys, sky scrapping church bell towers, tall spires, etc. The town also possesses other remarkable sites that will certainly cause tourists' jaw to drop in awe, including modern buildings and architecture which holds some of the best hotels in town. In the same view, Ülemiste city is regarded as the place where "the future happens" (Technopolis, 2021). Ülemiste is the largest "Smart City" in the Baltics designed for ambitious talent and scaling businesses (Technopolis, 2021). Ülemiste city also holds interesting historical sites and developments dated from the 17<sup>th</sup> century.

Following a positivist view, the research is designed to investigate how consumers perceive their choice of hotel destination, given the importance of user generated content read from various online review platforms, social media, etc. This helps to create an understanding of the essence of online reviews and its influence in shaping customer's expectation before consumption. The design is built to understand the personal intuition of consumers when they read about others experience, to form their perception and intention to book.

In addition to complementing its descriptive and quantitative methodology, this thesis adopts a case study research strategy. This strategy is the reason why research in social science has the advantage to find answers to questions like "how" or "why", which is evident in the research question for this study (Yin, 2013). Following the study by Yin (2013), "a case study allows investigators to focus on a case and retain a holistic and real-world perspective such as in studying individual life cycles, small group behaviour, organizational and managerial processes, neighbourhood change, school performance, international relations, and the maturation of industries".

## **2.2. Sampling, Procedure, and Sample Size**

A total number of seven hotels were selected for this study. The seven hotels chosen are:

- Hotel Telegraaf,
- Meriton Garden Hotel,
- Kalev Spa Hotel and Waterpark
- Rija Old Town Hotel
- Hotel Ülemiste
- Hestia Hotel Susi
- Ibis Hotel

Of the above hotels, the first four are all situated in the heart of Tallinn's Old Town. Hotel Ülemiste, Hestia Hotel Susi, and Ibis Hotel were selected. The latter is situated within 2-kilometre distance to Ülemiste and less than 3 kilometres to the airport. A quantitative online survey involving a simple random sampling technique was used, which comprised of locals and internationals who filled in responses about their purchase intentions for hotel rooms. This sampling method suits the purpose of this study as a fair representation for its population, which

covers for millions of subscribers or users who visits these online review websites for their hotel booking intentions.

Table 2.1 Characteristics of Sample (Online reviews)

Nationality	Number	Percentage	Nationality	Number	Percentage
Estonia	1,417	40.2%	Belgium	21	0.56%
Finland	490	13.8%	United States	19	0.54%
Latvia	357	10.1%	Belarus	16	0.45%
Russia	351	10%	Denmark	16	0.45%
Lithuania	217	8.5%	Switzerland	14	0.40%
Germany	115	3.26%	Ireland	13	0.37%
UK	79	2.24%	Australia	12	0.34%
Poland	57	1.62%	Austria	11	0.31%
France	52	1.47%	Hungary	10	0.28%
Italy	50	1.42%	Others	66	1.87%
Netherland	50	1.42%			
Norway	33	0.94%	Total		100%
Ukraine	32	0.71%			
Spain	30	0.85%			

Source: Author's Compilation

The study, as shown in Table 2.1, shows the demography of customers whose online reviews are analysed, as regards their nationality. The table consist of countries with 10 or more consumers whose reviews are being analysed, following the data collected.

Table 2.2 Characteristics of Sample (Survey)

		Frequency	Percent	Valid Percent	Cumulative percent
		706	100	100	
Age	18 – 29	312	44.2	44.2	44.2
	30 – 39	240	34.0	34.0	78.2
	40 – 49	67	9.5	9.5	87.7
	50 – 59	79	11.2	11.2	98.9
	60 and Above	8	1.1	1.1	100
Gender	Female	337	47.7	47.7	47.7

	Male	369	52.3	52.3	100
Educational Qualification	High School	40	5.7	5.7	5.7
	Bachelor's Degree	272	38.5	38.5	44.2
	Master's Degree	329	46.6	46.6	90.8
	Ph:D	17	2.4	2.4	93.2
	Others	48	6.8	6.8	100

Source: Author's Compilation.

A total number of 732 respondents participated in this study, which had 26 invalid responses. More than half of the group were males (52.3%), and 47.7% were females, the male and female relationship is almost equal. Majority of the respondents were within the ages of 18 – 29 (44.2%). In terms of academic qualification, a total of 46.6% (Table 1) accounted for those with Masters' degree, 2.4% have Doctorate degree, 38.5% Bachelor's degree and 5.7% have completed their high school education.

### **2.3. Data Collection, Instrument Reliability and Validation**

Data collection was done in two phases: the first of these is through the extraction of online reviews from world renowned online hotel booking and review platforms following the study of Xu et al., (2017). This is done with the aim of presenting a more realistic condition (Mudambi & Schuff, 2010). Due to insufficient data from the extracted online reviews to help answer the main research question. Secondly, a questionnaire was administered through a simple random sampling technique. The questionnaire will contain a range of questions to help measure consumer's purchase intentions (Zhao et al., 2015).

