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**THE IMPACT OF SUSTAINABILITY ON LUXURY
CONSUMPTION BEHAVIOUR – ANALYSIS WITHIN
THE
GERMAN LUXURY GOODS INDUSTRY**

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List of Abbreviations

FMCG	Fast moving consumer goods
F&A	Fashion and accessories
J&W	Jewellery and watches
PNTT	Prefer not to tell

Preamble

This work is based and focused on the luxury interpretation of the developed world. The author is fully aware, that the interpretation of luxury is widely varying around the globe and has no intention of discriminating any culture or ethnic.

Abstract

This dissertation analyses the connection between luxury consumption and the megatrend of sustainability. The underlying research question is whether and to what extent customers' knowledge of sustainability affects their luxury product purchasing behaviour. The luxury industry has reached a volume of €1.384 trillion, and a continuous growth is expected. At the same time the relevance and influence of sustainability is growing. To adapt to a changing society, it is essential to further explore the correlation between luxury and sustainability. The research conducted to investigate the issue at hand is divided into a qualitative study based on semi structured interviews with decision makers of luxury companies. The semi-structured interviews revealed that companies expect sustainability to have a strong influence on the consumer buying behaviour. Based on this, a questionnaire-based quantitative study was conducted with luxury consumers. The preceding literature analysis identified the phenomenon of socially conformist response behaviour or social desirability bias in critical surveys as a possible problem. For this reason, technical possibilities for measuring response time were integrated into the survey, which made it possible to differentiate between implicit and explicit response-behaviour. Overall, the respondents rated sustainability as significantly relevant for the purchase of luxury products. The implicit evaluation showed that for the particularly critical question of social sustainability, the rejection was more pronounced in implicit responses, and with increasing response time in responses, social sustainability was given a higher priority.

Impact of sustainability on the consumer behaviour in the luxury industry

This result confirmed the relevance of response time measurements in surveys. The shift in sustainability priorities has revealed disconnection between consumers and the luxury industry. Overall, however, it was found that customers of luxury products do not find sustainability as crucial in their purchase as expected by the industry. Accordingly, sustainability is only suitable as a communication and marketing tool to a limited extent.

CHAPTER 1
INTRODUCTION

1 Introduction

Luxury and sustainability: prima facie these two terms seem to be diametrically opposed and incompatible. Particularly in connection with consumer behaviour, luxury is often equated with the ruthless waste of resources (Voyer and Beckham 2014, p. 245). At the same time, environmentally and socially accepted products are assumed to lack the shine and extravagance connected to luxury brands (Janssen et al. 2014, p. 45).

Even though this description of luxury might be accurate for the luxury industry in the 20th century, it can be assumed that the sustainability megatrend is affecting the evolution of today's luxury brands, products, and communication.

The influence of luxury brands on consumer aspiration and behaviour by editing consumer choices through product design, distribution, and marketing; and by influencing how, when and for how long consumers use their products has been widely acknowledged. Accordingly, luxury brands have the opportunity and the responsibility to promote sustainable consumption (Bendell and Kleanthous 2007). Subsequently, it is necessary to further investigate the relationship between luxury and sustainability and examine if this relationship is still as antagonistic as often claimed (Prüne 2013, p. 21).

The specific approach, research question as well as a detailed introduction and background information will be presented in the following section.

More than 40 years after the First World Climate Conference (WCC-1) 1979 in Geneva, sustainability has developed from an abstract concept to an international megatrend.

By now, the conference itself has evolved into an annual event with international reach and purview while our society is versatily impacted by the sustainability trend. Accordingly, sustainability influenced social coexistence as well as the business environment. Both sectors are forced to constantly adapt to new surroundings. The so-called megatrends are a major driver of this change. The expression megatrend was coined by John Naisbitt in 1980s (Naisbitt 1982). He defined three fundamental aspects which are the requirement to specify a megatrend and ensure its comprehensive social changes with a significant range (Mueller 2016, p. 48).

- Megatrends have a half-life of at least 25 to 30 years.
- They must appear in all possible areas of life and show effects there (not only in consumption, but also in politics, economy, etc.).
- In principle, megatrends have a global character, even if they are not pronounced everywhere at the same time.

Based on these criteria, sustainability can be identified as a megatrend with repercussions on all aspects of modern society. At this point it must be highlighted, that the concept of sustainability is integrated in our society with raising importance (Amatulli et al. 2018, p. 277). Among the many reasons for environmental awareness two major drivers for the public relevance can be accentuated. Firstly, a more sustainable and environmentally sensitized society has direct impact on the private sphere and public well-being (e.g., Active waste management and pollution reduction). Secondly, the attention that is being paid to sustainability by the mass media significantly contributes to sensitizing the population and increases public awareness.

The digitalization also plays a decisive role in this context: Due to its ubiquitous character the internet enables comprehensive information and improved transparency for all parts of society as well as business units. As a result, trends like sustainability are being actively promoted while companies are adapting their communication strategies. Thus, a new type of consumer has emerged in recent years who has an increased focus on the ecological dimension and intensified curiosity for background information.

In their role and function as consumers, citizens have significant influence on businesses. The changed information behaviour and the associated changed consumption habits lead to an inevitable process to rethink existing value creation structures on the business side. Increasing pressure to adapt also arises from the fundamental imperative of supply and demand in the relevant market - because “the markets of the future are green” and luxury consumers are high demanding and critical (Prüne 2013, p. 22; Kapferer and Michaut 2015, p. 4).

Thus, even the luxury industry, which used to be the opposite of sustainable, is now inevitably affected and challenges arise (Janssen et al. 2014, p. 45). The resulting question for companies and their strategic as well as operational management is how sustainability is influencing their customers’ expectations and how long-term competitive advantages can be created (Kapferer and Michaut 2015, pp. 4–5).

The consumer behaviour and shopping trends are changing faster than ever before. The digitalization is enabling “around the clock” purchasing and providing a never-ending flow of information, advertisements, and social media engagement possibilities between companies and clients.

This development has opened many opportunities to raise brand awareness, loyalty and sales but also contains risk of losing customer favour if expectations cannot be matched or bad news about a brand spread are uncontrollably (Kapferer and Michaut 2015, p. 4). To meet client expectations is therefore more important than ever because unsatisfied consumers can share their opinion now globally within seconds and without any proof. This has crucial impact on a brands general social appearance and behaviour. If expected standards are not met, the consequences can drastically decrease brand value due to mass media communication. This phenomenon is even more important for high involvement products and therefore of critical importance for luxury brands (Yu et al. 2018, pp. 16–18).

Given the significant changes within society and opportunities formed by digitalization, the question arises if the luxury goods segment perhaps holds particularly great potential for socio-ecologically correct products and services. Luxury products usually distinguish themselves by high prices and limited availability combined with heritage and mythology (Janssen et al. 2014, pp. 46–47). It must now be examined if sustainability can be an value- adding addition to the current signature characteristics of luxury products (Prüne 2013, p. 21).

To successfully address this question, it is inevitable to firstly find a common definition of the term *luxury*. There is not yet common ground among researchers and no unified definition has been agreed on. Nevertheless, it is essential for this work to stipulate a coherent understanding of the luxury industry as a business section. In the context of this dissertation and research work, luxury goods comprise highly exclusive personal items that convey the taste and status of their owner (Lüdemann 2019, p. 5).

This includes personal luxury goods, luxury cars, luxury hospitality, fine wine and spirits, gourmet food and fine dining, fine art, furniture and home-ware, private jets, and yachts as well as luxury cruises. The global luxury goods market accounts for €1.384 trillion in 2022 and is expected to grow continuously. These numbers underline the international relevance of the luxury goods market as an important and continuously growing industry (D'Arpizio and Levato 2018; D'Aprizio and Levato 2022).

It can be stated that megatrends have the tendency to disrupt and permanently change markets and industries. The undeniable fact that our society is currently undergoing sustainability related changes has formed the motivation to scientifically investigate the connection between luxury brands, manufactures and their consumers.

The terms *sustainable* and *sustainability* are omnipresent nowadays and commonly used by various entities, brands, and marketers e.g. pointing out sustainable packaging on convenience goods (Abdul Khalil et al. 2016, p. 823). From a scientific approach its therefore inevitable to systematically depict its common emergence, definition and relevance for today's business and society Building on this in a second stage research the specific industry-related impact will be researched. The wording itself is based on the verb to *sustain* which stands for "maintain", "support", "uphold" or "endure" and is derived from the Latin word *sustinere* (tenere, to hold; sub, under) (Harper 2020; Brown et al. 1897, p. 713). The earliest mentioning of today's sustainability concept, goes back to 1713 through Hans Carl von Carlowitz, a German chamberlain who recommended to limit the use of wood to the amount which could be regrown through planned reforestation projects (Von Carlowitz 1713).

The overarching goal of global sustainability has later on been defined as meeting society's current needs and using earth's natural resources without compromising the ability of future generations to meet their needs (Liu et al. 2015, p. 964). This summary of sustainability goes back to the *Our Common Future* report, which was published in 1987, also known as the Brundtland Report in recognition of former Norwegian Prime Minister Gro Harlem Brundtland's role as Chair of the World Commission on Environment and Development (WCED) (Praum 2015, p. 41; Lebel and Kane 1987). Nevertheless, interpretation and definition of sustainability is varying among the literature and a mutually exclusive and compulsive version has not been agreed on among researchers yet. Some prevalent statements are shown in table 2 (Carroll et al. 2018, p. 5).

Table 1: Interpretations of sustainability

Sustainability is ... creating shareholder and social value while decreasing the environmental footprint along the value chains in which we operate (<i>DuPont</i>).
Sustainability involves the simultaneous pursuit of economic prosperity, environmental quality and social equity (<i>World Business Council of Sustainable Development</i>).
Corporate sustainability is about being able to sustain your business responsibility, with one eye on new external risks and the other on future consequences of your decision (<i>PwC</i>).
Corporate sustainability can be broadly defined as the pursuit of a business growth strategy by allocating financial or in-kind resources of the corporation to a social or environmental initiative (<i>The Conference Board, Sustainability Matters</i>).

Source: Chart derived from (Carroll et al. 2018, p. 5)

The statements in Table 1 illustrate the numerous opportunities to interpret sustainability and its inherent complexity to deduct functional concepts. One approach to summarize the idea and effect of sustainability, is the three pillars concept, which is, not without doubt, widely agreed on among researchers (Praum 2015, pp. 41–42). The approach is dividing sustainability into three major divisions, of which each can be approached individually but not without interdependencies. The divisions are titled *economic*, *social*, and *environmental* (Mensah and Ricart Casadevall 2019, p. 8; Wanamaker 2018). The three pillars and the interconnecting relationships of sustainability are shown in figure 1.

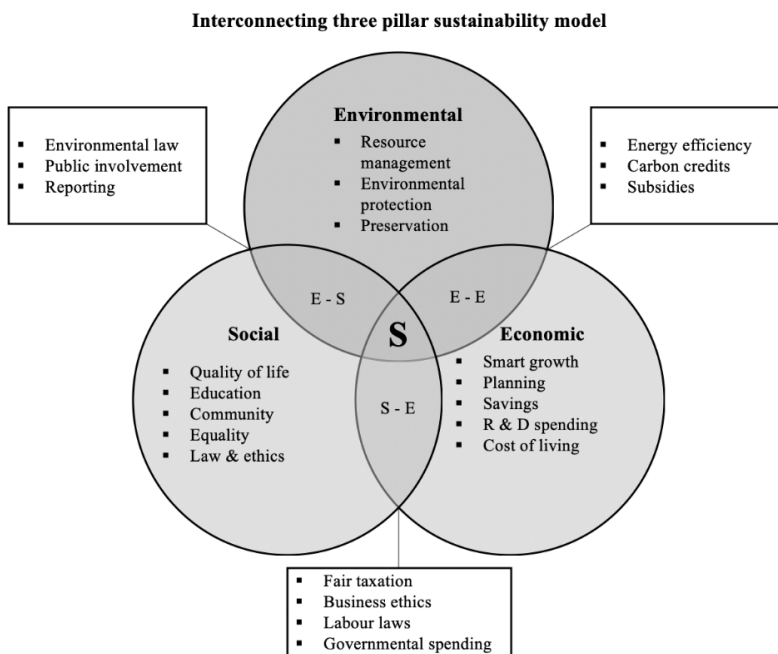


Figure 1: Interconnecting three pillar sustainability models

Source: Own figure modified and derived from (Wanamaker 2018)

Figure 1 points out that, nearly everything man does or plans to do on earth has implications for the environment, economy or society and therefore affects the continued existence and wellbeing of the human race (Mensah and Ricart Casadevall 2019, p. 8).

Deducted from the ties between sustainability and luxury, the following overarching research question forms the basis for this work.

How is the evolution towards a sustainability-oriented society influencing consumer behaviour of luxury consumers?

- *How do companies within the industry observe this transformation and may or may not adapt their strategy?*
- *How do luxury consumers rate the relevance of sustainability with regard to their purchasing decisions?*

Being a professional in the luxury goods industry for almost 10 years has opened the opportunity to utilize insight knowledge, strategies and contacts for field studies and gathering non-public data. The luxury goods industry is notoriously secretive and being able to combine scientific research with industry insights to develop strategic guidelines has been a core objective. Additionally, the company *Questfox* provided their innovative questionnaire software to gather additional information on the intrinsic answering behaviour. In summary, the combination of luxury industry, consumer behaviour and innovative software was the significant moving reason to carry out the present work.

CHAPTER 2

LITERATURE REVIEW

2 Literature review

In the following section, the systematic literature research of the thesis is presented which serves as a basis for the empirical research. The focus is on sustainability, luxury, and implicit and explicit research. Finally, reaction time measurement for market research is presented.

2.1 Fundamentals and methodology

To gain a broader overview of topic-related scientific publications, a multistage pretesting phase has been conducted, starting with a simple database keyword search. The results showed that a total of 4.580.000 documents were related to keyword sustainability while a total of 1.010.000 documents were related to the keyword luxury. The two keywords combined only related to 131.000 entries. By limiting the timeframe of considered documents to being published between 2010 and 2020, the numbers showed that of 44% sustainability and 25% of the luxury related documents have been published relatively recently. These numbers show that there is a significant interest in both topics but considerably fewer publications addressing the connection between luxury and sustainability. In the second step, the publications found were examined in detail about their thematic relevance. In total more than 100 abstracts have been examined.

To further frame the relevance of this research and define research questions the following publications have been highlighted to be used as reference for the final discussion of this work. A seminal contribution how the luxury industry is being influenced and adapting this challenge, has been made in 2015 by leading luxury business experts (Kapferer and Michaut 2015). Recently *Amatulli et al.* researched the consumer perceptions of cooperate social responsibility (CSR) initiatives conducted by luxury companies (Amatulli et al. 2018). Additional insights are provided by authors who

investigated potential unfavourable impact of publicly promoted CSR programs related to luxury brands (Janssen et al. 2017). The publications mentioned above illustrate the connection between luxury and sustainability, whereby the relevance for the future must be emphasized. Furthermore, according to a study conducted by the consultancy Roland Berger in 2018, Millennials (born 1980 and 2000) are the main drivers of CSR (Krys 2017, p. 30). This finding is backed by a study published in 2020 by the consultancy Bain & Company in which the authors highlight the importance of social responsibility for purchase decision of luxury consumers, especially among Millennials. In 2019, 35% of luxury purchases were made by Millennial consumers (D'Arpizio et al. 2019, p. 3). A possible link between the results of the two studies will be further investigated in the context of quantitative research. Furthermore, in their 2020 publication, Kunz, May and Schmidt point out that the link between sustainability and consumption has already taken place in the area of general goods, but is overdue in the luxury products segment (Kunz et al. 2020, p. 541). At this point, it should also be emphasized that the luxury industry has a significant influence on trends in the consumer goods industry (Voyer and Beckham 2014, p. 245). To further understand the effects of sustainability on today's economy it is inevitable to analyse the various touchpoints with society and how relevance of sustainability for international businesses has grown over the past two decades.

2.2 Sustainability and society

Sustainability is often seen as a contract between generations and therefore undoubtedly crucial to achieve a peaceful coexistence. Hence, business and society are irretrievably tied together. Society can in this connection be the global population, a nation, city, community, or broad group of people with

the same tradition, values, and collective interests. In the context of sustainability, society can be thought of as a macroenvironment in which organizations reside (Carroll et al. 2018, p. 6).

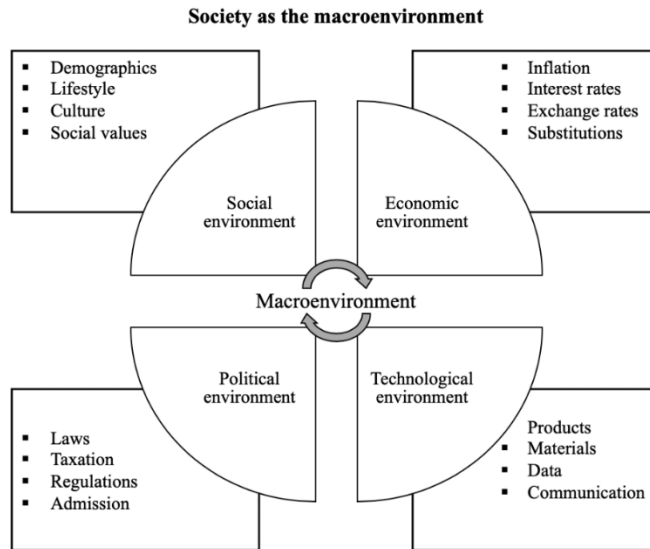


Figure 2: Society as the microenvironment

Source: Own figure modified and derived from (Carroll et al. 2018, pp. 6–7)

Figure 2 shows the exemplarily multilayer connection of every institution within the society. Hence, every change within the microenvironment has significant impact on its surroundings (Harilainen 2008, p. 1). Therefore, it's important to consider sustainability as a holistic system which is equally relevant for the public, governments, and businesses.

In line with this, the impact, and the repercussion of public awareness for sustainable living has been growing significantly since the turn the century. The reasoning for this continuous change of mind is connected to various and sweeping factors of which some will be closer elaborated in the following section.

A significant driver of the sustainability development is digitalization. News, information, and data are almost unstrained available at any time and group of stakeholders for companies are now globally spread. Furthermore, digitalization has expedited public education about sustainability and the harmful impact of reckless business, no matter of the geographical destination. Due to this technical evolvement, scandals, and direct man-made disasters like the *Deepwater Horizon* oil platform explosion in 2010 with an oil spill of 780 million litres or indirect climate change related catastrophe like the flood in western Europe in 2021 with more than 220 casualties turned into global news, leading to severe brand image damages and even purchase boycotts by the public (Camilli et al. 2010; Crone and Tolstoy 2010; Kahraman et al. 2021).

One example of the effects of negative communication in connection with sustainability from the luxury industry was experienced by the *Hérmes* company. The French luxury brand, famous among other things for its Birkin bag, was criticized for the precarious conditions on crocodile farms by suppliers after video sequences of animals skinned alive became public. The namesake Jane Birkin subsequently called for her name to no longer be associated with the brand (Almeida 2015). For the company, a significant image damage has arisen which ultimately resulted in a deepening of the production chain and construction of its own crocodile farms. This measure and the announcement in 2020 Australia's largest crocodile farm was perceived negatively by the public (Readfearn 2020).

Due growing public awareness and according to changes in the consumer behaviour, many stakeholders are more aware of environmental consideration. Subsequently, stakeholders like investors, consumers, governments, and corporate customers are increasing the pressure on companies to disclose information about their environmental performance and the demand

for more sustainable production processes and products is rising (Freitas Netto et al. 2020).

This momentum forced business to change their mind and multinational companies started to install codes of conduct and invent corporate social responsibly programs (short CSR) a term which has been embossed by the European Commission in 2001 (Şerban 2017, p. 186). The effect and functionality of CSR will be examined closely in the next section.

2.3 Corporate social responsibility

The amount of different theoretical concepts and interpretations of CSR as well as of related theories among researchers is impossible to summarize in a mutually exclusive way. Therefore, a decision towards one comprehensive model as principle for this work was inevitable. The selected definition which is followed by a practically related model is widely acknowledged and has been presented by *Carroll*.

“The social responsibility of business encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time.” (Carroll and Buchholtz 2009, p. 40)

The given definition consists of four integral aspects which will be contemplated in the following chart.

“According to the European Commission” (2019), Corporate Social Responsibility (CSR) is the integration of social, ecological and ethical issues in entrepreneurial actions. It is a voluntary contribution of a company to sustainable development and can be seen as a compensation for the social and environmental damage caused (e.g. polluted air and wastewater). However, a company should not be in a situation in which it needs to compensate. Rather it should act in such a way in the first place. Often, CSR is peripherally treated as it is not considered as a core business actions and

primarily steers from external pressure (consumers, regulations, taxes). Spending money then becomes a charity function. Adequately, it should be seen as an intrinsic driver and be part of the company management and not as a task in the marketing department that can be called out as green or social washing.”

