Lisbon School of Economics & Management
Universidade de Lisboa

MASTERS IN MANAGEMENT (MIM)

MASTERS FINAL WORK

INTERNSHIP REPORT

EVENT VISITOR TRAVEL BEHAVIOUR AT THE STUTTGARTER WEINDORF

NIKLAS STOCKER

FEBRUARY - 2024

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Disclosure: I, the author of this report, from August 2021 to September 2022 used to be an employee of the Local Organizing Committee of the European Championships Munich 2022, which are mentioned several times in the following report. Furthermore, after already having submitted a preliminary version of this report, in May 2024 I joined the Organizing Committee of the 2024 European football championships in Germany, which as well are mentioned several times in this report.

RESUMO

As alterações climáticas e o desenvolvimento sustentável estão entre as questões mais importantes atualmente. O mesmo se aplica à indústria dos eventos, onde o conceito de neutralidade climática está a ganhar cada vez mais importância. Uma parte substancial das emissões nos eventos resulta regularmente das deslocações dos visitantes de e para o local do evento.

Este relatório foi produzido como parte de um estágio na Pro Stuttgart, a organizadora do evento Stuttgarter Weindorf na Alemanha. Particularmente focado neste evento específico, o relatório aborda o comportamento de viagem dos visitantes com o objetivo de promover a utilização de meios de transporte amigos do ambiente.

A investigação adota uma abordagem descritivo-explanatória, com base num estudo quantitativo mono-método. O relatório recolheu dados válidos de 433 visitantes, utilizando uma técnica de amostragem não probabilística. O inquérito assumiu a forma de um questionário estruturado e auto-preenchido online, distribuído exclusivamente durante o evento.

O relatório examina a relação entre a escolha do modo de deslocação, a satisfação com a viagem e as intenções futuras de escolha do modo de deslocação, bem como a influência dos programas de incentivo no comportamento de viagem.

Os resultados, por um lado, mostram diferenças claras na utilização dos modos de transporte em comparação com outros estudos. Por outro lado, os resultados alinham-se com investigações anteriores, confirmando, por exemplo, níveis de satisfação mais elevados entre os utilizadores de modos de deslocação ativos (ou seja, andar a pé e de bicicleta). Além disso, os programas de incentivo podem ser um complemento útil, se forem implementados de forma adequada.

O relatório fornece informações para os organizadores de eventos e oferece recomendações para moldar o comportamento de deslocação dos visitantes, com vista a alcançar uma gestão de eventos neutra em carbono. Contribui também para a compreensão do transporte sustentável para eventos e fornece informações valiosas para o setor.

Palavras-Chave: Gestão de eventos, Viagens de visitantes, Transportes públicos, Sustentabilidade, Satisfação

ABSTRACT

Climate change and sustainable development rank among the most important issues of our times. This holds true for the event industry, where the concept of climate neutrality is gaining increasing importance. A substantial share of emissions at events regularly stems from visitor travel to and from the event site.

This report was produced as part of an internship at Pro Stuttgart, the organizer of the Stuttgarter Weindorf event in Germany. Particularly focused on this specific event, the report addresses the travel behavior of visitors with the objective of promoting the use of climate-friendly means of transport.

The investigation adopts a descriptive-explanatory approach, based on a mono-method quantitative study. The report collected valid data from 433 visitors using a non-probability sampling technique. The survey took the form of a structured, self-completed online questionnaire distributed exclusively at the event.

The report examines the relationship between travel mode choice, travel satisfaction and future travel mode choice intentions as well as the influence of incentive programs on travel behavior.

The results on the one hand show clear distinctions in the use of transport modes compared to other studies. On the other hand, the findings align with prior research, confirming, for example, increased satisfaction levels among users of active travel modes (i.e., walking and cycling). Furthermore, incentive programs can be a useful addition if implemented appropriately.

The report provides insights for event organizers and offers recommendations for shaping visitor travel behavior towards achieving climate-neutral event management. It contributes to the understanding of sustainable transportation for events and generates valuable insights for the sector.

Keywords: Event management, Visitor travel, Public transport, Sustainability, Satisfaction

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

BGB	German Civil Code (German: Bürgerliches Gesetzbuch)
CO_2	Carbon dioxide
ESG	Environmental, Social, and Governance
EU	European Union
e. V.	Registered association (German: eingetragener Verein)
GHG	Greenhouse gas
GmbH	Ltd. (Limited Company) (German: Gesellschaft mit beschränkter Haftung)
km	Kilometer/kilometers
km/h	Kilometers per hour
mbH	Ltd. (Limited Company) (German: mit beschränkter Haftung)
P1 – P3	Proposition 1 – Proposition 3
Q1 – Q19	Question 1 – Question 19
QR code	Quick response code
RQ1 – RQ4	Research question 1 – Research question 4
SD	Standard Deviation
SDG	United Nations Sustainable Development Goal
STS	Satisfaction with travel scale
TMCC	Travel mode choice cycle
UN	United Nations
VVS	Stuttgart public transport association (German: Verkehrs- und Tarifverbund Stuttgart)

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 - INTRODUCTION

1.1. Background

Stuttgart is the capital of the southwestern German state of Baden-Wuerttemberg. With over 600,000 inhabitants, it is the sixth largest city in Germany (Statistisches Bundesamt, 2023a). Along with global industrial companies like Mercedes-Benz and Porsche, Stuttgart is home to numerous sports, cultural and leisure activities. These include the Stuttgarter Weindorf.

With several hundred thousand visitors per year, the Stuttgarter Weindorf is one of the largest wine festivals in Germany. It has been held - interrupted only by the pandemic years 2020 and 2021 - in downtown Stuttgart since 1976. Visitors to the event can sample a wide variety of regional wines and food during the approximately two-week event and experience a collective celebration with friends and family as well as local political, sports, cultural and business personalities. It is organized and carried out by Pro Stuttgart Verwaltungsgesellschaft mbH, a wholly owned subsidiary of Pro Stuttgart e. V. (Pro Stuttgart e. V., 2023c).

Sustainable development is one of the buzzwords of the time and it keeps gaining importance. According to a 1987 definition, it is the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (The World Commission on Environment and Development, p. 54). In this context, as part of the 2030 Agenda, the United Nations (UN) (2015) developed and published the 17 SDGs (Sustainable Development Goals) as a call to end poverty, protect the planet, and ensure prosperity and education for all people. In 2019, more than 11,000 scientists signed a publication calling governments, businesses and societies to take bold and drastic actions regarding the transformation of economic policies in order to soften the worst effects of climate change to secure a sustainable future (Ripple et al., 2020). In its most recent report, the United Nations Environment Programme (2023) highlighted that record-breaking levels of temperatures, global greenhouse gas (GHG) emissions, and atmospheric carbon dioxide (CO_2) concentrations were observed in 2022. The report emphasizes the imperative for high-income countries to intensify their efforts in emission reduction and to promptly commit to achieving their net-zero targets.

While organizing events can bring economic and social benefits to the hosting location, the corresponding visitor travel can result in negative social and environmental impacts (Collins & Potoglou, 2019). Pro Stuttgart strives to achieve climate-neutral event management. It is therefore preparing to fully examine the event with regard to its carbon footprint in order to be able to achieve the goal of a climate-neutral Stuttgarter Weindorf in the sense of SDG 13 Climate Action (United Nations, 2015). Pro Stuttgart is using the European Championships Munich 2022, which bundled the European championships in nine different sports such as athletics, gymnastics, and beach volleyball at the same time and place, as role model. With approximately 1.5 million visitors, at the time it was the largest multi-sport event in Germany after the 1972 Munich Summer

Olympics. In its sustainability report, the organizers outlined that travel to and from the event was by far the largest emissions account, representing over 50% of the event's total CO_2 emissions, well ahead of other aspects such as logistics and transport, electricity or catering (Bernheine & Gampper, 2023). McCullough et al. (2023) in their study of sporting events similarly concluded that participant travel accounts for the largest share of event emissions. One of the aims of the internship represented in this report was to form the basis for measures in this area, which will be discussed in the following section.

1.2. The Main Problem and Research Questions

As outlined earlier, visitor travel can be one of the largest contributors to CO_2 emissions of an event. According to Kim (2011), the traveling of event visitors can cause environmental problems even on a national level. Event organizers should have plans in place to manage travel behavior, including educating visitors about environmentally friendly modes of transportation (Dosumu et al., 2017). The organizers of the 2024 European football championships in Germany, for example, launched an offer that allows ticket holders to use local public transport free of charge before and after the respective matches, thereby providing an incentive for fans to travel by public transport (UEFA Union des Associations Européennes de Football, 2023b).

The Stuttgarter Weindorf takes place annually. To date no comprehensive data regarding its visitor travel behavior has been collected. The first step on the way to a climate-neutral event is the systematic investigation of visitor travel to the Stuttgarter Weindorf as part of this internship and through this report. This is intended to enable the introduction of suitable measures to influence visitor travel behavior towards climate-friendly means of transport.

This report therefore aims to answer the following research questions (RQ):

RQ1: What is the customer travel behavior and travel mode choice as it comes to attending the event?

RQ2: What is the customer satisfaction with the selected travel mode?

RQ3: What is the future customer intention as it comes to choosing travel modes?

RQ4: Can incentive programs such as vouchers influence the future customer intention to choose a travel mode?

Additionally, the report aims to partially test the Travel Mode Choice Cycle (TMCC) as proposed by De Vos et al. (2022) and to check the effectiveness of already implemented measures in promoting the choice of environmentally friendly means of transport. Furthermore, it aims to point out potential additional measures that can be used to change visitors' travel behavior in favor of environmentally friendly means of transport.

1.3. Relevance of the Study

The event sector is experiencing continuous growth (Ballarano et al., 2022). However, the systematic review by Ballarano et al. (2022) revealed a scarcity of studies on sustainable transportation in the context of events. Similar conclusions were drawn by other studies, such as Collins and Potoglou (2019), and Liu and Li (2022). This report endeavors to address this gap by examining the case of the Stuttgarter Weindorf. With a specific focus on incentive programs, customer perceptions, and sustainability, this report seeks to make a valuable contribution to the existing knowledge. The author and Pro Stuttgart acknowledge that concentrating on a singular event at a specific location may limit the report's representativeness for other events or regions. Nevertheless, this specificity enhances the significance of the findings for Pro Stuttgart as the event's organizer. Moreover, the possibility of deriving general findings for scientific research is not precluded, as such insights may emerge and contribute to the broader thematic area.

1.4. Structure of the Report

This report is organized into six interconnected chapters, which contribute to a comprehensive understanding of the topic. The first chapter serves as an introduction, exploring the scope of the report and providing a background on the underlying internship. By pointing out the main problem and research questions, it sets the stage for the following exploration. The second chapter comprises the literature review, which firstly focuses on consumer behavior and underlying theories in travel behavior research. Afterwards, travel and transport's contribution to GHG emissions, event-related sustainable transportation, and incentives for green consumption and travel are considered. Finally, the topic of customer satisfaction is taken into account. Chapter three establishes the conceptual framework, connecting insights from the literature review to the practical aspects. Subsequently, chapter four provides an overview of the company and the internship, encompassing company presentation, sector and competition analysis, and an exploration of products and services as well as a summary of the incentive program "VVS voucher" before explaining the internship's scope and main activities. Chapter five is dedicated to research methodology and data analysis. It outlines the methodological approach, data collection methods, and the discussion of key findings followed by proposed recommendations. The sixth and final chapter draws conclusions, highlighting the study's main contributions while acknowledging limitations, and suggesting possible directions for future research.

CHAPTER 2 - LITERATURE REVIEW

2.1. Consumer Behavior

Consumer behavior is a widely studied field (Allen & Ng, 2004). It is described as "the acquisition, consumption, and disposition of goods, services, time, and ideas by living units (e.g., individuals, families, firms)" (Jacoby, 1975, p. 979). According to a Kardes et al. (2011), this also

includes the emotional, mental and behavioral reactions of the consumer that lead up to, determine or result from these consumer activities.

This report specifically examines customer travel behavior. Exploring this topic is important in the given context as understanding the event visitor travel behavior is crucial to gaining relevant insights into visitors' preferences, needs and decision-making processes, which help to develop more effective strategies to increase the use of climate-friendly modes of transport.

2.2. Underlying Theories in Travel Behavior Research

The field of travel behavior research employs a diverse array of theories. One theory of particular relevance to this report is prospect theory, which delineates the choice process in two phases: an initial phase of editing and a subsequent phase of evaluation. In the editing phase, the decision maker constructs a representation of the relevant acts, contingencies, and outcomes, often simplifying the prospects. The valuation phase involves assessing the edited prospects, and the decision maker then selects the most highly valued option (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992). In prospect theory, utility is derived from gains and losses, measured relative to a reference point rather than absolute wealth levels (Barberis, 2013). Particularly significant for this report is the observation that people are more sensitive to losses than to gains of the same magnitude, a phenomenon applicable to losses of all sizes, even small ones (Barberis, 2013).

2.3. Travel and Transport's Contribution to Greenhouse Gas Emissions

The transportation and travel sector are widely recognized as a significant source of climate-altering GHG emissions, notably CO_2 (Umweltbundesamt, 2023). The primary contributors to the overall increase in GHG emissions were CO_2 emissions originating from fossil fuel combustion, and industrial processes, collectively constituting two-thirds of the current GHG emissions (United Nations Environment Programme, 2023). Transportation accounted for more than a fifth of South Corea's total energy consumption in 2006 (Office of Prime Minister et. al, 2008, as cited in Kim, 2011). There, 79% of the total transportation energy consumption was accounted for by on-road vehicles (Kim, 2011). While recognizing potential discrepancies among countries, it is important to underscore that these results vividly demonstrate the environmental impact of transportation and travel. In Germany, several regulations implemented in recent decades facilitated the reduction of GHG emissions per kilometer (km) driven. Despite these efforts, the transportation sector's contribution to overall emissions in Germany increased from 13% in 1990 to 19.4% in 2021. This trend can be attributed to the overall surge in mileage and the increased weight of vehicles (Umweltbundesamt, 2023). Likewise, data for to the European Union (EU) indicated a rise in CO_2 emissions from 1990 to 2021. As reported by the European Environment Agency (2023, as cited in Statistisches Bundesamt, 2023b), CO_2 emissions in the EU experienced a 21% increase during this timeframe, with cars and motorcycles being the predominant

contributors, accounting for 64% of CO_2 emissions from road transport. Furthermore, Germany fell short of achieving its GHG reduction targets during the 2013 to 2020 period, primarily attributed to elevated emissions in the construction and transport sectors. Consequently, Germany had to procure CO_2 allowances from other EU countries to offset its deficiencies (Bundesministerium für Wirtschaft und Klimaschutz, 2022).

In addition to the fundamental problem of emissions in the transportation and travel sector described above, the issue is also important in other industries. While it is crucial to acknowledge the distinctions between the tourism and the event industry, it is equally important to recognize their commonalities. Consequently, comparisons can be drawn between these two sectors to a certain extent. In particular, Scott et al. (2010) referenced the substantial energy consumption associated with on-ground transportation of tourists within a destination, contributing to GHG emissions. This can partially be applied to the arrival and departure of event visitors. Similarly, Gössling and Peeters (2015) emphasized the substantial contribution of car traffic in transport-related CO_2 emissions in the tourism industry.

The domains of transportation and travel hold significant importance within the event industry as well. In concordance with this viewpoint, McCullough et al. (2023) reached a similar conclusion, highlighting that participant travel predominately accounts for the major share of emissions associated with events. It is essential to recognize that the direct transferability of figures from the study may be constrained by differences between the events examined in the study and the Stuttgarter Weindorf. Nevertheless, these findings can offer a broad indication.