Furthermore, having selected the seven hotels in Tallinn, the author collected online reviews from four of the world's most visited travel websites namely: Booking.com, Tripadvisor.com, Expedia.com and Hotels.com. Booking.com accounts for hotels and apartments in 225 countries, with its presence in 70 countries. In addition, booking.com has over 6.2 million listing in homes and apartment, and a total of 28 million accommodation listing (booking.com, 2021). It is no



wonder that the source alone makes up over 80% of the data collected for this study. The reviews collected was for the period of January to December 2020. Specifically, a total of 4,128 online reviews were collected using a web scraper. Among the reviews collected, 702 reviews had no comments, while 13 reviews had no star ratings. Thus, the resultant 3528 reviews, out of which 3,024 online reviews were obtained for hotels situated within Ülemiste and 504 for hotel in Old Town, were admitted for analysis. For each review, the following data items were collected: the review content, review date, review star rating, review title, and reviewers' location. These data collected are visible in all four sources, as these websites are designed with different styles and availability of information.



Figure 2.1. Screenshot of customer online review.

Source: Booking.com (2021)

The author, having collected the raw data, applied sentiment analysis, a natural language processing technique to mine the data. Sentiment analysis is also called opinion mining, which is used to detect the implicit expressions of consumers in their reviews (Xu et al., 2017). Although, there are other types of data analysis techniques that has been discussed in previous studies to determine positive and negative sentiment such as data mining, optimization methods, machine learning, web mining, latent semantic analysis (Xu et al., 2017) According to Godsay (2015), the technique is applied in five phases: the goal setting phase, content pre-processing phase, parsing the content, content refinement and analysis and scoring. This technique was only used to determine the valence of the online reviews. By valence we mean positive and negative online reviews. The technique was basically applied to overcome information overload of the unstructured texts.

Data in a text form is one of the most unstructured forms of data. Previous studies (Xing et al., 2015; Bhatt et al., 2015), have used sentiment analysis to analyse product reviews retrieved from

amazon. The process begins with the goal setting phase where the aim of the sentiment analysis is determined (that is positive or negative output), also the scope of the reviews. Secondly, is the data processing stage which (also called the pre-process phase) involves the removal of non-textual information. Basically, data pre-processing involves cleaning the text or data by removing unwanted information such as punctuations, stop words such as “this”, “is”, “and”, date of the review, reviewer’s name, etc. which are not needed for the sentiment analysis. During the content parsing stage, the words are segmented according to their polarity, that is, whether the word or phrase would give a positive result or negative output, tagging and identifying terms and parts of speech used. Content refinement analysis, similar to pre-processing involves fine stops words and synonyms. Lastly phase is sentiment and scoring to determine the positive and negative sentiment from the reviews and sentiment score. A summary of the result can be found in appendix 3.

The questionnaire was adopted, using the earlier studies of Zhao et al., (2015), modified to address one aspect of the research hypothesis. This one aspect is the purchase intention. The questionnaire asides from collecting the demographic data of respondents, 8 questions are formulated for purchase intention. This aspect will be measured on a “5-point Likert scale with 1 representing totally disagree, 2 = disagree, 3 = neutral, 4 = agree; 5 = totally agree” (Zhao et al. 2015). The author observing ethical responsibility, assured respondents that their responses will be used for only for academic purposes and would be treated with utmost privacy and confidentiality. Thus, measurement questions for purchase intentions in terms of agreement level were adopted from Zhao et al. (2015): “Online reviews are my main information channel”, “I always pay attention to hotel reviews when I book hotels”, “Negative reviews will terminate your booking intentions”, “I will not book a hotel with abundance of positive reviews”, to mention a few. Before deeper analysis is done, these items of purchase intentions are evaluated for reliability and validity using Cronbach’s alpha.

Cronbach’s alpha is a reliability and trustworthiness analysis used to assess the relationship between different items as a group (Lance et al, 2006). Cronbach’s alpha shows the level of internal consistency of the variables being analysed. The trust worthiness coefficient of Cronbach’s alpha lies between 0 and 1. The minimum acceptable range should be 0.70, coefficient higher than 0.7 is regarded as a satisfactory Cronbach’s alpha (Lance et al., 2006). In this study, the internal reliability variable Cronbach  $\alpha$  is 0,71.