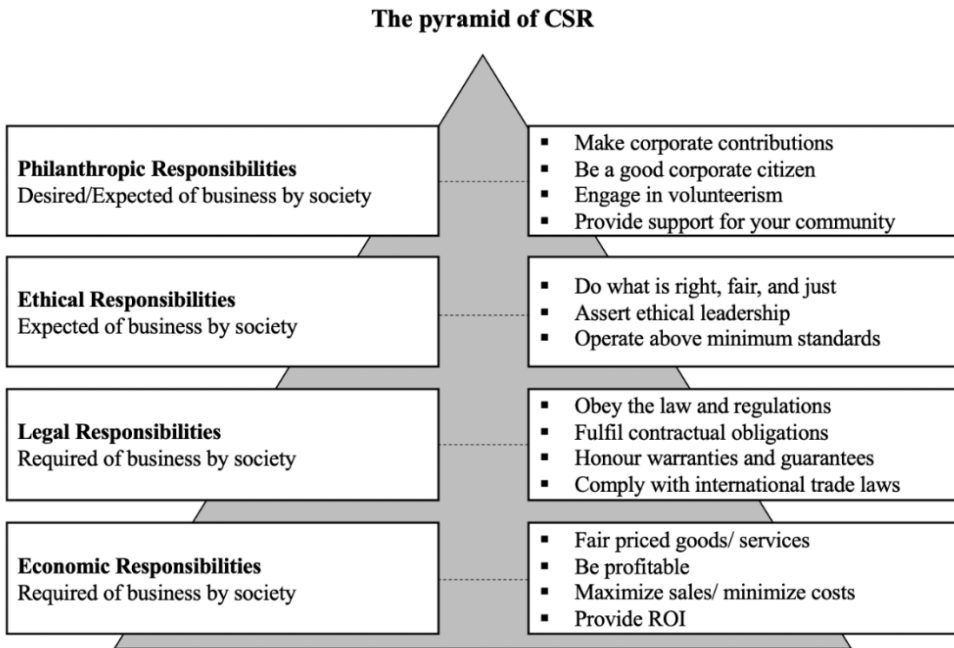


Figure 3: The pyramid of CSR

Source: Own table modified and derived from (Carroll and Buchholtz 2009, pp. 40–45)

Even though the lowest level of the pyramid sounds odd in the context of social responsibility its essential in our free-market economy for business to be successful and provide long term financial security and growth. This level as well as the second level are required by society. The adherence of legal responsibilities is fundamental for society's trust in business and the operational business framework. To act ethical as a company is expected by society and disregarding can lead to severe economic damage. Philanthropic behaviour is not required by law but expected and desired by the society, especially by the local community around a company and during times of crises (Praum 2015, pp. 41–42).

The early adopters of systematic CSR programs have been multinational companies with international stakeholders and continuous media attention.

The implementation of such programs was not mandatory and not subjected to guidelines. In the meantime, the European Union has changed their laws and passed regulations which made CSR reports mandatory for large stock market listed companies with more than 500 employees (BGBL § 289c 2017).

Regarding the scope of this work, the focus has been set to small and medium size enterprises of which the luxury industry predominantly consists of and no binding rules for CSR activities occur.

2.4 Luxury brands

The following chapter presents and explains the theoretical background on which this thesis is based.

At the core of the luxury industry is always the luxury brand and the accompanying brand promise to consumers. For this reason, the generally typical parameters of a brand are shown below and specified regarding luxury brands.

The term brand has a variety of definitions and interpretations; so far there is no generally recognized, consistently consistent understanding (Hälsig 2008, p. 11; Welling 2006, p. 6). The currently most common approach in written material is the three-part division of the brand concept into: brand as a sign, brand as a sales object and brand as a presentation object or effect (Hälsig 2008, p. 11). The brand as a sign or the marking primarily serves the distinctive function. The distinctive function enables services to be identified and explicitly assigned to a brand. In addition, the symbol serves to recognize and differentiate one's own services from the competition in an unmistakable manner (Kapferer 2012, p. 178). In order to be able to fulfil the differentiation function mentioned, an individuality of the sign is required. This is the only way for the brand owner to build and secure

sustainable competitive advantages. For this reason, the brand has to meet two requirements: first, material, in terms of distinctness, which primarily means the distinctive character itself; on the other hand, there are formal requirements for the legal protective function of a brand (Burmam et al. 2013, p. 7; Welling 2006, 24 ff.). This should not be discussed in depth at this point. For the brand as a sales object, the terms “brand”, “branded goods”, “branded product” and “branded article” are used synonymously in the literature (Hälsig 2008, p. 12). This means that the brand is to be understood as a bundle of benefits related to a product, which represents a functional promise on the part of the provider towards the customer. This bundle of benefits is always made up of material and immaterial factors (Burmam et al. 2013, p. 7). On the impact level, the brand is no longer to be understood as an object, but as a concept. This refers to the psyche of the customer and other reference groups of a brand, which associate a firmly anchored and unmistakable image of a product or service with the brand (Hälsig 2008, p. 13).

In summary, Welling (2006) defined the term brand as follows: “A brand is an individual and protectable symbol or symbol bundle that a market participant can use in competition to offer or offer bundles of services by identifying those of other market participants distinguish and positive through the senses, i.e. developing exchange-relevant effects with current and potential exchange partners or influencers who help to achieve his or her goals.” Accordingly, the ability of differentiation is the core element of a brand, it determines how the brand and related offers differ from the competition (König 2017, p. 4; Burmam et al. 2003, p. 3). A brand also simplifies target group-specific market cultivation and the introduction of new products under the already established brand name (König 2017, p. 5). The

above stated definition will also be used as the common understanding for this work.

However, the basic condition for the previous functional aspects of a brand is brand awareness. The desired images and ideas can only be associated if a brand is known. Brand awareness is therefore the key prerequisite for successful brand management (Esch 2014, pp. 61–62). The number of people who are familiar with the brand in a defined target group serves as a measure of brand awareness. To further understand the brand perception of customers and to adapt the product portfolio and the brand appearance accordingly, the brand-specific consumer behaviour and understanding is decisive.

2.5 Data and trends in the luxury goods industry

In terms of overall global economic performance, the luxury industry accounts for only a small share. However, the appearance and desirability and the presence of the brands at central interfaces of society leads to a suggested greater importance (Kapferer and Michaut 2015, p. 4). The entire luxury market is projected to grow by 21% in 2022, reaching €1.384 trillion, tendency raising (D'Aprizio and Levato 2022). The German luxury market has reached €11,5 Billion in 2022 and is predicted to grow up to €17.7 Billion in 2028 (Hubert 2023). The following figure 4 provides an overview of the industry and shows the shares of the individual sectors.

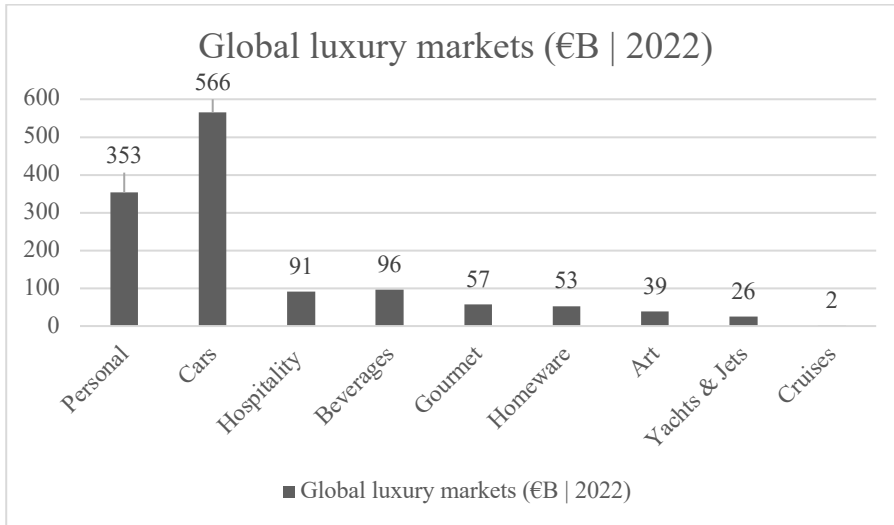


Figure 4: Global luxury markets

Source: Own figure modified and derived from (D'Aprizio and Levato 2022)

The main sectors include personal luxury goods, luxury cars, luxury hospitality, fine wine and spirits, gourmet food and fine dining, fine art, furniture and homeware, private jets, and yachts as well as luxury cruises. The market turbulence associated with COVID 19 has not left the luxury industry unscathed, but the industry has recovered quickly and has already exceeded the precrisis level key growth drivers are physical store re-openings, e-commerce, which are normalizing consumer demand (Faccioli and Martin 2022; D'Aprizio and Levato 2022). The personal luxury goods market continuous to be the key driver and is expected to show accelerated growth of 22% to €353 billion by the end of 2022. These numbers underline the international relevance of the luxury goods market as an important and continuously growing industry (D'Arpizio and Levato 2018).

The independent industry analyses of the major management consultancies show a variance of trends for the luxury industry. Three trends were highlighted and will be presented in the following.

Offline and individual is the trend again. Brands are recording strong increases in their monobrand stores. Both online and offline. Here, the trend is towards offline shopping as opposed to the fast-moving consumer goods industry. A shift of sales channels towards online stores is expected with the proportional growth of Generation Alpha until 2030. By 2030, 33% of purchases are expected to be made online with an increasing importance of online monobrand stores. (Epe Beauoye 2023).

The second very important trend is the paradigm change from product related towards experiences and non-tangible luxury. Luxury isn't just about beautiful products anymore for the modern high net worth individual consumer, it's the experience that counts most (Girod 2019).

Thirdly the increasing demand for sustainable luxury products is predicted to continuously grow. Sustainability has become a core priority for luxury companies and providing sustainable products is expected to be a fundamental part in the luxury world (Faccioli and Martin 2022, p. 6). To further elaborate the differences between generic sustainable products and the paradigm behind traditional luxury products, a comparison is shown in Table 2. By comparing the characteristics of sustainable products with luxury products, it becomes possible to identify potential elements of contradiction. The starting five characteristics listed show that the nature of a luxury good is opposed to those related of sustainability, since luxury is related to ostentation and margin, but sustainability is related to the fairness or social harmony facets. However, the following four characteristics (six to nine) agree for sustainable products and luxury goods (Li and Leonas 2019).

Table 2: Procut characteristics

Characteristic		Sustainable product	Luxury product
1	Society	Fair and equitable	Self-identified; exclusive
2	Environment	Protection	Not in concern
3	Economic benefits	Sustainability first	Margin first
4	Price	Wide range	Expensive
5	Supply chain	Transparent	Less transparent
6	Raw materials	Eco-friendly	Raw materials
7	Production method	Sustainable technology/handmade	Handcraft and others
8	Consumer	Sustainability concerned	Higher income
9	Value	Eco-friendly, harmony social, determined by consumer	Attitudinal, contextual, and personal

Source: Chart derived from (Li and Leonas 2019)

Based on the listed table, starting points for a more sustainable development of luxury products can be made. For the first five points, a link between corporate social responsibility and corporate objectives is essential. For the other points, the underlying DNA of luxury products can be

included. One of the underlying principles of high end luxury products or experiences is to be made locally by talented craftsmen and to respect the sources of raw materials. This is also a sustainable development approach to realizing sustainable manufacturing. If luxury brands continue to follow this principle, then luxury products will be more sustainable than fast moving consumer goods (Li and Leonas 2019). However, it should be emphasized that such paradigmatic changes in production are difficult to reconcile with the increased demand for luxury products. Accordingly, consumer behaviour and ultimately the willingness of luxury consumers to buy must be examined with regard to a change in the production of luxury goods (Faccioli and Martin 2022; D'Aprizio and Levato 2022).

2.6 Fundamentals of consumer behaviour

An inevitable task of brand management is to understand consumer behaviour as far as possible, although a complete and all-encompassing consumer understanding is not possible because the human mind is a black box which can't be evaluated. Therefore, researchers must investigate how stimuli, consumer characteristics, decision processes and consumer responses interact around the black box. The aim is to identify influencing parameters to gain an understanding of consumer purchase decisions are made. This knowledge is used to optimize marketing and sales activities and better understand human psychology. Due to the high relevance for practical business cases and interdisciplinary structure, many theoretical models from different angles have developed. Nevertheless, there is not yet any mutually exclusive and general agreed on model, which can describe the complex nature of consumer behaviour. The comprehensive research questions regarding consumer behaviour have been summarized by *Meffert* and are shown in table 3.

Table 3: Paradigm of consumer behaviour

Question	Subject
Who?	Customer or purchase decision maker
What?	Object or service of purchase
Why?	Purchasing motive and purchasing motivation
How?	Purchasing decision process
How much?	Purchase quantity
When?	Time of purchase and frequency
Where?	Point of sale and supplier

Source: (Meffert et al. 2012, p. 102)

The interest, as well as complexity and dimension of consumer behaviour has led to many individual research approaches which are not integral part of this work. The focus of further research is on the evaluation of consumer attitudes towards specific features and product characteristics and their impact on purchase decisions and brand perception.

2.7 Attitude and attitude measurement

To monitor the actual perception of a brand or product and further understand consumer behaviour, attitudes must be measured. Furthermore, attitudes are essential for forecasts and market trend analysis. Attitude measurement is therefore by definition part of market research. To obtain the necessary information and conduct efficient market research, a detailed research scenario must be designed. This scenario defines the scope, settings, and measurement tools. In the context of this work, two research

approaches for attitude measurement are presented. First, the explicit research will be briefly explained. This is followed by the introduction of an implicit research concept, which is explained in detail and several methods are being examined and compared.

2.8 Introduction and theory of attitude measurement

The term “attitude” describes a temporally stable, emotional and cognitive attitude towards an object (Mayerl 2009, pp. 20–21; Schlegl 2011b, p. 51). The attitude influences behavioural intentions and actual behaviour towards the referred object. This behaviour-influencing effect of attitudes has always been at the centre of scientific interest, particularly with regard to the effect on customers' buying decisions and the perception of brands (Schlegl 2011a, pp. 7–8). Universally, attitudes can be summarized as individual mental evaluation of objects (Mayerl 2009, p. 29). The formation of attitudes in general can be attributed to various components, but the central elements are socialization and experiences, which are in connection with emotions the foundation of all human decisions (Baumann 2010, p. 65; Schlegl 2011b, p. 46). An attitude itself can be explained based on the three-component model presented by Rosenberg and Hovland in 1960, which is still considered valid today even though it has been taken up and further developed by various scientists over the years. The model states that each attitude is made up of three components and is also known under the acronym ABC-model. The individual parts are: *affective* (feeling), *behavioural* (conative) and *cognitive* (knowledge) (Baumann 2010, p. 66). The model assumes, that the individual components are interrelated and mutually dependent. Each component triggers a reaction that corresponds to the respective aspect and influences the overall attitude (Stroebe et al. 1990, p. 145). The extent to which individual component is dependent and

therefore influencing the others in respect to the overall attitude is discussed controversially discussed among researchers. New studies have shown that the components do not necessarily be consistent but can be inconsistent with ambivalent attitudes. If the components are balanced, the setting becomes correspondingly more consistent (Hartung 2006, p. 61; Güttler 2003, pp. 192–194). Figure 3 illustrates the attitude component model and interrelated connections around one attitude.

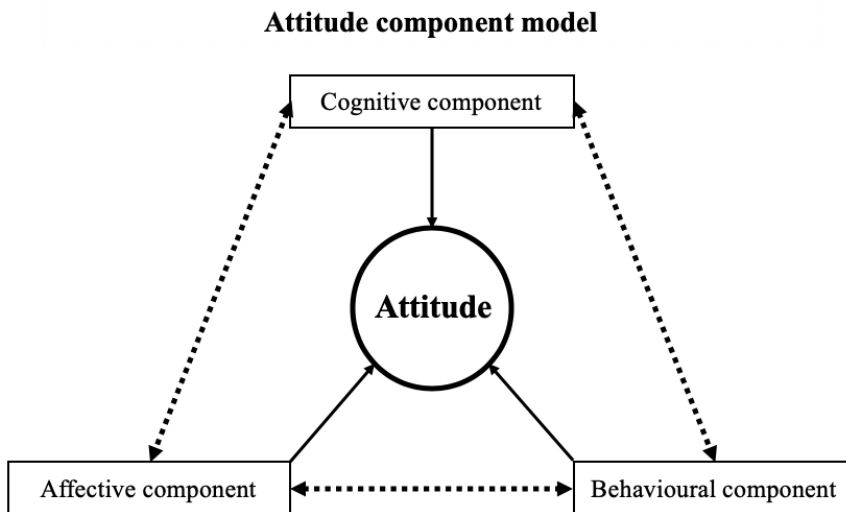


Figure 5: Attitude component model

Source: Own figure modified and derived from (Werth and Mayer 2008, p. 206)

Researchers, theorists as well as market researchers have no generally accepted method to analyse attitudes and there is currently no method that can be called the standard. This is due to the multilayer complexity of

attitudes presented in the previous section and the necessary methodological alignment based on the examined indicator (Schlegl 2011b, p. 59). The respective types of measurement can be differentiated based the associated indicators and will be shown in Table 4.

Table 4: Methods of attitude measurement

Type attitude measurement	Indicator
Behavioural neuroscience	Skin resistance, pulse repetition frequency
Observation	Facial expression, gesture
Subjective perception // Experience	Interview, verbal and nonverbal

Source: (Schlegl 2011b, p. 59)

Attitude measurement can be one- or multi-dimensional, whereby each measurement is always based on the affective component. Isolated one-dimensional affective measurements are the simplest form of attitude measurement (Trommsdorff 2009, p. 168). Scaling methods are used to provide information about respondents, situations and to obtain comparable data across the board (e.g. Likert scale, Thurstone scale, Guttman scale). The respondent can use the given rating scales to express his or her approval or rejection (Döring and Bortz 2016, p. 269).

Multi-dimensional attitude measurements go beyond capturing the affective component; the semantic differential (polarity check) is the best-known method. Here, the subject is presented with pairs of opposing adjectives to describe a measurement object (e.g. a brand). In addition to the more one-dimensional query of affective descriptions (e.g. good - bad), it

can also be emotional impressions (e.g. exciting - calm) or factual impressions (e.g. narrow - broad) (Kroeber-Riel et al. 2011, p. 245). The respondent now states to what extent the given adjectives reflect his association with the measurement object (Reinecke and Janz 2007, p. 188). The result of a semantic differential is course of profile, summed from the average answers per pair of adjectives (Döring and Bortz 2016, p. 267).

Another form of attitude measurement are the multi-attribute models. These are specialized forms of multidimensional attitude measurement, which are setup like the semantic differential. The best-known models are those of *Rosenberg (1956)*, *Fishbein (1975)* and *Trommsdorff (1975)* (Kroeber-Riel et al. 2011, pp. 248–249).

The evaluation of attitudes is generally based on valence and intensity towards the surveyed object. The valence indicates whether an object is viewed positively, negatively or neutrally, while the intensity indicates the strength with which the object is assessed. In some cases, these factors are supplemented by the level of abstraction, which provides information about the meaning of an attitude in the overall structure of a person's attitudes (Baumann 2010, p. 66; Granvogl and Perridon 2000, p. 78)

2.9 Explicit and implicit knowledge

According to the neurological literature, human knowledge is divided into two categories. The knowledge that we consciously learn and then reproduce, is called explicit knowledge. This form of knowledge can be articulated and can be easily transferred or recorded and saved in the form of data (Mescheder and Sallach 2012, p. 12). The second form of knowledge is called implicit and is responsible for our unconscious, non-reflected automated settings and actions (Scarabis and Heinsen 2009, p. 45). Research has shown, that unlike often assumed, deliberate and unconsciously

knowledge is not distinctly divided. Implicit and therefore unconscious knowledge is rather a subliminal process (Scheier and Scarabis 2009, p. 3). The neuroscientists Satpute and Liebermann described this as follows: "The processes in an implicit system can, but do not have to be conscious, but they are not reflected-conscious" (Satpute and Lieberman 2006, p. 86). This can be illustrated using an example. If one looks at routine activities such as driving a car or tying shoes, then these are described as a deliberate act. Nevertheless, this action takes place automatically and without reflection and is therefore implicit. To purely verbally and consciously reflected explain someone how to tie shoes is difficult or almost impossible. The separation of implicit and explicit processes is therefore between automated and reflected processes or actions (Ranganath et al. 2008; Scheier and Scarabis 2009, p. 3). Another example is a brand preference. In this case it has been shown that test subjects have a preference with brands they are familiar with from their childhood, but not consciously aware of and reflected on now, yet they would automatically prefer this brand over the product of another manufacturer (Zaltman et al. 2001, p. 1).