As mentioned in the introduction, the European Championships Munich 2022 in their sustainability report outlined that visitor travel to and from the event was by far the largest emissions account, representing 54.1% of the event's total CO_2 emissions (Bernheine & Gampper, 2023). Recognizing the paramount significance of this matter, the European Championships Munich 2022 had established predefined objectives with a specific focus on curbing GHG emissions. These objectives included the promotion and use of environmentally friendly modes of transport, raising awareness of climate protection among visitors, and offsetting event-related travel and transport activities. Beyond the travel distance, the selection of transportation modes holds substantial relevance concerning GHG emissions, as implied by the mentioned objectives (Bernheine & Gampper, 2023). The organizers of the 2024 European football championships in Germany are cognizant of the environmental impact linked to major events. In response, they have outlined specific objectives within their ESG (Environmental, Social, and Governance) strategy, with a particular focus on minimizing CO_2 emissions (UEFA Union des Associations Européennes de Football, 2023a).

In conclusion, the transportation and travel sector, particularly in the context of events and tourism, stands out as a substantial contributor to GHG emissions. Despite efforts in some countries and industries to address this issue, the escalating emissions underscore the urgent need

for comprehensive and sustainable measures. As evidenced by the experiences of the European Championships Munich 2022, acknowledging the environmental impact of participant travel and promoting eco-friendly transportation modes are crucial steps towards achieving meaningful reductions in CO_2 emissions within this area.

2.4. Event-related Sustainable Transportation

As mentioned earlier, there is a limited number of studies on the subject of event-related sustainable transportation to date (Ballarano et al., 2022). This is noteworthy, given the consensus in the literature regarding the relevance and increasing importance of sustainability in event mobility. Transportation, being of paramount importance for the success of events of all sizes, has been emphasized in numerous studies (Ballarano et al., 2022). Kassens-Noor (2010) similarly highlighted the substantial significance of an efficient arrival and departure process for visitors, underscoring its crucial role in the overall success of an event. Concurrently, large events attracting several hundred thousand visitors have the potential to act as catalysts for urban development, particularly fostering the improvement of local public transportation infrastructure (Ballarano et al., 2022). Likewise, Kim (2011) contended that events possess the capacity to act as initial stimuli prompting entire nations to intensify their efforts in reducing their carbon footprint. According to Kim (2011), the key to environmentally-friendly transportation is the reduction of the number of event visitors travelling by car. Bernheine and Gampper (2023) also highlighted the potential environmental impacts of large events such as regional emissions and their respective impact on global warming, noise and traffic congestion while recognizing the variation of the environmental impact depending on the chosen mode of transport. According to the authors, event organizers increasingly prioritize sustainability in their planning and delivery (Bernheine & Gampper, 2023). The European Championships Munich 2022 for instance, sought to promote awareness for environmentally friendly mobility through all their communication efforts. In their communication, they specifically addressed and visually highlighted travel options by public transport and bicycle on event location maps (Bernheine & Gampper, 2023). The initiatives implemented by the 2024 European football championships organizers directed towards diminishing the carbon footprint of attendees, encompass the provision of complimentary access to local public transportation for all ticket holders as mentioned before. Furthermore, discounted rates for long-distance rail travel will be provided during the event. Additionally, the organizers will curtail the available car parking at the venues (UEFA Union des Associations Européennes de Football, 2023a). During the European Championships Munich 2022, an additional feature was introduced allowing ticket buyers to voluntarily financially contribute to climate protection. 3.7% of buyers made use of this option. The generated funds were utilized to offset the CO_2 emissions generated during the event. The organizers regarded CO_2 offsetting

through financial contributions as an ultimate recourse, however, and therefore opted to focus on alternative measures in their public communication strategy (Bernheine & Gampper, 2023).

Despite the limited number of studies on event-related sustainable transportation, the importance of addressing the environmental impacts of transportation is evident. The potential for events to drive positive changes in local infrastructure and serve as catalysts for national carbon footprint reduction is underscored. Strategies employed by event organizers, such as promoting alternative mobility options and implementing measures like complimentary public transport access and reduced parking spaces, demonstrate a commitment to sustainability. Financial contributions for CO_2 offsetting are a more controversial potential measure.

2.5. Incentives for Green Consumption and Travel

While green marketing centers on businesses' responsibility towards the environment, green consumerism highlights the role of customers in its preservation (Smith, 2000, as cited in Tseng, 2016). Green consumerism promotes the adoption of ecological behavior by consumers, contributing to the protection of the environment and human health (Tseng, 2016). Tseng (2016) illustrated this using the example of consumers who are encouraged to bring their own cups for purchasing take-out beverages instead of using disposable ones. Companies in this setting are encouraged to offer price discounts to customers who bring their own cups. The encouraged customer behavior contains additional efforts. These efforts are called (perceived) nonmonetary sacrifices (Tseng, 2016). Applied to this report, the nonmonetary sacrifices equal the additional efforts associated with opting for a sustainable mode of transportation rather than using a car. The concept of perceived sacrifice is rooted in how consumers perceive both monetary and nonmonetary sacrifices. It encompasses what individuals believe they must relinquish or invest to adopt a specific behavior. Nonmonetary sacrifices include spending time, effort or other nonmonetary resources (Zeithaml, 1988). Monetary sacrifices, by contrast, exclusively relate to financial aspects and correspondingly mean higher or lower payments to be made. As illustrated earlier, in order to protect the environment, it is common practice to grant discounts to encourage customers to show a certain desired behavior (Tseng, 2016). Such discounts represent perceived monetary sacrifices, or in this case benefits. The fundamental principles of the prospect theory proposed by Kahneman and Tversky (1979) are manifested in the interconnected context of gains and losses within the framework of promoting green consumerism. According to prospect theory, the value function is shaped by perceived gains and losses, with the losses carrying greater weight in utility than gains (Tseng, 2016; Tversky & Kahneman, 1992). Building on this notion, a substantial price discount may be necessary to offset nonmonetary losses perceived by consumers (such as time spent), which are deemed more significant. In fact, these losses may be considered twice as substantial (Tversky & Kahneman, 1992). The minimum price discount required to stimulate consumer willingness to adopt a desired behavior is denoted as the discount threshold

(Tseng, 2016). The assertions by Tseng (2016) regarding prospect theory align with the findings of a study conducted by Haugom et al. (2021).

In an examination of season ticket holders in tourist ski resorts in Norway, Haugom et al. (2021) identified the optimal, profit-maximizing price for a season ticket tied to mandatory travel by public transport to be around 24% lower than the price of a standard season ticket. Conversely, the respective price for a season pass incorporating a CO_2 offsetting fee instead of mandatory public transport use was 11.5% higher than that of a conventional season pass. These findings suggest that respondents place a substantial value on a price discount for the perceived nonmonetary sacrifice associated with mandatory public transport use, indicating a high level of significance attributed to this requirement. Conversely, the results imply that respondents were willing to incur a notably higher cost to maintain the flexibility of using a car (Haugom et al., 2021). While the authors acknowledged the potential variation in willingness-to-pay across different regions and services (see e.g., Landauer et al., 2014), they also concluded that the findings could serve as a valuable resource for managers to understand the needs and interests of both current and potential future customers (Haugom et al., 2021). While these outcomes for ski tourism in Norway may not be directly applicable to the Stuttgarter Weindorf, they can offer insights into the extent of intervention needed, particularly through financial incentives, in order to motivate event visitors to choose eco-friendly modes of transportation over the car.

In conclusion, green consumerism, exemplified by encouraging environmentally friendly behavior among consumers, plays a vital role in capitalist environmental preservation. The illustration of the promotion of sustainable practices such as using reusable cups by Tseng (2016), aligns with the concept of perceived nonmonetary sacrifice. Applying this to transportation choices, prospect theory suggests that substantial incentives may be required to offset perceived nonmonetary losses associated with adopting eco-friendly modes.

2.6. Customer Satisfaction

Satisfaction, as defined by Oliver (2010b), represents the fulfillment response of the customer. Additionally, it is characterized as a judgment that a product, service, or its associated features deliver a gratifying level of consumer-related fulfillment (Oliver, 2010b). This report specifically focuses on travel satisfaction, which plays an ever more important role in the research on travel behavior (e.g., De Vos & Witlox, 2017; St-Louis et al., 2014; Ye & Titheridge, 2017). The increasing focus on travel satisfaction in research led to the publication of a number of studies about the influence of travel mode choice on the satisfaction with the travel (e.g., De Vos et al., 2016; Ettema et al., 2011; Morris & Guerra, 2015; St-Louis et al., 2014). According to Ballarano et al. (2022), the importance of recognizing key transportation attributes and providing a high level of service quality is crucial for ensuring satisfaction. The active influence of transportation service features on users' behavior, along with the impact of the physical environment of

transportation plays a significant role in shaping users' satisfaction and choices. Furthermore, there is growing emphasis on satisfaction as a key factor in the future development of public transport, both in theoretical discussions and practical considerations (Fellesson & Friman, 2008). Across various countries, substantial investments are being allocated to enhance public transport systems, aiming to boost their competitiveness, particularly against private combustion engine cars. Nevertheless, it is important to note that increased supply, whether in terms of quality or quantity, does not guarantee a proportional rise in demand and satisfaction (Fujii & Kitamura, 2003; Mackett & Edwards, 1998). To ensure that investments genuinely attract the anticipated existing and potential customers, having an understanding of satisfaction is crucial. It can provide policymakers and operational managers within the public transport system with valuable insights (Fellesson & Friman, 2008). Furthermore, the planning of sustainable and healthy cities, incorporating cycling, has gained increasing importance in the era of sustainable development (Sharma et al., 2019). The aspect of safety is particularly important in this context. In a study by Sharma et al. (2019), emphasis is put on the considerable significance of perceived safety among cyclists. The results indicated that close to 50% of individuals who reported a sense of security while cycling participated in regular bicycling activities, while among those expressing a feeling of insecurity, the proportion of regular cyclists was below 30%.

Satisfaction is not entirely unambiguous since it is determined by objective and subjective factors (St-Louis et al., 2014). In order to render satisfaction tangible, measurable and comparable, Ettema et al. (2011) introduced the satisfaction with travel scale (STS), a self-report scale consisting of nine items designed to assess satisfaction with travel (Ettema et al., 2011). While recognizing that certain refinements to the STS may be feasible based on particular circumstances, its general validity has been affirmed (e.g., De Vos et al., 2015; Singleton, 2019). In addition to the influence of transportation mode choice on satisfaction, there may be a reciprocal relationship where satisfaction with the current trip is linked to the intention to select a specific mode of transportation for the next journey (De Vos et al., 2019). This concept aligns with the perspective of Kahneman and Krueger (2006), who similarly proposed that retrospective evaluations play a role in subsequent choices.

The growing research emphasis on travel satisfaction underscores its pivotal role in shaping travel behavior. Identifying key transportation attributes and ensuring high service quality are essential for user satisfaction, particularly in the context of public transport development. The emphasis on safety, as highlighted in the context of cycling, further underscores the importance of satisfaction in influencing sustainable mobility behavior. The use of the STS provides a tangible measure for assessing satisfaction with travel. Moreover, the reciprocal relationship between satisfaction with the current trip and the intention to choose a specific mode of transport for the next journey, as suggested by De Vos et al. (2019), aligns with the notion that retrospective evaluations influence subsequent choices, as proposed by Kahneman and Krueger (2006).

CHAPTER 3 - CONCEPTUAL FRAMEWORK

The conceptual framework for this report adapts the idea of De Vos et al. (2022) who introduced the aforementioned TMCC (enclosed in annex 3). The TMCC links five primary constructs: attitude, desire, intention, behavior, and satisfaction. It also includes four other constructs (habit, opportunity and constraint, subjective norm, and perceived behavioral control), which influence the primary constructs. De Vos et al. (2022) introduced the TMCC in a circular form, in which the primary constructs impact each other continuously. The author of this report agrees with the basic sense of the model's circular form and acknowledges the importance of the intention-behavior gap as mentioned by Lanzini and Khan (2017). Sheeran (2002) defines the intention-behavior gap as the discrepancy between a person's intention to act or behave and their actual behavior. It should be taken into account that it cannot be definitely assumed that respondents for their next journey will actually choose the means of transport they state as their intended mode (Oliver, 2010a).

Considering the specific conditions, the model must be tailored to the circumstances. Data collection should exclusively occur during the Stuttgarter Weindorf's event period to ensure that only actual event visitors respond to the questionnaire. Identifying individuals who visit the Stuttgarter Weindorf more than once is not easily achievable. A dedicated survey or observation would need to be carried out to identify them. Consequently, visitors to the Stuttgarter Weindorf cannot be interviewed repeatedly in a controlled manner during the event period. Within this report, the future mode use intention statements cannot be verified due to the lack of a subsequent follow-up survey and must therefore be accepted unchecked. For such situations, however, Oliver (2010a) claimed intention data to be among the best achievable measurement modalities. In order to manage this limitation, the circular form of the TMCC is abandoned for this report.

In addition, Pro Stuttgart attaches particular importance to satisfaction. In the area of satisfaction, more concrete results and feedback are expected which, in cooperation with responsible institutions and local political decision-makers, are assumed to enable faster and more effective reactions and initiations than would be possible in the areas of attention and desire.

The four other constructs influencing the five primary constructs are not considered for the purpose of this report. Instead, additional incentive programs are added in the context of intention. The respective specific local discount scheme called VVS voucher is described in more detail in chapter 4.4. These adjustments to the TMCC ultimately lead to the conceptual framework presented in figure 1, which is used for this report.

The conceptual framework features four elements: customer travel behavior is expressed through the travel mode choice. Customer travel satisfaction is the contentment of the visitors with their travel to the event. Future customer travel intention is expressed as the intended travel

mode use in the future. Additional incentive programs focus on schemes used to incentivize visitors to change their travel behavior. The specific measure is explained in chapter 4.4.

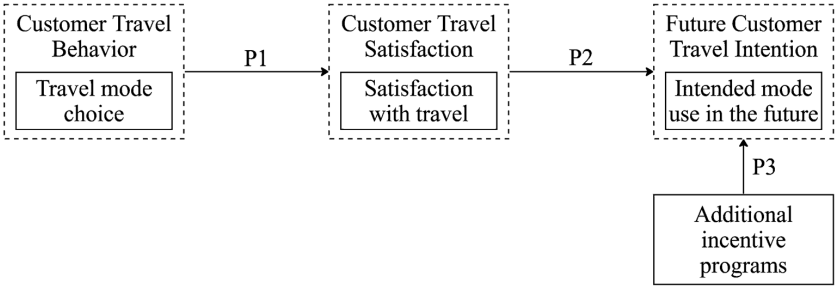


Figure 1 - Conceptual Framework

Source: Author's elaboration based on the original TMCC by De Vos et al. (2022).

The conceptual framework furthermore contains the following three propositions (P), which are considered in the further course of this report:

P1: Customer travel behavior impacts customer travel satisfaction.

P2: Customer travel satisfaction influences the future customer travel intention.

P3: Incentive programs positively influence the future customer travel intention.

CHAPTER 4 - COMPANY AND INTERNSHIP OVERVIEW

4.1. Presentation of the Company

Pro Stuttgart was founded in 1885 with the aim of making Stuttgart more lively, attractive and friendly as well as promoting tourism (Pro Stuttgart Verkehrsverein e. V., 2010; Pro Stuttgart Verwaltungsgesellschaft mbH, 2023b). In its current state, Pro Stuttgart consists of Pro Stuttgart e. V. and its wholly owned subsidiary Pro Stuttgart Verwaltungsgesellschaft mbH. The registered association (e. V.) is represented by its board of directors, but the day-to-day business is handled for both the registered association and the limited company (GmbH) by managing director Dominik Schwab (Pro Stuttgart e. V., 2023c). Pro Stuttgart e. V. is an active citizens' association that works in and for the interests of the city. The registered association has its purpose in the preservation and expansion of the hospitable, cultural and tourist facilities and events in Stuttgart (Pro Stuttgart Verkehrsverein e. V., 2010).

Pro Stuttgart is best known as the organizer of the Stuttgarter Weindorf, which serves as the basis for this report. Due to the economic risk involved, the event is organized by the registered association's subsidiary Pro Stuttgart Verwaltungsgesellschaft mbH. The Stuttgarter Weindorf is a twelve-day wine festival which has been celebrated in downtown Stuttgart since 1976. Every year, several hundred thousand people visit the Stuttgarter Weindorf to taste regional wines and food while experiencing culture and entertainment (Pro Stuttgart e. V., 2023b).

