# Erasmus University Rotterdam
# Erasmus School of Economics

Bachelor Thesis Marketing

## Exploring the Influence of Online Travel Review Accommodation Attributes on Travel Decisions of Generation Z Consumers in the Netherlands

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# Abstract

Online travel reviews play a pivotal role in shaping the travel decision-making process of Generation Z consumers in the Netherlands, as they heavily rely on digital platforms to gather information and assess accommodation attributes. With the travel agency industry in the Netherlands being the third large in Europe, the citizens highly rely on, and value information presented on a large variety of travel platforms when making travel-related decisions. Also, with Generation Z being the next up-and-coming travel generation with clear differences in travel preferences, this paper aimed to answer the following research question: *What is the impact of online travel review accommodation attributes on the travel decisions of Generation Z consumers in the Netherlands?* This question was further broken down into the three following sub questions: (1) Which review accommodation attributes have an impact on the travel decision? (2) Which review accommodation attributes are considered most important when making travel decisions? (3) What is the current state of travel choices made by Generation Z consumers in the Netherlands?

Though there are many academic papers that discuss the impact of online reviews on consumer behavior, and the impact of accommodation attributes on the perceived usefulness of online reviews, a gap in the literature is present for accommodation attributes importance specific to the Dutch and Generation Z consumers. Drawing conclusions from and discussing prior academic literature, this study aimed to cover the significance of accommodation attributes and compute the difference in the relative importance of each attribute. The literature highlighted many different accommodation attributes having a positive impact on consumers' travel decisions, with a large overlap in papers for 6 attributes: value for money, staff attitude, location, rooms, cleanliness, and facilities. Furthermore, from other academic papers' relative importance of attributes for different target respondents, many concluded that value for money, staff attitude, and cleanliness deem to be more important than attributes like location and facilities. Lastly, though limited information is available, academic papers discussing specifically Generation Z travel behaviors and Dutch consumers' preferences for attributes were discussed, concluding that attributes value for money, location, cleanliness, and rooms seemed to be most important for the target sample. From this literature review, four hypotheses were developed: (1a-f) Each attribute included in an online review impacts consumer travel decision-making process positively, (2) Value for money and staff attitude are considered more important attributes than facilities, (3) Cleanliness and Value for Money are

considered more important attributes than Location. (4) Location, value for money, cleanliness, and rooms are the most important attributes for Generation Z travel consumers.

Using a survey and performing a choice-based conjoint analysis, findings suggested, computed through parameter estimates, a likelihood ratio test, and an effects marginal test, that the presence of the 6 accommodation attributes in online reviews has a positive and significant impact on consumers' travel decisions. The findings further presented that cleanliness and rooms are valued most important for the respondents, whilst facilities least. Furthermore, interaction effects present between value for money, staff attitude, cleanliness, and two control variables, age, and occupation, are present and limit the unique effect of each attribute. Hereby, the results concluded that hypotheses 1 and 4 are supported, whilst hypotheses 2 and 3 cannot be accepted, showing contradictions with the results presented in the literature. Potential differences in results could be explained by differences in travel preferences and behavior of the target sample and the existence of the interaction effects between controls. Overall, the results implied that travel agencies and the tourism market should adjust their platforms for reviews to include these 6 attributes, and this information presented allows travel companies to tailor their marketing techniques and offerings to accommodate to the interest of Generation Z consumers in the Netherlands. Furthermore, potential further exploration of a different sample group, different attributes, or segmenting between control groups would be encouraged for future researchers.

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# 1   Chapter 1

## 1.1   Introduction

In this digital age, with the prevalence of internet and social media use, the importance of online reviews has become evident for the travel industry. Online reviews have increasingly become apparent, critical, and credible sources of information, as more consumers turn to them to inform their travel decisions (Tsaur et al., 2014). According to a recent study by TrustYou (2021), 95% of travelers read online reviews before making a booking, and 76% are even willing to pay more when a hotel has higher review scores (Perrin-Monlouis, 2021). As tourism products' intangible and heterogeneous characteristics make it hard to evaluate their quality, online reviews help acquire this information and minimize potential risks (Yang et al., 2017). As online reviews gained popularity, so did online travel agencies, with agencies like TUI, De VakantieDiscounter, Corendon and D-Reizen dominating the online tourism sector in the Netherlands. Having the Dutch travel agency industry be the third largest in Europe, with an approximate market share of 5.8 billion euros, Dutch customers value the practical and realistic reviews left on a large selection of travel destinations offered on these platforms (*IBISWorld - Industry Market Research, Reports, and Statistics*, 2023). Moreover, this growth will keep continuing, and is especially apparent post COVID-19, where a record number of more than 3 million Dutch citizens booked a vacation from a travel agency in January 2023 (Stoffer, 2023).

## 1.2   Research Problem & Motivation

In prior academic research, the impact on online reviews on consumer behavior has been researched extensively. Papers discussing the significance of e-word-of-mouth (eWOM) on travel decisions, the importance in growth of consumer-generated content (CGC) on informing travel-related decisions, and the confirmation of e-reviews providing the most referential information source, are all studies that conclude the relevance of online reviews for the travel industry (Chong et al., 2018; Gretzel and Yoo, 2008; Sidali et al., 2009). Some academic papers also have discussed the importance of strategic responses to consumer reviews, where Chen and Xie (2008) evaluated when and how the seller should adjust its marketing communication strategy in response to consumer reviews. In recent years, academic papers

have begun to discuss the usefulness of online reviews, evaluating the difference between qualitative and quantitative attributes impacting the perceived usefulness of reviews (Liu & Park, 2015). Different attributes which are important in strengthening the credibility of the review, like writing quality, rated review usefulness and review length, have been used in a conjoint analysis to measure the importance for consumers when evaluating a travel choice (Soares et al., 2020). Furthermore, review attributes linked to the travel accommodation; value, service, rooms, and location, also have been discussed to identify which features of the travel experience are important to consumers (Rhee & Yang, 2015). When further exploring this topic, these different levels of attribute importance have been used in determining the credibility of an online review, where studies explored differences in involvement to the product, differences between positive and negative review-ratings and amongst different types of travel groups (Murphy & Chen, 2014; Yang et al, 2017). These academic papers highlight the attempt to evaluate the importance of online review accommodation attributes on perceived usefulness for travel decisions and draws comparisons from different groups or associations with the travel products. This leads to potential exploration possibilities to further expand these discussions in attempt to draw conclusions to a specific demographic, specifically the Generation Z consumers living in the Netherlands.

As mentioned previously, online travel agencies play a crucial role in consumers' travel decisions in the Netherlands. Specifically, Generation Z, including individuals born between 1997 and 2012, are a relevant group to study given their digital native and reliance on online sources to inform their decisions. With a population of 17 million, Generation Z exists out of more than 17% of the Dutch population (*Netherlands: Population, by Age and Gender 2022 | Statista*, 2022). According to a study computed by Deloitte, Generation Z consumers differ significantly in their values and preferences compared to previous generations, involving a preference for personalization, digitalization, and authenticity (NEW, 2022). Hereby, Generation Z is the newest generation of consumers to enter the travel market, and therefore their current and future travel decisions are crucial for travel agencies to explore to adjust their marketing strategies accordingly. Though previously, Millennials were seen as the target segment for the travel industry, with increase in travel between ages 18-35, Generation Z is the next target segment the travel industries should focus on, and therefore is the focus of this study (Michel, 2020). Furthermore, limited research has investigated the importance of online travel review accommodation attributes specifically on the travel decisions of Generation Z consumers, and on the Dutch population, and therefore this study will focus on this gap in literature research.

## 1.3    Research Objectives

This thesis aims to explore the importance of online travel review accommodation attributes on consumer travel decisions for Generation Z consumers in the Netherlands. This study will explore the relative importance of online travel review attributes when making travel decisions, using common review accommodation attributes like location, price/quality, hygiene etc. which is used by most Dutch travel agencies and discussed in previous literature (*Vakantie beoordelingen, reviews en reiservaringen – Vakantiepanel,* 2023). Using quantitative data and a conjoint analysis, this study will help pinpoint the important attributes travel accommodations should focus on in attracting this demographic and allow travel agencies to evaluate their review relevance for their products. This leads to the research question:

***What is the impact of online travel review accommodation attributes on the travel decisions of Generation Z consumers in the Netherlands?***

This topic is relevant from an academic perspective as it contributes to the growing body of literature on the influence of online reviews on consumer behavior in the travel and tourism industry. With existing literature discussed above, this topic covers a demographic gap that is relevant to the growing and apparent travel industry present in the Netherlands. From a social relevance perspective, as social media and online platforms become more prominent in promoting travel agencies, this study can help travel agencies and destinations better understand how to target and engage with Generation Z consumers in the Netherlands. By establishing the relevance and potential differences between demographic features within Generation Z, travel agencies can specifically target and adjust their platforms and marketing techniques to remain relevant from a marketing perspective. Furthermore, as online review attributes act as a sort of heuristic cue, it can play an important role in the consumers travel decision making process, enabling readers to minimize potential risks and assess the quality of the online reviews (Yang et al., 2017). Lastly, from an economic relevance perspective, evaluating the effectiveness of the online review attributes creates business leverages on what consumers care for most, and therefore these agencies can tailor their offerings to meet the needs and preferences of this demographic. This studies' results allow businesses to make more informed decisions, and potentially increase their market share and revenue, enhancing their online reputation and attracting more Generation Z customers.

## 1.4    Empirical Sub Questions

1) Which review accommodation attributes have an impact on the travel decision?
2) Which review accommodation attributes are considered most important when making travel decisions?
3) What is the current state of travel choices made by Generation Z consumers in the Netherlands?

## 1.5    Research Methodology and Thesis Outline

This thesis research will begin by evaluating the literature review, analyzing in depth the academic papers mentioned above and go more into depth on prior research about online travel review accommodation attributes, the impact on consumer travel decisions and relating this to Generation Z travel consumers in the Netherlands. This will establish the review accommodation attributes this study should focus on and highlight differences in preferences within this study's target demographic, developing the potential hypothesizes which could be concluded from the study. Furthermore, a structured online survey and conjoint analysis will be conducted, establishing specific demographic features to match the sample for this study, and discovering the quantitative relevance of the review attributes. These results will allow us to answer our hypothesizes, computed through descriptive statistics and marginal effects, and discover potential differences or similarities within the results which could allow for discussion points.

Moreover, this thesis paper will continue by discussing the literature review and develop the hypothesis which will be explored throughout this paper. Furthermore, the survey and conjoint analysis will be conducted, which will be followed by the data analysis, results, and findings. Lastly, this paper will end with a discussion and conclusion, and point out potential limitations and future recommendations following this study.

# 2 Literature Review

*RQ: What is the impact of online travel review accommodation attributes on the travel decisions of Generation Z consumers in the Netherlands?*

This literature review will begin by describing the general state of online reviews' impact on travel decisions and dive into discussed accommodation attributes. Whilst it is apparent in an abundance of existing literature that online reviews have a significant impact on travel choices, academic papers are presented providing many review accommodation attributes available for consumers and through studies the most important attributes are highlighted. Lastly, this review will link the travel decision processes of Generation Z consumers in the Netherlands to prior literature findings of similar sample groups to draw conclusions. For this research, papers from academic journals including Journal of Travel & Tourism Marketing, International Tourism and Hospitality Journal, Journal of Marketing Research and others were referenced, discussing studies' results linked to research in a similar field. Most academic sources were collected through Google Scholar.

## 2.1 Review Accommodation Attributes Impact on Travel Decisions

Reducing asymmetric information in the tourism industry, customers rely on multiple information sources during their decision making. According to Sidali et al (2009), online reviews act as a word-of-mouth (WOM) evaluation based on consumers' past experiences. The mechanism of providing online reviews gave customers the possibility to compare the hotel ratings with ones constructed by tourism agencies, reducing these asymmetries. Though there is an abundance of information provided to consumers, only those valuable comments and opinions would influence the consumers' decision-making process. Forman, Ghose, & Wiesenfeld (2008) suggested that disclosure of personal information and online reputation had a large influence on the way consumers respond to these reviews. Furthermore, the perceived usefulness of online reviews should be a combination of quantitative and qualitative elements, as quantitative characteristics of online review only explain partial aspects of review effectiveness. In a study by Hudson and Thal (2013), consumers reliance on easy-to-process information with the combination of quantitative and consumer generated written text led to higher levels of trust and played a crucial role in shaping the consumers perceptions of the hotel.

When diving into the specification of the credibility of an online review, prior literature has discussed review attributes as playing a key role in consumer travel decisions. As more and more potential customers regard online reviews as a direct reference of hotel quality, it is crucial to obtain high customer ratings and understand the determinants of customer satisfaction and dissatisfaction (Chen et al., 2022). Most existing studies have concluded that high performance of multiple attributes of reviews strongly correlates with customer satisfactions (Bi et al., 2020; Chen, 2015; Chen et al., 2022). Different studies conclude that consumers value different hotel attributes in reviews to be important during their decision-making process. Results from a systematic review used to make informed decisions in the travel and tourism industry, concluded that there are 5 A's; accommodation, accessibility, articulate stories, affordability, and attribution, that serve as guiding factors ("Attributes of Travel Destinations That Influence Tourists' Decisions: A Systematic Review," 2021). Furthermore, in a factor analysis, 10 factors based on 35 accommodation attributes were concluded as important for a group of travelers in Germany; expected service quality, comfort features, food and beverage, parking facilities, cleanliness, autonomy, business, security, economic value, and external presentation (Spoerr, 2020).