## **2.4. Operationalization of Data**

To analyse 1, 2 and 3 hypotheses, the author used Statistical Package for Social Scientist (SPSS Version 26.0), in which regression analysis was performed for the purpose of this study. Before proceeding, the independent variables collected are valence, that is, positive and negative reviews, review start ratings and review length. The review length defined as the total number of typed words for each review is quantified by average of the total number of words from online reviews extracted (Chua & Banerjee, 2014; Somohardjo, 2017). This was used to split the reviews with high and low word counts. Specifically, there were 2,425 reviews with 21 words or less, and 1,103 reviews with words above 21. Review star rating is defined is described as the numerical value of a review given by the reviewer usually on a scale of 1 to 5, however, sources like booking.com and hotel.com have their ratings on a scale of 1 - 10. The dependent variables product perception is operationalized using star ratings, while purchase intentions is operationalized following the responses gathered from the online survey distributed through a simple random sampling technique. This is derived by the average number of responses received from each respondent.

## **2.5. Method of Data Analysis**

Simple linear regression was then applied to perform the remaining part of the data analysis for the study, including the data obtained from the survey. Previous studies (Moon et al., 2014), have expressed that adopting sentiment analysis for this study would improve the predictive power of the linear regression model. Thus, after determining the attributes of consumers' online positive and negative reviews, identifying the star ratings review length, and results from online survey the author conducted a regression analysis with the aid of a software program, Statistical Package for Social Scientist (SPSS Version 26.0). Liu et al. (2013) also used regression methods to predict the influence of online reviews based on linguistic, product, information quality, and information theory features. Racherla & Friske (2012) also proposed that review characteristics, that is, review elaborateness and review valence indicated review helpfulness. Ordinary least squares regression was used to predict the outcomes. Regression model was also applied in the study by Mudambi & Schuff (2010), to measure the influence of online reviews based on number of votes to a review, number of people who perceived the review as helpful, number of star and word count. Huang & Chen, (2015), further extended their study using slightly modified regression equations to measure online review helpfulness.

The three-hypothesis tested are:

H1: There is no influence of valence on product perception.

H2: There is no influence of the length of online reviews on product perception.

H3: There is no influence of product perception on purchase intention.

## **2.6. Limitation of the Chosen Methodology**

The reliability and generalizability of the findings from this study may be limited by the small sample size. To analyse the product perception and purchase intention of consumers of incoming visitors to Tallinn Estonia, a larger sample would be in order. Besides increasing the sample size, an idea for further research could adopt an experimental research design, include more hotels, and/or conduct a comparative study with other countries (e.g., Latvia, Lithuania, Sweden, Netherland, Italy, etc.) to make one's study a more robust one.

### **3. DATA PRESENTATION AND ANALYSIS**

This chapter focuses on the presentation and analysis of data collected from the online reviews and questionnaire conducted. Data gathered are from 3528 online reviews from four online review and hotel booking websites, and from 715 respondents on their purchase intentions for hotels. The data size is large to ensure a more precise and accurate estimate of the process parameter. The following results of the analysis are shown in the subchapters below.

#### **3.1 The Empirical Context in the Tallinn Hotel Market**

The tourism and hospitality market is recognized as one of the vital contributors to Estonia's economic growth, competitiveness and export. In addition to being regarded as an engine that provides employment. The tourism market contributes an estimated 7.8% of the economy's GDP and 4.3% of employment. In 2018, Estonian tourism revenue attained a new record Of EUR 2 billion, out of which international visitors generated EUR 1.5 billion, to sustain the positive trend experienced over the past years (OECD Tourism Trends and Policies, 2020). In 2019, accomodation establishments including airbnb and other rental accommodation, lodged 3.8 million tourists who spent 7 million nights. This includes various travel purposes ranging from holiday trips, business trips, conference/meeting, etc (visitestonia.com, 2021). Out of the 3.8 million tourists, 2.3 were foreign tourist while 1.5 million were domestic tourists. There was a significant growth of 5.5% in comparison with the previous year. In addition, the total overnights in Estonia sumed up to 7 million, overnights by foreigners 4.4 million, and 2.6 by dometic tourists (visitestonia.com, 2019). Some of the top markets for Estonia are Finland (although Finland showed a decrease by -1.8%) which constitutes the larger market for inbound visitors, others include Latvia, Russia, Lithuania, Germany and Sweden. There has also being an increase with regards to the growth markets, that is, United States, Japan and United Kingdom (OECD Tourism Trends and Policies, 2020).