Researchers assume that up to 95% of human behaviour is controlled implicitly (Lorenz and Heinsen 2011, p. 54). Especially purchasing processes are largely subjected to implicit influences. Hence, it is important for companies and market researchers to capture and use implicit attitudes (Scheier 2011, p. 60)

As elaborated above, the approach can have a significant impact on the result of attitude measurements. Accordingly, the choice of methodology must be worked out individually and different approaches must be compared. In summary, the literature research showed that the answers of subjects varied depending on the type of knowledge that was recorded. It is

therefore inevitable to further exemplify practical implementations of explicit and implicit attitude measurement methodology and conclude with a comparison in regard to the research question of this work.

2.10 Explicit attitude measurements

The conventional quantitative attitude measurement methods are based on explicit measurements. The test subjects have enough time to deal with the question presented to them. Accordingly, the answers are considered and are given under the influence of various, including external, factors; hence the conscious knowledge of the test subjects is queried (Scheier and Scarabis 2009, p. 3)

Explicit actions are based on cognition. Therefore, they are reactions based on previous perceptions, memories and experiences which serve as reflected basis for the performed activity or decision. Correspondingly, test subjects in explicit attitude measurements use versatile generated information and consider various modelled scenarios by taking into account any consequences before they decide on an answer. Furthermore, if there is enough time, the explicit system is able suppress and control implicit impulses (Chlupsa 2017, pp. 34–38). Hence, test subjects strive for the answer that promises the most favourable consequences for them personally. This can lead to a significant deviation between the true opinion and the given answers. (Doll and Jonas 1996, p. 19). This phenomenon is major disadvantage of explicit market research and can directly be linked to response times of interviewees. Research has shown that answers of test persons varied for the same question if the possibility of adaptation (thinking) is reduced or excluded by the measuring method. Additional experiments have shown that answers converge if different measurement methods without

time restrictions are applied. (Ranganath et al. 2008, p. 393; Scheier and Scarabis 2009, p. 3)

2.11 Implicit attitude measurements

Extended research and technological novelties are continuously driving the exploration of new and advanced attitude measurements options. Neurological- as well as market researchers have increased their efforts to further investigate unconscious knowledge and the associated processes in the human brain. Furthermore, they are aiming to elaborate opinions and attitudes of test subjects more precisely and correspondingly obtain more genuine attitudes and forecasts (Scarabis and Heinsen 2009, p. 45).

A main driver for new findings is the use of magnetic resonance images, these allow researchers to visualize metabolic brain activities in laboratory studies. By assigning activated or deactivated brain regions in response to external stimuli (e.g. a new product or a packaging), data about the involuntary reactions of the test subjects can be obtained. However, this type of research is not practical for daily marketing because the staff must have extensive medical expertise and research is very expensive (Schlegl 2011b, pp. 44–51; Scarabis and Heinsen 2009, p. 47) Furthermore, this type of research is very time intensive and therefore hardly feasible to survey a larger and more valid number of subjects. The key element of the implicit measurements is the recording of attitudes without the test subject thinking. In addition to the visualization of brain activity, the response time when responding to a question can also serve as an indicator of whether a subject's answer was reflected or unthinkingly and therefore explicit or implicit (Scheier and Scarabis 2009, p. 3; Niemand et al. 2014, p. 189). To do so, the time between the perception of a stimulus and the response of the test person is used as an indicator (Lane et al., p. 60)

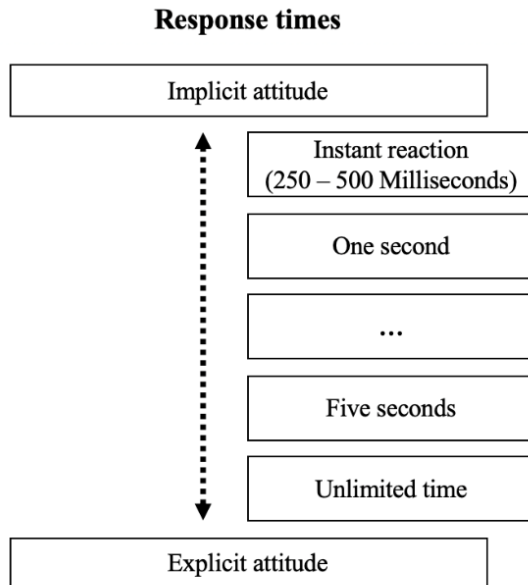


Figure 6: Response times

Source: Own figure modified and derived from (Ranganath et al. 2008, p. 388; Scheier and Scarabis 2009, p. 13)

Transferred to the practical application of implicit research approaches, a correlation between the given time for an interviewee to answer and the level of unconsciousness knowledge equivalent to implicit knowledge is given. If a subject has less time to think about answering a question, the less reflective and therefore more implicit the answers (Scheier and Scarabis 2009, p. 12). For questions without time restrictions, the time taken by the test person to answer the question serves as an indicator of whether the answer was given consciously or unconsciously.

An explanatory example is provided by Raghunathan, Walker-Naylor and Hoyer with their implicit research on healthy and unhealthy foods and consumption preferences from 2006 (Ranganath et al. 2008, 174 ff.). The attitudes and preferences towards healthy and unhealthy foods were examined.

The results showed that test subjects, who were more positive about healthy foods, subconsciously preferred sweet and high-fat dishes. This discrepancy can be explained by the fact that the interviewees were only able or unwilling to disclose part of their actual attitude. The subjects consciously preferred healthy food, but unconsciously associated it with little taste, whereas unhealthy food was unconsciously associated with more taste (Raghunathan et al. 2006, 174 ff.). This finding proves the relevance of the unconscious attitude measurement and the possibilities for market researchers to be able to use implicit research to examine the consumption and preference behaviour of consumers in more detail (Niemand et al. 2014, p. 187). The presented study shows that based on the first results, a wrong conclusion towards interviews preference would have been reached. The implicit research has shown that using the obtained data from the primarily study would have led to far-reaching wrong assumptions for potential product development or marketing efforts. Based on their implicit and unconscious attitude, interviews would have chosen the unhealthier food option over the healthy one. The procedure can be used to measure attitudes and investigate behavioural patterns of customers as well as employees and managers (Niemand et al. 2014, p. 187) Furthermore, implicit measurement methods have been used to overcome social desirability biases that explicit measures are vulnerable to, allowing researchers to receive more accurate results on critical questions (Schlachter and Rolf 2017, p. 77).

The following section is elaborating a selection of practical related approaches for implicit attitude measurement.

2.11.1 Implicit association test

The implicit association test (short IAT) is currently the most widespread and advanced method to record implicit attitudes, based on response time (Niemand et al. 2014, p. 189).

The IAT goes back to the work of *Greenwald, McGhee* and *Schwartz* from 1998. It is a psychological measurement method for recording a subject's unconscious attitudes towards an attitude object (Greenwald et al. 1998, pp. 1464–1480). For this purpose, subjects are shown a stimulus (see Table 5) asking them to assign it to predetermined categories as quickly as possible by pressing a button. In the background, the time the subject spends answering the question is measured and evaluated. The concept of an IAT is based on comparing reaction times to oppositional target concepts, for example *men* and *women* or *black* and *white* (Bluemke and Friese 2008, p. 977). It is easier for the human brain to sort to concepts together if they are closely related to each other. In case of an IAT it takes less time for an interviewee to sort an stimulus to a displayed target if they, in his mind, work well together, than in the cases of incompatible pairings. Thereby, positive as well as the negative association with the target concept can be made visible on the basis of reaction times ((Niemand et al. 2014, p. 187).

2.11.2 Single target implicit association test

The Single Target Implicit Association Test (short ST-IAT) is a derivate of the IAT. Unlike the IAT the ST-IAT does not use opposing target concept categories, therefore it can even be used if research objects cannot be clearly differentiated from one another, a major disadvantage and point of criticism at the IAT (see Chapter 2.8.1) (Bluemke and Friese 2008, p. 977). For the sake of completeness, a reference is necessary to the SC-IAT - a further modification of the IAT, but conceptually so similar to the ST-IAT

that a detailed explanation is not required (Bluemke and Friese 2008, p. 979)

The ST-IAT contains of three question blocks. Like a classic IAT, phase one starts with the presentation of positive and negative words and the interviewees are asked to classify them as positive or negative by pressing two buttons. The resulting classification is adopted for all subsequent target concept blocks.

In the second block interviewees are asked to assign either positive or negative stimuli by pressing previously assigned keys to shown concepts. In contrast to the IAT, only one key is assigned twice. The key assignments are revised during the third block. After one concept is examined, another concept can start directly with block two and three. Therefore, time and resources are saved, and the method becomes more efficient.

2.11.3 Extrinsic affective Simon task

The extrinsic affective Simon task (short EAST) is also derived the IAT and measures reaction time measurements in conjunction with compatible and incompatible combinations (Lefavre et al. 2006, p. 297).

During the test, interviewees are presented two types of stimuli, which they should assign to the opposing concepts by pushing a button. They consist of antagonistic attributes such as “good” or “bad”, as well as coloured words which should only be assigned based on their colour, without considering the meaning of the word. Further variation use coloured frames can instead of coloured words or portrait and landscape format as a distinguishing feature (Houwer and Bruycker 2007, pp. 160–161). The EAST also consists of three blocks, of which the first acts as a training block while colours and attributes are assigned to the two buttons. This results in a

double assignment of the left and right buttons. In the actual test blocks, the stimuli should now be assigned as quickly and correctly as possible in accordance with the colour or the attributes. Based on the reaction time and the error rate, it can be identified which combination had a reaction conflict or was congruent accordingly.

2.11.4 Response time measuring

The presented methods are based on reaction time measurements in connection with the associative assignment of compatible and incompatible attributes. Current digital survey tools make it possible to record the reaction time of interviewees while they are responding to a regular digital survey. This is possible for each question of a questionnaire individually and suitable for almost every question type. Such response time recordings enable an additional perspective when evaluating the results as well as a grouping answers based on the reaction time into more implicit and more explicit attitudes (Lorenz and Heinsen 2011, p. 54). This method is considered an indirect measurement because the response time is not the primary research object of the survey and only provides additive information. If the reaction time is recorded additionally in a regular questionnaire, it is usually done without the interviewee being informed. This reduces the introduction time and complexity and fosters less biased answer behaviour. The reaction time measurement is also a suitable control instrument to investigate how spontaneous answers were given and which questions required longer response times on average and were therefore more difficult for the test subjects to decide (Scheier and Scarabis 2009, pp. 13–14).

2.11.5 ImpliSort testing

Another research approach that is based on the principle of implicit attitude measurement is known under the name ImpliSort and can be carried out

with a specialized survey software called *Questfox*®. *ImpliSort* questions are an enhanced version of so-called *Tinsort* questions, by adding reaction time measurement. *Tinsort* questions belong to the genus of multiple-choice questions but are optimized for answers on smartphones and mobile devices. For researchers, the focus on a smartphone-compatible survey is of increasing importance. In 2015, 30% of respondents already took part in online studies using their smartphone (Lütters et al. 2016, p. 32).

Lütters provides a detailed explanation of the structure and function of *TinSort* questions: “*TinSort* is a fast sort type that ultimately represents a dichotomous state with visual support for questions and answers. Based on the usability of the dating app *Tinder*, the participant can give his answers in the same way by swiping. A swipe to the right means approval, knowledge or another semantic description of a positive expression. A swipe to the left expresses a negative expression” (Lütters 2016). Alternatively, the participant can express his or her opinion by pressing the "Approval" or "Rejection" fields or, if available, using the A (approval) and L (rejection) keys on the standard keyboard.

The subject always concentrates on only one question and is given his/her successive answers. Participants are therefore more focused on the research question. The evaluation achieves the same result as with a conventional multiple-choice question, but interviews give their answers questions 20% faster with *TinSort* questions. This in turn increases the proportion of implicit answers in a survey.

In case of *ImpliSort* questions, which are generated and carried out exclusively using the *Questfox* software, the response time to answer each question, is invisibly measured in the background. This measurement enables a further analysis of the data obtained and provides information on whether

the answers given are implicit or explicit. Groups can thus be defined in the evaluation of a questionnaire depending on the response time for each question.

2.11.6 Implicit research in the luxury industry

A merging of luxury and implicit research has taken place through the publication of Voyer and Beckham in 2014. Within the framework of a consumer survey, a go/no-go test was used to determine whether the respondents tended to associate luxury with sustainable or unsustainable.

The test investigated implicit attitudes by assessing the strength of the respondents' automatic associations. Faster responses indicate easier pairings and thus stronger implicit associations than slower or inaccurate responses. In the study the object category "luxury" was paired with attributes from the categories "sustainable" vs. "unsustainable". It was found that respondents associated luxury with unsustainable more quickly than with sustainable (Voyer and Beckham, p.244).

As part of the research on sustainability in the fashion industry, Grazzini, Acuti and Aiello conducted a study in 2021 involving the explicit and implicit attitudes of customers. The research object was the effect of sustainable product attributes (i.e., recycled materials) on consumers' purchase intention comparing luxury and fast fashion products. The methodology used by the researchers was an IAT. The study revealed an unconscious positive pairing of luxury and sustainability related words while the association of sustainability and fast fashion took longer (Grazzini et al. 2021, p.19).

The above studies has the disadvantage that the respondents were informed about the relevance of time and asked to reply as fast as possible. The

reaction time measurement, which is integrated in the background for the further course of this work, is an additional aspect of the basic research on the topic of luxury and sustainability and therefore allows a more versatile field of application.

2.12 Evaluation and recapitulation

As described in previously, the explicit setting is consciously controlled by a person and allows a targeted adjustment of one's own opinion and statements. This is a central and frequently criticized point of criticism of explicit measurement methods, because answers can deviate greatly from the actual opinion due to adaptation to social norms and the self-portrayal of the test subjects. (King and Bruner 2000, pp. 79–82; Scheier and Scarabis 2009, p. 41). The comprehensive technical term defined by the literature for adapted response behaviour in surveys is social desirability bias (Grimm 2010).

Studies that have dealt with socially critical subject areas show that there is a particularly strong discrepancy between the implicit, subconscious questioned attitudes of the subjects compared to the answers explored with explicit attitude measurements. In the literature, examples of prejudices are given repeatedly; subjects were asked whether they had prejudices. Even participants who testified that they had no prejudices in a subsequent IAT found it easier (faster) to assign good to white people than good to black people (Fiedler and Bluemke 2005, p. 307). The topic of luxury consumption is society wise associated with very different, sometimes critical, adjectives and attitudes. Accordingly, the implicit brand attitude measurement makes it possible to obtain the test subject's opinion without the influence of social prejudice and a possible influence by the urge to conform to standards (Niemand et al. 2014, p. 199)

However, the approaches to implicit attitude measurement presented in the previous course have some disadvantages and criticisms regarding their practical suitability for marketing and market research.

- Expertise knowledge is required to setup and apply the presented implicit research methods.
- The survey using an IAT or EAST focuses on the investigation of a target concept per attempt.
- The complexity of the test and its surroundings requires detailed professional instruction, and this is accordingly time and cost intensive.
- A practical implementation of IAT and EAST is only possible with specialised software and appropriate hardware. There is no compatibility with common standard survey formats (Niemand et al. 2014, pp. 198–199).

It can be said, that with the help of implicit attitude measurements, well-founded results can be achieved, however, the experimental setup and the implementation are unsuitable for examinations in everyday practice with the aim of generating multiple attitudes and obtaining a large sample.

Nevertheless, the recording of implicit attitudes towards a deeper understanding of subjects is, as shown in the previous course, of great interest and a legitimate concern for modern research.

The fact that reaction time measurements and ImpliSort questions can be integrated into standard surveys, offers the possibility of creating combined surveys and thus creating a connection between the two approaches (Lorenz and Heinsen 2011, p. 55).

CHAPTER 3

AIMS AND OBJECTIVES

3 Aims and objectives

The presented aims and objectives of this work are deducted from the literature review, similar studies, and the authors industry insights. These have shown that sustainability is a continuously important trend in our society with significant potential to interrupt existing paradigms.

As pointed out by *Agrawal* in 2021 the traditional view of luxury by society is undergoing a transformation. While the classical interpretation was based on socio-economic factors and the general perception as exclusive, rare, and particular in the materialistic sense, the "luxury of today" represents new expressions, experiences, and personal emotions. Luxury has always been a very personal pleasure, but it has evolved even more by putting individual perception and experience above material values (*Agrawal et al. 2021*). The trend reversal described was already predicted in 2014 by leading luxury brand expert and researcher *Kapferer*. Accordingly, a review of the theories put forward is an elementary component of this work. In contrast *Janssen* examined the possible negative effects of a sustainability strategy for luxury brands in their study. They highlighted the incompatibility of luxury and corporate social responsibility and the resulting negative consequences for consumer attitudes. Accordingly, the aim of this work is to find practical solutions for the operational strategy of luxury brands and to examine the integration of sustainability into brand communication (*Kapferer and Michaut-Denizeau 2013; Janssen et al. 2017; Prüne 2013*) As a result, it is necessary to examine the effects of potential changes in consumer attitudes associated with a change in paradigms for the luxury industry. It must be emphasized here that the evaluation of values for luxury products is very personal and correspondingly complex. Accordingly,

the reciprocal consideration of industry and customers is essential when examining trends (Hennings, 2015). Here lies a special feature of the luxury goods industry in contrast to consumer goods. While the effects on the fast-moving consumer goods industry have already been researched in many ways, a research gap has been identified about the significance for the luxury goods industry. Furthermore, the literature has shown that the requirements and the business environment of luxury brands differ significantly from those of the fast-moving consumer goods industry. Accordingly, the evaluation of the impact of sustainability must be specific to the luxury industry and include a differentiated comparison of industry and consumers. Accordingly, the further course of research is oriented to the following overarching guiding questions and aims to compare industry and customers and ultimately to derive practice-oriented recommendations for action.

1. Is sustainability relevant for companies in the luxury industry?
2. What sustainability measures are currently being implemented by companies in the luxury industry?
3. How do customers interpret the link between luxury and sustainability?
4. Does sustainability play a role in consumer behaviour?
5. Should sustainability be integrated in the communication strategy of luxury brands?

The chosen research mythology consists of a qualitative and a quantitative part that systematically build on each other. The chosen approach is based on the objective of comparing the view of the industry with the opinion and perception of the consumers and to gain new insights and recommendations for action. For this reason, expert interviews are conducted with executives from the luxury industry, based on which the research questions are developed into hypotheses. With the help of a consumer survey, the evaluation of the hypotheses is carried out. Furthermore, the study of consumer behaviour involves personal motivations of customers and, especially regarding sustainability, the factor of socially conforming adaptations of response behaviour must be included in the research. For this reason, the research methodology selected for the consumer survey includes the possibility of differentiating between intrinsic and extrinsic responses.

As the schematic diagram in Figure 7 below illustrates, the work consists of various theoretical and empirical elements that are systematically combined and are intended to enable a holistic view of the research object.

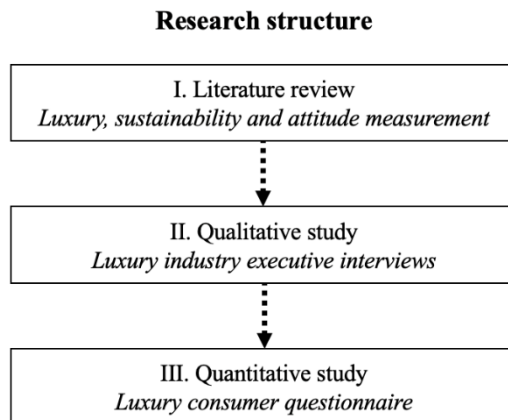


Figure 7: Research structure

Part 1 consists of an extensive literature review to proof the relevance of the chosen research area and summarize the current state of science regarding sustainability, luxury and attitude measurement. This research has then been conjunct and enlarged to find references, publications, and work, addressing the same specific connection of luxury and sustainability. Based on the literature review, the research question has been further specified and the need for more specific topic related information has been distinguished. This finding has verified the decision to proceed with Part 2 and create a semi-structured interview guideline and perform qualitative study with upper management and strategic decision makers of luxury companies, aiming to gain further insights and knowledge. The interview guideline is based on a subdivision into three consecutive and constitutive parts, all related *to* the influence of sustainability on luxury brands. The output of Part 1 and 2 form the foundation on which the hypothesis for Part 3, a quantitative survey-based study, are developed. To gather more information about the intrinsic consumer motivation, several options of attitude measurements tools have been summarized and evaluated. The embraced intrinsic attitude measurement applications are implicit association test, single target implicit association test, extrinsic affective simon task, background response time measurement and implisort. The developed digital questionnaire has been programmed and executed with a specialised market research software called *Questfox*¹. The tool allows response time measurement for common question types (e.g Likert scale, semantic differential etc.) and additional implisort without the interviewee noticing.