Diving into studies discussing more specific accommodation attributes, in the study Chiang and Huang (2021), the level of importance of attributes of Taipei's economy hotels as perceived by tourists was studied. In this paper, the visitors ranked the top five hotel attributes that tourists found most valuable for their decision making to be overall accommodation conditions, transportation convivence, breakfast service, room facilities and staff attitude. These attributes were also valued more when positively rated, whilst negatively rated attributes led to improvement suggestions for the hotels. Furthermore, in a study by Callan and Bowmans (2000), British travelers found 38 important hotel attributes, including value for money, cleanliness, comfort, politeness, location, and others. In this study, the list of attributes was developed through interviews with senior citizens and based on prior studies and were rated as important attributes to test the relative importance. This study concluded that 29 of the 38 attributes were considered somewhat important when making travel decisions. With empirical data from Daodao, the Chinese affiliated brand of travel opinion website TripAdvisor.com, seven dimensions; hotel, location, service, room, value, food and dinging, and facilities availability, were most important in generating customer satisfaction with hotels (Dong et al., 2014). Findings in a paper discussing hotel choice decisions for travelers in Hong Kong, the overall conclusion drawn was that the hotel attributes sought by all respondents when making travel decisions were room rate, star rating, location, brand, and room type (Wong & Chi-Yung, 2002). Expanding on this, in a study on importance of hotel attributes for travelers'

satisfaction of Hong Kong hotels, six attributes were deemed significant during a factor analysis: quality of staff performance, quality of room facilities, value for money, variety and efficient services, business related services, and safety and security (Qu et al., 2000). Lastly, (Rhee & Yang, 2015) mentions that there are many factors that affect travelers' decision-making when selecting hotels, but that such factors can be categorized into six hotel attributes to measure a variety of travelers' desires and needs: value, service, rooms, sleep quality, location, and cleanliness.

These prior academic papers conclude vast amount of review accommodation attributes deemed significant in impacting travel decisions. Though many studies differ in specific accommodation attributes, many attributes overlap in importance for travel decisions. These attributes include value for money, location, cleanliness, rooms, staff attitude, and facilities. Therefore, these studies help in answering the first sub question of this study, and lead to the following hypotheses.

| Hypothesis 1 | Academic Papers Supporting |
|---|---|
| (a) Attribute 'value for money' included in an online review impacts consumer travel decision-making process positively. | Callan and Bowmans (2000) Dong et al. (2014) Qu et al. (2000) Rhee & Yang (2015) |
| (b) Attribute 'location' included in an online review impacts consumer travel decision-making process positively. | Callan and Bowmans (2000) Wong and Chi-Yung (2002) Dong et al. (2014) Rhee & Yang (2015) |
| (c) Attribute 'staff attitude' included in an online review impacts consumer travel decision-making process positively. | Chiang and Huang (2021) Qu et al. (2000) |
| (d) Attribute 'rooms' included in an online review impacts consumer travel decision-making process positively. | Chiang and Huang (2021) Dong et al. (2014) Wong and Chi-Yung (2002) Qu et al. (2000) Rhee & Yang (2015) |
| (e) Attribute 'cleanliness' included in an online review impacts consumer travel decision-making process positively. | Spoerr (2020) Callan and Bowmans (2000) Rhee & Yang (2015) |
| (f) Attribute 'facilities' included in an online review impacts consumer travel decision-making process positively. | Callan and Bowmans (2000) Dong et al. (2014) Qu et al. (2000) |

## 2.2 Importance of Review Accommodation Attributes

In previous academic papers, not only which accommodation attributes are relevant is discussed, but some papers dive into the importance of attributes in strengthening the helpful and usefulness of the review, making it more relevant for travel decision processes. Firstly, there are a few academic papers discussing the relative importance of general review qualities, like argument strength, reviewer location, review length and writing quality, on the credibility and helpfulness of the review (Murphy & Chen, 2014; Soares et al., 2020; Yang et al., 2017). These studies used conjoint analyses to determine the relative importance of each factor, and found differences amongst different groups of respondents, for example between negative and positive raters.

More specific to this paper, academic papers also discussed importance of accommodation and hotel attributes in travel decisions. In Chiang and Huang (2021), five attributes, including staff attitude and room facilities, were valued most important attributes for positive ratings, whilst five attributes, including cleanliness and noise level were valued important when negatively rated. In the study of British mature travelers (Callan & Bowman, 2000), service staff attitude, and value for money were highly valued as important, whilst leisure facilities were concluded as being relatively unimportant. Also, there were significant differences amongst gender, age, and retirement status, which explained market heterogeneity. The study Caber (2014) compares the previous paper results with results from a German and Dutch sample group and found that the Dutch sample attached more to the importance of food and staff attributes. In another study computed on the top thirty hotel attributes, staff and room were ranked highest, whilst location and facilities were ranked quite low, facilities being the second lowest factor for the importance rank (Jang et al., 2018). This study was conducted through word occurrence using a text mining tool in Stata, with focus on a sample from the US. Lastly, Qu et al. (2000) concludes that staff performance is the most important attribute, followed by room and value for money. Following the main conclusions from these studies, the second hypothesis can be developed:

**Hypothesis 2: Value for money and staff attitude are considered more important attributes than facilities.**

Furthermore, in the study of German leisure travelers, a t-test, one way ANOVA and Kruskal-Wallis's test was done to conclude that in descending order cleanliness, economic value and security were the three

most influential hotel selection factors (Spoerr, 2020). In Rhee & Yang (2015), they measured relative importance of hotel attributes based on three different sample groups: overall travelers' group, different trip purpose group and different country of resident groups. For overall travelers, the importance of the attributes was ranked as followed; value, room, sleep quality, service, cleanliness, and location being its least relevant attribute. Results for foreign travelers are relatively similar in ranking, however the difference between the attributes in importance is significantly less. In contrast to these results, Usta et al. (2011) which studied American travelers presented that location was one of the highest valued attributes for travelers' satisfaction, above staff, and cleanliness. Though in another study Shanahan and Hyman (2007), American travelers valued cleanliness and price value more than three times more than location, showing different studies and groups reflecting different results. Overall, though previous literature for different studies and sample groups can reflect significant variety, most of the studies concluded cleanliness and value for money as being significant in contrast to location, which leads to the third hypothesis:

**Hypothesis 3: Cleanliness and Value for Money are considered more important attributes than Location.**

## 2.3   Travel decisions of Generation Z consumers in the Netherlands

What can be concluded from prior literature studies is that there are some significant differences in importance of attributes between different types of travel consumers or different demographics of the consumer. In the paper Igor (2010), the study concluded that differences in importance of hotel attributes for e-tourism doesn't differ much between different groups of guests but matters on the nature of travel. Similarly, Caber (2014) showed a comparison of three origins of travel consumers; Dutch, German and British, and general conclusions of importance of accommodation attributes were similar. In these papers, minor differences were present, like the Dutch attaching more importance to food services, which can be linked to differences in consumer demographics. However, for most of the literature, the sample groups studied varied significantly, studying different age groups, with heavy prior literature on senior travelers, and different origins, with samples from China, Germany, Dutch, US etc. Studies like Callan & Bowman (2000) and Chiang and Huang (2021) concluded significant within sample differences, with age and travel reason differences being present. These differences form the base of the relevance of this study, with likely differences in results for younger Generation Z travelers within the Netherlands.
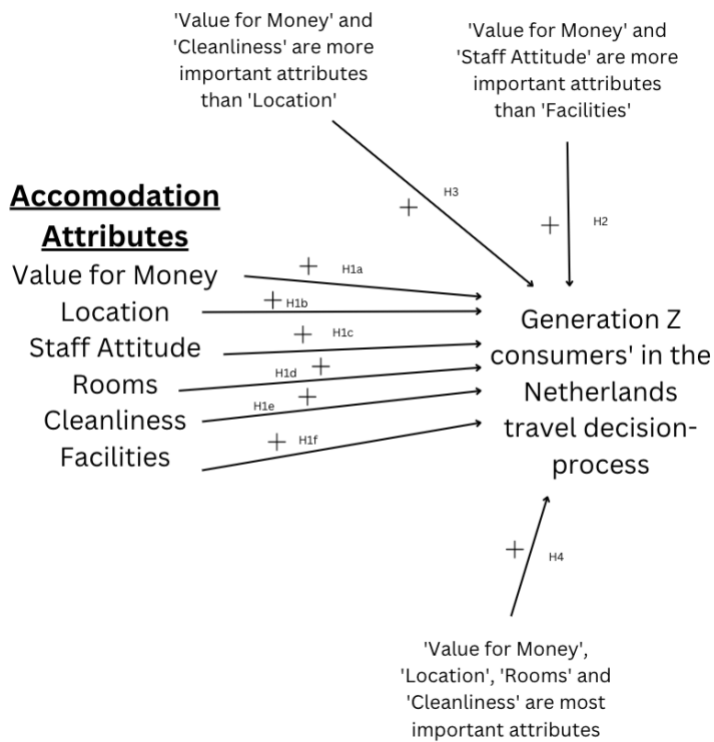
Analyzing the Generation Z consumers traveling behavior is crucial for developing a foundation for this study, however, there are limited academic papers discussing this. Being born into a digital age with increasing international travel, Robinson and Schänzel (2019) concludes that Generation Z is likely to transform the tourism and destinations. In this qualitative study for seven different nationalities, accommodation seems to be the core category this generation focuses on, with emphasize on the service and affordability of their travel choices. The paper Chen et al. (2021) confirms this theory and develops further that Generation Z also have a strong tendency to travel in a green way and are impacted by technological advancements and social media platforms more than previous generations. The generation is expected to use active travel more, where densely populated areas are more popular destinations, therefore making the location of the accommodation relevant. Further justifying the difference between previous generations and Generation Z behaviors, Jin (2021) did a study to examine the differences between travel behaviors and attitudes in affecting travel decisions between Generation Z and Y. This study concluded that though the generations share similar travel behaviors, Generation Z differs by travelling more with family and put more emphasize on culture learning than Generation Y. Also, as Generation Z is a younger generation, budget travelling is more important for them, and therefore it can be linked that value for money could be important.

Though prior studies linked directly to this paper's topic are limited, some academic papers discuss the hotel attributes relevance for Generation Z. In a study on Indonesian Generation Z hotel choices and perception of hotel attributes, the results concluded through a qualitative study measure that high school and bachelor students considered cleanliness, safety, and security to be the most important attribute (Wiastuti & Lestar, 2020). This study further justified that the different Generation Z demographics lead to different hotel attribute preferences. Another paper assesses the hotel attributes from a Generation Z consumer perspective, and statistical results showed that location, comfort, and Wi-Fi were the three most important attributes when booking a hotel. Furthermore, the study concluded that service qualities were important, like reliability, responsiveness, and assurance from the accommodation (Rassal, 2022). Lastly, in a study on a Greek generation Z cohort, using a factor analysis with principal component analysis, four dimensions were developed, showing high value for decoration, room amenities and attributes. Furthermore, the paper showed significant gender differences in importance with room attributes and value for money (Stavrianea et al., 2020). From these studies, an importance in culture exploration, traveling green, and traveling on a budget was established, showing some significant differences in importance values compared to previous literature discussed. Furthermore, as importance of attributes

varies within prior literature, not having many overlapping factors, an order of importance is hard to measure. However, the following hypothesis has been developed:

**H4: Location, value for money, cleanliness, and rooms are the most important attributes for the Generation Z travel consumers.**

## 2.4    Conceptual Model



'Value for Money' and 'Cleanliness' are more important attributes than 'Location'

'Value for Money' and 'Staff Attitude' are more important attributes than 'Facilities'

**Accomodation Attributes**
Value for Money
Location
Staff Attitude
Rooms
Cleanliness
Facilities

+ H1a
+ H1b
+ H1c
H1d +
H1e +
+ H1f

+ H3
+ H2

Generation Z consumers' in the Netherlands travel decision-process

+ H4

'Value for Money', 'Location', 'Rooms' and 'Cleanliness' are most important attributes

# 3 Methodology

## 3.1 Research Methodology

Given the scope of this research paper, investigating the difference in importance level of accommodation attributes for online reviews, quantitative research was most fitted. To compute the relative differences in importance levels, a conjoint analysis was used, which presents respondents with choice sets specified in terms of the number of attributes (Chrzan, 1994). Hereby, profiles of attributes are rotated across respondents to conclude each attribute effect on the respondents. This research method therefore was used to understand how consumers respond to stimuli varying in characteristics, where each of these attributes have different levels (Hair, 2009). Therefore, this clarifies for this study the impact that different accommodation attributes in an online review have on consumers' travel decision choices. This research method of using conjoint analysis was chosen as previous literature studies on the relative importance of review attributes used a similar method and provided conclusive results on the importance of each attribute, which is also the goal of this study (Murphy & Chen, 2014; Soares et al., 2020)

For this study, six attributes were evaluated, each with two levels within the online review. The six attributes used were value for money, location, staff attitude, facilities, rooms, and cleanliness, which were previously justified in the literature review as being the most significant attributes in impacting travel decisions for consumers. Furthermore, only six attributes were measured as the maximum suggested amount for conjoint analysis attributes is 5-6 to generate reliable profiles for respondents. For each attribute, two levels were shown, which reflect whether the accommodation attribute is (1) present or (2) not present, within the online review. These profiles were then presented to respondents, using a choice-based conjoint analysis, and the respondent was given the chance to pick which profile of attributes, shown as an online review profile, they prefer to have when making their travel decisions. With this choice-based scenario, these profile choices reflected the probability of valuing these attributes when making travel decision choices, which reflected the consumers preference towards a set of attributes.