As non-listed entities, Pro Stuttgart Verwaltungsgesellschaft mbH and Pro Stuttgart e. V. are not obliged to publish ESG reports or comparable information (European Commission, 2023).

4.2. Business Sector and Main Competitors

Both Pro Stuttgart e. V. and Pro Stuttgart Verwaltungsgesellschaft mbH are active in the service sector, the tertiary economic sector (Eurostat, 2019).

Pro Stuttgart e. V. has no direct competitors with the same service profiles. In principle, it stands for good cooperation and complementarity rather than competition within Stuttgart's civic society. Nevertheless, it should be noted that it competes to a certain extent with other institutions. Concerning finances, the registered association has no significant sources of income other than membership fees. However, as a non-profit registered association, generating large income is not necessary (Pro Stuttgart Verkehrsverein e. V., 2010). With its membership fees, Pro Stuttgart e. V. is on the one hand in competition with other leisure offers. These can be organized in association structures (e.g., sports, music, and cultural clubs) or in the private sector (e.g., cinemas, restaurants and concerts) or as public institutions (e.g., museums and theaters). On the other hand, the registered association competes with various players for the time budget of its members, which is of immense importance for the commitment. Competitors in this regard can be already mentioned players like associations, private and public institutions as well as other institutions such as churches or religious associations.

Pro Stuttgart Verwaltungsgesellschaft mbH particularly generates its income by renting out the stand spaces of the Stuttgarter Weindorf to the participating innkeepers. In addition to their stands at the Stuttgarter Weindorf, these innkeepers usually operate catering outlets at other events as well as their own restaurants (Pro Stuttgart Verwaltungsgesellschaft mbH, 2023d). In Baden-Wuerttemberg, there are several other wine festivals. The biggest competition for Pro Stuttgart and the Stuttgarter Weindorf is certainly the Heilbronner Weindorf with several hundred thousand visitors. It partially overlaps in time and takes place only about 50 km north of Stuttgart (Heilbronn Marketing GmbH, 2023). If the Heilbronner Weindorf or comparable events were to offer better economic conditions (including space rental and turnover) than the Stuttgarter Weindorf despite the longer distance, there could be a risk of innkeepers withdrawing their participation in favor of the competition. This risk is also posed by other recreational events such as (open air) concerts. For example, every year about six weeks before the Stuttgarter Weindorf, the Jazz Open takes place. This is an open-air concert series with more than 50,000 visitors (Opus Festival-, Veranstaltungs- und Management GmbH, 2023). Catering for such events is handled by gastronomes who already are or could potentially be innkeepers at the Stuttgarter Weindorf. Conversely, gastronomes could cancel their participation in the Stuttgarter Weindorf for capacity reasons in favor of such a concert event or similar if they expect better profit prospects there.

There is also strong competition in the area of sponsoring, which represents another significant source of income for Pro Stuttgart Verwaltungsgesellschaft mbH. In this area, Pro Stuttgart Verwaltungsgesellschaft mbH and its Stuttgarter Weindorf compete with a large number of players from the sports, leisure and cultural sectors for limited sponsoring budgets. In particular, institutions with comparable advertising ranges such as the aforementioned Jazz Open, the Hip-Hop Open (another open-air concert series in Stuttgart), the Lichterfest (a family event with illuminations, live music, and fireworks), the Canstatter Wasen (Germany's second-largest folk festival), numerous large trade fairs as well as the various professional sports clubs and sports events in the city are to be named as competitors in this regard (Landeshauptstadt Stuttgart, 2023; SportRegion Stuttgart e. V., 2023).

Another risk is other organizers trying to take over the permission to organize the Stuttgarter Weindorf instead of Pro Stuttgart. Due to the well-established structures and good relations to the relevant local politicians and administration, such a probability is not very high at the moment, but nevertheless the topic must not be completely disregarded.

From the point of view of the event Stuttgarter Weindorf, other wine festivals in the region should certainly be mentioned as competition that could draw visitors away. The largest and in this sense most relevant is the aforementioned Heilbronner Weindorf. But other leisure events also play a role. The Canstatter Wasen takes place only two weeks after the Stuttgarter Weindorf (In.Stuttgart Veranstaltungsgesellschaft mbH & Co. KG, 2023). Despite the obvious difference of Canstatter Wasen visitors mainly drinking beer instead of wine, it largely appeals to a similar, leisure-oriented target group. Other competing leisure activities include going to movies, theaters, museums and concerts, and attending sporting events. Due to the high value placed on food at the Stuttgarter Weindorf, it also competes with traditional gastronomy. All of the above share the fact that they compete for visitors' limited time and financial budgets.

4.3. Products and Services

Pro Stuttgart Verwaltungsgesellschaft mbH rents the event site from the city administration, and organizes the provision, transport and set-up of the necessary infrastructure (including stands, water, sewage, electricity, toilets). It is responsible for the preparation of and compliance with the security concept, which for example includes the appointment of a security service. Pro Stuttgart Verwaltungsgesellschaft mbH rents out the stands to the participating innkeepers, who only have to provide the interior equipment (such as kitchen, furniture and decoration). Pro Stuttgart Verwaltungsgesellschaft mbH also sells sponsoring packages. While there is no naming sponsor for the event, there are various sponsoring services ranging from main sponsors to smaller sponsors and suppliers (Pro Stuttgart Verwaltungsgesellschaft mbH, 2023c). Through this rental and sponsorship income, Pro Stuttgart Verwaltungsgesellschaft mbH refinances the mentioned costs as well as the salaries and all other general administration costs of the business that are not

borne by the registered association. Under normal circumstances, it thus achieves a surplus which is used for investments in the future of the Stuttgarter Weindorf.

The main source of income for Pro Stuttgart e. V. is the membership fees of its individual and institutional members (Pro Stuttgart e. V., 2023c). As part of their membership, members have the opportunity for participation in accordance with the German association law and the German Civil Code (BGB), for example by electing the registered association's board of directors. Pro Stuttgart e. V. provides its members with various offers and platforms for interaction and leisure activities. In addition to regular member get-togethers, cultural visits and educational trips are organized. These are usually subject to a charge for members, which covers the actual costs incurred by the registered association, as Pro Stuttgart e. V. does not pursue a profit-making objective with its cultural program (Pro Stuttgart e. V., 2023a).

4.4. The VVS Voucher as Additional Incentive Program

An important part of this report's research is the VVS voucher, an incentive that was introduced by Pro Stuttgart and the local public transport supplier (VVS). It is a consumption voucher that can be collected on both event Sundays by all visitors traveling to the Stuttgarter Weindorf by public transport. The voucher is issued upon presentation of the corresponding public transport ticket. It has a value of €5 and can be redeemed on both Sundays with a minimum consumption value of €20 at all stands of the Stuttgarter Weindorf (Verkehrs- und Tarifverbund Stuttgart GmbH, 2023). The aim of the VVS voucher is to incentivize public transport use. However, since the introduction of this offer with around 300 to 400 redemptions per year it is only used rarely in relation to the size of the event. In order to determine the reason for the low redemption rate, a test is conducted as part of this report. The idea stems from Haugom et al. (2021), who surveyed residents of Norwegian ski regions. The respondents were asked to choose between choice sets, which included the variables price (six different price levels), CO_2 compensation (yes/no) and means of transport (mandatory use of ski bus/free choice of transport). Based on this survey, the authors determined how much discount on the ski season ticket the respondents expect on average in cases when it includes mandatory ski bus use and respectively how much more respondents are prepared to pay in order to retain flexibility in their choice of transport. For this report, the topic of CO_2 compensation does not play a role, as the current concept of the VVS voucher does not include a CO_2 compensation component. In order to enable the implementation of potential changes to the VVS voucher, the voucher values of €10, €15 and €20 are used in the test in addition to the existing value of €5. Higher values appear unrealistic given the pricing structure of the Stuttgarter Weindorf without additional external funding from sponsors or similar. Voucher values that do not correspond to the values of euro banknotes would probably cause resistance among the participating innkeepers of the Stuttgarter Weindorf due to the increased operational effort and would therefore hardly be feasible.

After the known marketing question regarding awareness (e.g., Aaker, 1991; Lehmann et al., 2008), the principle behind the VVS voucher is first explained to all respondents who are not familiar with it. Those who are aware of the VVS voucher are asked whether they have already used it (on the day of the event visit or prior to that). Subsequently, respondents who have not yet used the VVS voucher are presented with the four different voucher values as consecutive questions. If a voucher value is accepted, the test ends automatically. If the voucher value is rejected, the question about the next higher voucher value is asked until the highest voucher value of €20 is reached. After that the test ends regardless of the answer given. The present test therefore differs insofar from the original experiment by Haugom et al. (2021) as there is only one variable - the amount of the voucher value. The test is visualized in figure 2.

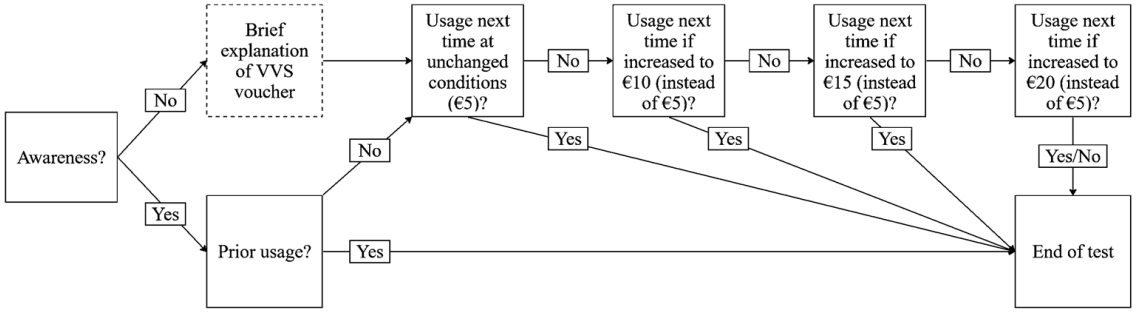


Figure 2 - VVS voucher test for optimal discount level

Source: Author's elaboration based on the experiment by Haugom et al. (2021).

The test is intended to help explain whether the low use of the VVS voucher is potentially due to lacking awareness or whether the value of the voucher is insufficient. The results of the test aim to help Pro Stuttgart address the deficits in a targeted manner and thus increase the use of the VVS voucher and therefore of public transport for traveling to and from the event in the future. This goal falls within the scope of SDG 13 Climate Action (United Nations, 2015).

4.5. Internship Scope and Main Activities

Besides conducting and evaluating the visitor survey on the event visitor travel behavior in the context of this report, the three-month internship mainly consisted of the following tasks.

The first essential part of the internship was to support the office staff in the implementation of the Stuttgarter Weindorf, which took place from August 30 to September 10, 2023. This included daily set-up and dismantling work as well as checks of safety-relevant elements such as fencing and signage. Furthermore, this included ensuring the proper operation of sanitary and waste processing facilities, as well as regular patrols of the event site with the mandate to monitor compliance with the established rules and prevent potential problems and dangerous situations before they could arise. Responsiveness and on-call readiness in case of spontaneous intervention on the festival site were part of the tasks as well. The internship tasks furthermore included

responsibility for the proper operation of the organizer's own bar (see Pro Stuttgart Verwaltungsgesellschaft mbH, 2023a) on approximately half of the event days and ensuring the seamless progression of the cultural program. These tasks included food and beverage logistics, responsibility for the cash register and cashless payments, and supervision of and assistance for stage artists, bar staff, and technical staff.

Following the event period, the internship tasks consisted of the follow-up of the Stuttgarter Weindorf 2023, which comprised collecting and documenting feedback from the innkeepers and other stakeholders (e.g., city administration, service providers, artists) in order to be able to use this feedback for the planning of the 2024 event. The tasks also included the debriefing and documentation of internal issues such as the course of events and problems during the festival in general and with regard to the improvements that should be sought for the cultural program and Pro Stuttgart's bar operation in particular.

After the Stuttgarter Weindorf 2023, general tasks such as membership administration and office management increasingly came to the foreground which, during the event, had moved into the background due to workload caused by the implementation of the festival.

Due to the small office team with only four employees (Pro Stuttgart e. V., 2023c), the internship provided a comprehensive insight into all aspects of the registered association Pro Stuttgart e. V. and the company Pro Stuttgart Verwaltungsgesellschaft mbH, ranging from support in management tasks, project management and the preparation of various committee meetings to administrative activities.

CHAPTER 5 - RESEARCH METHODOLOGY AND DATA ANALYSIS

5.1. Methodological Approach

This report's research questions (see chapter 1.2) are integrated in the conceptual framework, which is based on the literature review. The work is thus characterized by a descriptive-explanatory character (Saunders et al., 2023).

In accordance with these research questions, the intention to choose a certain travel mode depends on the individual's travel behavior and the subjective perception of the satisfaction and the benefits of the VVS voucher measure from the visitor's perspective. Consequently, a causal relationship between the intention to choose a certain travel mode as well as the incentive measure and the visitors' satisfaction with their travel is investigated. However, this interaction is latent, as visitors are usually not consciously influenced by measures. For this reason, an objective, discrete process for data collection and analysis is required to investigate the latent effect of the measure on behavioral change.

Therefore, positivist epistemology is to be selected. It assumes that factual, trustworthy knowledge can only be created through objective observations and measurements. Positivist research is thus based on a value-free collection and interpretation of data in order to be able to

explain and predict cause-and-effect relationships. Quantifiable observations and statistical analyses therefore form the basis of positivism. Moreover, this research philosophy involves objectivist ontology, which is assigned to this work (Saunders et al., 2023; Wilson, 2010).

It should also be taken into account that the research questions imply that influencing behavior does not only depend on the objective design of the measures, but also on the personal perception and experiences of the visitors. Accordingly, an interpretivist, subjectivist research philosophy would have to be chosen. However, as the quantitative survey, in which the intention to keep or switch the travel mode is investigated, forms the basis for formulating recommendations for action, the work is assigned to objectivism within the framework of positivist epistemology. Nevertheless, the subjective component must be taken into account when analyzing the survey data (Saunders et al., 2023).

In line with positivist epistemology, the results and recommendations are based on quantitative data in accordance with the survey and analysis methods described below. The work can therefore be characterized as a mono-method, quantitative cross-sectional study (Saunders et al., 2023).

5.2. Data Collection Methods

The first step of this investigation involved the acquisition of secondary data through a comprehensive review of relevant literature, serving to formulate the main problem and research questions for this report. The second step was the collection of primary data using a structured, self-completed online questionnaire. The main goal of the questionnaire was the collection of event visitor replies in order to answer the research questions (Saunders et al., 2023).

The questionnaire was developed using Typeform. In order to achieve the highest possible number of responses, the questionnaire for this report was combined with another commercial survey, which concerned the annual award for the best stand at the Stuttgarter Weindorf. After completing this first questionnaire, respondents could either close the survey or choose to also answer the questionnaire for this report. Both surveys were only to be answered by people on site. Therefore, the questionnaires were not accessible via the homepage or social media channels. Instead, 7,500 postcards were printed with a reference to the survey for the most beautiful stand. These postcards were distributed to all stands of the Stuttgarter Weindorf every day. In addition, a promotion of the survey was published on a full page in the cultural program booklet with a print run of 5,000 copies. The included QR code (quick response code) led directly to the survey for the most beautiful stand and, if selected by the respondents, forwarded them to the questionnaire for this report, including an explanation of the background of the survey. The mentioned print material can be found in annex 4. As an incentive to participate, two vouchers for the Stuttgarter Weindorf 2024 worth €50 each were raffled among all adult respondents. The survey was available online from September 1 until the end of the Stuttgarter Weindorf on September 10, 2023. A total of 441 complete responses were submitted.

The report collected data on Stuttgarter Weindorf visitors, the target population of the study. Time and financial constraints de facto ruled out using probability sampling. Consequently, a non-probability sampling technique was employed, signifying that the sample may not be representative of the entire population and may exhibit biases (Saunders et al., 2023).