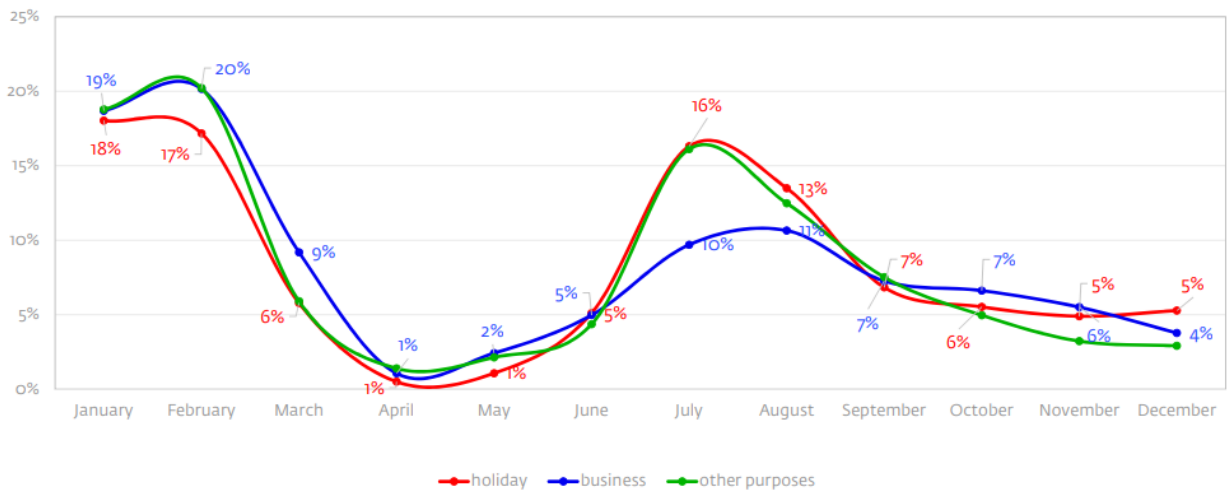


Figure 3.1. Seasonality by purpose of travel in Estonia.  
 Source: VisitTallinn.ee (2021).

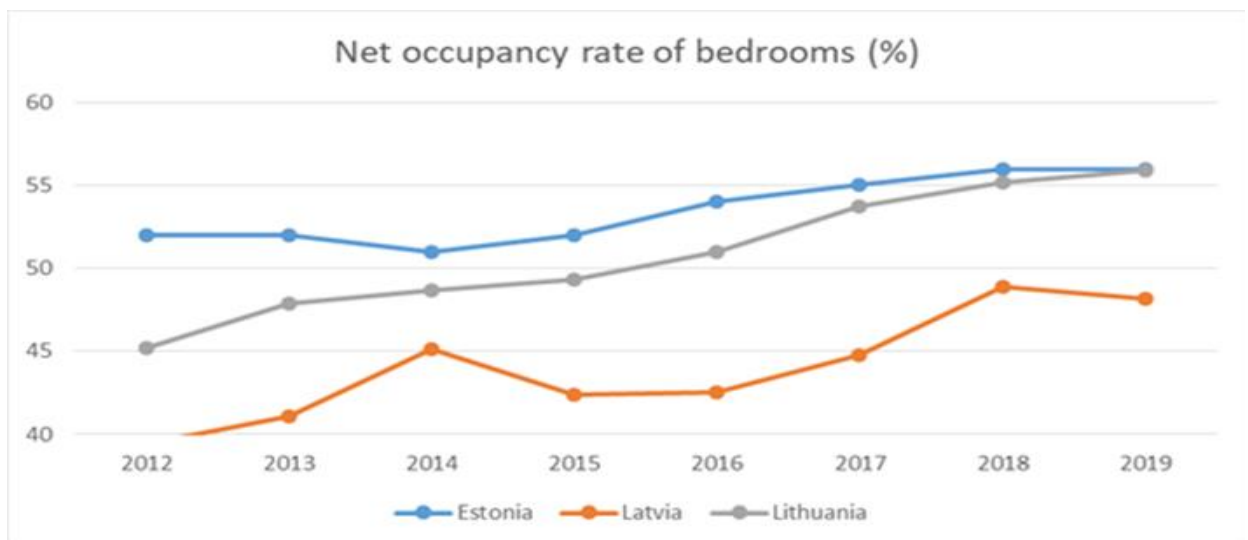


Figure 3.2. Net Occupancy rate of bedrooms  
 Source: Eurostat Database (2021)

Tourism is one business that cannot survive without the movement of visitors (Sharma et al. 2020). According to Tallinn City Tourist Office & Convention Bureau (2021), the number overnights by foreign and domestic tourists in 2020 reduced by 65% found in appendix 2. Specifically, the number of tourists and overnight accommodation fell by 1.8 million and 3.3 million respectively, due to the effects of the pandemic, associated with border and travel restrictions (visitestonia, 2021). Despite this heavy setback, the Estonian tourism sector has recorded successful results over the years as shown in figure 3.2, the statistical indicator depicts that the Estonian tourism industry

hold a strong positioning, competitive edge and exceptional performance when compared with her neighbouring countries. In addition to hosting over 60,000 conference delegates, hosting international culinary competition which puts Estonia on the world map as a food country, among other areas which makes Estonian destination the strongest, for instance, her pure nature, authentic local culture, etc.

### 3.2. Inferential Analysis

The author used the IBM SPSS (Statistical Package for Social Sciences) version 26 linear regression as a significant predictor to analyse the influence and significance of two constructs which are product perception and purchase intentions.

#### 3.2.1. Regression Analysis of Valence on Product Perception

This analysis aims to test the null hypothesis H1 using simple linear regression. It seeks to explain whether valence, is a good predictor of product perception for hotel product and services.