When computing the conjoint analysis, a survey was conducted to present the profiles to the sample respondents. Furthermore, the survey consisted of two parts; the first part links to respondent demographics, including questions about age, gender, occupation, and income, and questions linked to travel, to gain understanding of the background of respondents to see if it links to the desired sample

population. The second part was the conjoint analysis, presenting profiles and having respondents choose which they prefer.

## 3.2    Sampling and Data Collection Methods

For this study, the target population was Generation Z travelers, which are samples of age 12-25, living within the Netherlands. Due to convenience of sample collection for this study, it focused on students and young adults living within the Netherlands, therefore with focus on the age group 18-25, as they are also most financially and decision-making independent for travel choices. Furthermore, this study had diversity regarding other demographics, including gender, origin, and income. However, the survey also questioned the current travel decisions made by the sample population and showed variations in responses based on their travel choices.

The survey and conjoint analysis were distributed online via a survey, using Qualtrics. For the first part of the survey, to establish the sample selections demographics, gender, and occupation, were assessed using multiple choice options whilst income, age and origin were asked as an open question. Furthermore, questions linked to traveling and travel decisions of the participants were asked as multiple-choice questions, including how often the participant travels, how much they usually spend on travels, preferred transportation method, preferred transportation destination and whether they look at online reviews for their travel decisions. This helped in establishing the participants prior travel decisions and preferences, which helped when concluding the results of the conjoint.

For the conjoint analysis, the statistical software JMP was used to compute the choice-based conjoint analysis design model. Following Huber and Zwerina (1996), to compute a balanced choice design to enable the appropriate trade off utility balance, three principals need to be considered: orthogonality, level balance and minimal overlap. This study therefore used a balanced orthogonal design of 12 profiles presenting the six attributes being present or not in an online review. The minimum profiles required to perform an orthogonal choice design for six attributes with two levels was 7, which was calculated as 1 + the total number of levels – the number of attributes (Ikemoto & Yamaoka, 2011). Furthermore, the study showed that no more than 20 profiles can be shown without degradation of the data quality and with minimal overlap, depending on the number of attributes. Therefore, to not present each respondent with too many profiles but remaining within this range, JMP default for custom choice design suggested using

12 profiles. A balanced design means that each level of an attribute occurs an equal number of times over the different profiles (De Meulenaer et al., 2015). Hereby, level balance was also assured with each variable having two levels, and the JMP software secured for orthogonality. Furthermore, 60 responses are the minimum requirement for JMP to process, however the study suggested a minimum of 75 respondents to make the results valid. These survey results were collected over a span of one to two weeks and presented in Appendix B.

## 3.3    Procedures

Firstly, a Qualtrics survey was computed. The first section of the survey included the demographic questions, followed by the travel behavior related questions. In the beginning, an introduction was presented with the topic of the study and the consent regulations for a survey. Before the conjoint analysis, an introduction of the choice-based conjoint analysis was presented, describing the 6 attributes included. Furthermore, JMP generated the 12 profiles, which were then be converted into visuals using PowerPoint. These profile images were then included in the survey, with choice options A and B to distinguish the sample preferences for the online review profiles.

Once sufficient respondents were collected, the data was exported to Excel, where it was converted and reshaped before being plugged back into the JMP software. From here, JMP computed the analysis metrics, including parameter estimates, likelihood ratio tests and effects marginal tests, which were analyzed for this study.

## 3.4    Data Analysis

Firstly, tables presenting the sample demographics and results from part 1 of the survey were presented, to measure the validity of the results in matching our aimed sample section. This, alongside with the previous literature conclusions, helped validate the third sub question, in establishing the current travel behavior and choices of the sample. Secondly, to address the first sub question about which review accommodation attributes have an impact on travel decisions, the parameter estimates were shown, and a likelihood ratio test was computed. A likelihood ratio test helped determine the significance of each attribute, by measuring if they were effective or not at a 5% significance level (Perneger, 2021). Lastly, to address the second sub question, which attributes are considered most important when making travel decisions, the effect marginals was computed, which indicated which attributes are most important for

consumers. From here, total importance of each attribute was computed by measuring the effect marginal of each attribute over the total effect. These results were presented in tables and figures and discussed.

## 3.5    Researcher Bias

To confirm that the research methods do not create bias, internal and external validity was assured. Internal validity, reflecting by the accuracy of the research methods, was assured through randomization in distribution of the survey, and randomization of profile generation by JMP. Furthermore, internal validity was assumed, by keeping other variables constant, like the target sample group, providing the same profiles and experiment setting to all respondents, and controlling for variables like age, gender, and occupation. The results presented the data with and without controls, and BIC and AIC values were compared to see which model is a better fit.

External validity, reflected by the experiment displaying a realistic situation, was confirmed by using attributes and generating profiles that are currently used on travel agency websites online reviews. Furthermore, external validity was further confirmed by aiming the study at respondents who are frequent travelers, and using online reviews, which was further confirmed in the travel related behavior questions. The survey was also randomly distributed across multiple social media platforms.

Furthermore, though the aim was to distribute the survey to a large selection of Generation Z consumers in the Netherlands, it was mainly be sent to students between the ages 18-22, which could've led to potential representative bias. However, this external validity limitation was also caused due to the study being specified to a specific target sample. Furthermore, internal validity was limited due to other factors like income, or the type of travel style preferred playing a role in what choices respondents make. However, these questions were also asked in the survey and regarded in the results to attempt to reduce the bias. However, the overall choice-based conjoint analysis was minimized of bias due to confirmation of orthogonal, level balanced and minimal overlap in profiles presented.

# 4 Results and Analysis

From the survey distributed, a sample of 104 responses was collected from the targeted sample selection of Generation Z consumers living in the Netherlands. As mentioned previously, the minimum aimed respondents were 75, however for a conjoint analysis over 100 respondents is preferred. On the 7th of June, this survey was distributed online, on multiple platforms, including WhatsApp, Canvas, and Instagram, to avoid distribution bias. Included in the survey, an introduction regarding the relevance of the study and the consent regulations involved, demographic questions, travel behavior related questions and the choice-based conjoint analysis choices were presented. Within 6 days, over 100 responses were collected, and the survey was closed, with 104 responses.

## 4.1 Sample Characteristics

*Table 1: Sociodemographic of the survey sample, including gender, age, occupation, nationality, and average income (n=104)*

|  | Count | Sample % |
|---|---|---|
| **Gender** | | |
| Male | 38 | 36.54% |
| Female | 65 | 62.5% |
| Non-binary | 1 | 0.96% |
| **Age group** | | |
| Under 18 | 0 | 0% |
| 18-19 | 10 | 9.62% |
| 20-21 | 58 | 55.77% |
| 22-23 | 28 | 26.92% |
| 24-25 | 8 | 7.69% |
| **Occupation** | | |
| Student | 65 | 62.5% |
| Working student | 38 | 36.54% |
| Working | 0 | 0% |
| Unemployed | 1 | 0.96% |
| **Nationality** | | |
| Dutch | 60 | 57.69% |
| Non-Dutch | 44 | 42.31% |

According to table 1, the sample collected are 62.5% female and only 36.54% male. However, according to CBS (2023), there is 50.28% women and 49.72% men living in the Netherlands, showing an over

representation of female respondents in the sample in comparison to the population. Furthermore, all individuals are in the target age group of Generation Z, with most of the respondents being between ages 20-21. Furthermore, nearly the entire sample selection are students or working students, except one unemployed respondent, which is as predicted in the methodology as the survey was mainly distributed through university channels to the targeted age group. For nationalities, though all respondents live in the Netherlands to match the target sample, majority of the respondents are also of Dutch nationality, though 42.31% also consistent of foreign nationalities, including Romanian, German, Turkish and others. This leads to a large range of diversity in nationalities for the selected sample. Hereby, overall, the sample collected matches the desired sample for this study, with a slight over representation of female respondents, and with focus more on the early 20 age group of students.

*Table 2: Minimum, mean, and maximum of the monthly budget/income of the survey sample. (n=104)*

|  | Monthly Budget/Income (euros) |
| --- | --- |
| Minimum | 0 |
| Mean | 1293 |
| Maximum | 10,000 |

Looking at table 2, the range of the monthly budget of the survey sample is large, from 0 to 10,000 euro, these range points being significantly different from the rest of the responses. However, the mean accurately represents most of the average budgets, which corresponds with most student lending amounts found in the Netherlands, as most of the respondents were students. This value is a good measure for the following travel behavior related questions, as it helps show us the spending potential for travelling for the Generation Z consumers in the Netherlands.

## 4.2    Travel Behavior of Sample Results
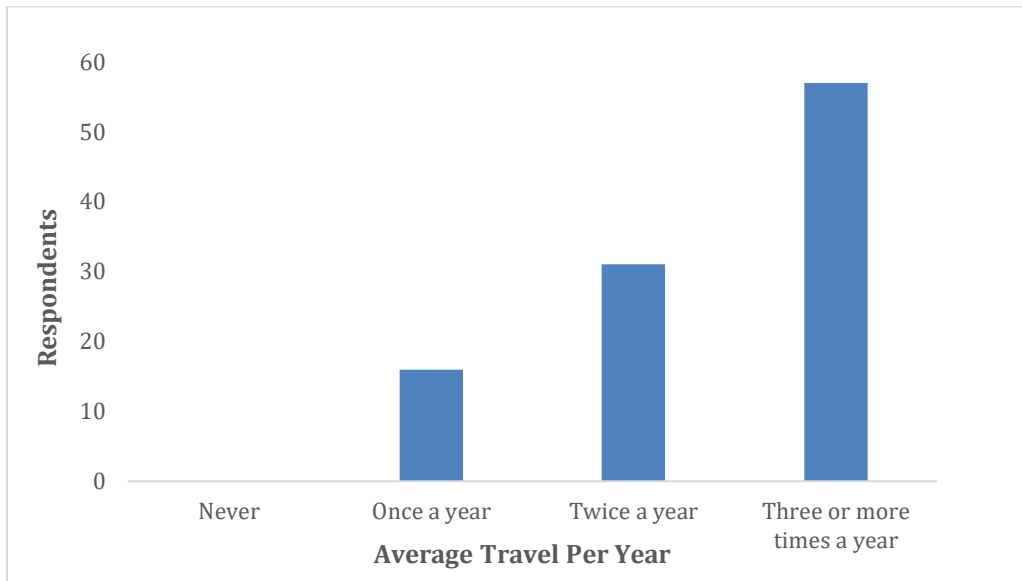


*Figure 1: Average travel amount per year by survey respondents in a bar chart (n=104)*

Looking at the results in Figure 1, most of the survey respondents travel at least three times of more per year, reflecting high travel potential of our respondents. This validates the relevance of travel related questions, reflected as our participants frequently travel, whilst no one never travels.
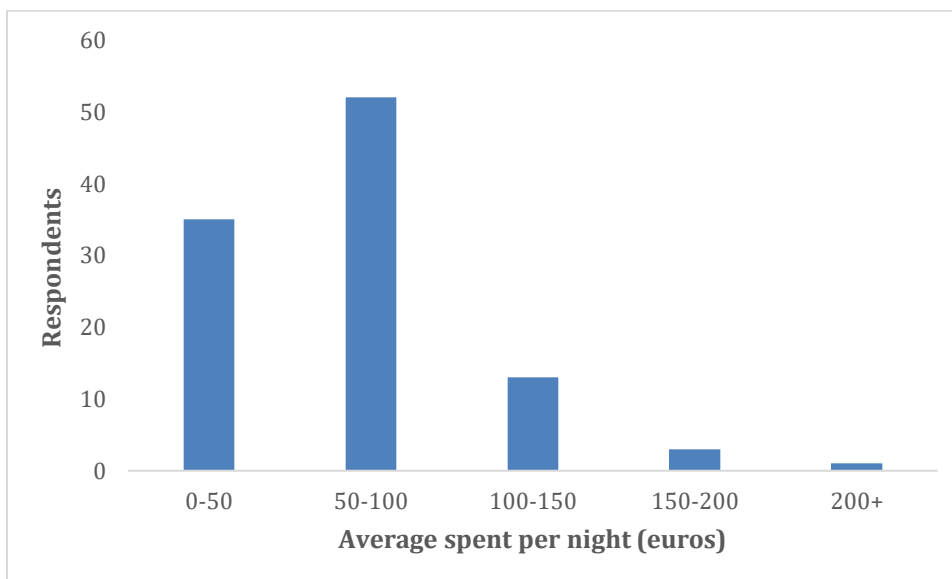