¹ <https://questfox.com>

Therefore, a subsequent and unbiased analysis of intrinsic and extrinsic response behaviour has been possible. Thus, it was possible to not only compare the responsive behaviour to each question but also deduct socially adjusted and influenced indentations.

CHAPTER 4
MATERIALS AND METHODS

4 Materials and methods

The following chapter describes the research structure, target group definition and execution. Hypotheses based on the qualitative study form the guideline for the quantitative research and analysis.

4.1 Methods of qualitative analysis

The following section explains the approach and methodology underlying the qualitative research conducted in this work. The goal of qualitative content analysis is to understand human behaviour and decision-making through the systematic analysis of communication. With the methodology of semi-structured interviews and qualitative content analysis, it is possible to approach the research question with the greatest possible openness. This leads to a detailed and subjectively perceived account of the causal relationships, in the case of this work, between sustainability and its impact on the luxury goods industry (Prüne 2013; Grützmacher 2020; Pietzcker and Vaih-Baur 2018). The basic idea of qualitative content analysis was to build on the rule-based systematic principles of quantitative content analysis. Furthermore, qualitative procedures that do not exclude quantitative analyses (category frequencies) have been developed and substantiated for a variety of qualitative text analysis tasks (summarizing, explicating, structuring text material) (Flick et al. 2004). In order to carry out an appropriate analysis, suitable data must first be collected. To this end, this dissertation uses the guided interview method, which will be presented in more detail in due course. The scientific community and literature have presented various guidelines and approaches for the systematic elaboration of qualitative datasets. Among the best-known proponents of this method of research and analysis is Mayring (Mayring 1991; Flick et al. 2004) Therefore, Mayring's approach was chosen for this work, and his eight-step guide was adapted

and condensed into an agenda specifically tailored to the needs of this analysis (Mayring 1991, 209 ff.)

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4.2 Semi-structured expert interviews

The selection or procuring of appropriate source material and datasets is an elementary part of qualitative research and accordingly the first part of Mayring's approach to analysis. Due to the complex and very specific research question, individual qualitative interviews are essential for this work. To this end, various research approaches were considered, with the decision being made in favour of a guideline-based expert interview, which is considered in more detail in the following section. The field of qualitative market and consumer research includes a variety of approaches to conducting field research. Among the different approaches, the semi structured interview is distinguished and methodologically elaborated.

Therefore, they are commonly used to obtain qualitative data (Helfferich 2014, p. 559). This technique can be further specified by the targeted audience.

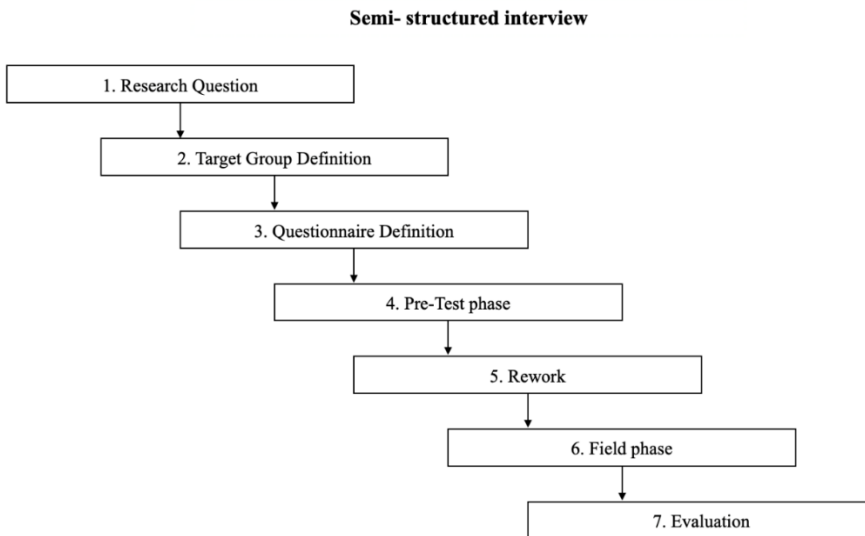


Figure 8: Semi- structured interview process

Source: Own figure modified and derived from (Flick et al. 2004)

The figure shown illustrates the seven steps necessary to conduct a structured guided interview and ensure that the material and data obtained are suitable for qualitative analysis. The detailed conduct of the guided interviews for this work is explained in the following overview:

1. The defined research question was: “How is the sustainability megatrend affecting the luxury industry?”
2. In order to answer the research question accurately, strict parameters were set to define the target group. To be eligible as respondents, respondents must be managing directors or senior managers with strategic responsibility in a German luxury company. This ensures that the answers have the necessary significance and that the respondents have the appropriate decision-making authority in their companies.
3. In accordance with the research question and the defined target group, an adequate guideline has been developed that considered the corresponding spatial and temporal determinants. Due to the current pandemic situation, the questions were designed to be asked via telephone or online conference. In this context, it was also necessary to determine the appropriate recording method. The apps *TapeACall* and *Microsoft Teams* recordings were considered suitable. For the structure of the questionnaire, the research question was divided into question blocks that logically build on each other. At this stage, the questionnaire consisted of 15 questions.
4. In the pre-test phase, the developed questionnaire was tested on a group of representative respondents with regard to its usefulness, its structure, but also the necessary time component for the survey.

Here it has become apparent that some of the questions are not sufficiently clearly delineated and the questionnaire is too extensive. For the defined target group of managing directors and senior executives, time is a key determinant and therefore plays a decisive role in their willingness to support the survey by participating.

5. The question blocks and questions have been revised based on the results of the test phase. The resulting questionnaire consisted of 10 questions, starting with a general icebreaker question and three identically structured question blocks.
6. The conception of the guideline was followed by a field phase and practical implementation. In this case, 14 people from the target group were interviewed. A total of 215 minutes of audio recordings were generated. The previously defined minimum number of 10 interviews was thus exceeded. The actual interviewing is done via phone calls and Microsoft Teams calls.
7. The raw data obtained was processed for further analysis. This required accurate transcription following transcription rules (Azevedo et al. 2017). Therefore, the smoothed verbatim transcription method was used (Mergenthaler 1996). In total, the transcriptions comprise 22,140 words. At this point, a thorough review of the previous steps had been done, and the data has been checked for errors before usage and further analysis.

Based on the previously defined five steps for qualitative content analysis following Mayring's approach, the obtained data was further analysed.

4.3 Methods of quantitative analysis

Based on the previous chapters, a review of the assumptions made by the luxury industry executives is necessary. Therefore, their statements have been transformed into hypotheses which are investigated with the help of customers from the luxury goods industry. However, no matching primary data for a specific investigation could be found. For this reason, an independent quantitative study was initiated and conducted. In accordance with the objectives, the quantitative research conducted generated the data needed to address the research question as well as an integrated secondary study on answering and consumer behaviour with one single questionnaire-based survey. In the following chapter, the hypotheses to be investigated are presented, followed by a detailed explanation of the structure and research design. Subsequently, the field phase is presented, and the analysis is carried out.

The developed questionnaire consisted of a total of 23 question pages, using a variance between single- and multiple-choice questions. The number and type of question pages presented to a respondent varied according to their responses to the previous questions. The first question subdivided the respondents in two major groups with individual pathways. The demographic components were asked of each participant. The shortest path through the survey was four questions and the longest path was 22 questions. In addition, a hidden question has been integrated which analysed the URL when the survey was opened. By assigning URLs to previously defined groups of respondents or distribution lists, answer groups could be individually examined and compared with each other, based on their sociodemographic background.

As explained in Chapter 2, differentiating, and examining extrinsic and intrinsic response behaviour can contribute further insights into respondent opinions. For this reason, the questionnaire used was programmed with a function to record the individual response time. Accordingly, following the basic evaluation of the responses, a more in-depth analysis of the response behaviour can be carried out. Here, the intrinsic and extrinsic responses can be considered individually for each question and any shifts in the response pattern can be made visible.

The Wilcoxon signed rank test was used to evaluate the quantitative data. The Wilcoxon signed rank test is a nonparametric statistical test used to compare two related samples. The test is often used in social science for a repeated measure design where the same subjects are evaluated under varying conditions. Overall, the Wilcoxon signed rank test provides a reliable and accurate way to compare two related groups without making assumptions about the underlying distribution of the data (Scheff 2016; Marino 2018; Riffenburgh 2006).

In the further course of the quantitative analysis, a segmentation of individual customer groups was carried out with the aid of a cluster analysis. This enabled four different clusters to be formed, which exhibited homogeneous characteristics regarding consumer behaviour. For luxury brands, this results in the task of finding a paradigm shift-compliant approach to the ideas and wishes of the customers. The identified clusters can be used as a guide for industry to adequately target consumers based on their preferences. The discrepancy in the communication of sustainability for luxury products and consumers described in the previous section is decisive here. Furthermore, the clusters can be used to align the product portfolio and a correspondingly market-oriented product range selection.

CHAPTER 5
ANALYSIS AND FINDINGS

5 Analysis and findings

In the following chapter, the previously described methods are applied and evaluated. The interviews are analysed and summarized by forming content-related categories. The basic structure of the interviews continues to serve as a guide. However, the content-related statements are linked across questions and interviewees. Furthermore, external references and studies are integrated and used for cross-referencing. In the further course, the quantitative survey is presented and evaluated. Two methods are used to analyse the semi-structured interviews. The group of interviewed luxury industry executives is spread between six participants of manufactories, three retailers, three consultancies and two hospitality companies.

5.1 Results of qualitative research

The unanimous opinion of the respondents showed that the topic of sustainability is attributed a steadily growing importance for the luxury industry. Each of the companies surveyed also indicated that they had already begun evaluating ways to adapt to this megatrend. This trend is also present in far from sustainable parts of the luxury industry like Superyachts. New technologies are being researched to enable less fuel consumption and the integration of reusable materials and recycling becomes more present. The influence of sustainability is therefore growing and is becoming increasingly relevant for day-to-day business and customer relations. Luxury consumers' demands on products are changing, and companies need to adapt their portfolios accordingly. Luxury and sustainability sound like a contradiction, but nowadays they must be combined and must go beyond the products themselves and be a holistic, industry-wide approach, that is closely linked to the company's own corporate DNA, which was also noted in the World Wildlife Fund (WWF) report by Bendell and Kleanthous

(2007) (Athwal et al. 2019, p. 407; Bendell and Kleanthous 2007). Derived from this and evidenced by the present research, sustainability can be an integral part of an entrepreneur's start-up motive in the luxury industry, which is also pointed out by Li and Leonas (2019) (Gardetti and Muthu 2019, p. 110). For existing companies, it should be a motivation to question current practices and business operations. Sustainability can therefore be an integral part of a company's business foundation. Sustainable production and products also justify a higher price in combination with marketing potential and more pleasant user experiences. The trend towards greater sustainability in the luxury industry is one of seven developments in the industry towards what is known as NEO luxury, which in 2019 was largely shaped by the work of Meurer and Riedmeier. The results of the study with regard to sustainability were again confirmed by this study (Meurer and Riedmeier 2019, 10 ff.). Luxury is very personal and therefore cannot be standardized. Expectations of sustainability are also individual. This is particularly determinant of the second-hand and recycled luxury market (Atwal and Williams 2017, p. 44). Even industries that tend to be diametrically opposed to sustainability and green thinking, such as the superyacht industry, are beginning to develop a more sustainable and environmentally friendly approach. In this context, alternative fuelling systems are being designed and tested, as well as the introduction of marine-care programs by industry-affiliated companies in cooperation with private owners. Nevertheless, all efforts in this industry must follow the need to be profitable. For example, the Lürssen Kröger shipyard in northern Germany recently signed the first order to build a superyacht with fuel-cell technology (Webster 2021). Other companies have a more sustainable approach, defined by the materials they use in their products. Nevertheless, current trends are moving in the direction of resource conservation and environmentally friendly

production methods. Demand for sustainable luxury vacations is steadily increasing, and companies in the industry are adapting their product portfolios accordingly. Although the issue of sustainability is ubiquitous, not all companies in the luxury industry have integrated it into their current strategic and operational development. While the previous approach is relatively rare, other companies state that luxury and sustainability are inseparable and integral. At this point, it must be emphasized that this study only refers to the German industry and its views. A 2019 study by Dekhili, Achabou, and Alharbi highlighted that attitude towards the link between luxury and sustainability can vary depending on cultural background (Dekhili et al. 2019).

5.1.1 Impact of environmental sustainability on the luxury industry

Environmental sustainability is currently one of the biggest challenges, and at the same time, opportunities for the luxury industry, and will continue to grow in importance, mainly because the Co2 footprint of luxury consumers is significantly higher than average (Lynch et al. 2019, p. 377). From a historical perspective, luxury is strongly associated with a dissolute and lavish lifestyle, and sustainability has been neglected in recent decades. The industry must adapt to the new demands of consumers and implement appropriate reforms. Accordingly, the integration of environmental sustainability is inevitable. Sustainability starts in the company itself but is increasingly expected along the entire value chain. This trend towards a more sustainable approach in the luxury industry continues to evolve and grow. Digitalization has made the consequences of environmental pollution more visible than ever before and has reached the public, especially in relation to nature in remote regions of the world. These have become virtually accessible through the Internet, and global education about the overexploitation of the

Earth is taking place. It can be deduced that companies need to control and optimize their value chain to achieve their own environmental goals, but also to avoid social pressure from their customers (Lynch et al. 2019, p. 377). The major luxury conglomerates have launched extensive transparency campaigns in response to massive pressure from environmental activists, politicians, and not least, their customers. As a result, pressure has been put on all companies in the industry to challenge their environmental impacts and provide transparency to customers and stakeholders. At the same time, investments were made at all levels to reduce the impact on the environment. Nevertheless, many luxury products are based on expensive and rare raw materials, for which currently only abandonment or, in some cases, recycling is an option. The resulting threat to existing companies has enabled an emerging generation of new luxury brands with a strong focus on sustainable resource use to successfully position themselves in the market. However, there are also companies that deal with the issue of environmental sustainability, but this is not demanded by the customer. In principle, quality and the resulting longevity can also be seen as an environmentally friendly use of resources (Amatulli et al. 2018, 97 ff.; Lynch et al. 2019, p. 378). A trend that has now reached the luxury industry is the recycling or upcycling of products, including the use of ocean plastic as raw material for production. This trend is now also being followed by major brands like *Gucci*, *Versace*, and *Burberry*. However, these campaigns are exceedingly rare and designed primarily for positive media effects. In this context, it is also important to point out the often-long supply chains through Far Eastern production, which have a significant impact on the overall Co2 footprint of luxury products in Europe. Overall, the work of *Lynch*, *Long*, *Stretesky*, and *Barrett* found that the environmental impacts of customers in the luxury segment remain significantly higher than those

of ordinary consumers, a finding confirmed by *Kenner* and *Grützmacher* as well as by the statements of the companies surveyed (Kenner 2015; Lynch et al. 2019; Grützmacher 2020). Nevertheless, this question has shown that customers are becoming increasingly aware of the environmental impact of their purchases and that this trend is also affecting the luxury industry. Another important aspect of the modern interpretation of luxury is dematerialization, which is a decisive purchasing argument for a new target group with purchasing power, but which has grown up with luxury. These predominantly younger buyers are looking for sustainability-oriented luxury experiences and are less focused on material luxury (Bosshart et al. 2019). However, this target group defined by *Bosshart*, *Gurzki*, and *Mei-Pochtler* was not a central part of the present study but must be mentioned for the sake of completeness. In the further course, the materialistic luxury is in the foreground.

5.1.2 Measures to combine environmental sustainability and luxury

In the following section, the measures taken by the companies to improve their environmental sustainability are listed and simultaneously analysed. It becomes clear that the reduction of Co2 emissions is a central starting point for sustainable economic corporate management. However, reducing Co2 emissions alone is a general measure and not specific to luxury companies. This also applies to the offset of Co2, which is also becoming increasingly important in the luxury consumer segment. When asked for more specific details, interviewees emphasized above all the optimization of production processes and the reduction of employee travel through the introduction of digital structures. Furthermore, many companies are reducing printing and the use of paper. Reducing water and avoiding plastic also fall into this category. One specific measure that has been mentioned

several times is the recycling of second-hand products and materials. According to *Cimatti*, this approach is particularly common in the luxury fashion industry (Cimatti et al. 2017).

5.1.3 Communicating environmental sustainability

The literature review found that sufficient consideration of the communication of any environmental sustainability measures has not been done to date. Accordingly, the survey examined the extent to which the measures implemented by the companies are communicated to the stakeholders. It also asks whether ecological sustainability is used as a marketing tool in the luxury industry. A distinction must be made in the responses as to whether the company's target group is primarily B2C or B2B customers. For customers in the B2C sector, environmental sustainability measures are mainly used in individual campaigns and rarely communicated as a holistic approach. Transparency and traceability are provided for the campaigns, but the basic internal company processes with regard to sustainability are not communicated. Accordingly, the measures described in the previous chapter must be critically examined. In contrast, customers in the B2B sector expect more transparency and recognition of suppliers' compliance regulations. These can be achieved, for example, through the introduction of various national and international seals of approval, which serve as indicators for the use of sustainable packaging and transportation.

5.1.4 Social sustainability and luxury

The social component or corporate responsibility in the social area is becoming increasingly important for companies and the luxury sector. Modern sustainability goes far beyond the ecological aspect. For a holistic sustainability concept, social factors must therefore also be considered. The luxury industry in particular is committed to a strong sense of social

responsibility. Part of the new luxury is taking care of your employees and your community. Providing customers with products and services that go well beyond what is necessary is only accepted by society if it includes a certain giveback. Employee satisfaction and long-term employee loyalty have a significant positive impact on the company's success. Especially with service-intensive luxury products and services, employee satisfaction is critical to a positive customer experience. Employee development and the opportunity for further training are essential for a longterm employment relationship and thus part of a sustainable social strategy. Companies must therefore provide opportunities for continuous personal and professional development. As part of holistic employee advocacy, the relationship between customers and employees must also be considered. Discrepancies are common in the luxury industry. On the entrepreneurial side, a code of conduct for customers can be used as well as easy and safe ways for employees to report customer misconduct. However, this type of social sustainability is not yet widespread.

5.1.5 Transparency of social sustainability in the luxury industry

Although the importance of social sustainability was emphasized by all companies surveyed in the previous question, the answers to the question about specific measures varied. Only half of the respondents were able to provide specific information on the social sustainability concept in their company, while the other half were unable to name any specific measures. The measures indicated are explained in more detail below.

To meet social requirements such as work-life balance, flexible working options and a comprehensive home-office program are offered. In addition, opportunities for independent further training are offered by the company. These measures are supported by a high degree of flexibility in work

activities. This also includes a continuous exchange with employees about their individual careers. One approach that takes place outside the company and is therefore assessed as external social engagement is the charitable sponsoring of products or pro bono work. In this context, the share of proceeds from products or services sold for the benefit of charitable events should also be considered. The latter is often strongly motivated by positive marketing effects. In summary, the socially sustainable engagement of luxury companies rarely exceeds the standard expected of good corporate citizenship.

5.1.6 Economic Sustainability in the luxury industry

The economic sustainability of luxury companies caused difficulties for the interviewees. In many cases, the topic has not yet been considered in a differentiated way. Most of the respondents were not aware of an economic component of their products and services in terms of sustainability. In the dialog, however, it was possible to identify individual components, including the selection and quality of raw materials as well as the quality and durability of the finished products, especially in the case of the manufacturers. For companies from the retail segment, the aspects of shipping and return management could be introduced. In contrast, service companies did not see any direct points of contact with sustainability and economy in their companies. Economic sustainability relates to both the economic processes within the company and to long-term customer loyalty. In principle, every company in a free-market economy must operate economically to survive, so the focus of this question is on concrete measures to ensure long-term success. A sustainable success strategy means for companies to continuously develop with intrinsic motivation and to adapt to new market conditions. This change has not yet been noticed by all traditional luxury brands.

5.2 Synopsis and discussion of the luxury industry perspective

The modern kind of luxury is focused on experiencing and consciously perceiving. This includes the traceability of production chains and close personal identification with the brand offering the product or service. The luxury brand is therefore forced to reconnect with its customers, although it must maintain its limited availability and scarcity. The concept of sustainability is now closely linked to quality, so it is essential for premium-priced products to meet this standard. Customers are expected to have a strong focus on sustainability while expecting high-end luxury. Companies will therefore have to invest in suitable solutions. It should be emphasized that the expectations go well beyond a reduction in Co2 emissions and the sustainability approaches already in use. These will be defined as basic requirements in the future. Especially for young companies with flexible structures, these fundamental market changes can offer a great opportunity for market entry.