Table 3.1. The Model summary for Valence on Product Perception

Model Summary

Model	R	R. Square	Adjusted R Square	Std. Error of the Estimate
1	.446 <sup>a</sup>	.199	.198	1.508

Table 3.2. ANOVA for Valence on Product Perception

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1989.428	1	1989.428	874.487	.001 <sup>b</sup>
	Residual	8021.434	3526	2.275		
	Total	10010.862	3527			

Table 3.3. The Estimated coefficients for Valence on Product Perception

Coefficients<sup>a</sup>

Model		Unstandardized B	Coefficients std. Error	Standardized Coefficient Beta	t	P-value
1	(Constant)	12.682	.144		87.782	.000
	Valence	-4.062	.137	-.446	-29.572	.001

IBM SPSS v26 Regression Analysis

Source: Author's Computation

Based on the ANOVA table above, it is valid that valence is a good predictor of product perception with its F value at  $(1,3526) = 874.487$ , and the P value at 0.001. The P value is less than alpha .05. Furthermore, from the Table 3.2.1 Model summary, we can see that 19.8% of product perception (adjusted R square) can be explained from the valence. The coefficient table (Table 3.3) also shows a significant influence (Sig .001) of valence on purchase intentions. This is an indication that the regression model is significant.

Decision Criteria: If Sig. (p-value) is less than alpha (.05), we reject the null hypothesis, otherwise we accept. Based on the results above, with the p value at 0.001 in table and Sig in Table 3.3.2 the null hypothesis which states that there is no influence of valence on product perception is rejected.

### 3.2.2. Regression Analysis of Online Review Length on Product Perception

This analysis aims to test the null hypothesis H2 using simple linear regression. It seeks to explain whether online review length, that is word count, is a good predictor of product perception for hotel product and services.

Table 3.4 The Model Summary for Review Length on Product Perception

Model Summary

Model	R	R. Square	Adjusted R Square	Std. Error of the Estimate
1	.341 <sup>a</sup>	.116	.115	1.705



Table 3.5 ANOVA for Review Length on Product Perception

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	420.395	2	210.198	72.289	.001 <sup>b</sup>
	Residual	3198.531	3526	2.908		
	Total	3618.926	3527			

Table 3.6 The Estimated Coefficients for Review Length on Product Perception

Coefficients<sup>a</sup>

Model		Unstandardized B	Coefficients std. Error	Standardized Coefficient Beta	t	Sig
1	(Constant)	9.287	.096		96.519	.000
	Short Reviews	-.097	.009	-.313	-11.022	.001
	Long Reviews	-.005	.001	-.121	-4.255	.000

IBM SPSS v26 Regression Analysis

Source: Author's Computation

Based on the ANOVA table above, it is valid that review length is a good predictor of product perception with its F value at  $(2,3526) = 72.289$ . The P value is less than alpha .05. Furthermore, from the Table 3.4 Model summary, we can see that adjusted R square accounts that 11.5% of product perception can be explained from the review length. The coefficient table (Table 3.6) also shows a significant influence (Sig .001) of valence on purchase intentions. This is an indication that the regression model is significant.

Decision Criteria: If Sig. (p-value) is less than alpha (.05), we reject the null hypothesis, otherwise we accept. Based on the results above, with the p value at 0.001 in table and Sig in Table 3.5 the null hypothesis which states that there is no influence of valence on product perception is rejected.

### 3.2.3 Regression Analysis of Product Perception on Purchase Intention

This test seeks to test the null hypothesis H3 using the simple linear regression. The aim is to see whether product perception using star ratings is a good predictor and influence of purchase intentions.

Table 3.7 The Model Summary for Product Perception on Purchase Intention

Model Summary

Model	R	R. Square	Adjusted R Square	Std. Error of the Estimate
1	.032 <sup>a</sup>	.001	.000	.583

Table 3.8 ANOVA of Product Perception on Purchase Intention

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.324	2	.162	.477	.621 <sup>b</sup>
	Residual	186.456	704	.340		
	Total	186.780	705			

Table 3.9 The Estimated Coefficients of Product Perception on Purchase Intention

Coefficients<sup>a</sup>

Model		Unstandardized B	Coefficients std. Error	Standardized Coefficient Beta	T	Sig.
1	(Constant)	4.102	.096		26.249	.000
	Low Ratings	-.015	.016	-.041	.963	.336
	High Ratings	.000	.014	.001	.033	.974

IBM SPSS v26 Regression Analysis

Source: Author's Computation

From the regression analysis, the ANOVA table (Table 3.8) depicts that star ratings do not successfully predict of the outcome variable purchase intentions with its F value at  $(2,704) = .477$ ,

and the P value at .621. The result is further explained from the model summary (Table 3.7), the adjusted R square indicating no prediction from star rating. Table 3.9 also indicated that there is no significant influence of star rating on purchase intentions.