*Figure 2: Average amount spent per night on travel accommodation by survey respondents in euros in a bar chart (n=104)*

Figure 2 reflects the average amount spent per night on travel accommodation by survey respondents, showing that most of the respondents spend between 50 to 100 euro per night. Here, we see that most

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respondents tend to spend less money on accommodation, opting for cheaper options, which reflects the general student choices, matches the generation z preferences stated in the literature review, and aligns with the average budget.
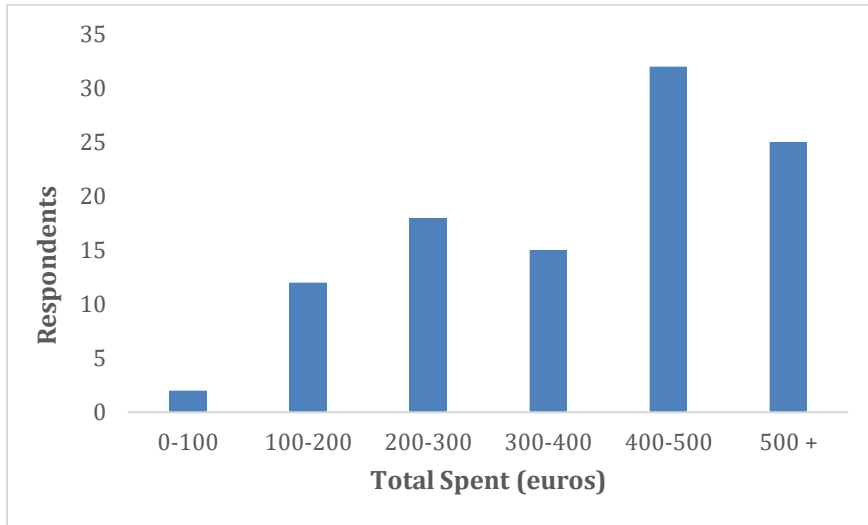


*Figure 3:* *Total amount spent on a week vacation by respondents in a bar chart (n=104)*

Following from the previous results, Figure 3 shows that most respondents spend around 400-500 euro, followed by more than 500 euro per week on travel expenses. Though these results vary more, you can see that the respondents spend a significant portion of their budget on travelling. However, these responses match relatively similarly to the results from Figure 2 of most respondents spending about 50 – 100 euro per night, that therefore the week total results to this.
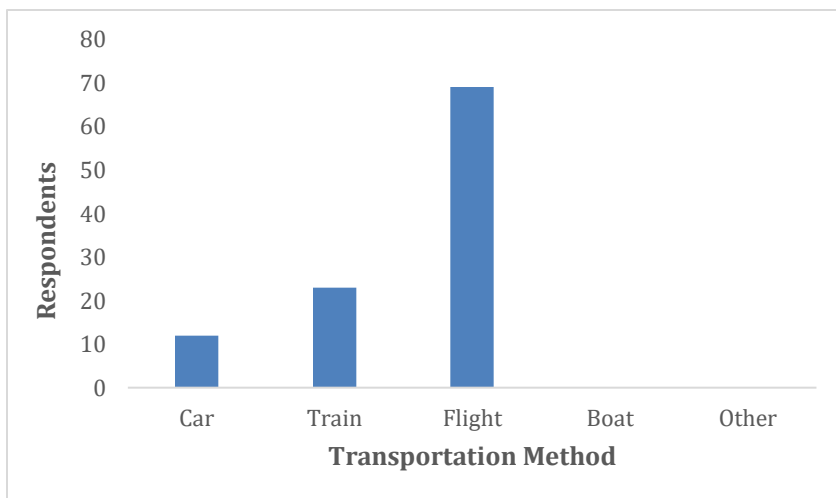


*Figure 4:* *Preferred transportation method of survey respondents in a bar chart (n=104)*

Looking at Figure 4, the most common transportation method is by flight, showing most people likely prefer to travel to destinations that are too far to get to by car and train. However, about a third of participants take the car or train, choosing a relatively cheaper travel options, which aligns with the general student preferences. No participant prefers to travel with boat, which is understandable as boat destinations from the Netherlands is limited, and no respondent offered an alternative travel option of preference.
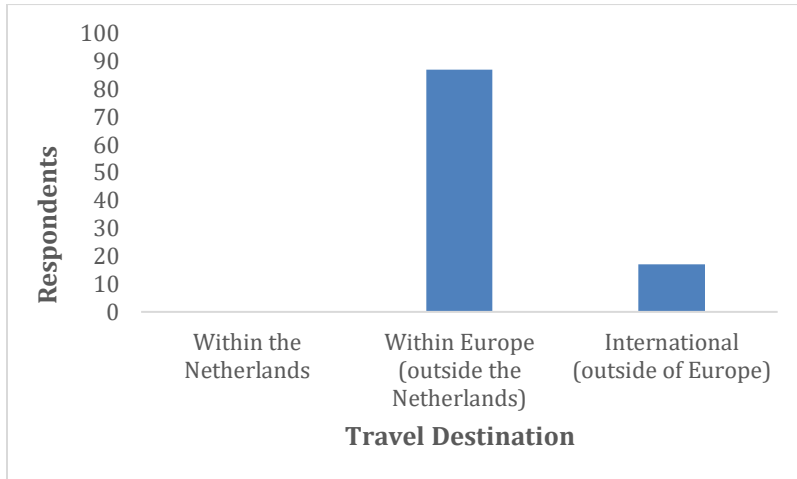


**Figure 5:** *Preferred travel destination by survey respondents in a bar chart (n=104)*

In Figure 5, the preferred travel destination chosen by a large majority of respondents is within Europe, whilst about a fifth of respondents chose international destination. This means that the respondents prefer to go outside of the country of travel, with no respondent choosing within the Netherlands, which also correlates with the results from Figure 4 where most locations must then be traveled to by plane.
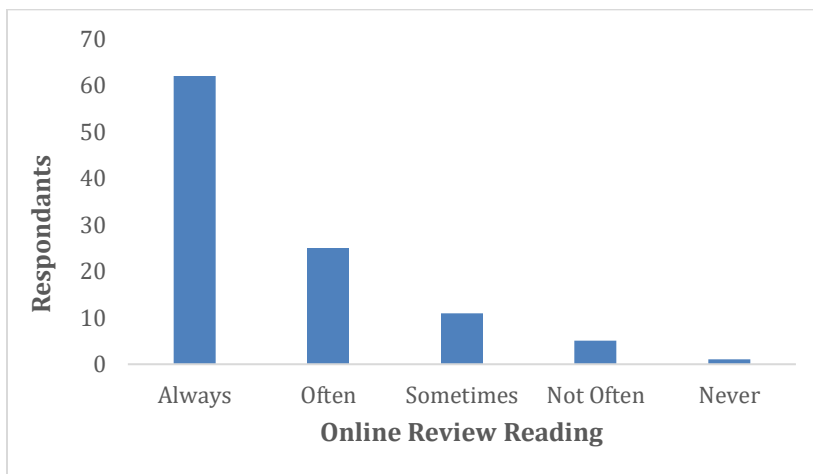


**Figure 6:** *Amount survey respondents read online reviews for travel decisions in a bar chart (n=104)*

Lastly, when asking respondents to mention how often they read online reviews and use them when making travel decisions, most of the respondents responded that they refer to them, showing the relevance of this study for this sample group. Most of them always or often looking at reviews shows that they value what other people think and rate a location or accommodation, and therefore their preference for specific attributes is relevant as these choice profiles can impact their travel decisions.

Overall, from these travel related questions we discovered the general travel behavior of the respondents, generally choosing for cheaper accommodation options, though travelling outside of the country mainly with the plane. These characteristics also align with student behavior discussed, which matches the sample of Generation Z consumers. Lastly, the sample has a high association with online reviews, showing relevance for attribute importance decisions that are further studied in the following conjoint analysis.

## 4.3    Choice-based Conjoint Analysis Results

### 4.3.1    Parameters Estimates

In addressing the first sub-question, following the choice-based conjoint analysis presented in the survey, the parameters estimates were computed by JMP. These values, shown in the following Table 3, show the marginal utility, also known as the added value of utility, when the attribute is present in the online review. As seen in the table, all estimates are positive values, representing a positive relation between these attributes being present in the online review and the respondent's choice of online review profile in making their travel decisions. This also shows that cleanliness has the highest estimate, whilst staff attitude has the lowest, which will further be discussed in the effect marginals test.

*Table 3: Parameter estimates of conjoint analysis computed via JMP based on survey (n=104)*

| Accommodation Attribute | Estimate | Std Error |
| :---: | :---: | :---: |
| Value for Money | 0.427 | 0.043 |
| Staff Attitude | 0.229 | 0.039 |
| Location | 0.520 | 0.053 |
| Rooms | 0.573 | 0.048 |
| Cleanliness | 0.706 | 0.053 |
| Facilities | 0.269 | 0.042 |

*Note: AIC: 1088 BIC: 1119*

### 4.3.2    Likelihood Ratio Test

Further addressing the first sub-question, discussing which review accommodation attributes has an impact on the travel decisions of the Generation Z consumers in the Netherlands, a likelihood ratio test is computed using JMP. The likelihood ratio test determines the significance of each attribute, and each interaction with potential control variables. If the p-value for each attribute is less than 5% significance level, then the effect on the utility of the respondent is significant. For this study, if the variables effect is significant, that results in the attributes having a significant effect on the travel decision choices of the respondent. In table 4, the likelihood ratio test results are presented, without any control variables included, representing the attributes, chi-square results, degrees of freedom (DF) and significance probability of the survey results.

**Table 4**: *Likelihood Ratio Test of the Effect of all Accommodation Attributes on the Travel Decisions of Survey Respondents (n=104)*

| Attribute | L-R Chi-Square | DF | Prob > ChiSQ |
|---|---|---|---|
| Value for Money | 111.327 | 1 | <0.0001* |
| Staff Attitude | 35,010 | 1 | <0.0001* |
| Location | 120.762 | 1 | <0.0001* |
| Rooms | 195.294 | 1 | <0.0001* |
| Cleanliness | 273.254 | 1 | <0.0001* |
| Facilities | 43.262 | 1 | <0.0001* |

*Note: The sign * corresponds to all value that are less than the p-value of 0.05 which represents the significance. Degree of freedom is represented in the table as DF.*

Looking at the significance level in the last column of table 4, these results conclude that all accommodation attributes used in the study, computed from previous literature, are all significant, even at a 1% significance level. This means that the respondents travel decisions are affected by any difference in presence on these six attributes.  Hereby, we can conclude from the results, which aligns with the literature previously discussed, that the attributes Value for Money, Staff Attitude, Location, Rooms, Cleanliness and Facilities have a significant impact on consumers travel decision.

*Table 5: Likelihood Ratio Test of the Interaction Effects of all Accommodation Attributes on the Travel Decisions of Survey Respondents with control variables Gender, Age and Occupation (n=104)*

| Attribute | L-R Chi-Square | DF | Prob > ChiSQ |
|---|---|---|---|
| Gender*Value for Money | 0.000 | 1 | 1 |
| Gender*Staff Attitude | 0.175 | 1 | 0.676 |
| Gender*Location | 0.536 | 1 | 0.464 |
| Gender*Rooms | 0.000 | 1 | 1 |
| Gender*Cleanliness | 0.047 | 1 | 0.827 |
| Gender*Facilities | 0.000 | 1 | 1 |
| Age*Value for Money | 1.870 | 1 | 0.172 |
| Age *Staff Attitude | 0.476 | 1 | 0.489 |
| Age *Location | 0.421 | 1 | 0.517 |
| Age *Rooms | 0.566 | 1 | 0.452 |
| Age *Cleanliness | 4.100 | 1 | 0.043* |
| Age*Facilities | 0.134 | 1 | 0.714 |
| Occupation*Value for Money | 4.384 | 1 | 0.036* |
| Occupation *Staff Attitude | 4.027 | 1 | 0.045* |
| Occupation *Location | 2.954 | 1 | 0.086 |
| Occupation *Rooms | 1.409 | 1 | 0.235 |
| Occupation *Cleanliness | 0.660 | 1 | 0.416 |
| Occupation *Facilities | 0.460 | 1 | 0.498 |

*Note: The sign * corresponds to all value that are less than the p-value of 0.05 which represents the significance. Degree of freedom is represented in the table as DF.  AIC: 525 BIC: 630*

When adding the control variables, gender, age, and occupation, the interaction variable given om JMP between most of the controls and each attribute are insignificant, where the p value is not less than 0.05. For these attributes, it shows that there is no change when taking the control differences into consideration. However, shown in Table 5, the interaction effects between age and cleanliness, occupation and value for money, and occupation and staff attitude, are significant at a 5% significant level, meaning that the effect of cleanliness, value for money and staff attitude are not only limited to their unique effect on their preferences of reviews. As an example, the effect of the presence of cleanliness in the online review can differ based on their age. Overall, from these results we can conclude that there is no significant difference in consumer choices of reviews by gender, however for cleanliness it can differ with age and for value for money and staff attitude it can differ per occupation group. Furthermore, the

AIC and BIC, which indicates the fit of the model, is lower when taking the controls into consideration, and therefore is an accurate representation of the results.