5.2.1 Measures to combine environmental sustainability and luxury

Some companies mentioned sustainability-related adjustments to their product portfolios and the introduction of alternative raw materials. In the case of product portfolio adjustments, the long-term sustainability of measures to promote ecology must be discussed controversially elsewhere, especially in the case of electromobility and the associated demand for lithium batteries. Some companies have not changed their product portfolio because it already meets modern requirements for sustainable ecological product design and production. In this case, however, a focus on the use of sustainable energy sources such as solar is worth emphasizing. One aspect highlighted by several companies is the reduction of plastic packaging material and the exploration of alternative biodegradable packaging. However,

customer expectations are often a problem here. High-priced products are expected to come in high-priced packaging with a corresponding look and feel. In practice, it is still difficult to produce these with biodegradable materials. Overall, it can be seen that almost all companies are implementing targeted measures to make their business activities more environmentally sustainable.

5.2.2 Communicating environmental sustainability

In summary, it can be concluded from the responses that there is an increasing demand for environmental sustainability, but not yet an increased interest in monitoring these measures. Campaigns around the topic of sustainability are becoming more and more popular, but at present, they can hardly be distinguished from greenwashing measures. If the trend towards sustainability and the associated traceability continues in the luxury segment, companies will have to back up their promises with transparency.

5.2.3 Social sustainability and luxury

Social sustainability is also reflected in the company's internal leadership style and management. Family-run companies in particular excel in terms of employee development and leadership. The benefits package includes above-average wages and a good work-life balance. Flat hierarchies enable fast communication and a high degree of personal responsibility for the employees. Social sustainability goes beyond the company's employees and must be demanded and verified along the entire supply chain. Companies, especially in the high-price segment, must be able to answer questions about the ecological and, above all, the social behavior of their factories and suppliers at any time. Digitalization has made value chains more transparent and accessible for clients and critics, so a transparent and compliant approach is essential. In general, any entrepreneurial activity should

also bring benefits to society. Companies need to review the impact of their actions on society per se and also on the local community and sphere of influence. Especially in the luxury industry, this is sometimes only possible through donations or other involvement outside of the actual business operations. Giving back to society and donating a portion of the revenue of products or certain campaigns is becoming a popular tool among companies in the luxury industry. The idea of philanthropy is widespread among clients in the luxury segment, especially in the Anglo-Saxon world. Accordingly, companies can take advantage of the wishes of their customers and develop projects or charities together with the customers. Social responsibility and sustainability also mean that people who are less privileged can use part of the margin to expand social programs. In conclusion, the luxury industry needs to be holistic in the social sphere, in line with the demands and expectations of its discerning clientele. This applies to internal company structures but also to the entire value chain. Digitalization means that deviations from expected standards quickly become public and can have far-reaching consequences.

5.2.4 Transparency of social Sustainability in the luxury industry

All but three respondents indicated that they did not communicate their social sustainability strategy externally. The measures communicated externally are predominantly fundraising campaigns and revenue participation campaigns for the benefit of social projects, which are used to create media attention and a positive effect on the brand image. There is no active communication regarding internal social sustainability measures. Employee training and retention is only communicated internally and is not communicated externally. This is a marked difference from the FMCG industry, where various companies use their employees and any support measures

for marketing purposes. Furthermore, although measures to ensure compliance standards along the value chain are an integral part of the social and environmental sustainability concept at some companies, they are not communicated or made transparent to customers.

5.2.5 Economic sustainability in the luxury industry

Sustainability and change are sometimes viewed critically, although the experience of the interviewees shows that measures to promote sustainability can also promote economic success. A reduction in production costs can be achieved by optimizing the use of resources. This results in two positive effects with regard to the sustainability of the company. A similar effect is achieved when energy is generated by wind or the sun. The interest in and need for ecological sustainability and social sustainability are much more pronounced than the awareness of economic sustainability.

Overall, it must be mentioned at this point that the opportunity to be sustainable through the choice of resources used for products is itself a luxury and should not be underestimated. However, in the perception of companies, the aspect of quality has not yet been associated with sustainability. However, this is an integral part of resource conservation and can therefore be applied positively to the sustainability of a brand and at the same time serve as a sales-promoting aspect. Furthermore, the topic of recycling and repairs can be understood as part of economic sustainability. However, from an entrepreneurial point of view, it must be considered that with a longer product life span, the number of repeat purchases per customer also decreases. All in all, from a business perspective, a marketing and product strategy geared to value retention and longevity can have a positive influence on the image and the brand. A practical example is the Swiss watch brand Patek Philippe with its "Generations Campaign", which was

introduced in 1996 and is still active today, and which is designed to ensure that the products retain their value across the generations.²

5.3 Results of quantitative analyses

Derived from the results presented in the previous course, the following hypotheses have been developed as the central element to verify the industry assumptions and customer opinions.

H1: Sustainability should be an integral part of luxury products.

H2: Ecological facts are decisive for a luxury product purchase decision.

H3: Social facts are decisive for a luxury product purchase decision.

H4: Economical facts are decisive for a luxury product purchase decision.

The survey took place from January 9 to February 9, 2022, and 385 persons participated. The respondents were test persons who were reached via different channels. On the one hand, the survey was shared online via social media and reached the participants this way without a personal approach. Secondly, surveys have been conducted at various "points of interest", such as students with a major in luxury business or at customers in the superyacht industry. In total, the target of 300 participants was reached during the field phase. Out of the 385 participants 86% completed the entire survey. To have accurate data a cleansing process has been conducted and all unfinished surveys have been eliminated from the data set. A total of 332 surveys are valid for further analysis. The following overview shows the demographic details of the respondents. In addition, the second table shows which channel was used to generate the responses.

² <https://www.patek.com/en/company/news/generations-campaign>

Table 5: Generic data

Age	Quantity	Male	Female	PNTT
18 - 24	21%	8%	13%	0%
25 - 34	38%	17%	21%	0%
35 - 44	16%	10%	6%	0%
45 - 54	11%	9%	2%	0%
55 - 64	9%	4%	5%	0%
65 and older	2%	2%	0%	0%
PNTT	2%	0%	0%	2%

URL	Quantity	Male	Female	PNTT
Social Media	73%	41%	30%	2%
Students	17%	3%	13%	0%
Yachting	8%	5%	3%	1%
Generic	2%	2%	0%	0%

Table 5 shows that 75% of the respondents are between 18 and 44 years old. This target group is commonly described as having a particularly high digital affinity and thus reflects a core target group for the future development of the luxury industry. The reason for the high density of younger participants can be seen in the exclusively digital distribution of the survey and the targeted approach of students with a focus on luxury studies. This target group is particularly interesting due to its knowledge of and affinity for luxury. The tracing of questionnaires to a previously defined target group has been done by implementing a digital signature in the survey. This signature has been defined as Q1 and is invisible for the participants. Accordingly, the numbering of the content-related questions visible to the respondents starts at Q2. The following table provides an overview of the responses of Q2.

Table 6: Luxury consumers

		N	Percentage	Valid Percentage
Valid	1 yes	197	51,2%	58,1
	2 no	142	36,9%	41,9
	Total	339	88,1%	100,0
Missing	-7	46	11,9%	
	7			
Total		385	100,0%	

Out of $n=332$, 57% respondents have stated to have purchased luxury products in the last 12 months. This question was used to decide which question path the respondents received in the further course. This ensured that the answers could be answered specifically on the topic of luxury. Accordingly, the population of the luxury-specific questions is 190. In addition, the demographic factors were examined. The proportion of women who bought luxury products was 64%, whereas only 36% of the men surveyed said they had bought luxury products. Generation Y represents the largest group of participants with 38% and at the same time the largest group of luxury consumers with 71% based on the generational comparison. Overall, there were no unusual shifts within the listed data. The data shown can be used to draw conclusions about the purchasing behaviour of the subjects, considering questions about their consumption behaviour. This way 35% of respondents can be classified as frequent luxury consumers. Statistically, these customers buy luxury products at least once a month. In addition, the preferred consumption channel was queried. The type of product can not be specified by the data nevertheless it can be deduced that the consumers are well educated in luxury products and therefore important clients. Highly sophisticated luxury products are often accompanied by other luxury products anyway. E.g. a superyacht is equipped with many other luxury

items, a Maybach Mercedes is equipped with Robbe & Berking Sterling Silver Champagne flutes...)

However, there is currently no dominant sales channel that stands out from the consumers' point of view. If the gender of the respondents is included in the analysis, there is a slight preference among women to purchase online (35%), whereas among male respondents' luxury consumption is most preferred offline (39%). To identify any trends regarding the age structure among consumers, consumption preferences have been examined as well.

It became clear that Generation Y has preference for online shopping (46%) compared to offline (31%). In Generation Z, the ratio is balanced. If the responses of Generation Y & Z are combined and analysed as a uniform customer group, it becomes apparent that 45% prefer online and 33% offline shopping. 22% of the respondents had no clear preference. In contrast to the FMCG industry, where there is a strong trend towards online shopping, this is not as pronounced in the luxury industry. This finding is supported by *Halwani* and her publication on online luxury consumer experiences from 2020, which shows that the experience of luxury consumption plays a central role in the purchase decision (Halwani 2020). Currently, this shopping experience is not yet reproduced online to the full satisfaction of customers. Nevertheless, it can be assumed that the online presence of luxury brands will continue to develop with further technical progress and opportunities. In order to investigate consumer behaviour with regard to the influence of sustainability, the hypotheses of the thesis are examined below.

5.4 The link between luxury and sustainability

The link between luxury and sustainability has been studied individually in four hypotheses. Here, H1 is more generic and consists of only one question. However, this question examines the basic attitude as to whether sustainability should be a component of luxury products. The other three hypotheses each consist of three individual questions. These deal with the subject area of the hypothesis. A distinction is made between ecological, social and economic. For the evaluation of H2 - H4, the answer options of the respondents have been given a value. Answer “Yes” = X and Answer “No” = X.

H1: Sustainability should be an integral part of luxury products.

Based on the guideline-study interviews from Chapter 4, the hypothesis was derived that sustainability should be an integral part of luxury products for customers. This hypothesis can be tested analysing the results of question Q20. The following table 7 shows the data basis for further analysis.

Table 7: Descriptive overview H1

		N	Percentage	Valid Percentage
Valid	1 yes	149	44,9	82,8
	2 no	31	9,3	17,2
	Total	180	54,2	100,0
Missing	-77	142	42,8	
	3 I don't know	10	3,0	
	Total	152	45,8	
Total		332	100,0	

To reject or confirm the hypothesis H1 a non-parametric test has been performed. The results are shown in Table 8.

Table 8: Non-parametric test H1

	Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Group 1	<= 1	149	0,83	0,50	0,000
Group 2	> 1	31	0,17		
Total		180	1,00		

Of the 140 valid responses, 83% of respondents indicated that sustainability should be an integral part of luxury products. According to the evaluation in Table 9, there is significant agreement and hypothesis H1 can be accepted.

H1: Sustainability should be an integral part of luxury products.

Accepted

Confirmation of the hypothesis means that the consumer opinion is consistent with the anticipated consumer attitude by the industry executives.

H2: Ecological facts are decisive for a luxury product purchase decision.

Hypothesis H2 deals with the question of the relevance of ecological factors for the purchasing behaviour of luxury consumers. For this purpose, respondents were asked to answer three questions in connection with ecology and luxury products as well as individual purchasing behaviour. Table 9 summarizes the descriptive data.

Table 9: Descriptive statistics H2

		Q11 Are you aware of the manufacturing processes of the luxury product you purchase?	Q12 Is the country of origin relevant for your luxury product purchase decision?	Q13 Is a good environmental footprint of a luxury product essential for your purchase decision?
N	Valid	179	181	181
	Missing	153	151	151

Answers have been declared valid if the respondent has purchased luxury products in the past 12 month and replied to the question with yes or no. Answers stating “I don’t know” are considered invalid and have been added to missing as well.

Table 10: Descriptive statistics Q11

		N	Percentage	Valid Percentage
Valid	1 yes	45	13,6	25,1
	2 no	134	40,4	74,9
	Total	179	53,9	100,0
Missing	-77	142	42,8	
	3 I don't know	11	3,3	
	Total	153	46,1	
Total		332	100,0	

The above table 10 shows the distribution of valid and for hypothesis appraisal invalid answers as well as the allocation of yes and no replies among the total of 179 valid answers. 74.9% of respondents stated that they were not familiar with the production process of the luxury goods they bought.

Table 11: Descriptive statistics Q12

Q12 Is the country of origin relevant for your luxury product purchase decision?

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1 yes	100	30,1	55,2	55,2
	2 no	81	24,4	44,8	100,0
	Total	181	54,5	100,0	
Missing	-77	142	42,8		
	3 I don't know	9	2,7		
	Total	151	45,5		
Total		332	100,0		

The above Table 11 shows the distribution of valid and for hypothesis appraisal invalid answers as well as the allocation of yes and no replies among the total of 181 valid answers. 55.2% of respondents stated that the products “country of origin” was relevant for their purchase decision.

Table 12: Descriptive statistics Q13

Q13 Is a good environmental footprint of a luxury product essential for your purchase decision?

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1 yes	94	28,3	51,9	51,9
	2 no	87	26,2	48,1	100,0
	Total	181	54,5	100,0	
Missing	-77	142	42,8		
	3 I don't know	9	2,7		
	Total	151	45,5		
Total		332	100,0		

Table 12 shows the distribution of valid and for hypothesis appraisal invalid answers as well as the allocation of yes and no replies among the total of 181 valid answers. 51.9% of the respondents stated that a good environmental footprint is essential for their luxury good purchase decision. To reject or confirm the hypothesis H2 it is necessary to link the three relevant questions displayed above. To establish comparability, numerical values

Impact of sustainability on the consumer behaviour in the luxury industry

have been assigned to the answers creating an index consisting of: Yes = 1 and No = 2.

Table 13: Testing of hypothesis 2

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	3 3x yes	26	7,8	15,5	15,5
	4 2x yes, 1x no	50	15,1	29,8	45,2
	5 1x yes, 2x no	40	12,0	23,8	69,0
	6 3x no	52	15,7	31,0	100,0
	Total	168	50,6	100,0	
Missing	System	164	49,4		
Total		332	100,0		
Mean		4,70			
Median		5,00			
Minimum		3			
Maximum		6			

Based on the values shown in Table 13, a one-sample Wilcoxon signed rank test is executed.

Table 14: Wilcoxon Signed Rank Test H2

One-Sample Wilcoxon Signed Rank Test Summary

Total N	168
Test Statistic	6150,000
Standard Error	360,206
Standardized Test Statistic	7,328
Asymptotic Sig.(2-sided test)	0,000

The Asymptotic Sig. is lower than 0.5 and therefore significant.

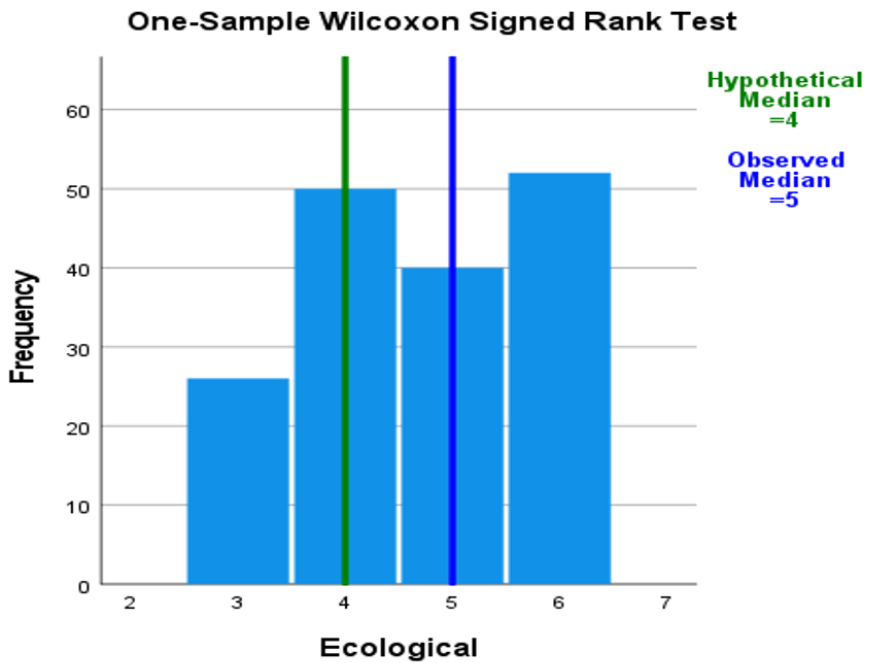


Figure 9: One-Sample Wilcoxon Signed Rank Test H2

The hypothetical median of =4 would mean a perfectly balanced opinion of the subjects. The mathematically proven shift to a median of =5, which can be seen in figure 10, means an overall higher rejection of the customers on the question of whether ecological aspects play a decisive role in the purchase of luxury products.

Hypothesis Test Summary

Null Hypothesis	Test	Sig. ^{a,b}	Decision
1 The median of Ecological equals 4.	One-Sample Wilcoxon Signed Rank Test	0,000	Reject hypothesis.

a. The significance level is ,050.

b. Asymptotic significance is displayed.

H2: Ecological facts are decisive for a luxury product purchase decision.

Rejected

The rejection of the hypothesis means that the consumer opinion diverges from the anticipated consumer attitude projected by the industry executives.

5.4.1 Social facts are decisive for a luxury product purchase decision

The third hypothesis investigates whether social sustainability factors influence the consumption behaviour of luxury consumers. In the context of the questionnaire, the respondents were asked three individual questions related to the influence on social factors. The results were adjusted for "I don't know" answers, and yes and no were assigned the numbers 1 and 2, respectively, before a one-sample Wilcoxon signed rank test was used to examine the acceptance or rejection of the hypothesis.

Table 15: Testing of hypothesis 3

		N	Percentage	Valid Percentage
Valid	3 3x yes	20	6,0	11,8
	4 2x yes, 1x no	31	9,3	18,2
	5 1x yes, 2x no	59	17,8	34,7
	6 3x no	60	18,1	35,3
	Total	170	51,2	100,0
Missing	System	162	48,8	
Total		332	100,0	
Mean		4,94		
Median		5,00		
Minimum		3		
Maximum		6		

Based on the values shown in Table 15, a one-sample Wilcoxon signed rank test is executed.

Table 16: Wilcoxon Signed Rank Test H3

One-Sample Wilcoxon Signed Rank Test Summary

Total N	170
Test Statistic	8930,000
Standard Error	459,841
Standardized Test Statistic	8,840
Asymptotic Sig.(2-sided test)	0,000

The Asymptotic Sig. is lower than 0.5 and therefore significant.

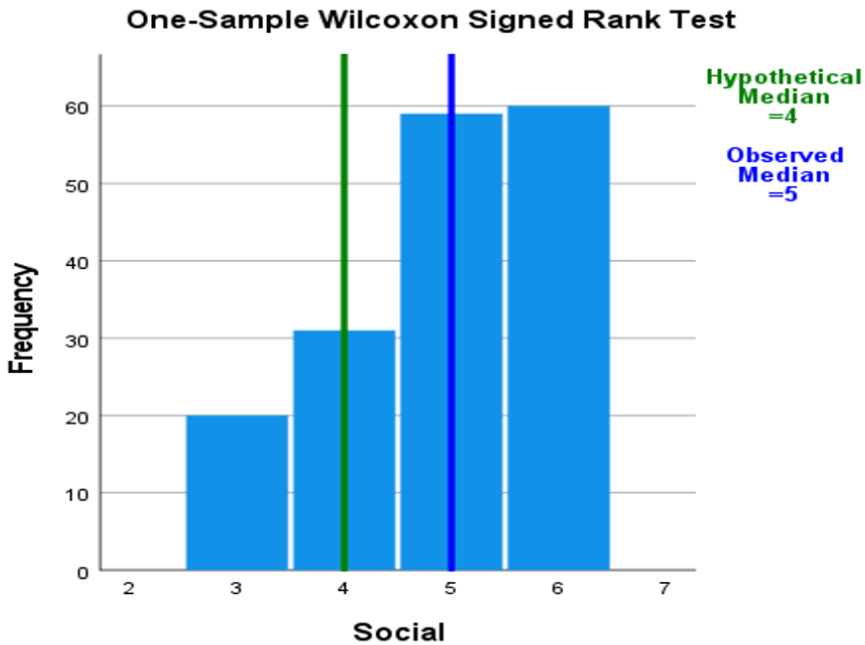


Figure 10: One-Sample Wilcoxon Signed Rank Test H3

The hypothetical median of =4 would mean a perfectly balanced opinion of the subjects. The mathematically proven shift to a median of =5, which can be seen in figure 11, means a higher rejection of the customers on the question of whether social aspects play a decisive role in the purchase of luxury products.

Hypothesis Test Summary

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The median of Eco-logical equals 4.	One-Sample Wilcoxon Signed Rank Test	0,000	Reject the hypothesis.

a. The significance level is ,050.

b. Asymptotic significance is displayed.

H3: Social facts are decisive for a luxury product purchase decision.

Rejected

The rejection of the hypothesis means that the consumer opinion diverges from the anticipated consumer attitude projected by the industry executives.