Decision Criteria: If Sig. (p-value) is less than alpha (.05), we reject the null hypothesis, otherwise we accept. Based on the results above, the p-value is .621 as shown in the results above, hence the null hypothesis (Ho) which states that there is no influence of product perception on purchase intention is accepted. Further discussion about these results is discussed in the next chapter.

## **4. SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter discusses the summary of findings, conclusion and recommendation made based on the results of the tests conducted. This research paper, as stated in the introduction aims to understand how and why online reviews are influential on product perception and purchase intentions for hotels in Estonia. This chapter also seeks to explain in detail about the result whether online reviews influence product perception and purchase intention.

### **4.1. Summary of Findings**

Three major insights can be drawn based on the current results. First, the result showed that *valence has a significant influence on consumers' perception for hotel products*. That is, many previous studies have investigated the relevance of valence of online reviews (eWOM) in other context, Chevalier & Mayzlin (2006) have suggested that negative reviews had a greater impact, Shin et al (2008), finds that both negative and positive reviews have a great impact on purchase involvement for price charged. The result of this study is to strengthen these earlier findings that valence of consumer's review is important in predicting product perception, which contributes to the literature linking valence to product perception and purchase intentions. This finding is similar with previous studies which reveals that positive reviews could be perceived as more influential and helpful with regards to suggesting other considerations for the product (Mudambi & Schuff, 2010). The result also conforms with previous findings by Chevalier & Mayzlin (2006) which posit that review valence has an influence on consumer attitude and book sales on Amazon.

Secondly, the insight from the result of thus study is consistent with previous studies about online review length (Mudambi & Schuff, 2010; Chua & Banerjee, 2014). *Online review length turned out also according to this study to be a useful support that aids product perception and consumer's decision through*. This is highly evident that reviews with substantial depth of information regarding the product and services, command a sense of adequacy and competence. Review length in other words, appears to match consumers' expectations and aid information processing during

their decision-making process (Wang, 2010). Following the finding by Vessey & Galetta (1991), results in a cognitive fit, proliferating the influence of online reviews. More importantly, the results in Table 3.5 would suggest a strong influence for review length on product perception. This also implies that consumers consider the weight of information reviews while considering a product or service, whether the reviews are well detailed or not. Although, when reviews are overly lengthy, consumers may be reluctant to read through. However, short reviews can be considered too simplistic or too trivial for consumers to appreciate.

Lastly, the result from the analysis supports hypothesis three (H3). Table 3.9 shows a p-value of .336 and .974, meaning that product perception across high and low star rating is much different, that is, *star ratings does not significantly predict the purchase intentions of consumers towards hotel product and services*. One possible reason for this finding is that consumers or intending travelers could have different requirements while considering whether they will book the hotel or not. Consumers may focus on different aspects on the online reviews, especially on comments based on the attributes of the hotel product and services, they rely on for their satisfaction. These attributes could range within comments on high price, low value, poor/noisy location, poor facilities and amenities, operation issues (not so friendly staffs, check in/check out problems, high parking costs), etc., these factors mentioned are influential for customers to determine whether they will book a hotel or not. This result is consistent with the theory of information integration (Anderson, 1981), that consumers are more like to accumulate information from all possible sources for the purpose of making an overall evaluation. Another interesting reason for this result can be attributed to the response from the online survey, which could suggest that customers' reliance on online reviews maybe influenced based on other factors other than the review star rating. Furthermore, the prediction of purchase intentions could lie outside the scope of this study, which could be affected by the demography of consumers who consider these reviews, consumers' motivation, and subjective perception either to go for or against reviews and lastly with reviewers who are not totally honest with their reviews (Wang, 2010).

In addition to these unique and interesting findings from this research is that despite the impact of the global pandemic, the author was able to obtain quite a reasonable number of online reviews for this study, which shows that people are still interested in coming to Tallinn for their vacation. Based on the findings from the questionnaire administered to understand purchase intention, majority of the respondents within the age range of 18 to 50, which constitutes of mostly single, young adults, students, working class, bachelors etc. preferred to book hotels with four or five-

star ratings while the older group which comprises of 51 years and above did not agree, which conforms with previous findings by Ye et al. (2009) that online reviews with higher star ratings will influence more booking intentions. Similarly, 66% of the respondents with up to Master degree qualification, agreed that more detailed reviews matter more than the vague ones. Approximately, 64% of both male and female respondents agreed that more than one negative review will terminate their booking intentions, while 36% of the respondents disagreed. This result similar with previous research that negative valence is considered very important than other online review characteristics (Zhao et al. 2015).

Although the survey at hindsight, did not capture the nationalities of the respondent, however the pattern of reviewers from online reviews obtained for selected hotels, suggests that locals and internationals preferred to book hotels within both selected areas based their purpose of visit ranging from leisure, business, other reasons from their reviews includes; proximity to the airport, attraction sites, great sights and glamour of Old Town, need for a quiet relaxation, avoiding normal routines amongst others.