### 4.3.3    Effect Marginals Test

To measure the importance of each accommodation attribute for a consumers travel decision, therefore helping to answer the second sub-question, the effect marginals test must be employed. The effects marginal test computed on JMP shows the marginal utility range, also known as part-worth utility range, for each attribute considered, expressed through the probability that a respondent would choose a certain attribute level. To calculate the total importance of each attribute, the range is computed for each attribute and valued over the sum of all attribute ranges. The results are expressed in the following Table 6.

**Table 6:** *Effects Marginal Test Range and Computed Importance of Each Accommodation Attribute of Survey Responses (n=104)*

| Attribute | Range | Importance |
|:---:|:---:|:---:|
| Value for Money | 0.856 | 0.157 |
| Staff Attitude | 0.458 | 0.084 |
| Location | 1.040 | 0.191 |
| Rooms | 1.147 | 0.210 |
| Cleanliness | 1.412 | 0.259 |
| Facilities | 0.536 | 0.098 |

*Note: The range is calculated as the maximum - the minimum marginal utility for each attribute on JMP. The importance is calculated as the range over the sum of ranges for each attribute.*
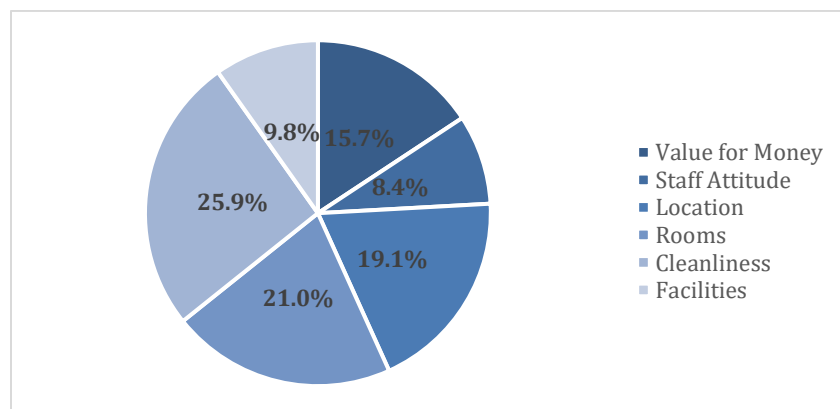


*Figure 7: The Importance, Computed by Part-Worth Utility in Probability Percentage of Total Importance, of Each Accommodation Attribute on Consumers Travel Decisions in a Pie Chart (n=104)*

From Table 6 and Figure 7, the most important attributes are Cleanliness, with 0.259 probability importance, followed by Rooms (0.210) and Location (0.191). This means that when respondents chose between choice profiles of reviews, cleanliness was one of the most important attributes affecting their preference for travel decisions. Facilities and Staff Attitude seem to be attributes with the least importance, 0.098 and 0.084 respectively, showing that though the likelihood ratio test results concluded all attributes were significant, they are considered less important in comparison to the other attributes, and therefore have less of an influence on the preference of the sample consumers. Hereby, the order of importance in attributes that can be concluded from the study is Cleanliness, Rooms, Location, Value for Money, Facilities and then Staff Attitude.

## 4.4    Hypothesis Results

After analyzing different prior literature discussing the importance of accommodation attributes in online reviews and general preferences of Generation Z consumers in the Netherlands, four main hypothesizes were computed. After the analysis of the results, the hypothesizes were tested using a likelihood ratio test and effects marginal test through a choice-based conjoint analysis on JMP.

### 4.4.1    Hypothesis 1: Six accommodation attributes included in an online review impacts consumer travel decision-making process positively.

The first hypothesis is divided into 6 sub-hypotheses, each identifying that each of the six accommodation attributes; value for money, staff attitude, location, rooms, cleanliness, and facilities, included in an online review impacts consumer travel decision-making process positively. Following the results presented by the parameters estimates shown in table 3 and the likelihood ratio test computed in table 4, we can conclude that each of the first hypothesis is supported by the data computed.  As shown in the parameters estimate table, each attribute has a positive parameter, representing a positive marginal utility to the attribute being present when choosing an online review. As shown in the table, the parameter estimates for each attribute is 0.427 for Value for Money, 0.229 for Staff Attitude, 0.520 for Location, 0.573 for Rooms, 0.706 for Cleanliness, and 0.269 for Facilities. These parameter estimates represent that, for example, when an online review includes value for money being present, the marginal utility of the respondent increases by 0.427. Though these values are not large, they are still positive, and have a smaller standard error for each attribute. Hereby, we can see that relative to each other, the cleanliness

attribute has the largest positive marginal utility effect, whilst attribute facilities has the least, in consumers utility in choice for an online review.

The likelihood ratio test confirms that each variable is significant at a 5% significance level, or more specifically, even at a 1% significance interval. As shown in table 4, every attribute included has a significant value of >0.001, and therefore can be seen as being highly statistically significant, which explains that the result of this analysis is unlikely due by chance. Hereby, as each of the 6 attributes have the same probability level, these results conclude that each attribute has a positive and significant effect on the travel decision-making of consumers. Therefore, the results shown in table 3 and 4 support hypothesis 1, specifically that attribute 'value for money' included in an online review impacts consumer travel decision-making process positively, attribute 'staff attitude' included in an online review impacts consumer travel decision-making process positively, attribute 'location' included in an online review impacts consumer travel decision-making process positively, attribute 'rooms' included in an online review impacts consumer travel decision-making process positively, attribute 'cleanliness' included in an online review impacts consumer travel decision-making process positively and attribute 'facilities' included in an online review impacts consumer travel decision-making process positively, can be accepted in support of the results.

One important consideration when considering the control variables, gender, age, and occupation, is that the significance levels for some interaction effects are also significant at a 5% significance level, specifically as shown in table 5, the interaction effects between age and cleanliness, occupation and value for money, and occupation and staff attitude. Hereby, these results conclude that the effect of cleanliness, value for money and staff attitude are not only limited to their unique effect on their preferences of reviews, and therefore could differ in positive and significance levels these attributes. Hereby as attributes rooms, facilities and location do not have any significant interaction effects with the control variables, these significant positive effects shown in table 3 and 4 should be conclusive results, however the other attributes could have differences between groups of the control and therefore could differ. Hereby though hypothesis 1a, 1b and 1e are supported by the results shown in table 3 and 4, they could be limited by the controls potential effect reflected in table 5.

According to the literature discussed previously, the second hypothesis was computed mentioning that the two attributes value for money and staff attribute are considered more important attributes than facilities. To analysis this hypothesis, the effects marginal test was computed, which showed the importance, through part-worth utilities computed, of each attribute for the survey sample. The part-worth utility range reflects the difference between each attribute being present, or not, in an online review, and the importance computes the relative importance of each attributes range in marginal utility relative to the total importance for all attributes. From these results presented in Table 6 and Figure 7, we can see that the attribute staff attitude is valued the least important relative to the other attributes, with second least being facilities. Indeed, as supported in the hypothesis, value for money (0.157) has relatively a higher importance than facilities (0.098), but staff attitude does not (0.084). These results present, as an example, that respondents value the presence of value for money as an attribute included in the online review more than facilities. Hereby, the second hypothesis is not fully supported as only value for money is considered more a more important attribute than facilities, and therefore cannot be accepted following the results computed.

Overall, the results predict these three attributes to be of least importance, which slightly differs from prior literature. The potential reason for this hypothesis not being accepted could be explained by the specified sample selection of Generation Z consumers in the Netherlands, as this hypothesis was computed from literature mainly focusing on different sample groups, specifically older ages. As stated in Wiastuti & Lestar (2020), different Generation Z demographics leads to different hotel attribute preferences, which could explain these differences. However, these results do align with the study by Rassal (2022), which computed a study that stated that for Generation Z staff attitude and faculties is considered the least important attributes. Furthermore, looking at the travel behavior results from the survey, the preference for budget accommodation and travel by the sample could explain the less valued importance in value for money, with their priorities focusing on other attributes. Furthermore, as shown in table 5, value for money and staff attitude were shown to have significant interaction effects with control variables occupation, and therefore could further explain some variation as potential differences in respondent occupations could result in different relative importance of attributes.

### 4.4.3 Hypothesis 3: 'Cleanliness' and 'Value for Money' are considered more important attributes than 'Location'

The third hypothesis computed from the literature states that the attributes cleanliness and value for money are considered more important attributes than location. Also looking at the effects marginal test results, we can see that cleanliness is considered the most important attribute in impacting consumer travel decisions (0.259), and therefore is considered more important than location (0.191). However, value for money as mentioned previously was ranked of lower importance than expected from the literature, and therefore is not considered more important than location for our survey sample respondents. Hereby again, the third hypothesis is not fully supported by these results, and therefore cannot be accepted. The potential reasons this hypothesis cannot be accepted are similar to the reasons previously stated for hypothesis 2, as it is likely linked to the specific preferences of the target sample, which shows significant variation in accommodation attribute preferences. However, some studies discussed in the literature review, including Usta et al. (2011), mentioned that location was seen as most important, and therefore show that some studies do exist that contradict this hypothesis and support the results. Furthermore, similarly as stated for the second hypothesis, value for money and cleanliness have a significant interaction effect with age and occupation as shown in Table 5, and could therefore also justify variations from the hypothesis computed from prior literature.

### 4.4.4 Hypothesis 4: 'Value for Money', 'Location', 'Cleanliness' and 'Rooms' are the most important attributes for the Generation Z travel consumers.

The fourth and last hypothesis is taken from literature specifically focusing more on the target sample selection, the Generation Z travel consumers. These attributes: value for money, location, cleanliness, and rooms were concluded to be the most important attributes for this generation following the literature. Looking again at the effects marginal test from Table 6, the four attributes mentioned are considered the most important attributes in the results, in order of cleanliness (0.259), rooms (0.210), location (0.191) and value for money (0.157), hereby aligning with the hypothesis stated. However, as mentioned previously, value for money was rated with lower importance as expected, nearly half in relative comparison to cleanliness, which contradicts a lot of the literature. However, this hypothesis matches the target sample more and aligns more accurately with the results computed. Therefore, the fourth hypothesis can be accepted in support of the results from the survey.

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# 5   Conclusion

## 5.1   Central Question and Sub Questions

This paper aimed to answer the research question:

***What is the impact of online travel review accommodation attributes on the travel decisions of***
***Generation Z consumers in the Netherlands?***

To answer this research question, three sub questions were developed to further break down the central research question and guide the hypothesis build up. This overall gave a basis for establishing the impact of review accommodation attributes on travel decisions and developed the methodology exploring the impact specifically for the target group, Generation Z consumers in the Netherlands.

### 5.1.1   Subquestion 1:  Which review accommodation attributes have an impact on the travel decision?

The first sub question addressed the general impact of review accommodation attributes impact on travel decisions. Hereby, prior literature studies were explored, discussing the importance of different review attributes, and each study discussed different attributes and evaluated their importance, including attributes like transportation, comfort, breakfast facilities and others. However, overall, most studies concluded that there were six main attributes; value for money, staff attitude, location, rooms, cleanliness, and facilities, which seemed to impact most of the consumers in these studies. This established the reasoning for the first hypothesis, that these six attributes have a positive effect on consumer travel decisions when included in an online review.

The survey results of the conjoint analysis presented that the findings aligned with the predictions made in the previous literature review, that indeed each attribute had a significant and positive effect on the online review choice, and therefore impacted the respondents travel decisions. Hereby, this study answered the first sub question, and concluded that these six attributes have the most impact on travel decisions.

### 5.1.2 Subquestion 2: Which review accommodation attributes are considered most important when making travel decisions?

The second sub question addressed the importance level of each review accommodation. In the prior literature discussed, different measures to compute review effectiveness and importance were discussed, including studies that computed conjoint analyses on different attributes. Hereby, two hypotheses were derived which took similar results found in different papers on rankings of attributes for different consumer groups. The main conclusions drawn in most papers was that value for money and staff attitude deemed to be most important in influencing travel decisions, whilst facilities and location deemed least important.