The questionnaire, apart from the brief introduction of the study, was composed of five sections with a total of 19 questions (Q). Filter questions were not necessary since the questionnaire could only be accessed by actual event visitors as explained earlier. The initial section (Q1) corresponded to customer travel behavior, the first element of the conceptual framework. It asked which mode of transport had been chosen to travel to the event. Section two (Q2-Q5) corresponded to the second element of the conceptual framework, customer travel satisfaction. It was meant to better understand the visitors' satisfaction with their travel in general as well as some specific details for public transport, bicycle, and car users. Section three (Q6-Q11) focused on the VVS voucher incentive program and checked for awareness and prior usage, followed by the test to understand the optimal voucher level as outlined in chapter 4.4. This section included an explanation of the VVS voucher to all respondents who stated to be unaware of the scheme. Finally, it asked for the satisfaction with certain aspects of the VVS voucher and improvement options. Section four (Q12) corresponded to the third element of the conceptual framework, future customer travel intention. It asked which mode of transport was intended to be chosen for the next travel to the Stuttgarter Weindorf. The fifth and concluding section (Q13-Q19) included several sociodemographic questions to characterize the sample for a better understanding of the profile of the respondents. For the questions Q2, Q3, Q4, and Q10 Likert-type scales with five points were used. For the questions Q14, Q16, and Q17, ratio scales were used. For all the remaining questions, nominal and ordinal scales were used with Q1, Q5, Q11, and Q12 also allowing individual answers using an "other" text field option.

Preceding the ultimate data collection phase, a pilot test of the questionnaire was executed with a convenience sample comprising six individuals. The objective was to identify and rectify any comprehension or interpretation issues. The sampled individuals aligned with the target population criteria. Following the pilot test, questions were reformulated to enhance consensus and facilitate interpretation. The final version of the questionnaire is presented in annex 5.

5.3. Data Analysis

Eight of the collected 441 answers had to be discarded due to implausibility: indicated travel distances (in km) and travel durations (in minutes) resulted in unrealistic travel speeds of more than 300 km/h. Therefore, only 433 answers could be considered valid.

5.3.1. Sociodemographic Data

In this survey comprising a sample of 433 respondents, the gender distribution reveals that, among those answering the question, 56.6% identified as female, 42.4% as male, and 1.2% as diverse. Regarding age distribution, the majority of respondents who answered this question fell within the age range of 26 to 35, constituting 33.6%, followed by those aged 46 to 55 at 15.4%. The mean age of participants was 42.3 years. The participants' geographic locations were locally diversified, with 46.8% of those answering the question residing in Stuttgart, 48.1% in other areas of Baden-Wuerttemberg, and smaller fractions in the rest of Germany (4.9%) and Austria (0.3%). The geographic location of the sample is visualized in figure 3.

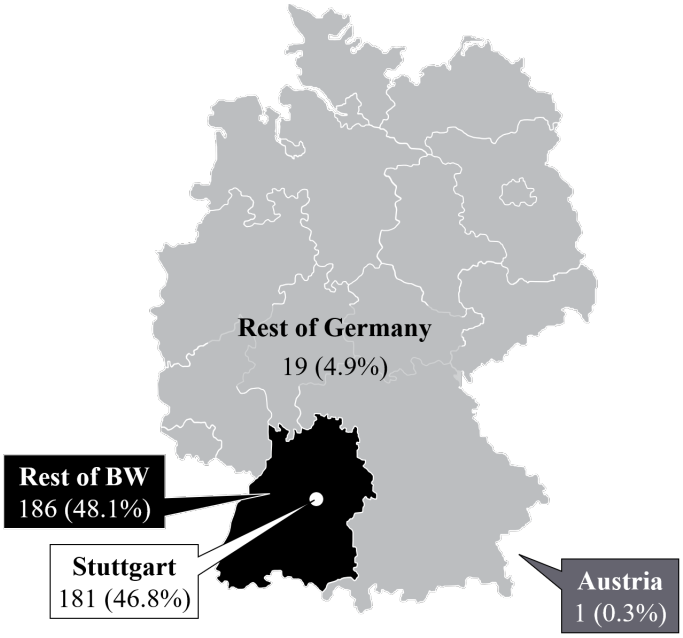


Figure 3 - Sample Geographic Location

Source: Author's elaboration based on the survey results.

It has to be acknowledged that the survey was exclusively in German. The results may therefore not represent non-German speaking visitors correctly. Based on the organizer's experience they only play a negligible role, however. In terms of income, the highest proportion fell within the monthly net income brackets of €2501 to €3000 and €3001 to €4000, each representing 21.5% of those who decided to answer this question, while 27% chose not to disclose their income. This sociodemographic characterization of the sample is summarized in table A1, annex 1.

5.3.2. Travel Behavior and Intention

In examining the respondents' travel characteristics, the data shows that travel distances varied, ranging from 0 km to a maximum of 490 km, with a mean distance of 21.72 km and a standard

deviation (SD) of 39.094 km. Likewise, travel duration spanned from 0 to 300 minutes, with a mean duration of 39.01 minutes and a standard deviation of 32.5 minutes.

Regarding the distribution of travel distance and duration, the largest group, consisting of 22.6% of respondents, covered distances of up to 3 km and 24.2% took between ten to 20 minutes for their travel to the event. The travel distance groups are partially based on Scheiner (2010). The results are visualized in figure 4.

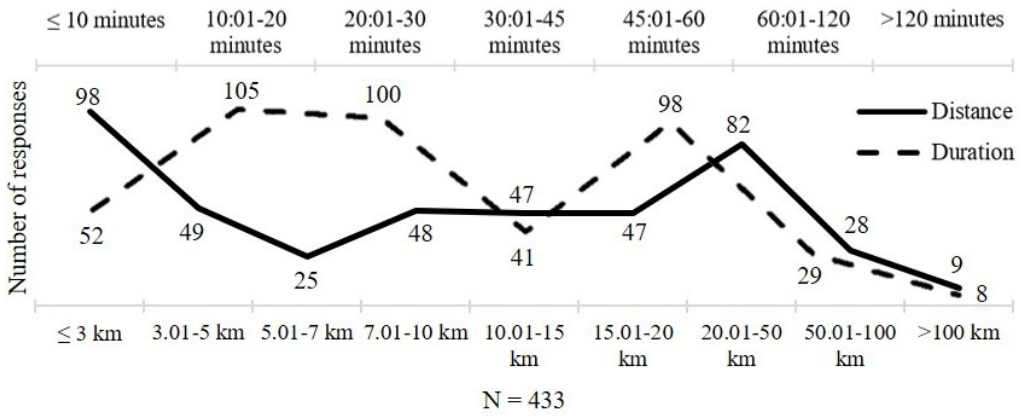


Figure 4 - Travel distance and duration (grouped)

Source: Author's elaboration based on the survey results.

In terms of chosen travel mode (i.e., customer travel behavior), the survey discloses distinct preferences among respondents. The majority, comprising 61.9%, stated public transport as their chosen mode of transportation, followed with a large gap by the car (used by at least two people) at 14.1% and walking (13.4%). A smaller share of respondents (6.2%) had chosen to travel by car on their own. This data provides insights into the diverse travel mode choices within the surveyed population, highlighting the popularity of public transport as well as the varying degrees of preference for individual and shared modes of transportation.

Regarding the intended travel mode choice (i.e., future customer travel intention) for the respondents' next travel to the Stuttgarter Weindorf, the survey, again, shows a majority of respondents who stated public transport as their mode of transportation (67.4%). This was followed with a large gap by walking (12.0%) and the car (used by at least two people) at 9.9%. Again, a smaller percentage of respondents intended to travel by car on their own (5.5%).

The original scale for the questions regarding the chosen travel mode and the intended travel mode choice stems from De Vos et al. (2016) and was adapted by differentiating car users between those who travel by car on their own and those who use the car with at least one other person. Furthermore, the "other" option as open text field was included to allow respondents to insert other means of transport. Clustering these answers led to the inclusion of the e-scooter as a

transport mode. Further answers in the text field that could not be associated with the existing modes were kept under "other" due to their small number. Figure 5 visualizes the responses.

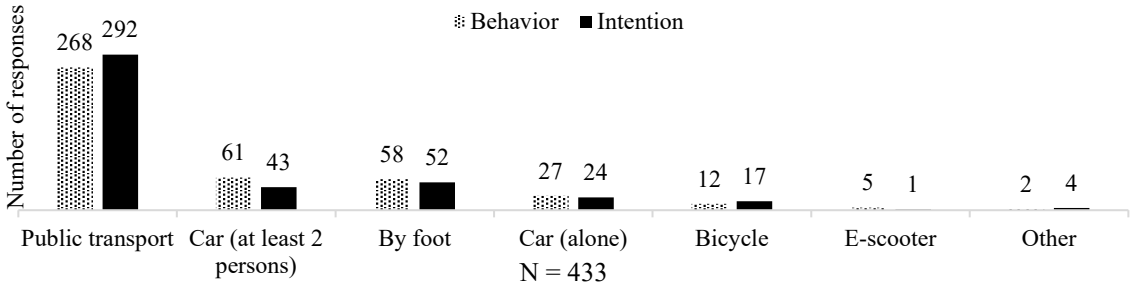


Figure 5 - Behavior and intention – chosen and intended travel mode

Source: Author's elaboration based on the survey results.

When considered jointly, the answers to the questions on behavior and intention also implied the intention to choose the same or a different mode of transport for the next journey, i.e., to keep or switch the mode of transport. Table I shows the net differences between behavior and intention in percentage points and integers deducted from the data visualized in figure 5.

Table I – Difference of behavior and intention in travel mode choice

Indicator	Answer Options	Δ Percentage Points	Δ n
Travel Mode Choice (N = 433)	Public Transport	+5.5	+24
	Car (at least 2 persons)	-4.2	-18
	By foot	-1.4	-6
	Car (alone)	-.7	-3
	Bicycle	+1.1	+5
	E-scooter	-1.0	-4
	Other	+.4	+2

Source: Author's elaboration based on the survey results.

The results of the survey presented in this section show that the majority of visitors of the Stuttgarter Weindorf had a relatively short journey to the event site. Just over 50% came from a maximum distance of ten km and close to 60% from less than half an hour away. In addition, a very high proportion of almost 62% of visitors arrived by public transport. When it comes to the intention for the next event visit, this proportion even rises to over 67%. Other means of transport only play minor roles and, in particular, the proportion of car users decreases from a cumulative share of around 20% for behavior to around 15% for intention.

5.3.3. Satisfaction

To measure the satisfaction with their travel to the Stuttgarter Weindorf, the respondents were asked the questions on the STS according to Ettema et al. (2011). They were to reply on a scale of 1 to 5. The exact scales used and adaptions performed can be found in annex 2. All nine scales

were presented to all respondents, but scales could be skipped without responding if desired. 402 of the 433 respondents completely answered all scales. Values above the middle value of 3.00 tend to indicate satisfaction, values below 3.00 dissatisfaction. The closer to the respective edges of 1 and 5, the more pronounced is the satisfaction or dissatisfaction. The highest average satisfaction values were 4.52 and 4.50 for the statements "during my journey I felt calm" and "during my journey I felt confident I would be in time" respectively. The lowest scores were 3.83 and 3.87 for the statements "my travel was high standard" and "during my journey I felt engaged" respectively. The average scores were all above the middle value of 3.00, which indicates that visitors were generally satisfied with their journey. The average score across all scales was 4.20.

Looking at the results of the STS broken down by the different modes of transport, some clear differences appear, supporting P1 “Customer travel behavior impacts customer travel satisfaction” (see chapter 3). The highest average score across all nine scales was recorded for cyclists with a value of 4.63, followed by respondents who traveled by car at least in pairs and pedestrians with values of 4.39 and 4.35 respectively. The lowest values were recorded for those who traveled by car alone with 3.59 and those who traveled by e-scooter with 3.87. It has to be noted that the number of answers recorded differs considerably from one mode of transport to another. The results are displayed in table II.

Table II – STS mean scores by chosen transport mode (behavior)

Aspect	**All Modes**	**Bicycle**	**Car** (at least 2 persons)	**By foot**	**Public trans-port**	**Car** (both)	**Other**	**E-scooter**	**Car** (alone)
N/n	433	12	61	58	268	88	2	5	27
Relaxed	4.39	5.00	4.49	4.54	4.41	4.16	4.00	4.20	3.41
Confident	4.50	5.00	4.62	4.60	4.52	4.31	4.00	4.00	3.63
Calm	4.52	4.92	4.70	4.57	4.56	4.37	3.50	4.00	3.63
Alert	4.28	4.33	4.52	4.26	4.26	4.33	4.50	4.40	3.89
Enthusiastic	3.91	4.25	4.12	4.14	3.83	3.95	4.50	3.80	3.59
Engaged	3.87	4.25	4.02	3.96	3.86	3.82	4.00	3.40	3.37
Best I can think of	4.02	4.64	4.24	4.26	3.96	3.98	4.00	3.80	3.41
High standard	3.83	4.25	4.25	4.09	3.71	4.05	4.00	3.00	3.59
Well	4.43	5.00	4.59	4.72	4.38	4.35	3.50	4.20	3.81
Mean of the nine scales	4.20	4.63	4.39	4.35	4.17	4.15	4.00	3.87	3.59

Source: Author’s elaboration based on the survey results. STS based on Ettema et al. (2011).

The conceptual framework in chapter 3 assumed a connection between satisfaction and intention (P2 “Customer travel satisfaction influences the future customer travel intention”) based on the work of De Vos et al. (2022). In the context of this framework, the average satisfaction values of the respondents on the STS were correlated with the variable "intention to switch" formed from the consideration of the stated means of transport for customer travel behavior and future customer travel intention. This variable is a dummy (dichotomous) variable where 0 corresponds to the absence of an intention to switch, i.e., the specified mode of transport is the

same for behavior and intention. 1 corresponds to the presence of an intention to switch, i.e., the stated mode of transport is different for intention than for behavior.

The results of the calculation in SPSS show a very weak, non-significant correlation between the two variables, contradicting P2. The detailed results are displayed in table A2, annex 1.

5.3.4. Travel Specifics for Certain Modes

This report also examines specific characteristics of individual means of transport. The 268 public transport users were presented with 14 items on which they were asked to express their level of satisfaction on a Likert scale of 1 to 5, with 1 equaling "not at all satisfied" and 5 "very satisfied". Individual statements could be skipped if desired. Statements and scales are based on Fellesson and Friman (2008) and were adapted to the needs of this report where necessary.

The average ratings reveal that transfer options (4.28), travel time (4.21), and timetable information (4.20) were considered most positively by the participants, reflecting satisfaction with the efficiency of the transportation system and the reliability and convenience of the transport services. However, ratings for modernity (3.74), cleanliness (3.77), and comfort (3.98) suggested a relatively lower level of satisfaction in these areas. The mean of the fourteen scales was calculated at 4.07, indicating a generally positive sentiment among respondents. 175 respondents answered the survey completely. The detailed results are presented in table A3, annex 1. These findings offer insights into the strengths and areas for improvement within the public transport services, as perceived by the respondents.

The twelve cyclists were presented with twelve items on which they were asked to express, again on a Likert scale of 1 to 5, how positively or negatively the respective aspect influenced their bicycle ride to the event site. 1 corresponds to "very negative" and 5 to "very positive". The individual items could be skipped if desired. The statements and scales are based on Sharma et al. (2019) and were adapted to the needs of this report where necessary.

Analyzing the cyclists' perspectives on the various aspects provides valuable insights into the perceived strengths and challenges in the biking infrastructure. The mean scores reveal a nuanced picture of the biking environment. Obstacles on bike lanes (3.36), amount of traffic on bike lanes (3.33), and bike lane condition (3.08) received the highest average ratings, whereas distinction between bike lanes and roads (2.27), uninterrupted usability of bike lanes (2.33), and bike lane width (2.36) received the lowest average ratings. The mean of the twelve scales is 2.84, indicating a rather negative perception of the biking infrastructure. When interpreting the results, it is important to note that only twelve respondents arrived by bicycle, and of those only nine answered this part of the survey completely, limiting the generalizability of these findings. Nonetheless, the provided data offers a starting point for understanding the perceived strengths and areas for improvement in the biking environment. The detailed results are presented in table A4, annex 1.