Furthermore, consumers' selection and booking intention could rely not only on the little information provided by these booking websites about the hotel qualities, amenities and location, but also consider information obtained from hotel website, recommendations from family and friends, past experience, etc (Pantelic, 2017). However, these interesting findings in the author's opinion, are reasons to believe that consumers whether locals or internationals, leisure or business purposes could view both locations as the same to suit their accommodation needs. This creates room for a practical based research into the Estonian tourism industry particularly with aim to understand possible reasons for consumers' choice of hotel location and/or accommodation between Old Town and Ülemiste City, Tallinn.

## **4.2. Limitations**

Like many other studies, there are limitations that are inherent in the study that should be acknowledged and serve as indicators for future studies. The author collected data from more than one source: like booking.com, tripadvisor.com, hotels.com, and espedia.com. While there was thus a diversity of data sources, the unstructured nature of the data collected could have limited or impaired data richness. Sources like booking.com and hotel.com have their online review star ratings on the scale of 1 to 10, compared to TripAdvisor and Espedia whose star ratings for online reviews are on the usual scale of 1 to 5. Such differences in rating criteria could weaken the

argument of this study that classifying what could be determined as either high or low star ratings does not matter much. Also, the author would like to note that due to limited variables, the study adopted star ratings to measure product perception which limits the understanding on the extent to which product perception may be understood, and how it influences purchase intentions. However, can be used for an objective and data driven approach for future studies This is not without the consultation with professors, colleagues, and similar studies that have investigated review ratings (Duan, Gu & Whinston, 2008; Liu, 2006) who found out that review ratings have no significant relationship with movie sales. Hence caution may be exercised in attempt to relate the findings to other types of products or services.

### **4.3. Future Research**

A few research directions are identified for future studies. First overall purchase intention of consumers from online reviews can be studied. A comparative study between product perception found in star ratings and purchase intention can be conducted. Although this study collected data from different platforms, caution maybe applied with regards to available information and review features such as star rating scale type, helpful votes, review contribution, etc., to determine whether results hold. In addition, having collected online reviews during the pandemic year (2020), future studies could also consider a comparative study with other years (for instance, 2018 or 2019) when the tourism industry was considered to be at its peak to ensure a richer data and robust study.

Secondly, the study focused on extracting positive and negative reviews that influences customers perception and purchase intentions towards hotel product and services. There are possibilities that online reviews may not only reflect these factors. In addition to the use of survey, further studies can also examine these factors through interviews with customers, customer comment cards and so on. Another possible research direction might involve comparing product perception found in online reviews and other review sources like social media, hotel official websites, etc., which may also influence perception and purchase intentions. This makes a study on different online reviews sources of product perception and purchase intention a possibility that should be considered.

## **Conclusion and Implication**

The present study examines the influence of online reviews and its characteristics, that is, valence, review ratings and review depth towards product perception and purchase intentions for hotels in Estonia. With data extracted from popular review platforms like booking.com, tripadvisor.com, etc., the results indicate that online review characteristics valence and review length positively influence product perception, while review star ratings showed no influence towards purchase intention.

The findings from the present study has important contributions and implications for both theory and practice. On the theoretical aspect, this study builds on strengthens previous literature by presenting a conceptualization of factors that are influential to consumers decision, product perception and purchase intention, in the form of online reviews posted by customers who have experienced the products or services. It extends the literature by linking the influence of online reviews to valence, review length and review ratings. The findings suggest that both positive and negative reviews contributed by reviewers are perceived to be influential in shaping customers perception and purchase intentions. Furthermore, review length either long or short proved to be influential in shaping consumers intentions, which suggests that consumers tend to appreciate online reviews that are not too long nor too short, or that we may have a significant proportion of consumers who prefer long reviews than others. The methodologies applied in this study, sentiment analysis, regression, and online survey, provides alternative and efficient approach towards future on research on online customer reviews.

On the practical perspective, there are implications from the present study for users, business owners and hotel managers, as well as website developers. The first notable finding from the current study could help consumers write better reviews. It is important that consumers who have experienced the hotel's products and services, strike a balance as regards the review length, to avoid writing a review that is very sketchy or overly detailed with information. This would help users especially intending consumers to evaluate which reviews are influential in making well-informed decisions. Again, businesses and managers can explore these reviews that are likely to influence consumers' perception and purchase intentions to keep tabs on areas of satisfaction (high perception) or dissatisfaction (low perception), about the product or services. If well addressed, can result to a win-win situation for both the business and consumers.



Businesses can adopt the information generated from online reviews to advocate the benefits of their products and services as mentioned by customers. These favorable reviews can be used as successful reference for marketing purposes. Lastly, website developers of these online review platforms may also consider including the information of those consumers vote reviews as helpful towards influencing their purchase decision. This would also help eliminate doubts regarding the review valence, star rating and length of information. This feature is not available on most popular hotel booking and review websites.