In this study, the conjoint analysis computed results which lead to effects marginals to be measured, which gave part-worth utilities of each attribute and therefore identifying the importance level of each attribute. This concluded that cleanliness seemed like the most important attribute, whilst staff attitude the least, for the respondents. This partially contradicted prior literature results, which could be explained by the difference in respondent demographics, focusing on Generation Z consumers in the Netherlands. The literature review reflected some significant difference in results between different academic studies, all studying different samples, and showed significant differences based on the demographics of the sample respondents, explaining deviations. Furthermore, it could also be explained by differences in travel behavior discovered in the survey, where most respondents seemed to be budget traveling students, therefore valuing different attributes.

### 5.1.3 Subquestion 3: What is the current state of travel choices made by Generation Z consumers in the Netherlands?

The third sub question was mainly relevant in establishing the target sample this paper will focus on, discussing the current state of travel choices made by Generation Z consumers in the Netherlands. Hereby, prior literature discussing travel decisions made by this generation were discussed, and their evaluation of attributes for similar age demographics to establish the fourth hypothesis, which stated that cleanliness, value for money, location and rooms are the most important attributes. The results presented supported the hypothesis, and the literature discussing the accommodation attributes based on Generation Z studies aligned most with results found. Also, the travel related questions asked in the survey matched with the importance of budget and culture exploration stated in the literature review, as the respondents matched the low budget preferences and valued location highly.

## 5.2    Key Findings

Overall, the key findings in comparison to the literature review, when looking at the research model, show that the first and fourth hypothesis could be accepted as previous literature on the significance of attributes, and with specific papers linked to similar demographics as our target sample, were most relevant to this papers' central question and therefore corresponded with the results shown. However, hypothesis 2 and 3 discussing importance of attributes shown in the prior literature showed some contradictions to the results computed in this paper, therefore confirming that there can be significant differences in attribute importance ranking depending on the demographics of the selected sample, validating the reason for this study to be computed. Furthermore, there were significant interaction effects between the controlled variables and a few of the attributes, which show that there are significant differences between groups of the control variables, age, and occupation, which could affect the validity of the results and concluded that a better fit model included the control variables.

## 5.3    Implications

### 5.3.1    Implications to Research

As discussed in the findings, this study contributes to the growing literature studying the relevance of online reviews in influencing consumer travel decisions, specifically the attributes included in an online review. The purpose of this study was to fill the gap of the specific demographic preferences of attributes and see if there are similarities or differences between this demographic's preferences and previously studied groups. This study showed that the attributes that have an impact on travel decisions for this demographic aligns with prior studies, but that the relevance and importance of each attribute can differ between sample groups. The results aligned with the travel behavior of the demographic group of Generation Z consumers in the Netherlands, concluding that differences in travel behavior, travel preferences and travel expectations can change how online review attributes are reviewed. Hereby, the main finding that contributes to research is that the six attributes are all significant in online reviews, however cleanliness, location and rooms are valued most important to the Generation Z consumers in the Netherlands.

### 5.3.2    Implications to Practice

As stated in the research motivation, these results provide information about Generation Z consumers in the Netherlands travel behavior and choices. This study concludes the attributes this demographic finds significant in impacting their travel choices, and which they find most important in online reviews, which

can benefit travel agencies in identifying what to provide on their websites. This also allows accommodations to see which attributes they should focus on, so they become highly rated, so that these travelers are more attracted to them. Following the results, as cleanliness, location and rooms are most relevant, travel agencies and accommodation providers can highlight these attributes on their websites and keep the level of room and hotel conditions to a higher standard to stay relevant.

Furthermore, results provided that this demographic group are frequent travelers whom value budget but prefer travel abroad and rely on online reviews for information. Hereby, marketing teams are more informed on their demographic information, and can target these customers more specifically. Moreover, these results can further benefit the economy, because as stated earlier, the Generation Z consumers are the next generation of frequent travelers, as also seen in the results, so the travel and tourism industry rely on these consumers to gain income, which can lead to a booming economy.

## 5.4   Limitations

One main limitation related to the study computed was the observation amount. Though as stated in the methodology, most studies need a minimum of 75, and this study computed 104 responses, this group of respondents is still small relative to the amount of Generation Z consumers in the Netherlands, and therefore could also limit the accuracy of representing this sample population. This is further limited by the over representation of females, and with a concentration of age groups 18-25, consisting mostly of students, as this could have biased the results.

Another limitation is the use of choice-based conjoint analysis to compute the importance. Firstly, as only 12 profiles were presented, it could be that not enough profile combinations were presented, or too many where respondents could have been tired out, reducing the reliability of the results. Furthermore, the level of importance was computed by the effects marginal test, which computed the marginal utility of the respondents in response to review profile choices. However, marginal utility does not directly link to consumer travel decisions, and therefore could also lead to not accurate conclusions to be drawn.

Furthermore, the use of six attributes was chosen due to conjoint analysis having a general limit of 5/6 attributes without overwhelming the respondents. However, many attributes were seen as being significant and important in prior research, so to further validate which attributes were most important,

more attributes could have been used and studied, potentially by using multiple choice-based analyses or using another method other than conjoint to study it.

Lastly, an important limitation which links also to future recommendations is the interaction effect of the controls with the accommodation attributes, as with some attributes they are significant and represent that the unique effect of the attribute on online review choice is also impacted by the controls. Hereby, the model is a better fit when controlling for age, gender, and occupation, however the differences between groups of the controls show that these parameters validity are limited. Hereby, further studies could measure the differences between age groups, or occupations, to see if there is a significant difference in results.

## 5.5    Future Recommendations

For further research linked directly to this study, this study can be computed on a larger scale, addressing all the limitations, for example by having more responses and for a wider range of ages for Generation Z, to validate these results. Additionally, more attributes could also be considered and evaluated for this demographic group to see if there are more significant or important attributes not considered in this study. Lastly, another methodology, other than conjoint analysis, could be used to further validate these results and see if there are significant differences between analysis methods.

For potential further research linked to this study, a different demographic group, for example Generation Y consumers in the Netherlands, which are the current highest travel demographic, could be researched. Alternatively, Generation Z consumers in other countries could also be studied to see if there are across country differences with the results computed from this study. Furthermore, other attributes that are not accommodation attributes, for example transportation attributes or package deals seen on travel websites like TUI and VakantieDiscounter, can be evaluated for this target group, to gain more information which could be beneficial for marketing teams and these travel agency websites. Lastly, to address the last limitation, this study can be computed to see differences within control groups, like age, gender, and occupation, to see if there are significant differences in results.

# 6 References

*Alle reisorganisaties | Compleet overzicht van A tot Z*. (2023). Weflycheap.

https://www.weflycheap.nl/reisorganisaties/

Attributes of Travel Destinations that Influence Tourists' Decisions: A Systematic Review.

(2021a). *International Tourism and Hospitality Journal*. https://doi.org/10.37227/ithj-2021-03-247

Bi, J., Liu, Y., Fan, Z., & Zhang, J. Z. (2020). Exploring asymmetric effects of attribute

performance on customer satisfaction in the hotel industry. *Tourism Management*, *77*, 104006.

https://doi.org/10.1016/j.tourman.2019.104006

Caber, M. (2014). *Does the importance of hotel attributes differ for senior tourists?: A*

*comparison of three markets*. https://www.semanticscholar.org/paper/Does-the-importance-of-

hotel-attributes-differ-for-Caber-Albayrak/47332367b8d6ba254935ee2d13510f7c217f98dd

Callan, R. J., & Bowman, L. (2000). Selecting a hotel and determining salient quality attributes: a

preliminary study of mature british travellers. *International Journal of Tourism Research*, *2*(2), 97–

118. https://doi.org/10.1002/(sici)1522-1970(200003/04)2:2

CBS (2023). *Men and women*. Statistics Netherlands.

https://www.cbs.nl/en-gb/visualisations/dashboard-population/men-and-women

Chatterjee, P. (2023). *Online Reviews: Do Consumers Use Them?*

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=900158

Chen, L. (2015). Exploring asymmetric effects of attribute performance on customer satisfaction

using association rule method. *International Journal of Hospitality Management*, *47*, 54–64.

https://doi.org/10.1016/j.ijhm.2015.03.002

Chen, X., Li, T., & Yuan, Q. (2021). Impacts of built environment on travel behaviors of

Generation Z: a longitudinal perspective. *Transportation*.

https://doi.org/10.1007/s11116-021-10249-6

Chen, Y., & Xie, J. (2008). Online Consumer Review: Word-of-Mouth as a New Element of

Marketing Communication Mix. *Management Science*, *54*(3), 477–491.

https://doi.org/10.1287/mnsc.1070.0810

Chen, Y., Zhong, Y., Yu, S., Xiao, Y., & Chen, S. (2022). Exploring Bidirectional Performance of

Hotel Attributes through Online Reviews Based on Sentiment Analysis and Kano-IPA Model.

*Applied Sciences*, *12*(2), 692. https://doi.org/10.3390/app12020692

Chiang, C., & Huang, C. (2021). Online Reviews on Online Travel Agency: Understanding

Tourists' Perceived Attributes of Taipei's Economy Hotels. *Journal of Quality Assurance in*

*Hospitality & Tourism*, *23*(4), 945–959. https://doi.org/10.1080/1528008x.2021.1923107

Chong, A. Y., Khong, K. W., Ma, T., McCabe, S., & Wang, Y. (2018). Analyzing key influences of

tourists' acceptance of online reviews in travel decisions. *Internet Research*, *28*(3), 564–

586. https://doi.org/10.1108/intr-05-2017-0212

Chrzan, K. (1994). Three kinds of order effects in choice-based conjoint analysis. *Marketing*

*Letters*, *5*(2), 165–172. https://doi.org/10.1007/bf00994106

De Meulenaer, S., Dens, N., & De Pelsmacker, P. (2015). Which cues cause consumers to

perceive brands as more global? A conjoint analysis. *International Marketing Review*, *32*(6),

606–626. https://doi.org/10.1108/imr-04-2014-0144

Dong, J., Li, H., & Zhang, X. (2014). Classification of Customer Satisfaction Attributes: An

Application of Online Hotel Review Analysis. In *IFIP advances in information and*

*communication technology* (pp. 238–250). Springer Science+Business Media.

https://doi.org/10.1007/978-3-662-45526-5_23

Forman, C., Ghose, A., & Wiesenfeld, B. M. (2008). Examining the Relationship Between

Reviews and Sales: The Role of Reviewer Identity Disclosure in Electronic Markets.

*Information Systems Research*, *19*(3), 291–313. https://doi.org/10.1287/isre.1080.0193

Gretzel, U., & Yoo, K. H. (2008). Use and Impact of Online Travel Reviews [Online]. In

*Information and Communication Technologies in Tourism 2008* (pp. 35–46).

https://doi.org/10.1007/978-3-211-77280-5_4

Hair, J. F. (2009). *Multivariate Data Analysis*. DigitalCommons@Kennesaw State University.

   https://digitalcommons.kennesaw.edu/facpubs/2925/

Huber, J., & Zwerina, K. (1996). The Importance of Utility Balance in Efficient Choice Designs.

   *Journal of Marketing Research*, *33*(3), 307–317.

   https://doi.org/10.1177/002224379603300305

Hudson, S., & Thal, K. (2013). The Impact of Social Media on the Consumer Decision Process:

   Implications for Tourism Marketing. *Journal of Travel & Tourism Marketing*, *30*(1–2), 156–

   160. https://doi.org/10.1080/10548408.2013.751276

*IBISWorld - Industry Market Research, Reports, and Statistics*. (n.d.).

   https://www.ibisworld.com/netherlands/industry-statistics/travel-agencies/4200/

Igor, H. C. (2010, June 25). *eTourism: A comparison of Online and Offline Bookings and the*

   *Importance of Hotel Attributes*. https://hrcak.srce.hr/55155

Ikemoto, H., & Yamaoka, T. (2011). Conjoint Analysis Method That Minimizes the Number of

   Profile Cards. In *Communications in computer and information science* (pp. 23–28). Springer

   Science+Business Media. https://doi.org/10.1007/978-3-642-22098-2_5

Jang, S., Liu, T., Kang, J. Y., & Yang, H. (2018). Understanding Important Hotel Attributes from

   the Consumer Perspective over Time. *Australasian Marketing Journal (Amj)*, *26*(1), 23–30.

https://doi.org/10.1016/j.ausmj.2018.02.001

Jin, O. K. &. P. S. (2021). Does generation matter? A comparison between travel behaviour and

factors affecting on travel decision of generation Y and Z. *ideas.repec.org*.

https://ideas.repec.org/a/aif/journl/v5y2021i7p147-169.html

Liu, Z., & Park, S. (2015). What makes a useful online review? Implication for travel product

websites. *Tourism Management*, *47*, 140–151.

https://doi.org/10.1016/j.tourman.2014.09.020

Michel. (2020). Millennials prefer vacations abroad over holidays in the Netherlands. *Holland

Travel Marketing*.

 https://www.hollandtravelmarketing.com/millennials-prefer-vacations-abroad-over-holidays-in-

the-netherlands/

Murphy, H. C., & Chen, M. M. (2014). The multiple effects of review attributes on hotel choice

 decisions: a conjoint analysis study. In *Presented ENTER 2014 Conference on Information

and Communication Technologies in Tourism. IFITT, Dublin*.