Finally, a comprehensive inquiry was conducted with a total of 88 car users regarding the factors influencing their choice of using the car for their journey instead of other options. For this purpose, respondents were presented with six answer options derived from Mackett (2003), allowing them to select one or more applicable choices through a multiple-choice format. Additionally, participants had the option to provide further reasons in an open text field using the "other" category, which were subsequently clustered during the analysis. Respondents also had the option to select none of the provided answer options.

The most prevalent reason, cited by 47.7% of car users, was a perceived poor connection to public transportation. A large portion (26.1%) expressed that the journey was deemed too long or far to use another mode. Additionally, 12.5% mentioned the challenge of transporting excessive luggage, such as strollers or walking aids. Other factors only played minor roles.

This comprehensive overview of the reasons for not using public transport, bicycle or walking provides valuable insights into the multifaceted challenges faced by individuals, encompassing both systemic issues and personal considerations. Understanding these barriers is crucial for implementing targeted improvements to encourage greater utilization of environmentally friendly means of transportation. The results are presented in figure 6.

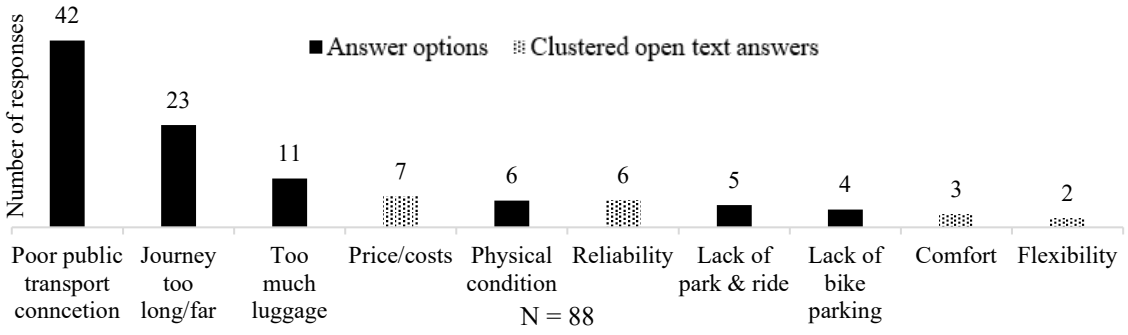


Figure 6 - Reasons for car use instead of other modes of transport

Source: Author's elaboration based on the survey results.

5.3.5. VVS Voucher Analysis

A central element of this report is the VVS voucher as described in chapter 4.4. Respondents were asked a number of questions to find out whether the current low level of use is potentially due to an insufficient voucher level. In response to the known marketing question about awareness (e.g., Aaker, 1991; Lehmann et al., 2008), only 120 respondents (27.7%) stated that they were aware of the VVS voucher. Out of these 120 respondents, 31 (25.7%) stated that they had already used the voucher either on the day of the survey or prior to that. This corresponds to 7.2% of all 433 respondents. Those unfamiliar with the VVS voucher received a brief explanation (see annex 5). As part of the test of different potential voucher values, the 402 respondents who had not yet used the voucher were subsequently questioned regarding their inclination to do so in the future.

Interestingly, 225 (56.0%) of these respondents stated that they would use the VVS voucher at unchanged conditions (€5 voucher value). Cumulatively, 59.1% (31 plus 225) of all 433 respondents therefore indicated their willingness to use the voucher at this level.

With an increase in the value of the voucher to €10, the willingness to use it rises to a cumulative 83.8%. 107 of the remaining 177 respondents (60.5%) stated that they would use the VVS voucher at this level. Further increases to €15 and €20 showed marginal effects, with only 13 and 16 additional respondents respectively stating that they would use the voucher at these levels. At the highest voucher amount surveyed (€20), the cumulative proportion was 90.5%, which means that 9.5% of respondents would not use the voucher even at this highest amount surveyed. The results are displayed in table III.

Table III – VVS voucher usage und use intentions at various voucher levels

Aspect	N	n Yes	% Yes	% of N = 433	cum. % of N = 433
Prior usage	120	31	25.7	7.2	7.2
Intended usage with unchanged conditions	402	225	56.0	52.0	59.1
Intended usage at €10 voucher value	177	107	60.5	24.7	83.8
Intended usage at €15 voucher	70	13	18.6	3.0	86.8
Intended usage at €20 voucher value	57	16	28.1	3.7	90.5

Source: Author's elaboration based on survey results. Test adapted from Haugom et al. (2021).

In addition to the voucher level, other aspects that can influence usage are of interest. As part of this report, respondents who had already used the VVS voucher were therefore asked about their satisfaction with two aspects. In addition to the question based on Davis and Heineke (1998) about waiting time when picking up the voucher, Pro Stuttgart requested that respondents were asked about their satisfaction with the voucher redemption options. For this purpose, a Likert scale from 1 to 5 was used, where 1 corresponds to "not at all satisfied" and 5 to "very satisfied". The aspects could be skipped if desired. The average scores of 4.46 and 4.41 show an overall prevailing satisfaction with both aspects. The results are displayed in table IV.

Table IV – VVS voucher usage satisfaction

Aspect	n	Min.	Max.	Mean	SD
Pick-up waiting time	28	2	5	4,46	0.999
Redemption options	27	1	5	4,41	1.152

Source: Author's elaboration based on the survey results.

In response to Pro Stuttgart's inquiry regarding potential improvements to the VVS voucher, participants in a multiple-choice format allowing the selection of one or more applicable choices were specifically asked whether, in their opinion, the vouchers should be redeemable on days other than Sundays. Additionally, they were queried about whether the minimum consumption

value on redemption (currently at €20) should be eliminated or, at least, reduced. The respondents were able to make further comments by means of an open question, which were then clustered.

In this course, 234 (54.0%) respondents expressed a desire for the option to redeem VVS vouchers on days other than Sundays. A large group of 120 respondents (27.7%), suggested reducing or abolishing the minimum consumption rate associated with the VVS voucher. These results provide insights into the preferences and suggestions of the respondents regarding potential optimization of the VVS voucher. The majority of respondents seem to favor expanded redemption options, either in terms of days or minimum consumption requirements, reflecting a desire for greater flexibility and accessibility in utilizing the voucher benefits. Additionally, 5 respondents in the open text field provided answers that can be assigned to improving awareness of the voucher scheme, which once again underlines the importance of proper communication.

5.3.6. Switch to Public Transport in Combination with the VVS Voucher

Following the overall examination of the VVS voucher, the following section specifically explores the connections between the VVS voucher and the choice of mode of transport. If the purpose of the VVS voucher is to encourage individuals to opt for public transport instead of the car, it is interesting to note that only 88 respondents (20.3%) arrived by car. This means that the majority, accounting for 79.7%, used alternative means of transportation (see chapter 5.3.2).

The objective could therefore be to motivate those 88 people (20.3%) to switch to public transport. Examining the intention to retain or switch means of transport (see chapter 5.3.2), it is notable that 29 car users (33.0%) expressed their intention to use public transport instead of the car for their next event visit.

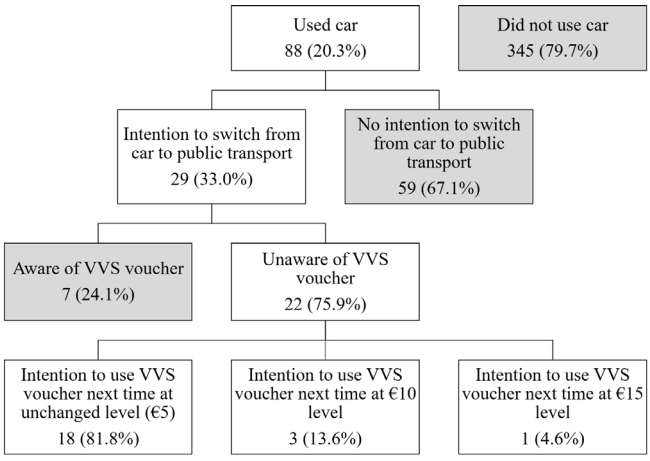


Figure 7 - Car user intention to switch to public transport and use voucher

Source: Author's elaboration based on the survey results.

Among these 29 respondents, 22 (75.9%) were not aware of the VVS voucher prior to the explanation in the survey. Finally, 18 of these 22 respondents (81.8%) stated that they would use

the VVS voucher at an unchanged €5 level for their next visit. Three respondents (13.6%) would use the voucher at a value of €10 and the remaining one respondent (4.6%) would use the voucher at a value of €15. The results are displayed in figure 7.

Figure 8 visualizes the same question from a different point of view. The results show that 53 of the car users (60.2%) did not know about the VVS voucher prior to the explanation in the questionnaire. 28 (52.8%) of these 53 respondents stated that they would use the voucher for their next journey under unchanged conditions (€5). Looking at behavior and intention, 18 (64.3%) of these 28 respondents actually indicated that they would switch from car to public transport.

Out of the other 25 respondents, eleven (44.0%) stated that they would use the voucher for their next journey with a value of €10. Of these eleven respondents, however, only 3 (27.3%) actually indicated to switch from car to public transport when looking at behavior and intention.

Out of the remaining 14 respondents unwilling to use the voucher at a value of €10, two (14.3%) stated that they would use it at a value of €15. However, when looking at behavior and intention, only one of them actually indicated to switch from car to public transport.

Out of the remaining twelve respondents, two (16.7%) stated that they would use the VVS voucher at a value of €20, but neither of them showed an intended change in transport mode choice when looking at behavior and intention. The remaining ten respondents stated that they did not intend to use the voucher even at a value of €20.

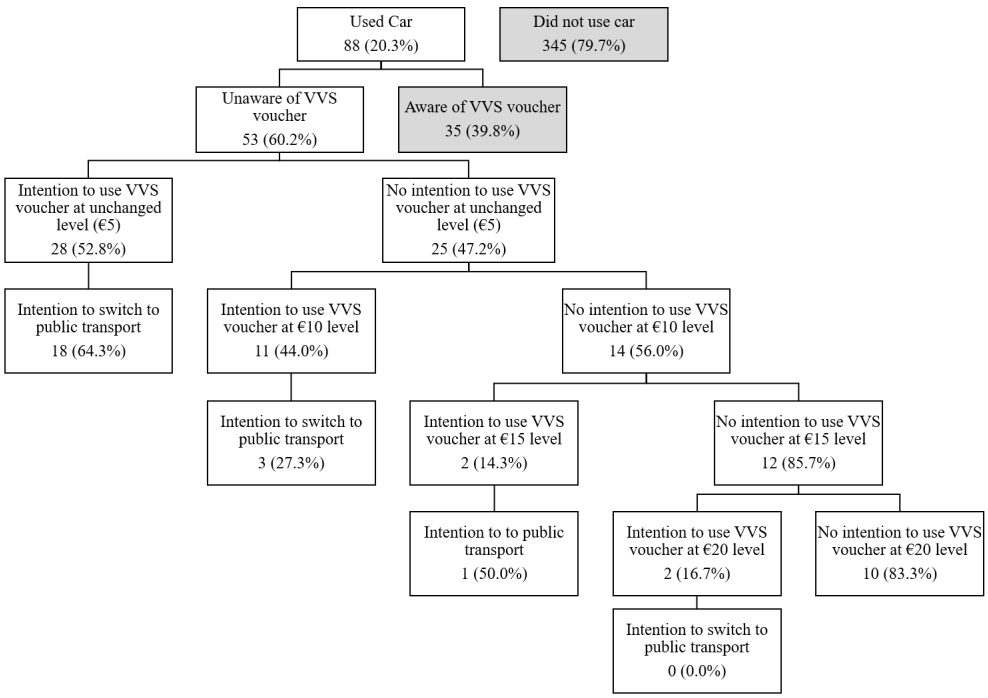


Figure 8 - Car user intention to use voucher and switch to public transport

Source: Author's elaboration based on the survey results.

These findings indicate that the VVS voucher could achieve significant popularity among previously unaware car users, supporting P3 (“Incentive programs positively influence the future customer travel intention”). 52.8% (28 of the 53 unaware car users) expressed their intention to use it for their next journey at the unchanged €5 value. At a value of €10 it was even a cumulative share of 73.6% (28 plus 11 of the 53 respondents) who do so. Although the actual willingness to transition from car to public transport at the €10 voucher level was somewhat lower at 39.6% (18 plus 3 of the 53 respondents), it remained substantial. Even with an unchanged voucher amount of €5, the willingness to switch was still noteworthy at 34.0% (18 of the 53 respondents).

5.4. Discussion of the Main Findings

After completing the data analysis, it is possible to compare the results with the literature review and present the key findings.

5.4.1. Findings on Behavior and Intention

Both customer travel behavior and future customer travel intention regarding the choice of transport modes differed considerably from the "Mobility in Germany 2017" study, which is the latest published version of a series conducted regularly by the German Federal Ministry of Transport. It classified Stuttgart as a metropolis and outlined the primary forms of transport used in metropolises as follows: 28% as car drivers, 10% as car passengers, 15% by bicycle, 20% by public transport and 27% by walking (Follmer & Gruschwitz, 2019). The study did not differentiate between individual metropolises. As the categories of the study and this report do not correspond exactly, the various car options are summarized below. This results in a share of 38% in the study who drove a car or were a car passenger. The combined proportion of car users in this report was 20.3% (behavior) and 15.5% (intention), which is noticeably lower than in the study. The share of cyclists in this report was far lower in terms of both behavior and intention (2.8% and 3.9% respectively) than in the study (15%). The same applies to the proportion of pedestrians, which was roughly halved in this report at 13.4% and 12% respectively compared to the 27% in the study. In contrast, the share of public transport users, at 61.9% and 67.4% respectively, was more than three times larger than in the study (20%).

The results presented by De Vos et al. (2016) as it comes to the choice of means of transport for the most recent leisure trip also differed from those in this report: the proportion of car drivers at 51.8% was two to three times higher than in this report. At 19.8%, the proportion of cyclists was even higher than in the study by Follmer and Gruschwitz (2019) and the proportion of public transport users, at 9.7%, was more than six times lower than in this report. Only the proportion of pedestrians, at 18.7%, was not too far from the figures found in this report.

These considerable differences can have various explanations. The study by De Vos et al. (2016) examined leisure trips in urban and suburban areas, whereas the Stuttgarter Weindorf takes

place exclusively in the city center, which is very well connected by public transport. This may partly explain the high proportion of public transport users. The study by Follmer and Gruschwitz (2019) did not break down the share of leisure trips accounted for by the different modes of transport, but also referred to necessary trips such as commuting to work. Furthermore, the aforementioned location of the event in the center of Stuttgart may be a reason for the lower proportion of car users. Parking options in the city center are limited and relatively expensive, especially during major events. There are five subway and two suburban train stations and numerous bus stops in the immediate area of the event site, which can also be reached by foot in ten minutes from Stuttgart central station. This close connection to public transport could be an explanation for the low proportion of pedestrians: it is simply not necessary to walk longer distances. Probably the most important reason for the high proportion of public transport users and simultaneously low proportion of motorists, cyclists, and pedestrians is the special nature of the event: a wine festival is largely about drinking alcohol. Many visitors will therefore probably deliberately choose a means of transport that takes them home safely after the event. To confirm this assumption and to understand the reasons for the large share of public transport users, specific questions in a follow-up study would be interesting.

In summary, the present report shows considerable differences in behavior and intention in the choice of transportation compared to the studies by De Vos et al. (2016), and Follmer and Gruschwitz (2019), although the deviations can probably be explained at least in part by the specific nature and central, well-connected location of the event. A follow-up study with specific questions on these open issues could be useful to clarify the reasons for the deviations.