5.4.2 Economical facts are decisive for a luxury product purchase decision

The fourth hypothesis investigates whether economical sustainability factors influence the consumption behaviour of luxury consumers. In the context of the questionnaire, the respondents were asked three individual questions related to the influence of economic factors. The results were adjusted for "I don't know" answers, and yes and no were assigned the numbers 1 and 2, respectively, before a one-sample Wilcoxon signed rank test was used to examine the acceptance or rejection of the hypothesis.

Table 17: Testing of hypothesis 4

		N	Percentage	Valid Percentage
Valid	3 3x yes	97	29,2	55,1
	4 2x yes, 1x no	63	19,0	35,8
	5 1x yes, 2x no	7	2,1	4,0
	6 3x no	9	2,7	5,1
	Total	176	53,0	100,0
Missing	System	156	47,0	
Total		332	100,0	
Mean		3,59		
Median		3,00		
Minimum		3		
Maximum		6		

Based on the values shown in Table 17, a one-sample Wilcoxon signed rank test is executed.

Table 18: One-Sample Wilcoxon Signes Rank Test H4

One-Sample Wilcoxon Signed Rank Test Summary

Total N	176
Test Statistic	1348,500
Standard Error	313,679
Standardized Test Statistic	-5,968
Asymptotic Sig.(2-sided test)	0,000

The Asymptotic Sig. is lower than 0.5 and therefore significant.

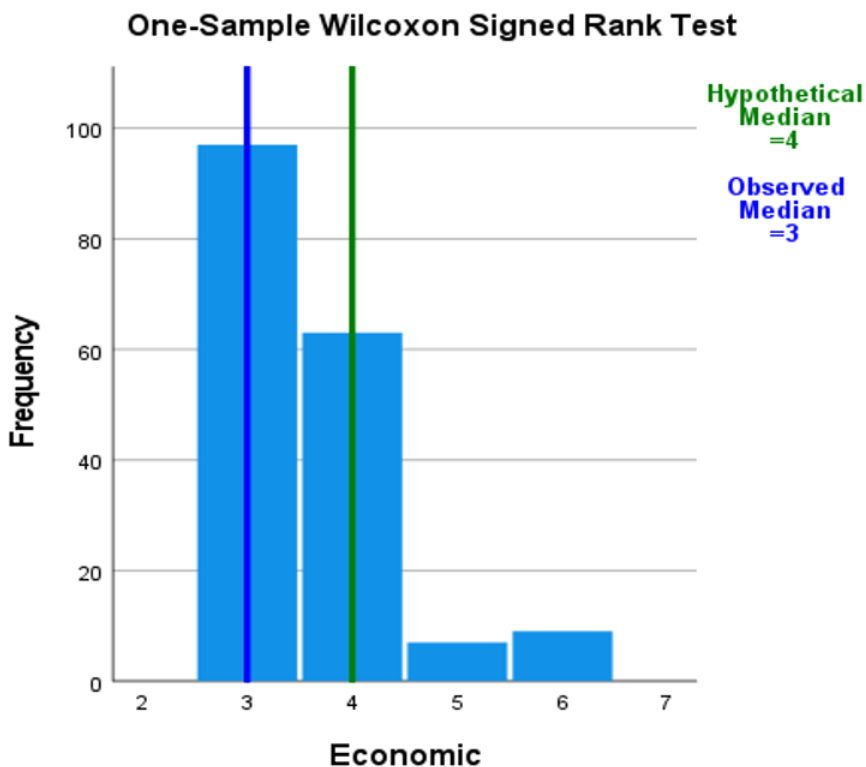


Figure 11: One-Sample Wilcoxon Signed Rank Test H4

The hypothetical median of =4 would mean a perfectly balanced opinion of the subjects. The mathematically proven shift to a median of =3, which can be seen in figure 12, means a higher agreement of the customers on the question of whether economic aspects play a decisive role in the purchase of luxury products.

Table 19: Test Summary H4

Hypothesis Test Summary

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The median of Economic equals 4.	One-Sample Wilcoxon Signed Rank Test	0,000	Reject the null hypothesis.

a. The significance level is ,050.

b. Asymptotic significance is displayed.

H4: Economical facts are decisive for a luxury product purchase decision.

Accepted

Confirmation of the hypothesis means that the consumer opinion is consistent with the anticipated consumer attitude by the industry executives.

5.5 Interpretation of the results

The evaluation of the hypotheses showed that sustainability is important to consumers, as demonstrated by H1. The customer opinion anticipated by the industry has thus been confirmed. However, the detailed analysis revealed that there are considerable differences in the sub-areas of sustainability defined by corporate social responsibility. The environmental sustainability of luxury products has been described by the industry as essential and particularly important for customers. However, the evaluation of hypothesis 2 showed that customers are interested in sustainability in general but are not familiar with the details of ecological factors or the production of luxury goods. From this contrary result it can be deduced that the customers of luxury products basically expect sustainable products and consider this aspect as given, but at the same time do not deal with the actual product-related details. This assumption is also supported by the third hypothesis regarding the social components. In questions belonging to hypothesis three, the test persons were asked to what extent they deal with the background of a product relevant for social sustainability before

they buy it. It became apparent that, as in H2, no detailed knowledge is obtained before the purchase. The third hypothesis, in which it was asked to what extent economic factors influence the purchase decision of the test persons, shows a different result. The assumption that factors such as longevity and value enhancement have a decisive influence on purchasing behaviour was confirmed. Overall, it can be concluded that sustainability is considered relevant and important by consumers, but with the exception of the economic factors, no direct relevance for consumer behaviour is discernible and the social and ecological factors are not verified prior to purchase. The evaluation of the response behaviour as well as the subsequent hypothesis evaluation serve as quality control in addition to the confirmation or rejection of the individual points. The data showed that the opinions and emphases on the part of the test persons varied, and thus it can be assumed that the participants actively dealt with the questions, which can be used as a general quality indicator. In the course of this work, the theoretic models of explicit and implicit attitude measurement have been explained. The related concept of evaluating reaction times can also be used for general quality control of a survey as well as for a deeper second analysis and result validation. The survey has been programmed from the beginning with a reaction time measurement for each single question, the evaluation and analysis of possible deviations will be done in the following section.

5.6 Result of Implicit data analysis

The following section reanalyses the consumer survey data. This time, however, the response times of the test persons are considered. For each question, the individual response time can be evaluated, so that any differences between implicit and explicit responses can be shown and compared with the results from the previous section. Analogous to the test setup in

the previous chapter, the answers to the individual questions have been linked to a numerical value. In this case, n equals an answer in less than 3 seconds. In the further course, hypotheses 2-4 will be considered again according to this scheme.

Table 20: Data Summary H5 implicit

		N	Per-centage	Valid Percentage
Valid	3 3x yes	4	10,5	11,1
	4 2x yes, 1x no	9	23,7	25,0
	5 1x yes, 2x no	9	23,7	25,0
	6 3x no	14	36,8	38,9
	Total	36	94,7	100,0
Missing	System	2	5,3	
Total		38	100,0	

Based on the table, a one-sample Wilcoxon signed rank test is conducted to test the agreement or disagreement with the hypothesis.

Table 21: Test Summary H5

One-Sample Wilcoxon Signed Rank Test Summary

Total N	36
Test Statistic	350,000
Standard Error	40,375
Standardized Test Statistic	3,988
Asymptotic Sig.(2-sided test)	0,000

The data of the analysis are visualized and subsequently interpreted in the following figure.

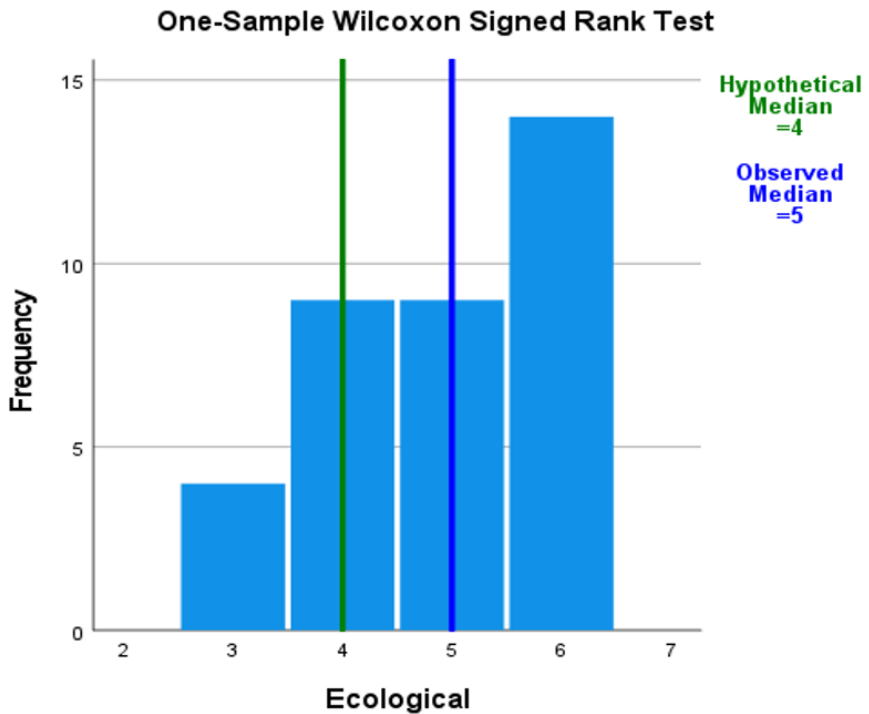


Figure 12: One-Sample Wilcoxon Signed Rank Test H5

The shift of the actual median to the right side of the hypothetical median shows a significant rejection of the subjects regarding the relevance of ecological factors on the purchase behaviour of luxury products. The final result is identical to the previous study, but the detailed analysis shows that the rejection of the purely implicit answers is greater than in the general analysis. However, the difference is very small with a mean of 4.70 implicit to 4.90 and therefore does not allow any further interpretation for this hypothesis.

The following section relates to hypothesis H6 social sustainability factors.

Table 22: Data Summary H6

		Social_			
		Frequency	Per-centage	Valid Per-centage	Cumula-tive Per-centage
Valid	3 3x yes	3	7,9	8,1	8,1
	4 2x yes, 1x no	7	18,4	18,9	27,0
	5 1x yes, 2x no	7	18,4	18,9	45,9
	6 3x no	20	52,6	54,1	100,0
	Total	37	97,4	100,0	
Missing	System	1	2,6		
Total		38	100,0		

Based on the table, a one-sample Wilcoxon signed rank test is conducted to test the agreement or disagreement with the hypothesis.

Table 23: Test Summary H6

One-Sample Wilcoxon Signed Rank Test Summary

Total N	37
Test Statistic	448,500
Standard Error	46,657
Standardized Test Statistic	4,630
Asymptotic Sig.(2-sided test)	0,000

The data of the analysis are visualized and subsequently interpreted in the following figure.

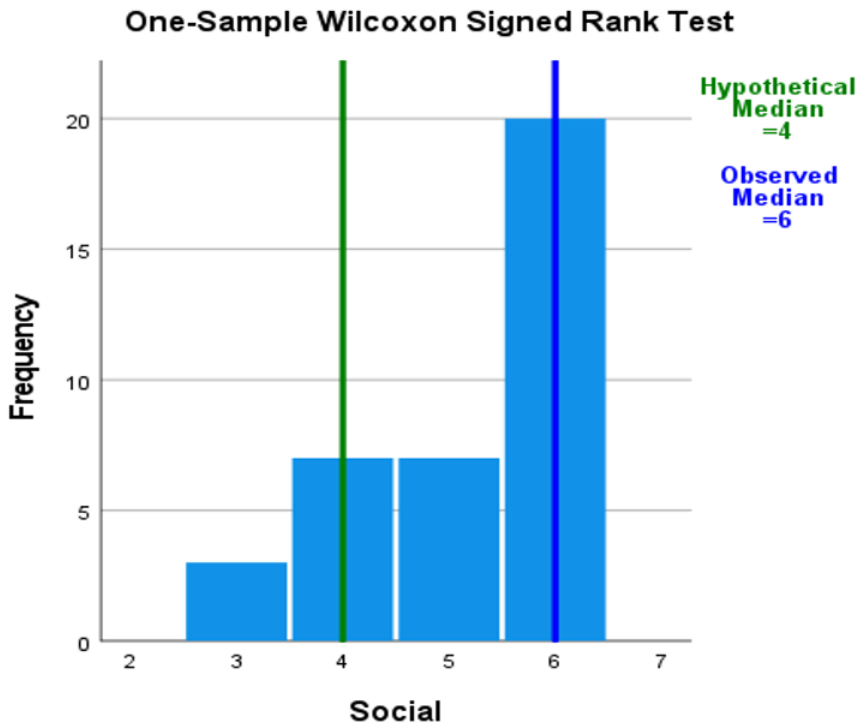


Figure 13: One-Sample Wilcoxon Signed Rank Test H6

The graphical representation of the One-Sample Wilcoxon Signed Rank test shows a significant shift of the median to the right. Accordingly, the subjects largely rejected the influence of social factors on their luxury consumption behaviour. The direct comparison of intrinsic answers to the general opinion shows a difference in the observed median of 1. The observed intrinsic median is 6 and accordingly the subjects who answered the questions without reflection time have attributed less relevance to the social factors. This finding can be explained by the social desirability bias response behaviour, described in the literature (see chapter 2.12 and Grimm 2010).

The subjects who answered the questions with reflection time conformed their answers to the socially expected norm whereas the intrinsic answers reflected the attitude of the subjects without bias.

The following section relates to hypothesis 6 implicit economic sustainability factors.

Table 24: Data Summary H7

	N	Percentage	Valid Percentage
Valid 3 3x yes	23	60,5	60,5
4 2x yes, 1x no	7	18,4	18,4
5 1x yes, 2x no	2	5,3	5,3
6 3x no	6	15,8	15,8
Total	38	100,0	100,0

Based on the table, a one-sample Wilcoxon signed rank test is conducted to test the agreement or disagreement with the hypothesis.

Table 25: Test Summary H7

Total number	38
Test statistics	197,000
Standard error	47,693
Standardized test statistics	-1,069
Asymptotic Sig. (two-sided test)	0,285

This test shows that there is a non-significant deviation.



Figure 14: One-Sample Wilcoxon Signed Rank Test H7

In this case, a non-significant shift of the median can be seen which, in contrast to the previous hypotheses, has occurred to the left and thus into the area of agreement. The result of the test shows that there is a non-significant deviation. This result can be attributed to the small number of subjects who responded below the 3-second reaction time limit. Nevertheless, the test persons assigned a greater relevance to the economic sustainability factors than to the ecological and social aspects.

The following table summarizes the results of the previous investigations with regard to the hypotheses.

Table 26: Implicit Hypothesis Summary

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.^{a,b}	Decision
H5	The median of Ecological equals 4.	One-Sample Wilcoxon Signed Rank Test	0,000	Reject the null hypothesis.
H6	The median of Social equals 4.	One-Sample Wilcoxon Signed Rank Test	0,000	Reject the null hypothesis.
H7	The median of Economic equals 4.	One-Sample Wilcoxon Signed Rank Test	0,285	Retain the null hypothesis.

The analysis of the hypotheses considering the reaction times and the resulting isolated consideration of the implicit attitudes led to the same result as the previous evaluation with regard to the acceptance or rejection of the hypotheses. However, the evaluation of the social sustainability aspects showed a significantly greater rejection of the intrinsic attitudes. Accordingly, it can be stated that the considered reaction times can be used to control the results and verify attitudes even if questions are socially critical or controversial.

5.7 Outcome oriented comparison of the studies

In the following part, the results and findings of the qualitative and quantitative studies are compared and analysed. In particular, the statements of the industry must be compared with the responses of the customers, and implications for the luxury industry are derived from the results. The omnipresent trend towards more sustainability has been shown and confirmed in the first part of the thesis by the industry executives. Accordingly, a comparison of the assessment and attitude on the part of the consumers and the industry is indispensable.

In the case of congruence, all four hypotheses would have been confirmed - this is not the case, as can be seen from the previous section. For this reason, a detailed analysis of the consumers' opinion regarding their assessment and relevance of sustainability on consumer behaviour will be carried out.

The hypothesis that the luxury industry is influenced by sustainability and that sustainability is a relevant attribute of luxury products and thus has an influence on the purchase decision of the consumers received above agreement and significant agreement from the consumers. However, in the detailed analysis of the relevant components of sustainability, serious differences were found between the opinion of luxury company executives and the opinion of consumers. A significant influence of ecological sustainability factors on the purchase behaviour was not confirmed by the consumers. In detail it became clear that the consumers do not explicitly inform themselves about the production of the products before the purchase. Combined with the previous statement it can be deduced that consumers in principle attach importance to sustainability but do not actively deal with the actual sustainability parameters before purchasing luxury products. This behaviour has not been anticipated by the industry, where the marketing of sustainable production as an incentive to buy has been reconsidered. Consequently, the luxury goods industry is very different from the FMCG industry in this respect. From the industry side, social sustainability aspects and their relevance for the customer have been highlighted in the guideline-based survey. In this case, the consumer survey contradicted the industry's assumption. The rejection is even more pronounced when taking into account the response times and extraction of implicit attitudes.

The offerings highlighted by the industry as particularly crucial, such as corporate social responsibility reports, are not accepted by customers. In contrast to the previous attitudes, economic sustainability and the value of conservation equated with it have a significant influence on the purchasing behaviour of customers. On the part of the industry, this factor has been assigned the lowest relevance. For the customers, however, the quality and value relevant factors are the most decisive. From the two studies and the subsequent evaluations, it can be concluded that sustainability also plays an important role in luxury, although the individual factors are weighted differently. It can be concluded that sustainability is considered a generally given prerequisite for luxury products due to its relevance for customers. Thus, the individual parameters for the product individual purchase decision move into the background. For the luxury industry, this means that no advertising should be done with sustainability, because this is not considered to be a purchasing decision, but it is imperative that the products and companies act sustainably, because the customers have this basic expectation. Accordingly, little can be gained with a communication focus on sustainability, but more can be lost if standards are not met. If companies do not meet society's expectations in terms of sustainability, customers will take this into account in their purchasing decisions.

5.8 Results of cluster analysis

In the following, the performed cluster analysis will be shown and analyzed. The following items were selected and incorporated to form the clusters.

Item 1: Is the image of a luxury brand decisive for your purchase decision?

Item 2: Is the quality of a luxury product decisive for your purchase decision?

Item 3: Are you aware of the manufacturing processes of the luxury product you purchase?

Item 4: Is the country of origin relevant for your luxury product purchase decision?

Item 5: Is a good environmental footprint of a luxury product essential for your purchase decision?

Item 6: Do you inform yourself about the history of a luxury brand before purchasing their product?

Item 7: Do you look for a brand's corporate social responsibility report before you purchase their product?

Item 8: Is social sustainability important to you when deciding to purchase a luxury product?

Item 9: When you purchase luxury products, do you expect them to be of higher quality than conventional products?

Item 10: Is the longevity of a luxury product compared to conventional products a decisive purchase argument for you?

Item 11: Is the potential increase in value of luxury products compared to conventional ones a decisive purchase argument for you?

Item 12: Do you think sustainability must be an integral part of a luxury product?

An analysis of possible outliers was disregarded due to the answer formats of all items (1 = yes, 2 = no, 3 = I don't know). Based on the guidelines for scientific cluster analyses only items with similar answer formats should be included in a cluster analysis. The necessary requirements were met. Missing values can influence the result of the cluster analysis. However,

seeing as there were no missing values in this data set, the complete data of $N=190$ respondents could be included in the cluster analysis (Backhaus et al. 2016).

A hierarchical cluster analysis was chosen because an exploratory approach to the number of clusters was planned. Due to the categorical scale level of the included items, 'complete linkage' was chosen as the linkage method (Härdle et al. 2015). χ^2 was chosen as the measure of clustering because the items had a categorical scale level. The cluster analysis dendrogram can be viewed in the Appendix. The frequencies of test-persons within the Clusters can be seen in Table 28.

Table 27: Distribution of frequencies within clusters

Valid		Frequency	Per-centage	Valid Percentage
	Cluster 1	31	16.3	16.3
	Cluster 2	20	10.5	10.5
	Cluster 3	85	44.7	44.7
	Cluster 4	54	28.4	28.4
	Total	190	100.0	100.0

5.8.1 Description of cluster 1

The composition of age within cluster 1 can be found in Table 29:

Table 28: Distribution of age within cluster 1

Age	Quantity	Male	Female	Various
18 - 24	9.7%	66.7%	33.3%	0%
25 -34	32.3%	30.0%	60.0%	10.0%
35 - 44	19.4%	16.7%	83.3%	0%
45 - 54	22.6%	28.6%	57.1%	14.3%
55 - 64	6.5%	50.0%	50.0%	0%
65 and older	9.7%	33.3%	66.7%	0%

The analysis of the purchasing behavior within the first cluster showed that with $n=15$ (48.4%) almost half of the sample preferred to shop offline (see Table 30).