*Netherlands: population, by age and gender 2022 | Statista*. (2022, July 22). Statista.

https://www.statista.com/statistics/755052/population-of-the-netherlands-by-age-and-gender/

Network of Executive Women (NEW). (2022). *WELCOME TO GENERATION Z* [Online]. Deloitte.

https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consumer-business/welcome-to-gen-z.pdf

Perneger, T. V. (2021). How to use likelihood ratios to interpret evidence from randomized

trials. *Journal of Clinical Epidemiology*, *136*, 235–242.

https://doi.org/10.1016/j.jclinepi.2021.04.010

Perrin-Monlouis, P. (2021). A study conducted by TrustYou for AccorHotels highlights the

positive effects of TripAdvisor reviews on hotel bookings. *Edubourse*.

https://edubourse.com/en/finance-actualites-actu-89896/

Qu, H., Ryan, B., & Chu, R. H. (2000). The Importance of Hotel Attributes in Contributing to

Travelers' Satisfaction in the Hong Kong Hotel Industry. *Journal of Quality Assurance in

Hospitality & Tourism*, *1*(3), 65–83. https://doi.org/10.1300/j162v01n03_04

Rassal, C. H. (2022, December 21). *Hotel service quality assessment: the generation z

perspective*. https://sapientia.ualg.pt/handle/10400.1/19455

Rhee, H. T., & Yang, S. (2015). How does hotel attribute importance vary among different

travelers? An exploratory case study based on a conjoint analysis. *Electronic Markets*, *25*(3),

211–226. https://doi.org/10.1007/s12525-014-0161-y

Robinson, V. A., & Schänzel, H. (2019). A tourism inflex: Generation Z travel experiences. *Journal of Tourism Futures*, *5*(2), 127–141. https://doi.org/10.1108/jtf-01-2019-0014

Shanahan, K. J., & Hyman, M. R. (2007). An exploratory study of desired hotel attributes for American tourists vacationing in China and Ireland. *Journal of Vacation Marketing*, *13*(2), 107–118. https://doi.org/10.1177/1356766707074735

Sidali, K. L., Schulze, H., & Spiller, A. (2009). The Impact of Online Reviews on the Choice of Holiday Accommodations [Online]. In *Information and Communication Technologies in Tourism 2009* (pp. 87–98). https://doi.org/10.1007/978-3-211-93971-0_8

Soares, F., Dens, N., De Pelsmacker, P., & De Keyzer, F. (2020). Which cues influence the perceived usefulness and credibility of an online review? A conjoint analysis. *Online Information Review*, *45*(1), 1–20. https://doi.org/10.1108/oir-09-2019-0287

Spoerr, D. (2020). *Factor Analysis of Hotel Selection Attributes and Their Significance for Different Groups of German Leisure Travelers*. https://www.semanticscholar.org/paper/Factor-Analysis-of-Hotel-Selection-Attributes-and-Spoerr/0d073d17ed9085eeaeaa40f8b4ba2b719890274e

Stavrianea, A., Kamenidou, I., & Bara, E. Z. (2020). Gender Differences in Satisfaction from Hotel Room Attributes and Characteristics: Insights from Generation Z. In *Springer proceedings in business and economics* (pp. 139–147). Springer International Publishing.

https://doi.org/10.1007/978-3-030-36126-6_16

Stoffer, R. (2023, March 27). Volgens het ANVR hebben Nederlanders een record aantal

buitenlandse vakanties geboekt, ook naar Spanje. *SpanjeVandaag*.

https://www.spanjevandaag.com/01/03/2023/anvr-nederlanders-record-aantal-buitenlandse-

vakanties-ook-spanje/

Tsaur, S., Huang, C., & Luoh, H. (2014). Do Travel Product Types Matter? Online Review

Direction and Persuasiveness. *Journal of Travel & Tourism Marketing*, *31*(7), 884–898.

https://doi.org/10.1080/10548408.2014.890156

Usta, M., Berezina, K., & Cobanoglu, C. (2011). The Impact of Hotel Attributes' Satisfaction on

Overall Guest Satisfaction. *UMass Amherst*.

https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1323&context=gradconf_hospitality

*Vakantie beoordelingen, reviews en reiservaringen - Vakantiepanel* (2023). Vakantiepanel.nl.

http://www.vakantiepanel.nl/

Wiastuti, R. D., & Lestar, N. S. (2020). The generation Z characteristics and hotel choices. *African

Journal of Hospitality, Tourism and Leisure*, *9*(1).

https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_24_vol_9_1__2020_indonesia.pdf

Wong, K., & Chi-Yung, L. (2002). Predicting Hotel Choice Decisions and Segmenting Hotel

Consumers: A Comparative Assessment of a Recent Consumer Based Approach. *Journal of

Travel & Tourism Marketing*, *11*(1), 17–33. https://doi.org/10.1300/j073v11n01_02

Yang, S., Shin, S., Joun, Y., & Koo, C. (2017). Exploring the comparative importance of online

hotel reviews' heuristic attributes in review helpfulness: a conjoint analysis approach.

*Journal of Travel & Tourism Marketing*, *34*(7), 963–985.

https://doi.org/10.1080/10548408.2016.1251872

# 7 Appendix

## 7.1 Appendix A: Survey Questions

**Block 1**

Welcome to my survey!

Thank you for participating in this research conducted for my Bachelor Thesis at Erasmus University Rotterdam.

This survey is designed to measure your preferences for accommodation attributes on online travel reviews. You will be presented with profiles including different accommodation attributes and through a choice-based conjoint analysis will be picking your preferred profile.

This survey consists of a few demographic and travel related questions followed by 12 choice profiles, and should take about 5-10 minutes to complete. This survey is aimed at Generation Z (aged 12-25) consumers living in the Netherlands.

Please answer as honestly as possible, your data will be treated with confidentiality and anonymity You have the right to withdraw participation at any time during the survey. However, this data will be used for academic research purposes and will not be distributed to third parties.

If you have any questions about the survey, or any concerns, please feel free to contact Liesl Twaalfhoven at 532663lt@student.eur.nl.

Thank you!

**Demographic Questions**

**What is your gender?**
Male
Female
Non-binary / third gender Prefer not to say
**What is your age?**
**What is your occupation?**
Student Working Student Working Unemployed Other
**What is your nationality?**
**What is your monthly income/budget?**

**Travel Behaviour Questions**

**On average, how often do you travel out of the country per year?**
Never
Once a year

Twice a year
Three or more times per year

**On average, how much do you usually spend on travel accommodation per night?**
0 - 50 euro
50 - 100 euro 100 - 150 euro 150 - 200 euro 200 + euro

**On average, how much do you usually spend on all travel related costs for a week vacation (this includes flights and hotel, excludes spending on food or leisure activities)**
0 - 100 euro 100 - 200 euro 200 - 300 euro 300 - 400 euro 400 - 500 euro 500 + euro

**What is your preferred travel transportation method?**
Car Train Flight Boat Other

**What is your preferred travel destination?**
Within the Netherlands
Within Europe (outside the Netherlands) International (outside of Europe)

**Do you read online reviews on travel accomodations before booking?**
Always Often Sometimes Not Often Never

For the following section, you will be presented with 12 profiles including 6 accommodation attributes. Each profile will state whether the attribute rating is present (or not present) in an online travel review. You will then pick which profile you would prefer. The profile selection you will pick should be based on which attributes, or attribute combination, you find most important when making your travel decisions.

Please take your time reviewing each profile before choosing.
The 6 accommodation attributes included in the online travel review are as followed:

Value for Money - Rating given, informing consumers on the value of the accommodation in regards to the amount you paid for the accommodation.

Staff Attitude - Rating given, informing consumers on the staff service and attitude towards customers. Rating shows how friendly, helpful and available the staff was at the accommodation.

Location - Rating given, informing consumers on how good the location of the accommodation is.

Rooms - Rating given, informing consumers on the quality of the rooms of the accommodation, expressing the comfort and space of the rooms.

Cleanliness - Rating given, informing consumers on the general cleanliness of the accommodation, including the rooms and facilities.

Facilities - Rating given, informing consumers on the facilities offered at the accommodation, including breakfast services, planned events or other leisure or sport facilities available.

**Choice 1**

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | PRESENT | NOT PRESENT |
| Location | PRESENT | NOT PRESENT |
| Rooms | NOT PRESENT | PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | PRESENT | PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

○ Review A

○ Review B

# CHOICE 2

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | NOT PRESENT | PRESENT |
| Location | PRESENT | PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | NOT PRESENT | PRESENT |
| Facilities | NOT PRESENT | PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

○ Review A

○ Review B

**Choice 3**

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | NOT PRESENT | PRESENT |
| Location | NOT PRESENT | PRESENT |
| Rooms | NOT PRESENT | PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | PRESENT | NOT PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

◯ Review A

◯ Review B

# CHOICE 4

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | PRESENT |
| Staff Attitude | NOT PRESENT | PRESENT |
| Location | NOT PRESENT | NOT PRESENT |
| Rooms | NOT PRESENT | PRESENT |
| Cleanliness | NOT PRESENT | PRESENT |
| Facilities | NOT PRESENT | PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

◯ Review A

◯ Review B

**Choice 5**

|  | **REVIEW A** | **REVIEW B** |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | NOT PRESENT | PRESENT |
| Location | NOT PRESENT | PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | PRESENT | NOT PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

◯ Review A

◯ Review B

# CHOICE 6

|  | **REVIEW A** | **REVIEW B** |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | PRESENT | NOT PRESENT |
| Location | PRESENT | PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | PRESENT | PRESENT |
| Facilities | NOT PRESENT | PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

◯ Review A

◯ Review B

**Choice 7**

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | NOT PRESENT | PRESENT |
| Staff Attitude | NOT PRESENT | NOT PRESENT |
| Location | PRESENT | NOT PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | NOT PRESENT | NOT PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

○ Review A

○ Review B

# CHOICE 8

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | PRESENT | NOT PRESENT |
| Location | NOT PRESENT | PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | NOT PRESENT | PRESENT |
| Facilities | PRESENT | NOT PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

○ Review A

○ Review B

**Choice 9**

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | NOT PRESENT | PRESENT |
| Location | PRESENT | NOT PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | NOT PRESENT | NOT PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

○ Review A

○ Review B

# CHOICE 10

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | NOT PRESENT | PRESENT |
| Staff Attitude | PRESENT | NOT PRESENT |
| Location | NOT PRESENT | PRESENT |
| Rooms | PRESENT | NOT PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | NOT PRESENT | PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

○ Review A

○ Review B

**Choice 11**

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | PRESENT | NOT PRESENT |
| Location | PRESENT | NOT PRESENT |
| Rooms | PRESENT | PRESENT |
| Cleanliness | NOT PRESENT | PRESENT |
| Facilities | PRESENT | NOT PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

◯ Review A

◯ Review B

# CHOICE 12

| | REVIEW A | REVIEW B |
|---|---|---|
| Value for Money | PRESENT | NOT PRESENT |
| Staff Attitude | PRESENT | NOT PRESENT |
| Location | NOT PRESENT | PRESENT |
| Rooms | NOT PRESENT | PRESENT |
| Cleanliness | PRESENT | NOT PRESENT |
| Facilities | NOT PRESENT | PRESENT |

**Which attribute profile do you prefer when making your travel decisions?**

◯ Review A

◯ Review B

## 7.2 Appendix B: JMP Choice-Based Conjoint Analysis

### 7.2.1 Choice Design

**Choice Design**

**Attributes**

| Name | Role | Attribute Levels | | Units |
|---|---|---|---|---|
| Staff Attitude | Categorical | Present | Not Present | |
| Location | Categorical | Present | Not Present | |
| Rooms | Categorical | Present | Not Present | |
| Cleanliness | Categorical | Present | Not Present | |
| Facilities | Categorical | Present | Not Present | |

**Model**

▶ **DOE Model Controls**

▼ **Prior Specification**

☐ Ignore prior specifications. Generate the Utility Neutral design.

▼ **Prior Mean**

| Effect | Prior Mean |
|---|---|
| Value for Money | 0,000 |
| Staff Attitude | 0,000 |
| Location | 0,000 |
| Rooms | 0,000 |
| Cleanliness | 0,000 |
| Facilities | 0,000 |

☐ Ignore prior variance. Generate the local design for the prior mean.