5.4.2. Findings on Satisfaction

When comparing the results (see annex 2) of the STS in this report and the study by De Vos et al. (2015), it is evident that satisfaction was higher across all modes of transport on all nine scales. Bicycling satisfaction values in this report were, on average, increased by 1.02. Similarly, public transport (+0.68), walking (+0.66), and car (both options combined, +0.54) satisfaction values were also higher. Overall satisfaction values for all means of transport combined were elevated by an average of 0.58. Only when comparing car drivers who traveled alone with car drivers in the study by De Vos et al. (2015), a slightly lower average was observed (-0.01). Visitors of the Stuttgarter Weindorf (car drivers travelling alone representing the exception) exhibited higher satisfaction levels in all aspects of the STS compared to the respondents in the study by De Vos et al. (2015). Since both this report and the referenced study referred to leisure-related journeys, the cause for this positive deviation is not immediately apparent.

However, the results of the report confirm previous studies (e.g., De Vos et al., 2022; De Vos & Witlox, 2017; Ye & Titheridge, 2017), according to which active travel, i.e., walking and bicycling, generated the highest satisfaction values. P1 “Customer travel behavior impacts

customer travel satisfaction" (see chapter 3), in line with De Vos et al. (2022), De Vos and Witlox (2017), and Ye and Titheridge (2017), was confirmed by the results of this report, especially regarding active travel. The small number of cyclists must be considered, however. The claim that values for public transport were the lowest (e.g., De Vos et al., 2016; De Vos & Witlox, 2017), could not be confirmed by the results of this report. The average score of 4.38 by public transport users still demonstrates a high level of satisfaction. De Vos et al. (2022) as well as De Vos and Witlox (2017) in their studies referred to the fact that the satisfaction values were lower for bus journeys in particular. Due to the lack of differentiation between the individual vehicles within public transport in this report, this statement could neither be confirmed nor rejected.

Another striking aspect in the results of this report was not examined in previous studies: the satisfaction values within the group of car users differed substantially between those who traveled by car alone and those who traveled by car together with others. One explanation for this discrepancy might be the fact that traveling in company may be perceived as more enjoyable, leading to more positive ratings than traveling alone. Additionally, the group of car users traveling with others most likely included a share of passengers who did not drive themselves, presumably experiencing the journey in a more relaxed manner compared to the drivers. A closer look at this topic as well as the inclusion of new means of transportation such as e-scooters or shared bikes in future studies could provide interesting insights.

In addition to the STS, the specific consideration of individual means of transport is interesting regarding the satisfaction level. For example, the very positive score for cyclists on the STS contrasted with the rather low assessment of the individual bicycle-specific aspects on the journey to the event (see table A4, annex 1). This suggests that cyclists in this report were not significantly bothered by apparent shortcomings in the individual aspects of their journeys. The most pressing issues identified by Sharma et al. (2019) – namely, conflict with pedestrians on bike lanes, the amount of traffic on bike lanes, and the frequency of illegal parking around bike lanes – did not exhibit particularly positive or negative ratings in this report. It is, again, important to note that the number of cyclists surveyed in this report comprises only twelve individuals. The observation of a connection between perceived safety and the frequency of cycling by Sharma et al. (2019) could be relevant. It is plausible that experienced cyclists may have become accustomed to the circumstances and therefore rated their journey positively on the STS due to the physical activity regardless of the shortcomings. However, for less experienced cyclists, these safety-specific deficits could potentially act as a deterrent. Further research to clarify this assumption could be pursued as part of a follow-up study.

With regard to public transport, it should be noted that the specific aspects surveyed received consistently positive ratings (see table A3, annex 1). The ratings only slightly dipped in the areas of modernity and cleanliness, while still being distinctly above the middle value of 3.00.

Nevertheless, the ratings suggested that Stuttgart's public transport system generally is in good condition, aligning with the positive rating on the STS.

While the transportation of luggage was the main reason for traveling by car in the study by Mackett (2003), it was a decisive fact for only 12.5% of car users at the Stuttgarter Weindorf. In contrast, aspects related to the physical condition seemed to be more important among them (6.8%) than in the study by Mackett (2003), in which the statements "I cannot manage without my car" and "I felt unwell" were made by only 1% and 0% (rounded) respectively. However, by far the most frequently mentioned issue in this report was the poor access to public transport, which was mentioned by 47.7% of car users. This aspect was not surveyed in the study by Mackett (2003) and was included in the survey for this report at the suggestion of Pro Stuttgart. This result is in clear contradiction to the good evaluation of public transport in the STS and the specific evaluation of the individual aspects of public transport (see table A3, annex 1). More detailed research into this contradiction would be desirable in a follow-up study. Mackett (2003) concluded that alternatives could be identified for 78% of the trips observed and recommended the use of communication campaigns to inform car users about the advantages of alternative means of transportation. Regarding the Stuttgarter Weindorf, a corresponding campaign could also help to overcome prejudices against public transport, which may be a reason for the discrepancy between the perceptions of car users and public transport users with regard to the accessibility and general quality of public transport.

The conceptual framework presented in chapter 3 also considered the influence of satisfaction on intention (P2 “Customer travel satisfaction influences the future customer travel intention”). Such a connection was suggested in the context of the TMCC by De Vos et al. (2022). The correlation calculated with the survey data from this report (see table A2, annex 1) only showed a very weak, statistically insignificant connection between the average value of the STS and the intention to change the means of transport for the next journey. P2 could therefore not be confirmed by this report. One reason for this could be that the satisfaction scores were very high across all modes of transport and the gaps between the individual modes were relatively small. The average scores for the modes of transport used by a total of 92.6% of the respondents were 4.00 or higher. It is also important to note that this report only examines a single event. Broader surveys, including different journeys or destinations, may produce more scattered satisfaction scores and therefore different results.

5.4.3. Findings on the VVS Voucher

Another important element of the conceptual framework is the incentive program (here the VVS voucher) and its potential influence on the intention to select a mode of transport. As part of the investigation into its effectiveness, the main aim originally was to examine whether the voucher amount was potentially too low. The results showed that 72.3% of respondents were unaware of

the voucher's existence prior to the survey. The biggest problem of the VVS voucher is therefore the lack of awareness. Awareness campaigns in the sense of Mackett (2003) (see chapter 5.4.2) might be appropriate to address this issue.

The subsequent analysis of the relationship between the voucher level and the specific intention of car users to switch to public transport showed that a major share of car users who only learned about the VVS voucher through the explanation in the course of the survey stated that they would use the voucher at an unchanged level of €5 for their next visit and would consequently travel by public transport instead of by car. In addition to becoming familiar with the VVS voucher as part of the survey, other factors may play a role in the decision to switch from car to public transport. However, a certain effect seems to be apparent and suggests that the VVS voucher can be a suitable instrument for encouraging car users to switch to the more climate-friendly public transport if the voucher becomes more widely known, supporting P3 ("Incentive programs positively influence the future customer travel intention"). Increasing the value of the voucher only has a marginal effect. An increase to €10 could prove sensible, but a further increase would hardly have any effect. The remaining proportion of car users did not appear to be persuadable to switch by financial incentives. For them, the nonmonetary sacrifice of not using the car seemed to outweigh the monetary benefits of the VVS voucher so considerably that an economically viable balance can probably not be achieved.

It is difficult to compare absolute values (€5 VVS voucher) and percentage discount levels as in the study by Haugom et al. (2021) due to the inconsistent spending behavior in the study and at the Stuttgarter Weindorf. Nevertheless, it seems that the price discount in the context of the Stuttgarter Weindorf does not have to be as high as the 24% stated by Haugom et al. (2021). It should be noted, of course, that Haugom et al. (2021) referred to compulsory use of public transport, whereas the VVS voucher is only an incentive. A compulsory solution would not be feasible for the Stuttgarter Weindorf, as no admission ticket is required to enter the event site. It might also play a role here that the nonmonetary sacrifice of traveling by public transport may not be perceived as so serious due to the alcohol-related nature of the festival, whereas it is all the more significant in the context of ski tourism due to the large amount of bulky luggage. As interesting as the approach of Haugom et al. (2021) is, the comparison with the Stuttgarter Weindorf does not seem to be sufficiently accurate. It would be interesting to conduct further similar studies in environments that are more closely related to the Stuttgarter Weindorf in order to be able to draw further conclusions and identify potential differences.

Regarding the VVS voucher's non-financial aspects (see chapter 5.3.5), it shows that more than half of the respondents would like to be able to redeem it on days other than Sundays. More than a quarter would also like to see the minimum consumption value abolished or reduced.

The difference found in chapter 5.3.6 between the declared intention to use the VVS voucher and the actual intention to change the means of transport indicates the existence of an intention-

behavior gap (e.g., Lanzini & Khan, 2017; Sheeran, 2002) or a green gap. The green gap is the discrepancy between consumers' stated intention to choose options to protect the environment (i.e., recycle, spend more on environmentally friendly products than on comparable regular products, use sustainable modes of transport) and their actual behavior, which often times falls short of their claims (Gleim & Lawson, 2014). Luchs et al. (2010, as cited in Haugom et al., 2021) pointed out that there may be a larger gap than usually between attitudes towards and intentions to purchase environmentally friendly products and actual consumer behavior. It would therefore be particularly relevant to examine the connection between the intention and the subsequent actual behavior in the respondents' choice of means of transport. Unfortunately, this was not possible within the scope of this report, but could possibly be examined in a follow-up study.

5.4.4. Proposition Verification

The following segment briefly assesses the assumptions formulated in chapter 3. As illustrated in table II and explained in chapter 5.4.2, P1 ("Customer travel behavior impacts customer travel satisfaction") could be substantiated by the findings of this report. However, as elucidated in chapter 5.4.2 and indicated in table A2, annex 1, P2 ("Customer travel satisfaction influences the future customer travel intention") could not be validated by the results of this report. Finally, as depicted in figure 8 and discussed in chapter 5.4.3, P3 ("Incentive programs positively influence the future customer travel intention") could be confirmed. An actual confirmation whether stated future customer travel intention aligned with actual future customer travel behavior was not possible, however, since the information on the use of the voucher and the switch in means of transport was only based on the respondents' intentions rather than having been obtained in a follow-up survey.

5.5. Recommendations

The literature review and the analysis of the results of the study led to some measures that can be implemented by Pro Stuttgart to further influence visitor travel behavior in order to transform the event into a climate-neutral one. In line with Kim (2011), the information on directions by car and parking options could be removed from the homepage. Instead, the website could explicitly advise against traveling by car and point out the advantages of the more environmentally friendly means of transport. In the same context, as outlined by Bernheine and Gampper (2023), additional bicycle parking spaces could be provided as well as free bicycle checks. As suggested by McCullough et al. (2023), partnerships with nearby certified climate-friendly hotels could be established to avoid multiple long journeys and high emissions from standard hotel stays. The latter two options could even lead to new sponsoring deals.

As explained in chapter 5.4.3, awareness of the VVS voucher could be increased through publicity campaigns. An increase in the value of the voucher to €10 could be considered if

economic considerations were met. However, an increase beyond this level should be avoided due to the lack of effectiveness. The redeemability of the VVS voucher or comparable new offers could be enabled on all event days. Extending the option to redeem the voucher beyond the two Sundays could increase the measurement's effectiveness. The reduction or abolition of the minimum consumption value could be considered, taking economic aspects into account.

It should be noted that visitor travel is only one part of an event's carbon footprint. For a comprehensive analysis of the whole event, a complete measurement and calculation of its carbon footprint could therefore be carried out in cooperation with a specialized partner in order to be able to introduce measures in areas other than visitor travel (Bernheine & Gampper, 2023).

CHAPTER 6 - CONCLUSIONS

6.1. Main Contributions

On an academic level, this study contributed to filling the existing gaps on the topic of event-related sustainable transportation and allowed to expand the knowledge on a topic of such importance. The adaptation of the TMCC by De Vos et al. (2022) within the conceptual framework enabled an understanding of the specific situation of the Stuttgarter Weindorf. The results of the choice of means of transport (behavior) differed in some cases substantially from other studies (e.g., De Vos et al., 2016; Follmer & Gruschwitz, 2019). In this course, RQ1 "What is the customer travel behavior and travel mode choice as it comes to attending the event?" and RQ3 "What is the future customer intention as it comes to choosing travel modes?" could be answered (see figure 5). This report also contributed to the business side by collecting data on visitor travel for Pro Stuttgart for the first time.

The results of the report, on the one hand, confirmed previous studies (e.g., De Vos et al., 2022; De Vos & Witlox, 2017; Ye & Titheridge, 2017), according to which active travel generated the highest satisfaction scores. The finding that the values for public transport were the lowest (e.g., De Vos et al., 2016; De Vos & Witlox, 2017), on the other hand, could not be confirmed. In this course RQ2 "What is the customer satisfaction with the selected travel mode?" could be answered. The link between satisfaction and intention (De Vos et al., 2022) could not be confirmed by this report.

The aim of this report to partially check the TMCC was achieved. A connection between customer travel behavior and customer travel satisfaction was found. A further connection between customer travel satisfaction and future customer travel intention could not be found, however. Given the reduction of the original TMCC in the conceptual framework of this report (chapter 3) by skipping attitude and desire, the TMCC cannot be considered disproved. Further studies such as the one by Kroesen et al. (2023) are needed to confirm or disprove it.

An elementary part of the report and the conceptual framework was the incentive program's (VVS voucher) influence on the intention to choose a means of transportation. In this context, it

could be shown that its major challenge is not the voucher value, but the lack of awareness. The results further suggested that the voucher value probably does not need to be as high as described by Haugom et al. (2021) to be effective in the context of the Stuttgarter Weindorf. When reviewing the VVS voucher, it was determined that an increase in the voucher value to more than €10 did not appear sensible. Even an increase from €5 to €10 did not appear urgently necessary but could still contribute to a noticeable increase in the number of users. RQ4 "Can incentive programs such as vouchers influence the future customer intention to choose a travel mode?" could be answered to the extent that the VVS voucher measure was currently not particularly effective, because the majority of event visitors were not aware of its existence (see chapter 5.3.5). Further studies similar to the one by Haugom et al. (2021) in environments more similar to the Stuttgarter Weindorf could be useful. The findings of this report enable the management and the board of Pro Stuttgart to design and subsequently implement measures.

6.2. Limitations and Future Research

This report presents certain limitations primarily stemming from time and financial as well as circumstantial constraints, which should be considered in future research. The first limitation arises from the fact that this study and its primary conclusions were applied to the internship at Pro Stuttgart's event Stuttgarter Weindorf and should not be generalized to all events. The second limitation is attributed to the use of a non-probability sampling technique, resulting in a sample that may not be representative of the entire population. The third limitation is associated with the use of a mono-method quantitative study. Enriching the quantitative data with qualitative data collection techniques, such as interviews with the respondents, could potentially provide a more comprehensive understanding of the reasons behind certain results.

The subject of sustainability, particularly concerning visitor travel, holds significant importance in the current event sector landscape and is anticipated to gain even greater relevance as climate change advances. Continuous research on this topic is imperative to monitor ongoing developments. The initial recommendation is to employ a probability sample to obtain an unbiased population. Additionally, incorporating qualitative techniques would enhance the exploration and understanding of motivations for changing means of transport, particularly in connection with external factors such as the VVS voucher or mandatory public transport use (Haugom et al., 2021). Furthermore, future research should be structured to yield more broadly applicable results. Lastly, aligning with the original circular form of the TMCC by De Vos et al. (2022), it is advisable to extend the investigation to allow the complete cycle to be observed.

According to Werner et al. (2024), the area of climate adaptation will become more relevant for event organizers in Germany in the future than the avoidance of emissions. This topic should be considered and further researched from both a business and academic perspective, also in the context of the Stuttgarter Weindorf.

REFERENCES

Aaker, D. A. (1991). *Managing brand equity: capitalizing on the value of a brand name*. Free Press.