Table 29: Analysis of shopping behavior; cluster 1

		Cluster 1			
Valid		Frequency	Per-centage	Valid Percen-tageage	Cumula-tive Per-centage
	Online	7	22.6	22.6	22.6
	Offline	15	48.4	48.4	71.0
	No preference	9	29.0	100.0	100.0
	Total	31	100.0	100.0	

The behavioral pattern shown, is consistent with the trend of offline shopping within the luxury industry identified in Chapter 2.4 (Epepe Beauloye 2023).

The analysis of the frequencies with which the test subjects of cluster 1 bought luxury products within one year showed that with $n=12$ (38.7%), the largest group bought luxury products 1 to 3 times per year. Further information on purchasing behavior of cluster 1 can be found in Table 31.

Table 30: Analysis of frequency of shopping behavior; cluster 1

	N	Percentage	Valid Percentage
Valid 1 to 3 times per year	12	38.7	38.7
4 to 6 times per year	5	16.1	16.1
7 to 12 times per year	6	19.4	19.4
More than 12 times per year	8	25.8	100.0

5.8.2 Description of cluster 2

The composition of age within cluster 2 can be found in Table 31:

Table 31: Distribution of age within cluster 2

Age	Quantity	Male	Female	Various
18 - 24	5.0%	100.0%	0%	0%
25 -34	20.0%	25.0%	75.0%	0%
35 - 44	40.0%	37.5%	62.5%	0%
45 - 54	10.0%	100.0%	0%	0%
55 - 64	25.0%	20%	80.0%	0%
65 and older	0%	0%	0%	0%

Table 32 Analysis of shopping behavior; cluster 2

		N	Percentage	Valid Percentage
Valid	Online	4	20.0	20.0
	Offline	10	50.0	50.0
	No preference	6	30.0	30.0
	Total	20	100.0	100.0

The consideration of the purchasing behavior of the second cluster showed that with $n=7$ (35.0%) equally as many test subjects bought luxury products between 1 and 3 times a year, as persons bought luxury products more than 12 times a year (see Table 34):

Table 33: Analysis of frequency of shopping behavior; cluster 2

		N	Percentage	Valid Percentage
Valid	1 to 3 times per year	7	35.0	35.0
	4 to 6 times per year	5	25.0	25.0
	7 to 12 times per year	1	5.0	5.0
	More than 12 times per year	7	35.00	35.00

5.8.3 Description of cluster 3

The composition of age within cluster 3 can be found in Table 34

Table 34: Distribution of age within cluster 3

Age	Quantity	Male	Female	Various
18 - 24	11.8%	0%	100%	0%
25 -34	52.9%	33.3%	66.7%	0%
35 - 44	16.5%	42.9%	57.1%	0%
45 - 54	8.2%	85.7%	14.3%	0%
55 - 64	5.9%	40.0%	60.0%	0%
65 and older	4.7%	100.0%	0%	0%

Compared to the test subjects of the other two clusters, more test subjects of cluster 3 preferred to buy luxury products online $n=34$ (40.0%) (see Table 35):

Table 35: Analysis of shopping behavior; cluster 3

Valid		N	Percentage	Valid Percentage
	Online	34	40.0	40.0
	Offline	24	28.2	28.2
	No preference	27	31.8	31.8
	Total	85	100.0	100.0

Compared to the test subjects of these other two clusters, most of the test subjects of this cluster $n=31$ (36.5%) bought luxury products more than 12 times a year (see Table 36).

Table 36: Analysis of frequency of shopping behavior; cluster 3

	N	Percentage	Valid Percentage
Valid 1 to 3 times per year	17	20.0	20.0
4 to 6 times per year	15	17.6	17.6
7 to 12 times per year	22	25.9	25.9
More than 12 times per year	31	36.5	35.5

5.8.4 Description of cluster 4

The composition of age within cluster 4 can be found in Table 38:

Table 37 Distribution of age within cluster 4

Age	Quantity	Male	Female	Various
18 - 24	9.3%	80%	20.0%	0%
25 -34	57.4%	38.7%	61.3%	0%
35 - 44	16.7%	77.8%	22.2%	0%
45 - 54	9.3%	60.0%	40.0%	0%
55 - 64	5.6%	33.3%	66.7%	0%
65 and older	1.9%	0%	100.0%	0%

Table 38: Analysis of shopping behavior; cluster 4

	N	Percentage	Valid Percentage
Valid Online	18	33.3	33.3
Offline	22	40.7	40.7
No preference	14	25.9	25.9
Total	54	100.0	100.0

Table 39: Analysis of frequency of shopping behavior; cluster 4

	N	Percentage	Valid Percentage
Valid 1 to 3 times per year	16	29.6	26.9
4 to 6 times per year	7	13.0	13.0
7 to 12 times per year	11	20.4	20.4
More than 12 times per year	20	37.0	37.0

5.9 Comparison of purchase behaviour

The test subjects within the clusters differed significantly from each other with regard to the importance of the brand image of their luxury products ($\chi^2[6] = 76.854; p < .001$). The effect was at $\phi = .636$ of strong effect size (Ellis, 2010). Brand image was less important to cluster 2 than all other clusters. For cluster 3, the brand image was the most important factor compared to other clusters (see Table 40). It can be deduced that those consumed from cluster 3 attach great importance to the brand and the image associated with it.

Table 40 Importance of the brand image

		Cluster				
		1	2	3	4	total
Is the image of a luxury brand decisive for your purchase decision?	yes	23 _a	4 _b	79 _c	46 _{a, c}	152
	no	6 _{a, b}	8 _b	6 _a	8 _{a, b}	28
	I don't know	2 _a	8 _b	0 _a	0 _a	10
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

The test subjects within the clusters do not significantly differ from each other with regard to the quality of the luxury products for their purchase decision ($\chi^2[6] = 5.380; p = .496$).

The test subjects within the clusters differed significantly from each other with regard to the awareness of the manufacturing processes of the luxury products they purchase ($\chi^2[6] = 24.998; p < .001$). The effect was at $\phi = .363$ of middle effect size. The first cluster differed from the fourth cluster in terms of awareness of the luxury product manufacturing process. Cluster 1 showed less awareness of the manufacturing process than Cluster 4 (see Table 41):

Table 41 Awareness of manufacturing process

		Cluster				total
		1	2	3	4	
Are you aware of the manufacturing processes of the luxury product you purchase?	yes	1 _a	7 _{b, c}	14 _{a, c}	23 _b	45
	no	27 _a	11 _{a, b}	65 _{a, b}	31 _b	134
	I don't know	3 _a	2 _a	6 _a	0 _a	11
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

The test subjects within the clusters do not significantly differ from each other with regard to country of origin of the luxury products they purchase ($\chi^2[6] = 9.372; p = .154$).

A significant difference could be shown between the clusters and in relation to the environmental footprint of the luxury products ($\chi^2[6] = 31.218; p < .001$) (see Table 43). The effect was at $\phi = .405$ of middle effect size. Cluster 1 differed from the other 3 clusters in that Cluster 1's ecological footprint was less important to the purchase decision than it was to the other clusters:

Table 42: Importance of ecological footprint

		Cluster				total
		1	2	3	4	
Is a good environmental footprint of a luxury product essential for your purchase decision?	yes	3 _a	14 _b	53 _b	24 _b	94
	no	25 _a	5 _b	28 _b	29 _{a, b}	87
	I don't know	3 _a	1 _a	4 _a	1 _a	9
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

A significant difference could also be found in the engagement with which the test subjects collect information about the history of a luxury brand ($\chi^2[6] = 34.849; p < .001$) (see Table 43). The effect was at $\phi = .428$ of middle effect size. Cluster 3 and Cluster 4 differed significantly from each other in terms of the level of engagement that subjects had in seeking information related to a luxury brand's history. Cluster 3 showed less interest in brand history than cluster 4.

Table 43: Engagement in information-seeking about a brand's history

	Cluster				total
	1	2	3	4	
yes	11 _{a, b}	3 _b	15 _b	33 _a	62

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Do you inform yourself about the history of a luxury brand before purchasing their product?	no	19 _{a, b}	14 _{a, b}	65 _b	20 _a	118
	I don't know	1 _a	3 _a	5 _a	1 _a	10
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

In a similar way, the clusters also differ from each other with regard to their interest in brand's corporate social responsibility ($\chi^2[6] = 23.903; p < .001$). The effect was at $\phi = .355$ of middle effect size. Here, however, it was found that both cluster 1 and cluster 2 differed from cluster 3 and cluster 4. Cluster 1, Cluster 2 and Cluster 4 showed a significantly lower interest in brand's corporate social responsibility than Cluster 3 (see Table 44):

Table 44: Interest in brand's corporate social responsibility

		Cluster				
		1	2	3	4	total
Do you look for a brand's corporate social responsibility report before you purchase their product?	yes	3 _{a, b}	4 _{a, b}	24 _b	3 _a	34
	no	27 _{a, b}	13 _b	60 _b	50 _a	150
	I don't know	1 _{a, b}	3 _b	1 _a	1 _{a, b}	6
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

A difference in the importance of social sustainability between the clusters was also found ($\chi^2[6] = 45.636; p < .001$). The effect was at $\phi = .490$ of middle effect size. Clusters 2 and 3 showed a much higher social sustainability responsibility than Cluster 1 and Cluster 4 see Table 45):

Table 45 Importance of social sustainability

		Cluster				
		1	2	3	4	total
Is social sustainabil-	yes	8 _a	16 _b	55 _b	18 _a	97
ity important to you	no	16 _{a, b}	4 _b	28 _b	35 _a	83
when deciding to pur-	I don't know	7 _a	0 _{a, b}	2 _b	1 _b	10
chase a luxury prod-						
uct?						
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

The test subjects within the clusters do not significantly differ from each other with regard to the expectation of higher quality compared to conventional products ($\chi^2[6] = 16.115$; $p = .272$). The effect was at $\phi = .291$ of small effect size.

It could be shown that cluster 1 differed from the other clusters with regard to the expectation of the longevity of luxury products ($\chi^2[6] = 60.618$; $p < .001$). The effect was at $\phi = .605$ of strong effect size. Cluster 1 was less likely to be influenced by the longevity of a luxury product than all the other clusters (see Table 46):

Table 46: Longevity of a luxury product as argument to purchase luxury products

		Cluster				
		1	2	3	4	total
Is the longevity of a lux-	yes	14 _a	18 _b	81 _b	54 _b	167
ury product compared to	no	11 _a	2 _{a, b}	4 _b	0 _b	17
conventional products a	I dont know	6 _a	0 _{a, b}	0 _b	0 _b	6
decisive purchase argu-						
ment for you?						

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total	31	20	85	54	190
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Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

Regarding a potential increase in value of the luxury products as an argument for the purchase decision, the data analysis showed that cluster 1 differed from cluster 3 and cluster 4 in particular. For cluster 1, the increase in value of a luxury product was less important than for cluster 3 and cluster 4 ($\chi^2[6] = 48.588; p < .001$). The effect was at $\phi = .506$ of strong effect size (see Table 47):

Table 47: Potential increase in value as an argument for purchase decision

		Cluster				
		1	2	3	4	total
Is the potential increase in value of luxury products compared to conventional ones a decisive purchase argument for you?	yes	3 _a	8 _{a, b}	46 _b	46 _c	103
	no	23 _a	10 _{a, b}	34 _b	8 _c	75
	I don't know	5 _a	2 _{a, b}	5 _{a, b}	0 _b	12
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

Finally, cluster 1 differed from clusters 3 and cluster 4 in terms of the attitude that sustainability must be an integral part of a luxury product. Cluster 1 agreed significantly less with this statement than cluster 3 and cluster 4 ($\chi^2[6] = 37.782; p < .001$). The effect was at $\phi = .446$ of middle effect size see Table 48):

Table 48:Sustainability must be an integral part of a luxury product

		Cluster				total
		1	2	3	4	
Do you think sustaina- bility must be an inte- gral part of a luxury product?	yes	16 _a	16 _{a, b}	71 _b	46 _b	149
	no	7 _a	2 _a	14 _a	8 _a	31
	I don't know	8 _a	2 _{a, b}	0 _c	0 _{b, c}	10
total		31	20	85	54	190

Note: Each subscript letter indicates a subset of cluster categories whose column proportions are not significantly different at the 0.05 level.

5.10 Differences of the clusters

As can be seen in table 49, the clusters differ from each other in several aspects:

The characteristics can be used to distinguish consumer groups from one another and to draw conclusions about behavior patterns and characteristics.

Table 49: Characteristics of the clusters

Characteristics	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Image of brand	High	Low	High	-
Quality	-	-	-	-
Manufacturing processes	Low	-	High	-
Country of origin	-	-	-	-
Good environmental footprint	Low	-	-	-
History of a luxury brand	-	Low	Low	High
Brand's corporate social responsibility			High	Low
Social sustainability	Low	High	High	Low
Higher quality	-	-	-	-
Longevity	Low	High	High	High
Increase in value	Low		High	High
Sustainability as an integral	Low		High	High

Furthermore, the clusters were checked for age-specific differences. This showed at $\chi^2[15] = 28.725$; $p = .017$ a statistically significant result. The effect was at $\phi = .389$ of middle effect size. A close look at the differences between the clusters showed that only the second cluster differed

significantly from the other clusters. The age group of 25 to 34-year-old test subjects was less frequently represented in cluster 2 than in the other clusters.

A possible gender-specific difference between the clusters was also examined. There was a statistically significant difference in $\chi^2[6] = 13.264$; $p = .039$. The effect was at $\phi = .264$ of small effect size. The difference only related to the proportion of women in the third cluster. Women were more frequently represented in the third cluster than in the other clusters.

However, there was no significant difference between the clusters depending on how often luxury products are bought. There was also no difference in the preferred way of shopping for luxury products (online/offline).

As can be seen in Table 49, the clusters differ from one another in several aspects. Cluster 1 can be described as a consumer group that cares less about sustainability than the other clusters. A possible increase in value of the luxury product or longevity or higher quality are not as important to this consumer group. The consumer group of the first cluster is mainly interested in the image of the luxury brand. This consumer group could therefore be referred to as an image-oriented consumer group. The image-oriented consumer group did not differ from the other three clusters in terms of gender, age, frequency, or type (online/offline) of shopping behavior.

Luxury products are particularly important for the consumer group in the second cluster for reasons of sustainability and longevity.

The consumer group of the second cluster included significantly fewer people aged between 24 and 34 years. Here, too, there were no gender-specific differences. The consumer group of the second cluster could be described as a consumer group that experiences sustainability in the context of luxury products mainly through the component of the longevity of luxury products.

The consumer group in the third cluster is particularly interested in the sustainability of luxury products. At the same time, however, the brand image of the luxury brand is of great importance. The consumer group of the third cluster included a particularly large number of female consumers. However, there were no age-specific differences. The consumer group in the third cluster could also be referred to as a brand-conscious consumer group interested in sustainability.

In addition to sustainability and longevity, the consumer group in the fourth cluster also attaches importance to the increase in value of the luxury products they purchase. The consumers in the fourth cluster did not show any differences in terms of shopping behavior, age or gender distribution compared to the other clusters. The consumer group in the fourth cluster can best be described as a consumer group interested in value enhancement and sustainability.

CHAPTER 6
CONCLUSION

6 Conclusion

Sustainability is taking on an increasingly important role in our Western society. This assumption has been confirmed both in the literature and in the two studies conducted in the context of this thesis. For the luxury industry, the question arises to what extent this social change is also reflected in consumer behaviour. The basic assumption that the luxury industry is also affected by the social paradigm shift could not be sufficiently clarified based on the literature research. Accordingly, the research gap and resulting relevance of this work is proven.

Guideline-based expert interviews with executives from the luxury industry showed that the topic of sustainability is now present among participants. Accordingly, it can be assumed that the megatrend of sustainability has reached the luxury industry. The research has shown that companies in the luxury industry are increasingly addressing sustainability in terms of their products and philosophy, but with a focus on environmental sustainability. Social sustainability is a raising factor especially regarding corporate social responsibility reports and their public promotion. In terms of marketing and customer communication, sustainability plays only a subordinate role for luxury companies and is not directly associated with the purchase decision of customers. The measures implemented are currently hardly communicated and are not comprehensible for customers except CSR reports. This approach of the luxury industry is diametrically opposed to the megatrend of sustainability discussed in the literature.

Consumer behaviour research often faces the problem of social desirability biases. Questions on purchasing behaviour, particularly regarding the ubiquitous topic of sustainability, like other surveys on critical topics tend to be

answered embellished. Even in anonymous surveys, respondents give answers that they perceive as conforming to social expectations. For this reason, the approach of implicit attitude measurement was used to make this phenomenon visible in interviews and to identify possible deviations in the answers. Based on the assumption that respondents tend to respond in a socially compliant manner to socially critical topics such as luxury and sustainability, the entire consumer survey was programmed with technical options for response time measurement. For the respondents, there was no discernible difference between this and a conventional survey. Only in the evaluation could the reaction time be determined individually for each question and each answer and thus a subdivision into implicit and explicit answers was made.

The hypothesis that the luxury industry is influenced by sustainability and that sustainability is a relevant attribute of luxury products and thus has an influence on the purchase decision of the consumers significant agreement from the consumers. However, in the detailed analysis of the relevant components of sustainability, serious differences were found between statements. A significant influence of ecological sustainability factors on the purchase behaviour was not confirmed by the consumers. In detail it became clear that the consumers do not explicitly inform themselves about the production of the products before their purchase. Combined with the previous statement it can be deduced that consumers in principle attach importance to sustainability but do not actively deal with the actual sustainability parameters before purchasing luxury products. This behaviour has been partly anticipated by the industry, where the marketing of sustainable production is not directly used to influence purchase decisions.

From the industry side, social sustainability in form of CSR reports have been highlighted as relevant for the consumer. In this case, the consumer survey contradicted the industry's assumption. The rejection is even more pronounced when considering the response times and extraction of implicit attitudes. The offerings highlighted by the industry as particularly crucial, such as corporate social responsibility reports, are not accepted by customers. In contrast to the previous attitudes, economic sustainability and the value of conservation equated with it have a significant influence on the purchasing behaviour of customers. On the part of the industry, this factor has been assigned the lowest relevance. For the customers, however, the quality and value relevant factors are the most decisive.

From the two studies and the subsequent evaluations, it can be concluded that sustainability also plays an important role in luxury, although the individual factors are weighted differently. It can be concluded that sustainability is considered a generally given prerequisite for luxury products due to its relevance for customers. Thus, the individual parameters for the product individual purchase decision move into the background. For the industry, several recommendations for action can be derived from this finding.

1. Sustainability does not serve as a primary element in customer acquisition for luxury products.
2. Luxury customers expect a minimum level of sustainability from luxury products without this contributing decidedly to their purchasing behaviour.
3. If a company in the luxury industry does not meet the minimum sustainability requirements, this can have a significant negative effect on customers.

Furthermore, the cluster analysis allowed a segmentation into consumer behaviour related groups. For the companies, this poses the challenge of addressing the respective customer target group adequately and emphasizing the purchasing arguments accordingly. For companies in the luxury industry, this realization creates a compulsion to comply with and follow up on sustainability-promoting measures even if they are not directly related to greater sales. Customers take sustainability for granted at luxury companies without actively considering the individual parameters before making a purchase. If sustainability is not observed, great damage can be done to the reputation of companies, while only minor sales promotion can be expected from active promotion of measures. Accordingly, sustainability is an indispensable factor for luxury brands and must be integrated into the philosophy and corporate management.

6.1 Outlook

The described beginning of a transformation and change of paradigm also shows a central limitation of this study. Society is undergoing continuous change, and global interconnections are leading to ever more rapid change. Accordingly, the half-life of statements regarding consumer behaviour is short. However, this also indicates the potential for further research. With the appropriate resources, the work presented here can serve as a starting point for a long-term consumer panel study. In addition to the current attitudes of consumers, the influence of sustainability on the consumer behaviour of luxury consumers can be investigated in the long term and the methodologies used can be further developed. Finally, the global relevance of sustainability in terms of future generations and the development of our society must be emphasized.

6.2 New scientific results

The main new scientific findings can be described as follows and are organized according to the structure of the work.

1. The decision-makers in luxury companies assume a significant influence of sustainability on the purchasing behaviour of consumers. However, it has been found that the positive influence of sustainable products on consumer purchasing decisions is rather low.
2. Sustainability as a central communication element for luxury products is therefore rather unsuitable and other characteristics should be placed in the foreground. Social sustainability and ecological sustainability are significantly less important for consumers than economic sustainability. In this context, a paradox arises regarding the fundamental maximization of profits. Investments in sustainable social and ecological factors in luxury products have only a minor effect on sales and the resulting profit maximization. Nevertheless, the overall attitude of consumers towards sustainability and its relevance for luxury products is strongly positive. It can be deduced from this that consumers have a fundamentally high expectation of the sustainability of luxury products and do not consider it for individual purchases. Accordingly, failure to meet expectations can lead to a slump in sales, but meeting the factors does not have a positive impact on sales. Sustainability must therefore be seen as a fundamental component that is a necessity and not an optional determinate.
3. The possibilities that arise from the integration of reaction time measurements in surveys can provide further insights in the evaluation of surveys. The use of procedures that are not apparent to the

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respondents does not result in any disadvantages for the researchers.