▼ **Prior Variance Matrix**

| Effect | Value for Money | Staff Attitude | Location | Rooms | Cleanliness | Facilities |
|---|---|---|---|---|---|---|
| Value for Money | 1,000 | 0,000 | 0,000 | 0,000 | 0,000 | 0,000 |
| Staff Attitude | | 1,000 | 0,000 | 0,000 | 0,000 | 0,000 |
| Location | | | 1,000 | 0,000 | 0,000 | 0,000 |
| Rooms | | | | 1,000 | 0,000 | 0,000 |
| Cleanliness | | | | | 1,000 | 0,000 |
| Facilities | | | | | | 1,000 |
| Facilities | | | | | | 1,000 |

**Design**

| Choice Set | Value for Money | Staff Attitude | Location | Rooms | Cleanliness | Facilities |
|---|---|---|---|---|---|---|
| 1 | Present | Present | Present | Not Present | Present | Present |
| 1 | Not Present | Not Present | Not Present | Present | Not Present | Present |
| 2 | Present | Not Present | Present | Present | Not Present | Not Present |
| 2 | Not Present | Present | Present | Not Present | Present | Present |
| 3 | Present | Not Present | Not Present | Not Present | Present | Present |
| 3 | Not Present | Present | Present | Present | Not Present | Not Present |
| 4 | Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| 4 | Present | Present | Not Present | Present | Present | Present |
| 5 | Present | Not Present | Not Present | Present | Present | Present |
| 5 | Not Present | Present | Present | Not Present | Not Present | Not Present |
| 6 | Present | Present | Present | Present | Present | Not Present |
| 6 | Not Present | Not Present | Present | Not Present | Present | Present |
| 7 | Not Present | Not Present | Present | Present | Present | Not Present |
| 7 | Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| 8 | Present | Present | Not Present | Present | Not Present | Present |
| 8 | Not Present | Not Present | Present | Not Present | Present | Not Present |
| 9 | Present | Not Present | Present | Present | Present | Not Present |
| 9 | Not Present | Present | Not Present | Not Present | Not Present | Not Present |
| 10 | Not Present | Present | Not Present | Present | Present | Not Present |
| 10 | Present | Not Present | Present | Not Present | Not Present | Present |
| 11 | Present | Present | Present | Present | Not Present | Present |
| 11 | Not Present | Not Present | Not Present | Present | Present | Not Present |
| 12 | Present | Present | Not Present | Not Present | Present | Not Present |
| 12 | Not Present | Not Present | Present | Present | Not Present | Present |

◯ Output separate tables for profiles and responses
◉ Combine profiles and responses in one table

[ Make Table ]

**Bachelor Thesis Marketing CA With Data From Survey**

| | Respondant | Choice Set | Responce Indicator | Value for Money | Staff Attitude | Location | Rooms | Cleanliness | Facilities | Gender |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | Present | Present | Present | Not Present | Present | Present | 2 |
| 2 | 1 | 1 | 0 | Not Present | Not Present | Not Present | Present | Not Present | Present | 2 |
| 3 | 1 | 2 | 1 | Present | Not Present | Present | Present | Not Present | Not Present | 2 |
| 4 | 1 | 2 | 0 | Not Present | Present | Present | Not Present | Present | Present | 2 |
| 5 | 1 | 3 | 0 | Present | Not Present | Not Present | Not Present | Present | Present | 2 |
| 6 | 1 | 3 | 1 | Not Present | Present | Present | Present | Not Present | Not Present | 2 |
| 7 | 1 | 4 | 0 | Present | Not Present | Not Present | Not Present | Not Present | Not Present | 2 |
| 8 | 1 | 4 | 1 | Present | Present | Not Present | Present | Present | Present | 2 |
| 9 | 1 | 5 | 0 | Present | Not Present | Not Present | Present | Present | Present | 2 |
| 10 | 1 | 5 | 1 | Not Present | Present | Present | Not Present | Not Present | Not Present | 2 |
| 11 | 1 | 6 | 1 | Present | Present | Present | Present | Present | Not Present | 2 |
| 12 | 1 | 6 | 0 | Not Present | Not Present | Present | Not Present | Present | Present | 2 |
| 13 | 1 | 7 | 1 | Not Present | Not Present | Present | Present | Present | Not Present | 2 |
| 14 | 1 | 7 | 0 | Present | Not Present | Not Present | Not Present | Not Present | Not Present | 2 |
| 15 | 1 | 8 | 0 | Present | Present | Not Present | Present | Not Present | Present | 2 |
| 16 | 1 | 8 | 1 | Not Present | Present | Not Present | Not Present | Present | Not Present | 2 |
| 17 | 1 | 9 | 1 | Present | Not Present | Present | Present | Present | Not Present | 2 |
| 18 | 1 | 9 | 0 | Not Present | Present | Not Present | Not Present | Not Present | Not Present | 2 |
| 19 | 1 | 10 | 0 | Not Present | Present | Not Present | Present | Present | Not Present | 2 |
| 20 | 1 | 10 | 1 | Present | Not Present | Present | Not Present | Not Present | Present | 2 |
| 21 | 1 | 11 | 1 | Present | Present | Present | Present | Not Present | Present | 2 |
| 22 | 1 | 11 | 0 | Not Present | Not Present | Not Present | Present | Present | Not Present | 2 |
| 23 | 1 | 12 | 0 | Present | Present | Not Present | Not Present | Present | Not Present | 2 |
| 24 | 1 | 12 | 1 | Not Present | Not Present | Present | Present | Not Present | Present | 2 |
| 25 | 2 | 1 | 1 | Present | Present | Present | Not Present | Present | Present | 2 |
| 26 | 2 | 1 | 0 | Not Present | Not Present | Not Present | Present | Not Present | Present | 2 |
| 27 | 2 | 2 | 1 | Present | Not Present | Present | Present | Not Present | Not Present | 2 |
| 28 | 2 | 2 | 0 | Not Present | Present | Present | Not Present | Present | Present | 2 |
| 29 | 2 | 3 | 1 | Present | Not Present | Not Present | Present | Not Present | Present | 2 |
| 30 | 2 | 3 | 0 | Not Present | Present | Present | Present | Not Present | Not Present | 2 |
| 31 | 2 | 4 | 0 | Present | Not Present | Not Present | Not Present | Not Present | Not Present | 2 |

| Age | Occupation | Nationality | Monthly Income | Travel Per Year | Spending Travel Accommodation | Total Travel Spending | Transportation Method | Travel Destination | Online Reviews |
|---|---|---|---|---|---|---|---|---|---|
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Dutch | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 22 | 2 | Indonesian | 900 | 4 | 2 | 5 | 3 | 2 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |
| 20 | 1 | Greek | 1200 | 3 | 2 | 6 | 3 | 3 | 1 |

# ▾ ▾ Choice Model: Responce Indicator

## ▾ Effect Summary

| Source | Logworth | | PValue |
|---|---|---|---|
| Cleanliness | 60,654 | | 0,00000 |
| Rooms | 43,653 | | 0,00000 |
| Location | 27,366 | | 0,00000 |
| Value for Money | 25,299 | | 0,00000 |
| Facilities | 10,320 | | 0,00000 |
| Staff Attitude | 8,484 | | 0,00000 |

Remove  Add Profile Effect  Add Subject Effect  ☐ FDR

## ▾ Parameter Estimates

| Term | Estimate | Std Error |
|---|---|---|
| Value for Money[Not Present] | -0,427839428 | 0,0434995465 |
| Staff Attitude[Not Present] | -0,229203387 | 0,0393131280 |
| Location[Not Present] | -0,520075390 | 0,0528047971 |
| Rooms[Not Present] | -0,573327615 | 0,0475048971 |
| Cleanliness[Not Present] | -0,706137682 | 0,0528587194 |
| Facilities[Not Present] | -0,269273892 | 0,0419688038 |

| | |
|---|---|
| AICc | 1088,2919 |
| BIC | 1119 |
| -2*LogLikelihood | 1076,2242 |
| -2*Firth LogLikelihood | 1038,2334 |

Converged in Gradient

Firth Bias-Adjusted Estimates

Firth Bias-Adjusted Estimates

## ▾ Likelihood Ratio Tests

| Source | L-R ChiSquare | DF | Prob>ChiSq | |
|---|---|---|---|---|
| Value for Money | 111,327 | 1 | <,0001* | |
| Staff Attitude | 35,010 | 1 | <,0001* | |
| Location | 120,762 | 1 | <,0001* | |
| Rooms | 195,294 | 1 | <,0001* | |
| Cleanliness | 273,254 | 1 | <,0001* | |
| Facilities | 43,262 | 1 | <,0001* | |

### 7.2.5 Effects Marginal Test

Facilities    45,262    1    <,0001

**Effect Marginals**

| Marginal Probability | Marginal Utility | | Value for Money |
|---|---|---|---|
| 0,2982 | -0,42784 | | Not Present |
| 0,7018 | 0,42784 | | Present |

| Marginal Probability | Marginal Utility | | Staff Attitude | Marginal Probability | Marginal Utility | | Cleanliness |
|---|---|---|---|---|---|---|---|
| 0,3874 | -0,22920 | | Not Present | 0,1959 | -0,70614 | | Not Present |
| 0,6126 | 0,22920 | | Present | 0,8041 | 0,70614 | | Present |

| Marginal Probability | Marginal Utility | | Location | Marginal Probability | Marginal Utility | | Facilities |
|---|---|---|---|---|---|---|---|
| 0,2611 | -0,52008 | | Not Present | 0,3685 | -0,26927 | | Not Present |
| 0,7389 | 0,52008 | | Present | 0,6315 | 0,26927 | | Present |

| Marginal Probability | Marginal Utility | | Rooms |
|---|---|---|---|
| 0,2411 | -0,57333 | | Not Present |
| 0,7589 | 0,57333 | | Present |

### 7.2.6 Parameter effects and liklihood ratio test with interaction effects with control variables Gender, Age, and Occupation

**Parameter Estimates**

| Term | Estimate | Std Error |
|---|---|---|
| Value for Money[Not Present] | -1,74967520 | 1,144236901 |
| Staff Attitude[Not Present] | -0,76853123 | 0,981924609 |
| Location[Not Present] | -1,12586682 | 1,385894349 |
| Rooms[Not Present] | -1,45048995 | 1,220070369 |
| Cleanliness[Not Present] | -3,69541570 | 1,391641657 |
| Facilities[Not Present] | 0,27445477 | 1,054141851 |
| Gender*Value for Money[Not Present] | -0,04876066 | 0,134295124 |
| Gender*Staff Attitude[Not Present] | 0,04901434 | 0,118515879 |
| Gender*Location[Not Present] | -0,14878565 | 0,168688607 |
| Gender*Rooms[Not Present] | -0,04906906 | 0,145393220 |
| Gender*Cleanliness[Not Present] | 0,05289367 | 0,163203172 |
| Gender*Facilities[Not Present] | 0,00353452 | 0,126916448 |
| Age*Value for Money[Not Present] | 0,07951350 | 0,053197241 |
| Age*Staff Attitude[Not Present] | 0,03264305 | 0,046310941 |
| Age*Location[Not Present] | 0,05368671 | 0,062731096 |
| Age*Rooms[Not Present] | 0,05296397 | 0,055648195 |
| Age*Cleanliness[Not Present] | 0,14134093 | 0,063255020 |
| Age*Facilities[Not Present] | -0,01876640 | 0,049896521 |
| Occupation*Value for Money[Not Present] | -0,28118775 | 0,149798379 |
| Occupation*Staff Attitude[Not Present] | -0,23211559 | 0,128283980 |
| Occupation*Location[Not Present] | -0,29281723 | 0,187847854 |
| Occupation*Rooms[Not Present] | -0,15783130 | 0,146898379 |
| Occupation*Cleanliness[Not Present] | -0,13650594 | 0,174941788 |
| Occupation*Facilities[Not Present] | -0,07455284 | 0,128126779 |

| | |
|---|---|
| AICc | 525,71039 |
| BIC | 630,17466 |
| -2*LogLikelihood | 475,70705 |
| -2*Firth LogLikelihood | 356,64649 |

Converged in Gradient

Firth Bias-Adjusted Estimates

| | | | | |
|---|---|---|---|---|
| Gender*Value for Money | 0,000 | 1 | 1,0000 | |
| Gender*Staff Attitude | 0,175 | 1 | 0,6761 | |
| Gender*Location | 0,536 | 1 | 0,4641 | |
| Gender*Rooms | 0,000 | 1 | 1,0000 | |
| Gender*Cleanliness | 0,047 | 1 | 0,8279 | |
| Gender*Facilities | 0,000 | 1 | 1,0000 | |
| Age*Value for Money | 1,870 | 1 | 0,1715 | |
| Age*Staff Attitude | 0,479 | 1 | 0,4888 | |
| Age*Location | 0,421 | 1 | 0,5165 | |
| Age*Rooms | 0,566 | 1 | 0,4517 | |
| Age*Cleanliness | 4,100 | 1 | 0,0429* | |
| Age*Facilities | 0,134 | 1 | 0,7144 | |
| Occupation*Value for Money | 4,384 | 1 | 0,0363* | |
| Occupation*Staff Attitude | 4,027 | 1 | 0,0448* | |
| Occupation*Location | 2,954 | 1 | 0,0857 | |
| Occupation*Rooms | 1,409 | 1 | 0,2352 | |
| Occupation*Cleanliness | 0,660 | 1 | 0,4164 | |
| Occupation*Facilities | 0,460 | 1 | 0,4976 | |