Allen, M. W., & Ng, S. H. (2004). Economic behavior. In C. D. Spielberger (Ed.), *Encyclopedia of Applied Psychology* (pp. 661–666). Elsevier. https://doi.org/10.1016/B0-12-657410-3/00220-8

Ballarano, D., Patella, S. M., & Asdrubali, F. (2022). Sustainable transportation for events: a systematic review. *Sustainability*, *14*(23), 15815. https://doi.org/10.3390/su142315815

Barberis, N. C. (2013). Thirty years of prospect theory in economics: a review and assessment. *Journal of Economic Perspectives*, *27*(1), 173–196. https://doi.org/10.1257/jep.27.1.173

Bernheine, L., & Gampper, H. (2023). *Sustainability report*. Retrieved October 11, 2023, from https://www.olympiapark.de/en/the-olympic-park/press/press-releases/2023/european-championships-munich-2022-publish-sustainability-figures-city-of-munich-achieves-advertising-value-of-486-million-euros

Bundesministerium für Wirtschaft und Klimaschutz. (2022). *Germany acquires emission allowances for failures to meet climate targets between 2013 and 2020*. Retrieved November 17, 2023, from https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2022/10/20221024-germany-acquires-emission-allowances-for-failures-to-meet-climate-targets-between-2013-and-2020.html

Collins, A., & Potoglou, D. (2019). Factors influencing visitor travel to festivals: challenges in encouraging sustainable travel. *Journal of Sustainable Tourism*, *27*(5), 668–688. https://doi.org/10.1080/09669582.2019.1604718

Davis, M. M., & Heineke, J. (1998). How disconfirmation, perception and actual waiting times impact customer satisfaction. *International Journal of Service Industry Management*, *9*, 64–73. https://doi.org/10.1108/09564239810199950

De Vos, J., Mokhtarian, P. L., Schwanen, T., Van Acker, V., & Witlox, F. (2016). Travel mode choice and travel satisfaction: bridging the gap between decision utility and experienced utility. *Transportation*, *43*(5), 771–796. https://doi.org/10.1007/s11116-015-9619-9

De Vos, J., Schwanen, T., Van Acker, V., & Witlox, F. (2015). How satisfying is the scale for travel satisfaction? *Transportation Research Part F: Traffic Psychology and Behaviour*, *29*, 121–130. https://doi.org/10.1016/J.TRF.2015.01.007

De Vos, J., Schwanen, T., Van Acker, V., & Witlox, F. (2019). Do satisfying walking and cycling trips result in more future trips with active travel modes? An exploratory study. *International Journal of Sustainable Transportation*, *13*(3), 180–196. https://doi.org/10.1080/15568318.2018.1456580

De Vos, J., Singleton, P. A., & Gärling, T. (2022). From attitude to satisfaction: introducing the travel mode choice cycle. *Transport Reviews*, *42*(2), 204–221. https://doi.org/10.1080/01441647.2021.1958952

De Vos, J., & Witlox, F. (2017). Travel satisfaction revisited. On the pivotal role of travel satisfaction in conceptualising a travel behaviour process. *Transportation Research Part A: Policy and Practice*, *106*, 364–373. https://doi.org/10.1016/j.tra.2017.10.009

Dosumu, A., Colbeck, I., & Bragg, R. (2017). Greenhouse gas emissions as a result of spectators travelling to football in England. *Scientific Reports*, *7*(1), 6986. https://doi.org/10.1038/s41598-017-06141-y

Ettema, D., Gärling, T., Eriksson, L., Friman, M., Olsson, L. E., & Fujii, S. (2011). Satisfaction with travel and subjective well-being: Development and test of a measurement tool. *Transportation Research Part F: Traffic Psychology and Behaviour*, *14*(3), 167–175. https://doi.org/10.1016/j.trf.2010.11.002

European Commission. (2023). *Corporate sustainability reporting*. Retrieved December 8, 2023, from https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

Eurostat. (2019). *Glossary: Tertiary sector*. Retrieved December 8, 2023, from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Tertiary_sector

Fellesson, M., & Friman, M. (2008). Perceived satisfaction with public transport service in nine European cities. *Journal of the Transportation Research Forum*, *47*(3), 92–102. https://doi.org/10.22004/ag.econ.206965

Follmer, R., & Gruschwitz, D. (2019). *Mobility in Germany - short report. Edition 4.0 of the study by infas, DLR, IVT and infas 360 on behalf of the Federal Ministry of Transport and Digital Infrastructure (BMVI) (FE no. 70.904/15)*. Retrieved November 20, 2023, from: https://www.mobilitaet-in-deutschland.de/archive/publikationen2017.html

Fujii, S., & Kitamura, R. (2003). What does a one-month free bus ticket do to habitual drivers? An experimental analysis of habit and attitude change. *Transportation*, *30*(1), 81–95. https://doi.org/10.1023/A:1021234607980

Gleim, M., & Lawson, S. J. (2014). Spanning the gap: An examination of the factors leading to the green gap. *Journal of Consumer Marketing*, *31*(6/7), 503–514. https://doi.org/10.1108/JCM-05-2014-0988

Gössling, S., & Peeters, P. (2015). Assessing tourism's global environmental impact 1900–2050. *Journal of Sustainable Tourism*, *23*(5), 639–659. https://doi.org/10.1080/09669582.2015.1008500

Haugom, E., Malasevska, I., Alnes, P. K., & Mydland, Ø. (2021). Willingness to pay for "green skiing." *Journal of Hospitality and Tourism Management*, *47*, 252–255. https://doi.org/10.1016/j.jhtm.2021.03.010

Heilbronn Marketing GmbH. (2023). *Heilbronner Weindorf*. Retrieved December 8, 2023, from https://www.heilbronn.de/tourismus/veranstaltungen/veranstaltungskalender/veranstaltung/heilbronner-weindorf-65378.html

In.Stuttgart Veranstaltungsgesellschaft mbH & Co. KG. (2023). *Great success at the 176th Cannstatt Folk Festival*. Retrieved December 8, 2023, from https://www.cannstatter-volksfest.de/en/landing-page/

Jacoby, J. (1975). Consumer psychology as a social psychological sphere of action. *American Psychologist*, *30*, 977–987. https://doi.org/10.1037/0003-066X.30.10.977

Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, *20*(1), 3–24. https://doi.org/10.1257/089533006776526030

Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica*, *47*(2), 263–291. https://doi.org/10.2307/1914185

Kardes, F. R., Cronley, M. L., & Cline, T. W. (2011). *Consumer behavior*. South-Western Cengage Learning.

Kassens-Noor, E. (2010). Sustaining the momentum: Olympics as potential catalyst for enhancing urban transport. *Transportation Research Record*, *2187*(1), 106–113. https://doi.org/10.3141/2187-14

Kim, K. S. (2011). Exploring transportation planning issues during the preparations for EXPO 2012 Yeosu Korea. *Habitat International*, *35*(2), 286–294. https://doi.org/10.1016/j.habitatint.2010.10.002

Kroesen, M., De Vos, J., Le, H. T. K., & Ton, D. (2023). Exploring attitude-behaviour dynamics during COVID-19: How fear of infection and working from home influence train use and the attitude toward this mode. *Transportation Research Part A: Policy and Practice*, *167*, 103560. https://doi.org/10.1016/J.TRA.2022.103560

Landauer, M., Haider, W., & Pröbstl-Haider, U. (2014). The influence of culture on climate change adaptation strategies: preferences of cross-country skiers in Austria and Finland. *Journal of Travel Research*, *53*(1), 96–110. https://doi.org/10.1177/0047287513481276

Landeshauptstadt Stuttgart. (2023). *Veranstaltungen*. Retrieved December 8, 2023, from https://www.stuttgart.de/service/veranstaltungen.php

Lanzini, P., & Khan, S. A. (2017). Shedding light on the psychological and behavioral determinants of travel mode choice: A meta-analysis. *Transportation Research Part F: Traffic Psychology and Behaviour*, *48*, 13–27. https://doi.org/10.1016/J.TRF.2017.04.020

Lehmann, D. R., Keller, K. L., & Farley, J. U. (2008). The structure of survey-based brand metrics. *Journal of International Marketing*, *16*(4), 29–56. https://doi.org/10.1509/jimk.16.4.29

Liu, J., & Li, Q. (2022). Impact of major events on interprovincial carbon emissions - based on PSM-DID analysis. *Sustainability*, *14*(12), 7459. https://doi.org/10.3390/su14127459

Mackett, R. L. (2003). Why do people use their cars for short trips? *Transportation*, *30*, 329–349. https://doi.org/10.1023/A:1023987812020

Mackett, R. L., & Edwards, M. (1998). The impact of new urban public transport systems: will the expectations be met? *Transportation Research Part A: Policy and Practice*, *32*(4), 231–245. https://doi.org/10.1016/S0965-8564(97)00041-4

McCullough, B. P., Collins, A., Roberts, J., & Villalobos, S. (2023). Sport events and emissions reporting: an analysis of the council for responsible sport standard in running events. *Sustainability*, *15*(19), 14375. https://doi.org/10.3390/su151914375

Morris, E. A., & Guerra, E. (2015). Mood and mode: does how we travel affect how we feel? *Transportation*, *42*(1), 25–43. https://doi.org/10.1007/s11116-014-9521-x

Oliver, R. L. (2010a). Customer satisfaction. In J. Sheth & N. Malhotra (Eds.), *Wiley International Encyclopedia of Marketing*. https://doi.org/10.1002/9781444316568.wiem03008

Oliver, R. L. (2010b). *Satisfaction: A Behavioral Perspective on the Consumer: A Behavioral Perspective on the Consumer* (2nd ed.). Routledge.

Opus Festival-; Veranstaltungs- und Management GmbH. (2023). *Jazzopen 2024*. Retrieved December 8, 2023, from https://www.jazzopen.com/

Pro Stuttgart e. V. (2023a). *Engagement*. Retrieved October 8, 2023, from https://prostuttgart.de/engagement/

Pro Stuttgart e. V. (2023b). *Das Stuttgarter Weindorf*. Retrieved October 8, 2023, from https://prostuttgart.de/engagement/das-stuttgarter-weindorf/

Pro Stuttgart e. V. (2023c). *Tätigkeitsbericht der Geschäftsführung*. Retrieved December 8, 2023, from https://prostuttgart.de/news/taetigkeitsbericht-der-geschaeftsfuehrung/

Pro Stuttgart Verkehrsverein e. V. (2010). *Seit 1885 zum Wohle der Stadt: Rückblicke und Ausblicke*. Druckhaus Waiblingen.

Pro Stuttgart Verwaltungsgesellschaft mbH. (2023a). *A new arbor creates space and time for exciting and impressive culture*. Retrieved December 8, 2023, from https://www.stuttgarter-weindorf.de/en/bw-bank-kulturlaube

Pro Stuttgart Verwaltungsgesellschaft mbH. (2023b). *For the good of the city!* Retrieved October 8, 2023, from https://www.stuttgarter-weindorf.de/en/pro-stuttgart

Pro Stuttgart Verwaltungsgesellschaft mbH. (2023c). *Welcome to the Stuttgarter Weindorf!* Retrieved December 8, 2023, from https://www.stuttgarter-weindorf.de/en

Pro Stuttgart Verwaltungsgesellschaft mbH. (2023d). *Your hosts at the Stuttgarter Weindorf 2023*. Retrieved December 8, 2023, from https://www.stuttgarter-weindorf.de/en/wirtinnen-wirte

Ripple, W. J., Wolf, C., Newsome, T. M., Barnard, P., & Moomaw, W. R. (2020). World scientists' warning of a climate emergency. *BioScience*, *70*(1), 8–12. https://doi.org/10.1093/biosci/biz088

Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research Methods for Business Students* (9th ed.). Pearson.

Scheiner, J. (2010). Interrelations between travel mode choice and trip distance: trends in Germany 1976–2002. *Journal of Transport Geography*, *18*(1), 75–84. https://doi.org/10.1016/J.JTRANGEO.2009.01.001

Scott, D., Peeters, P., & Gössling, S. (2010). Can tourism deliver its "aspirational" greenhouse gas emission reduction targets? *Journal of Sustainable Tourism*, *18*(3), 393–408. https://doi.org/10.1080/09669581003653542

Sharma, B., Nam, H. K., Yan, W., & Kim, H. Y. (2019). Barriers and enabling factors affecting satisfaction and safety perception with use of bicycle roads in Seoul, South Korea. *International Journal of Environmental Research and Public Health*, *16*(5), 773. https://doi.org/10.3390/ijerph16050773

Sheeran, P. (2002). Intention-behavior relations: a conceptual and empirical review. *European Review of Social Psychology*, *12*(1), 1–36. https://doi.org/10.1080/14792772143000003

Singleton, P. A. (2019). Validating the satisfaction with travel scale as a measure of hedonic subjective well-being for commuting in a U.S. city. *Transportation Research Part F: Traffic Psychology and Behaviour*, *60*, 399–414. https://doi.org/10.1016/J.TRF.2018.10.029

SportRegion Stuttgart e. V. (2023). *Veranstaltungskalender*. Retrieved December 8, 2023, from https://www.sportregion-stuttgart.de/kommunikation/veranstaltungskalender

Statistisches Bundesamt. (2023a). *Städte (Alle Gemeinden mit Stadtrecht) nach Fläche, Bevölkerung und Bevölkerungsdichte am 31.12.2022*. Retrieved October 11, 2023, from https://www.destatis.de/DE/Themen/Laender-Regionen/Regionales/Gemeindeverzeichnis/Administrativ/05-staedte.html

Statistisches Bundesamt. (2023b). *Straßenverkehr: Dominanz des Autos ungebrochen*. Retrieved November 16, 2023, from https://www.destatis.de/Europa/DE/Thema/Verkehr/Auto.html

St-Louis, E., Manaugh, K., Van Lierop, D., & El-Geneidy, A. (2014). The happy commuter: a comparison of commuter satisfaction across modes. *Transportation Research Part F: Traffic Psychology and Behaviour*, *26*(PART A), 160–170. https://doi.org/10.1016/j.trf.2014.07.004

The World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: our common future*. Retrieved November 27, 2023, from https://digitallibrary.un.org/record/139811

Tseng, C. H. (2016). The effect of price discounts on green consumerism behavioral intentions. *Journal of Consumer Behaviour*, *15*(4), 325–334. https://doi.org/10.1002/cb.1572

Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, *5*(4), 297–323. https://doi.org/10.1007/BF00122574

UEFA Union des Associations Européennes de Football. (2023a). *ESG strategy*. Retrieved November 14, 2023, from https://www.dfb.de/news/detail/euro-2024-mit-neuen-massstaeben-in-bereichen-umwelt-soziales-und-governance-253359/

UEFA Union des Associations Européennes de Football. (2023b). *Public transport included for UEFA Euro 2024 match ticket holders*. Retrieved October 19, 2023, from https://www.uefa.com/euro2024/news/0286-19407e1254d7-16b5c6fe87dd-1000--public-transport-included-for-euro-ticket-holders/

Umweltbundesamt. (2023). *Emissionen des Verkehrs: Verkehr belastet Luft und Klima - Minderungsziele der Bundesregierung*. Retrieved November 16, 2023, from https://www.umweltbundesamt.de/daten/verkehr/emissionen-des-verkehrs#verkehr-belastet-luft-und-klima-minderungsziele-der-bundesregierung

United Nations. (2015). *A Resolution 70/1, September 25, 2015, A/RES/70/1: Transforming our world: the 2030 Agenda for Sustainable Development*. https://research.un.org/en/docs/ga/quick/regular/70

United Nations Environment Programme. (2023). *Emissions gap report 2023: broken record – temperatures hit new highs, yet world fails to cut emissions (again)*. Retrieved January 31, 2024, from https://wedocs.unep.org/20.500.11822/43922.

Verkehrs- und Tarifverbund Stuttgart GmbH. (2023). *Mit dem VVS zum Stuttgarter Weindorf fahren und 5 Euro sparen*. Retrieved January 31, 2024, from https://www.vvs.de/presse/detailansicht-pressemitteilung/mit-dem-vvs-zum-stuttgarter-weindorf-fahren-und-5-euro-sparen-2

Werner, K., Griese, K.-M., & Hoth, L. (2024). The acceptance of climate adaptation measures in the event industry: a conceptual and empirical overview. *Event Management*, *28*(1), 105–127. https://doi.org/10.3727/152599523X16896548396770

Wilson, J. (2010). *Essentials of business research: a guide to doing your research project*. Sage Publications.