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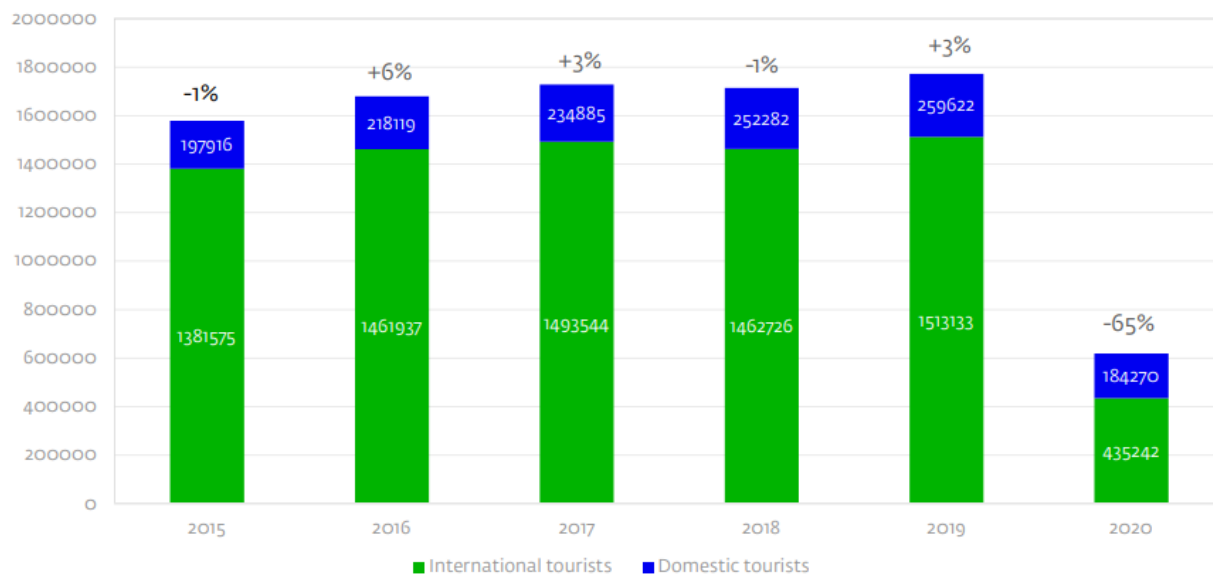
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## **APPENDICES**

### **Appendix 1. Questionnaire on Purchase Intentions**

1. Online reviews are very important channel of information for me.
2. I pay close attention to hotel reviews when I book hotels.
3. More than one negative review of a hotel will terminate my booking of a room or rooms in that hotel.
4. I go only for a hotel whose reviews is rated 4 or 5 stars.
5. Detailed reviews matter to me more than the vague ones.
6. I pay attention to reviews with 3 or less star ratings.
7. Abundance of positive reviews for a given hotel will make me suspicious of those reviews.
8. Summarized reviews are as valuable to me as the detailed ones.

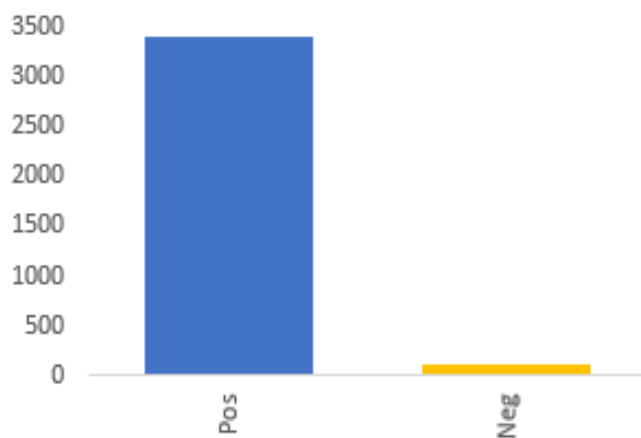
## Appendix 2. Accommodated Tourists in Tallinn from 2015 to 2020



Source: VisitTallinn.ee (2021).

### Appendix 3. Summary of Sentiment Analysis

Reviews Rating	Review Text	Review Title	Review Score	Review Length
9	Reception staff, very friendly, professional and helpful....	Superb	Positive	20
10	Best value for money. Location is great, close to everything...	Exceptional	Positive	44
3	The envelope that comes with the door card could have the correct breakfast times on it. Breakfast was missed...	Poor	Negative	24
5	Good location in centre of Tallinn city, Estonia. Spa, hotel, gym, swimming pool & restaurant...	Good Location	Positive	37
3	Close to the airport. Breakfast was bad, elevator not working, poor mattress...	Poor hotel and poor service	Negative	48



Classifying reviews as positive or negative

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