Ye, R., & Titheridge, H. (2017). Satisfaction with the commute: the role of travel mode choice, built environment and attitudes. *Transportation Research Part D: Transport and Environment*, *52*, 535–547. https://doi.org/10.1016/J.TRD.2016.06.011

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, *52*(3), 2–22. https://doi.org/10.2307/1251446

ANNEXES

Annex 1 – Results Tables

Table A1 – Sociodemographic characterization of the sample

Indicator	Answer Options	%	Valid %	n
Gender (N = 433)	Female	55.4	56.6	240
	Male	41.6	42.4	180
	Diverse	1.2	1.2	5
	No answer	1.8		8
Age (N = 433)	18 – 25	11.8	12.9	51
	26 – 35	30.7	33.6	133
	36 – 45	13.2	14.4	57
	46 – 55	14.1	15.4	61
	56 – 65	12.0	13.1	52
	> 65	9.7	10.6	42
	No answer	8.5		37
Zip Code Area (N = 433)	Stuttgart	41.8	46.8	181
	Baden-Wuerttemberg (rest)	43.0	48.1	186
	Germany (rest)	4.4	4.9	19
	Austria	0.2	0.3	1
	No answer	10.6		46
Monthly Net Income (N = 433)	< 1000 €	7.2	9.8	31
	1000 € - 1500 €	3.2	4.4	14
	1501 € - 2000 €	7.2	9.8	31
	2001 € - 2500 €	12.2	16.8	53
	2501 € - 3000 €	15.7	21.5	68
	3001 € - 4000 €	15.7	21.5	68
	4001 € - 5000 €	3.2	4.4	14
	> 5000 €	8.5	11.7	37
	No answer	27.0		117

Source: Author's elaboration based on the survey results.

Table A2 – Correlation of satisfaction and intention to switch mode of transport

		STS mean	Intention to switch
STS mean	Pearson correlation	1	.018
	Sig. (2-tailed)		.709
	N	433	433
Intention to switch	Pearson correlation	.018	1
	Sig. (2-tailed)	.709	
	N	433	433

Source: Author's elaboration, calculated with IBM SPSS Statistics software version 28.0.0.0 (190) provided by the ISEG IT department.

Table A3 – Public transport mean scores

Aspect	n	Min.	Max.	Mean	SD
Stops	258	1	5	4.14	.999
Travel time	262	1	5	4.21	1.022
Waiting time	258	1	5	4.14	1.041
Frequency of departures	259	1	5	4.10	1.101
Transfer options	238	1	5	4.28	.985
Timetable information	252	1	5	4.20	1.031
Punctuality	257	1	5	4.18	1.098
Competence of the staff	201	1	5	4.11	.996
Behavior of the staff	201	1	5	4.17	.956
Safety	244	1	5	4.18	.995
Comfort	250	1	5	3.98	.986
Modernity	253	1	5	3.74	1.113
Cleanliness	256	1	5	3.77	1.095
Possibility to sit	255	1	5	4.04	1.075
Mean of the fourteen scales				4.07	.813

Source: Author's elaboration based on the survey results.

Table A4 – Bicycle mean scores

Aspect	n	Min.	Max.	Mean	SD
Bike lane condition	12	1	5	3.08	1.240
Bike parking space	12	1	5	3.00	1.348
Availability of bike lanes	12	1	5	2.75	1.288
Distinction between bike lanes and pedestrian walkways	12	1	5	2.42	1.165
Distinction between bike lanes and roads	11	1	4	2.27	1.009
Uninterrupted usability of bike lanes	12	1	5	2.33	1.231
Bike lane marking	10	1	5	2.60	1.430
Frequency of illegal parking around bike lanes	11	1	5	3.00	1.342
Bike lane width	11	1	4	2.36	.924
Conflict with pedestrians on bike lanes	12	1	5	2.92	1.311
Amount of traffic on bike lanes	12	2	5	3.33	.888
Obstacles on bike lanes	11	2	5	3.36	.809
Mean of the twelve scales				2.84	.984

Source: Author's elaboration based on the survey results.

Annex 2 – Satisfaction with Travel Scale (STS)

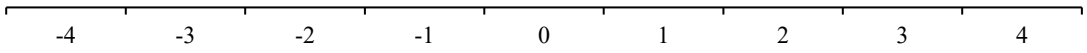
Table A5 – Satisfaction with travel scale (STS)

Positive deactivation–negative activation
Time pressed (1) – relaxed (5)
Worried I would not be in time (1) – confident I would be in time (5)
Stressed (1) – calm (5)
Positive activation–negative deactivation
Tired (1) – alert (5)
Bored (1) – enthusiastic (5)
Fed up (1) – engaged (5)
Cognitive evaluation
Travel was worst (1) – best I can think of (5)
Travel was low (1) – high standard (5)
Travel worked poorly (1) – worked well (5)

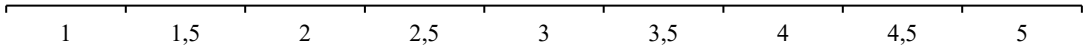
Source: Author's adaptation of the work by Ettema et al. (2011).

The original STS by Ettema et al. (2011) is created on a scale from -4 to +4. For the sake of consistency, the 1 to 5 range was used for all questions with Likert scales in this report. Thus -4 in the original paper corresponds to 1 in this report and +4 corresponds to 5 respectively.

Original scale ranging from -4 to +4:



Scale used in this report ranging from 1 to 5:



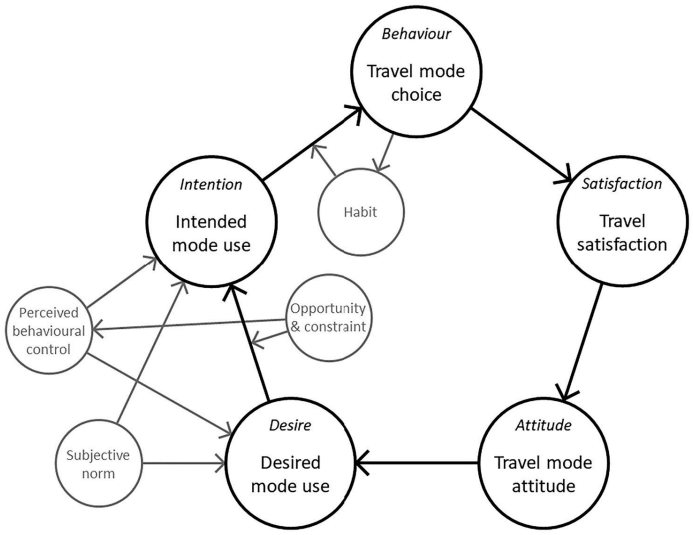
The original results by De Vos et al. (2015) on a scale from -4 to +4 and its conversion to match the 1 to 5 scale used in this report is presented in table A6 (order of aspects and travel modes adjusted according to table II).

Table A6 – Conversion table

Aspect	Bicycling		Walking		Public transport		Car		All modes	
Scale used	-4 to 4	1 to 5	-4 to 4	1 to 5	-4 to 4	1 to 5	-4 to 4	1 to 5	-4 to 4	1 to 5
Relaxed	1.26	3.63	1.61	3.81	1.22	3.61	1.37	3.69	1.39	3.70
Confident	1.21	3.61	1.39	3.70	1.22	3.61	1.42	3.71	1.36	3.68
Calm	1.30	3.65	1.60	3.80	1.32	3.66	1.46	3.73	1.45	3.73
Alert	0.25	3.13	0,32	3.16	0.02	3.01	0.21	3.11	0.22	3.11
Enthusiastic	1.45	3.73	1.49	3.75	0.89	3.45	1.25	3.63	1.31	3.66
Engaged	1.05	3.53	1.19	3.60	0.64	3.32	1.19	3.60	1.12	3.56
Best I can think of	1.22	3.61	1.44	3.72	0.93	3.47	1.13	3.57	1.19	3.60
High standard	1.38	3.69	1.38	3.69	1.13	3.57	1.21	3.61	1.27	3.64
Well	1.77	3.89	2.00	4.00	1.46	3.73	1.68	3.84	1.74	3.87

Source: De Vos et al. (2015) and author's conversion of these results.

Annex 3 – Travel Mode Choice Cycle



Source: De Vos et al. (2022)

Annex 4 – Promotion of the Survey

Postcard with QR code for the survey

Cover page of the printed cultural program booklet

Pages of the printed cultural program booklet displaying the QR code for the survey next to the event overview map

Annex 5 – Questionnaire

Dear participant,

The Stuttgarter Weindorf aims to become climate-neutral in the future. A large part of the ecological footprint of events is due to the travel of visitors. That is why the travel behavior of visitors of the Stuttgarter Weindorf is being investigated as part of this Masters Final Work at ISEG - Lisbon School of Economics & Management. The present questionnaire was developed under the scientific guidance of Professor Joanna Katarzyna Krywalska da Silveira Santiago.

All data provided by you will be treated confidentially and in accordance with the German Data Protection Regulation (DSGVO). The survey is intended for adults aged 18 years or above only. There are no right or wrong answers in the survey. Please just answer the questions as honestly and truthfully as possible. The questionnaire is expected to take 3-5 minutes to complete.

As a thank you for your participation, a €50 consumption voucher for the Stuttgarter Weindorf 2024 will be raffled among all adult participants at the end of the survey.

By continuing, you confirm that you have read this informed consent and that your participation is entirely voluntary.

For further questions, please contact niklas.stocker@aln.iseg.ulisboa.pt.

Thank you very much for your participation!

Q1. How did you travel to the Stuttgarter Weindorf today?

- ○ Car (alone)
- ○ Car (at least 2 persons)
- ○ Public transport (S-Bahn, U-Bahn, bus etc.)
- ○ Bicycle
- ○ By foot
- ○ Other: _____

Q2. During my journey I felt…

	1	2	3	4	5	
time pressed	○	○	○	○	○	relaxed
worried I would not be in time	○	○	○	○	○	confident I would be in time
stressed	○	○	○	○	○	calm
tired	○	○	○	○	○	alert
bored	○	○	○	○	○	enthusiastic
fed up	○	○	○	○	○	engaged

Using the scale, indicate how you feel about your journey:

	1	2	3	4	5	
travel was worst	○	○	○	○	○	best I can think of
travel was low standard	○	○	○	○	○	travel was high standard
travel worked poorly	○	○	○	○	○	travel worked well

Q3. Indicate the extent to which you are satisfied with the following aspects regarding your public transport journey to the Stuttgarter Weindorf today.
[Question only asked to respondents who indicated "Public transport" as their answer to Q1.]

	1 – not at all satisfied	2	3	4	5 – very satisfied
Stops	○	○	○	○	○
Travel time	○	○	○	○	○
Waiting time	○	○	○	○	○
Frequency of departures	○	○	○	○	○
Transfer options	○	○	○	○	○
Timetable information	○	○	○	○	○
Punctuality	○	○	○	○	○
Competence of the staff	○	○	○	○	○
Behavior of the staff	○	○	○	○	○
Safety	○	○	○	○	○
Comfort	○	○	○	○	○
Modernity	○	○	○	○	○
Cleanliness	○	○	○	○	○
Possibility to sit	○	○	○	○	○

Q4. How positively or negatively would you rate the influence of the following during your bike ride to the Stuttgarter Weindorf today?
[Question only asked to respondents who indicated "Bicycle" as their answer to Q1.]

	1 – very negative	2	3	4	5 – very positive
Bicycle lane condition	○	○	○	○	○
Bicycle parking space	○	○	○	○	○
Availability of bicycle lanes	○	○	○	○	○
Distinction between bicycle lanes and pedestrian walkways	○	○	○	○	○
Distinction between bicycle lanes and roads	○	○	○	○	○
Uninterrupted usability of the bike lanes	○	○	○	○	○
Bicycle lane marking	○	○	○	○	○
Frequency of illegal parking around bicycle lanes	○	○	○	○	○
Bicycle lane width	○	○	○	○	○
Conflict with pedestrians on bicycle lanes	○	○	○	○	○
Amount of traffic on bicycle lanes	○	○	○	○	○
Obstacles on bicycle lanes	○	○	○	○	○

Q5. What made you choose to travel by car instead of public transport, bicycle or by foot?
[Question only asked to respondents who indicated "Car (alone)" or "Car (at least 2 persons)" as their answer to Q1.]

- ☐ Journey too long/far
- ☐ Lack of park & ride facilities
- ☐ Physical condition
- ☐ Other: _____
- ☐ Poor public transport connection
- ☐ Lack of parking facilities for bicycles
- ☐ Too much luggage (e.g., stroller, walking aid, etc.)

Q6. Are you aware of the VVS voucher for the Stuttgarter Weindorf?

○ Yes ○ No

Q7. Have you used the VVS voucher today or in the past?
[Question only asked to respondents who indicated "Yes" as their answer to Q6.]

○ Yes ○ No

After Q7 and before Q8 interruption of the survey to display the following explanation:
[Explanation only shown to respondents who indicated "No" as their answer to Q6.]

The VVS discount:
On presentation of a VVS ticket valid for the current day, a 49-euro ticket or a polygo card, all customers will receive a voucher worth €5 at the info point on both Sundays, September 3 & 10, which can be redeemed at all Stuttgarter Weindorf stands with a minimum consumption of €20.

Q8. Will you use the VVS discount on your next visit to the Stuttgarter Weindorf?
[Question only asked to respondents who indicated "No" as their answer to either Q6 or Q7.]

○ Yes ○ No

Q9. *Test, making respondents choose for 3 scenarios whether they would be willing to adjust their travel mode choice in order to receive a voucher:*
[Test only proceeded with respondents who indicated "No" as their answer to Q8.]

Q9.1 Would you travel by public transport for your next visit to the Stuttgarter Weindorf if you received a €10 voucher (instead of the €5 voucher) for this purpose?

○ Yes ○ No

Q9.2 Would you travel by public transport for your next visit to the Stuttgarter Weindorf if you received a €15 voucher (instead of the €5 voucher) for this purpose?
[Question only asked to respondents who indicated "No" as their answer to Q9.1.]

○ Yes ○ No

Q9.3 Would you travel by public transport for your next visit to the Stuttgarter Weindorf if you received a €20 voucher (instead of the €5 voucher) for this purpose?
[Question only asked to respondents who indicated "No" as their answer to Q9.2.]

○ Yes ○ No

Q10. How satisfied are you with the following aspects of the VVS voucher?
[Question only asked to respondents who indicated "Yes" as their answer to Q7.]

	1 – not at all satisfied	2	3	4	5 – very satisfied
Waiting time at collection	○	○	○	○	○
Redemption options	○	○	○	○	○

Q11. What improvements would you like to see in the VVS voucher campaign?

☐ Loosening the restriction to Sundays (redemption should also be possible on other days)

☐ Reduce/eliminate minimum consumption at redemption.

☐ Other: _____

Q12. How do you intend to travel to the Stuttgarter Weindorf for your next visit?

○ Car (alone) ○ Car (at least 2 persons)

○ Public transport (S-Bahn, U-Bahn, bus etc.) ○ Bicycle

○ By foot ○ Other: _____

Socio-demographic data:

Q13. What is your gender?

○ Female ○ Male ○ Diverse

Q14. How old are you?

_____

Q15. What is your zip code?

_____

Q16. How far (in km) did you travel to the Stuttgarter Weindorf today?

_____

Q17. How long (in minutes) did it take you to get to the Stuttgarter Weindorf today?

_____

Q18. What is your monthly net income?

○ Less than €1000	○ €1000 - €1500	○ €1501 - €2000
○ €2001 - €2500	○ €2501 - €3000	○ €3001 - €4000
○ €4001 - €5000	○ More than €5000	○

Q19. Would you like to participate in the sweepstakes?

○ Yes ○ No

Participants who indicated "Yes" as their answer to Q19 had to provide their email address in a following step in order to be eligible for the sweepstakes.