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**Attachment A: Semi-structured interview guideline
(German)**

GERMAN

Interviewleitfaden für das Thema:

"Auswirkungen der Nachhaltigkeit auf das Konsumverhalten - der deutschen Luxusgüterindustrie"

Liebe/r Herr/Frau,

vielen Dank für Ihre Einwilligung, an diesem Experteninterview teilzunehmen:

Wie bereits kurz besprochen, bin ich daran interessiert, die Trends, Entwicklungen und Herausforderungen von deutschen Luxusmarken in Bezug auf den Megatrend Nachhaltigkeit zu verstehen. Das Interview dauert in etwa 15 Minuten.

Um eine valide Auswertung sicherzustellen bitte ich Sie um Ihre Erlaubnis, dieses Interview aufzuzeichnen, um anschließend eine anonyme Abschrift zu erstellen. Es wird keine Beziehung zu Ihrem Unternehmen oder Ihrer Person vermerkt und die Aufzeichnung wird unmittelbar danach gelöscht.

Haben Sie noch Fragen, bevor wir beginnen?

Experte:

Interviewer:

Datum:

Uhrzeit:

{Firma}&Nachhaltigkeit

Lassen Sie uns über den Nachhaltigkeitstrend der letzten 24 Monate sprechen ...

1. Eisbrecherfrage

- 1.1 Welche Verbindung besteht zwischen Luxus und Nachhaltigkeit für Ihr Unternehmen?

2 Ökologisch

- 2.1 Wie bewerten Sie den Einfluss des ökologischen Bestandteiles von Nachhaltigkeit auf die Luxusbranche und ihr Unternehmen?
- 2.2 Hat Ihr Unternehmen spezifische Maßnahmen zur Verbesserung seines ökologischen Fußabdrucks durchgeführt und/oder wurde das Produktportfolio umweltbedingt verändert?
- 2.3 Sind diese Maßnahmen extern nachvollziehbar und werden an die Kunden kommuniziert?

3 Sozial

- 3.1 Wie bewerten Sie den Einfluss des sozialen Bestandteiles von Nachhaltigkeit auf die Luxusbranche und ihr Unternehmen?
- 3.2 Hat Ihr Unternehmen spezifische Maßnahmen zur Förderung seines sozialen Engagements durchgeführt?
- 3.3 Sind diese Maßnahmen extern nachvollziehbar und werden an die Kunden kommuniziert?

4 Ökonomisch

- 4.1 Wie bewerten Sie den Einfluss des ökonomischen Bestandteiles von Nachhaltigkeit auf die Luxusbranche und ihr Unternehmen?
- 4.2 Hat Ihr Unternehmen spezifische Maßnahmen zur nachhaltigen Gestaltung seines alltäglichen Geschäftsbetriebs durchgeführt?
- 4.3 Sind diese Maßnahmen extern nachvollziehbar und werden an die Kunden kommuniziert?

5 Ausblick

Impact of sustainability on the consumer behaviour in the luxury industry

Haben Sie etwas im Sinn, das Sie hinzufügen möchten, worüber wir noch nicht gesprochen haben?

Vielen Dank für Ihre Zeit und den Austausch Ihrer Erfahrungen.

Schriftliche Vereinbarung

Firma:

Interviewpartner:

"Ich erkläre, dass Arno Böhnert mein Einverständnis hat, unser Interview aufzuzeichnen und für sein Forschungsprojekt über " Auswirkungen der Nachhaltigkeit auf das Konsumverhalten -der deutschen Luxusgüterindustrie" zu transkribieren.

Ich erkläre mich ferner damit einverstanden, dass die Daten für Forschungszwecke verwendet werden dürfen. Mir wurde zugesichert, dass meine Identität und die der Firma oder der Namen der Interviewpartner anonym behandelt werden und dass alle Tonaufnahmen nach der Transkription gelöscht werden. Die Ergebnisse dieser Umfrage werden auf Anfrage allen Interessierten Interviewpartnern zur Verfügung gestellt.

Datum, Ort

Unterschrift

Attachment B: Semi-structured interview guideline
(English)

ENGLISH TRANSLATION

Semi-structured interview guideline:

The impact of sustainability on luxury consumption behaviour – Analysis within the German luxury goods industry

Dear Sir/Madam,

Thank you for agreeing to participate in this expert interview:

As briefly discussed, I am interested in understanding the trends, developments, and challenges of German luxury brands in relation to the sustainability megatrend. The interview will take about 15 minutes.

To ensure a valid evaluation, I ask for your permission to record this interview to create an anonymous transcript afterwards. No relation to your company or person will be noted and the recording will be deleted immediately afterwards.

Do you have any questions before we begin?

Expert:

Interviewer:

Date:

Time:

{Company} & Sustainability

Let's talk about the sustainability trend over the last 24 months ...

1. Icebreaker question

1. What is the connection between luxury and sustainability for your company?

2. Ecological

1. How would you rate the impact of the environmental component of na-chustainability on the luxury industry and your company?
2. Has your company implemented specific measures to improve its environmental footprint and/or has the product portfolio been changed environmentally?
3. Are these measures externally traceable and communicated to customers?

3. Social

1. How do you assess the impact of the social component of sustainability on the luxury industry and your company?
2. Has your company implemented specific measures to promote its social commitment?
3. Are these measures externally traceable and communicated to customers?

4. Economic

1. How do you assess the impact of the economic component of sustainability on the luxury sector and your company?
2. Has your company implemented specific measures to make its day-to-day business operations sustainable?
3. Are these measures externally traceable and communicated to customers?

5. Outlook

Impact of sustainability on the consumer behaviour in the luxury industry

Do you have anything in mind that you would like to add that we haven't talked about yet?

Thank you for your time and sharing your experiences.

Confidentiality declaration

Company:

Expert:

"I declare that Arno Böhnert has my consent to record our interview and transcribe it for his research project on " Impacts of sustainability on consumer behavior -of the German luxury goods industry".

I also agree that the data may be used for research purposes. I have been assured that my identity and that of the company or the names of the interview partners will be treated anonymously and that all audio recordings will be deleted after transcription. The results of this survey will be made available to any interested interviewee upon request."

Date

Signature

Attachment C: Code list

MAXQDA2020

<u>List of codes</u>	<u>Quantities</u>
<u>Codesystem</u>	<u>138</u>
<u>3 Social</u>	<u>10</u>
<u>Additional</u>	<u>12</u>
<u>1 Economical</u>	<u>32</u>
<u>2 Social</u>	<u>11</u>
<u>1 Social</u>	<u>15</u>
<u>3 Ecological</u>	<u>15</u>
<u>2 Ecological</u>	<u>18</u>
<u>1 Ecological</u>	<u>13</u>
<u>Connection</u>	<u>12</u>
<u>Paraphrasen</u>	<u>1</u>

Attachment D: Questionnaire setup

Detailed Project Overview: "Luxury consumer trends"

Description:

This project contains all the questions and answers that may be used in the questionnaires.

Branding:

Outer Image:**Inner Image:**

Page Title: questfox - what's your quest?

Project intro:

Dear participants,

Thank you very much for supporting this study on luxury consumer behavior.

The questions relate exclusively to your purchase of luxury products (e.g. Chanel, Louis Vuitton, Montblanc, Rolex).

There is no right or wrong answer to these questions - what matters is your opinion based on your experience. All your answers are ANONYMOUS and CONFIDENTIAL. The questionnaire will take approximately 5 minutes to complete.

Arno Böhnert

Q1: Versteckte Frage (active)

Questions:

Question-IDs:

Question-Block 1: e934e39e-ddbf-4026-bb06-372c678d56e9

Diese versteckte Frage dient der Überwachung der Rückläufe über verschiedene Links. Zunächst sollten hier für alle Teammitglieder die Namen und der Kanal, den dieses Teammitglied nutzen will eingetragen werden. Danach sind unter INVITE - Re-Direct Links - Links zu generieren, die diese versteckte Frage mit dem Zahlenwert füllen. Auf diese Weise ist eine Auswertung möglich, da das Ergebnis der Frage vorliegt und somit ausgewertet werden kann.

Allgemein Ipad Direkt Facebook WhatsApp Ungarn Monaco

7 8 9 10

Question 1 Scale-Items:

Sequence Label Value

1 Allgemein 1 2 Ipad Direkt 2 3 Facebook 3 4 WhatsApp 4 5 Ungarn 5 6 Monaco 6 778
887 999 101010

Back/Next buttons:

Please answer the question(s).

Open answer

Open answer width

50

50

50

50

50
50 500 500 500 500

Quiz Value

0 0 0 0 0 0

Q2: Kaufen Sie Luxusgüter? (active)

Questions:

Question-IDs:

Question-Block 1: 4f2f22b9-cd61-4337-a7fc-fdef31795979

Question-Block 2:

932ed41d-d1b7-41ee-b9e4-984571342b6a

Have you purchased any luxury products in the last 12 months? (e.g. Chanel, Louis Vuitton, Montblanc, Rolex)

Text Yes ^{above} Text below

Question 1 Scale-Items:

Sequence Label Value

No Please select an answer.

Open answer

Open answer width

Quiz Value

1Yes1 500 2No2 500

Response time on this page

Back/Next buttons:



Q3: Regelmäßige Käufer (active)

Questions:

Question-IDs:

Question-Block 1: 2e22dff9-b0c3-4511-8b75-ea9df371bacd

Question-Block 2:

004e53c3-2e6c-4e20-8c31-f40be5a5d8c0

How often do usually you purchase luxury products?



1 - 3 times per year



4 - 6 times per year

7 - 12 times per year

More than 12 times per year

Question 1 Scale-Items:

Sequence Label

1. 1 1 - 3 times per year
2. 2 4 - 6 times per year
3. 3 7 - 12 times per year
4. 4 More than 12 times per year

Please select an answer.



Value

1 2 3 4

Open answer

Open answer width

50 50 50 50

Quizz Value

0 0 0 0



Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q4: Segmentation Multi (active)

Questions:

Question-IDs:

Question-Block 1: 81b83b9b-0b69-4241-927d-54117b3af594 0f19da82-a60a-4d0f-a309-708636168684 7ccc139b-c3d9-4a8d-9354-a78e72c52f9d fb43b201-e7f0-4d8c-a35b-ace0a966036c 0dad664b-18b1-40a7-8466-692f0d12c135 f5d81fc8-58bc-4c76-b1b4-cd7c0a9d1b33 40b16be6-d6e6-4f7f-aaba-43086b83bb8b

Question-Block 2:

9eca0f7a-a8ce-4fcc-ab31-051e1d67195c

Which luxury products of the following categories are you **intending to purchase** within the next 6 months? (Please select as many answers as applicable)

Automotive Others Fashion & Accessories None Interior
Jewelry & Watches

Perfume & Cosmetics Question 1 Scale-Items:

Sequence Label

1. 1 -not answered-
2. 2 -answered-

Question 2 Scale-Items:

Sequence Label

1. 1 -not answered-
2. 2 -answered-

Question 3 Scale-Items:

Sequence Label

1. 1 -not answered-
2. 2 -answered-

Question 4 Scale-Items:

Sequence Label

1. 1 -not answered-
2. 2 -answered-

Question 5 Scale-Items:

Sequence Label

1. 1 -not answered-

2. 2 -answered-

Question 6 Scale-Items:

Sequence Label

1. 1 -not answered-

2. 2 -answered-

Question 7 Scale-Items:

Sequence Label

1. 1 -not answered-

2. 2 -answered-

Value

0 1

Value

0 1

Value

0 1

Value

0 1

Value

0 1

Value

0 1

Value

0 1

Please answer the question(s).

Open answer

Open answer

Open answer

Open answer

Open answer

Open answer

Open answer

Open answer width Quizz Value

50 0 50 0

Open answer width Quizz Value

50 0 50 0

Open answer width Quizz Value

50 0 50 0

Open answer width Quizz Value

50 0 50 0

Open answer width Quizz Value

50 0 50 0

Open answer width Quizz Value

50 0 50 0

Open answer width Quizz Value

50 0 50 0



Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q5: Online/Offline (active)

Questions:

Question-IDs:

Question-Block 1: e52bfa43-caf2-403b-9e64-6244bf394989

Question-Block 2:

72a62e8e-9957-4347-90ff-0b17cd1521fd

How do you predominantly purchase luxury products?

Online

Offline

No preference

Question 1 Scale-Items:

Sequence Label

1 Online 1 2 Offline 2 3 No preference 3

Value

Please select an answer.

Open answer

Open answer width

Quizz Value

50 0 50 0 50 0



Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:



Q6: Online Shopper (active)

Questions:

Question-IDs:

Question-Block 1: d8229bb4-90ff-4b49-979e-e6e983e55929

Question-Block 2:

a65dd230-e8e0-4ff4-8019-2ea67b63b5c1

Please select your most **preferred** point of purchase.



Brand Webshop



Multibrand Webshop Secondhand Webshop Others

Question 1 Scale-Items:

Sequence Label

Please select an answer.



Value

Open answer

Open answer width

Quiz Value



1. 1 Brand Webshop
2. 2 Multibrand Webshop
3. 3 Secondhand Webshop

4Others5 500

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

1 2 3

50 50 50

0 0 0



Q7: Offline Shopper (active)

Questions:

Question-IDs:

Question-Block 1: 90b034c2-5b2c-4e2d-b717-430ed71e3c4b

Question-Block 2:

dc6015de-461f-405e-964d-bd4676b52790

Please select your most **preferred** point of purchase.



Monobrand Store Multibrand Store Secondhand Store Others

Question 1 Scale-Items:

Please select an answer.

Sequence

1 2

Label

Monobrand Store Multibrand Store

Value

Open answer

Open answer width

50 50

Quizz Value

0 0

1 2

3 | Secondhand Store | 3 | | 50 | 0

4Others5 500 Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q8: Image (active)

Questions:

Question-IDs:

Question-Block 1: 2766cfbe-4ad4-43f7-af63-1a950e03effc

Question-Block 2:

a3676372-4dc0-496f-ae04-a8dacbd0b2f6

Is the **image** of a luxury brand decisive for your purchase decision?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q9: Quality (active)

Questions:

Question-IDs:

Question-Block 1: 126db50b-46fd-4e0c-9fcf-ea9ff54fd3ee

Question-Block 2:

92ecb149-a960-4b46-b4f7-d4aae060c8b8

Is the **quality** of a luxury product decisive for your purchase decision?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1Yes1 500 2No2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q10: Nachhaltigkeit INTRO (active)

Questions:

Question-IDs:

Question-Block 1:

Based on social development, the topic of sustainability is increasingly becoming the focus of public attention. The following questions, therefore, relate to the connection between sustainability and luxury consumption.

Back/Next buttons:

Q11: Ökologische Nachhaltigkeit 1 (active)

Questions:

Question-IDs:

Question-Block 1: 61b462db-adbf-4d92-a6d4-e3608f558b5c

Question-Block 2:

be30c7a9-0488-4a91-abf7-6c21c9863e4b

Are you aware of the **manufacturing processes** of the luxury product you purchase?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q12: Ökologische Nachhaltigkeit 2 (active)

Questions:

Question-IDs:

Question-Block 1: efde895e-4369-4468-8cbe-72956e61ed12

Question-Block 2:

41b72cfd-2547-4674-9357-5af8d470c246

Is the **country of origin** relevant for your luxury product purchase decision?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1Yes1 500 2No2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q13: Ökologische Nachhaltigkeit 3 (active)

Questions:

Question-IDs:

Question-Block 1:

72ca767d-ad5d-4e58-b856-ba4ce22cb72f

Question-Block 2:

5e0c2297-30cf-492e-b958-2576536a0854

Is a good **environmental footprint** of a luxury product essential for your purchase decision?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q14: Soziale Nachhaltigkeit 1 (active)

Questions:

Question-IDs:

Question-Block 1: 3af49bb0-ee63-41d6-8bf1-578c4a401fb6

Question-Block 2:

af55c8ac-2b72-44ac-be27-3f9717821e4b

Do you inform yourself about the **history** of a luxury brand before purchasing their product?

Yes
No
I don't know



Please select an answer.

Question 1 Scale-Items:

Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:



Q15: Soziale Nachhaltigkeit 2 (active)

Questions:

Question-IDs:

Question-Block 1: 0bb836f6-4e2f-49b0-aff9-8a49acb6a140

Question-Block 2:

15d672e5-28bb-4b35-8e53-98e8f648ecf7

Do you look for a brand's **corporate social responsibility report** before you purchase their product?



Yes
No
I don't know

Question 1 Scale-Items:

Please select an answer.



Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.



Back/Next buttons:

Q16: Soziale Nachhaltigkeit 3 (active)

Questions:

Question-IDs:

Question-Block 1: 2f94b778-439f-45e2-97a9-1df57cca3460

Question-Block 2:

d1d79449-5b21-46c2-9c64-d77980cebf2f

Is **social sustainability** important to you when deciding to purchase a luxury product?



Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.



Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:



Q17: Ökonomische Nachhaltigkeit 1 (active)

Questions:

Question-IDs:

Question-Block 1: a881c153-8c7e-4fa8-8cb2-5e51021fb556

Question-Block 2:

4da82f4c-01c0-4330-934f-d6c4c49cde6e

When you purchase luxury products, do you expect them to be of **higher quality** than conventional products?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q18: Ökonomische Nachhaltigkeit 2 (active)

Questions:

Question-IDs:

Question-Block 1: 0ae77f16-105c-42c3-83f8-f18a1be21ec4

Question-Block 2:

cca71309-a21a-44ab-9d93-ca32135cb576

Is the **longevity** of a luxury product compared to conventional products a decisive purchase argument for you?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1Yes1 500 2No2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:

Q19: Ökonomische Nachhaltigkeit 3 (active)

Questions:

Question-IDs:

Question-Block 1: 6d7dc4e9-de4d-4489-a195-f5264e8d56b3

Question-Block 2:

69d25ea5-945d-426b-86bf-fd00cea77954

Is the **potential increase in value** of luxury products compared to conventional ones a decisive purchase argument for you?

Yes

No

I don't know

Question 1 Scale-Items:

Please select an answer.

Sequence Label Value Open answer Open answer width Quizz Value

1Yes1 500 2No2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Q20: Connection Sustainability-Luxury (active)

Questions:

Question-IDs:

Question-Block 1: 167b66c0-0617-4d5a-b2f4-b14c1a924910

Question-Block 2:

ed842a4f-af51-45fd-89c8-94a1ca7be4d7

Do you think **sustainability** must be an integral of a luxury product?

Yes
No
I don't know

Question 1 Scale-Items:

Please select an answer.



Sequence Label Value Open answer Open answer width Quizz Value

1 Yes 1 500 2 No 2 500 3 I don't know 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:



Q21: No luxury consumer (active)

Questions:

Question-IDs:

Question-Block 1: 58f85ee0-746c-40f8-8601-205807ddf354

Question-Block 2:

efc7d242-6f63-41e9-97a6-b19e484c936d Why did you **not** purchase luxury products?

Not interested Not sustainable Too expensive Other reasons

Question 1 Scale-Items:

Sequence Label Value

1. 1 Not interested 1
2. 2 Not sustainable 2
3. 3 Too expensive 3

4. 4 Other reasons 4

Please select an answer.

Open answer

Open answer width

50 50 50 50

Quizz Value

0 0 0 0



Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:



Q22: Geschlecht (active)

Questions:

Question-IDs:

Question-Block 1: d00c3f15-11cb-42f6-a424-a38091ea2af4

Question-Block 2:

a2453f04-7112-4d6e-953c-3080eda6fe9a Please indicate your gender.

Female

Male

I prefer not to answer

Question 1 Scale-Items:

Please select an answer.



Sequence Label Value Open answer Open answer width Quizz Value

1Female1 500 2Male2 500 3 I prefer not to answer 3 50 0

Saves the response time on a page. Hidden question which does not allow Auto-Next.

Back/Next buttons:



Q23: Alter (active)

Questions:

Question-IDs:

Question-Block 1: 50b7f5f2-ac5d-4901-9a0b-9cdea9829aa5

Question-Block 2:

7f3429e9-4b6d-4ff0-8188-16b4b2906686 Please indicate your age.

18 - 24

25 - 34

35 - 44

45 - 54

55 - 64

65 and over



I prefer not to answer Question 1 Scale-Items:

Please select an answer.

Sequence Label Value

118-241 225-342 335-443 445-544 555-645 6 65andover 6 7 I prefer not to answer 7

Open answer

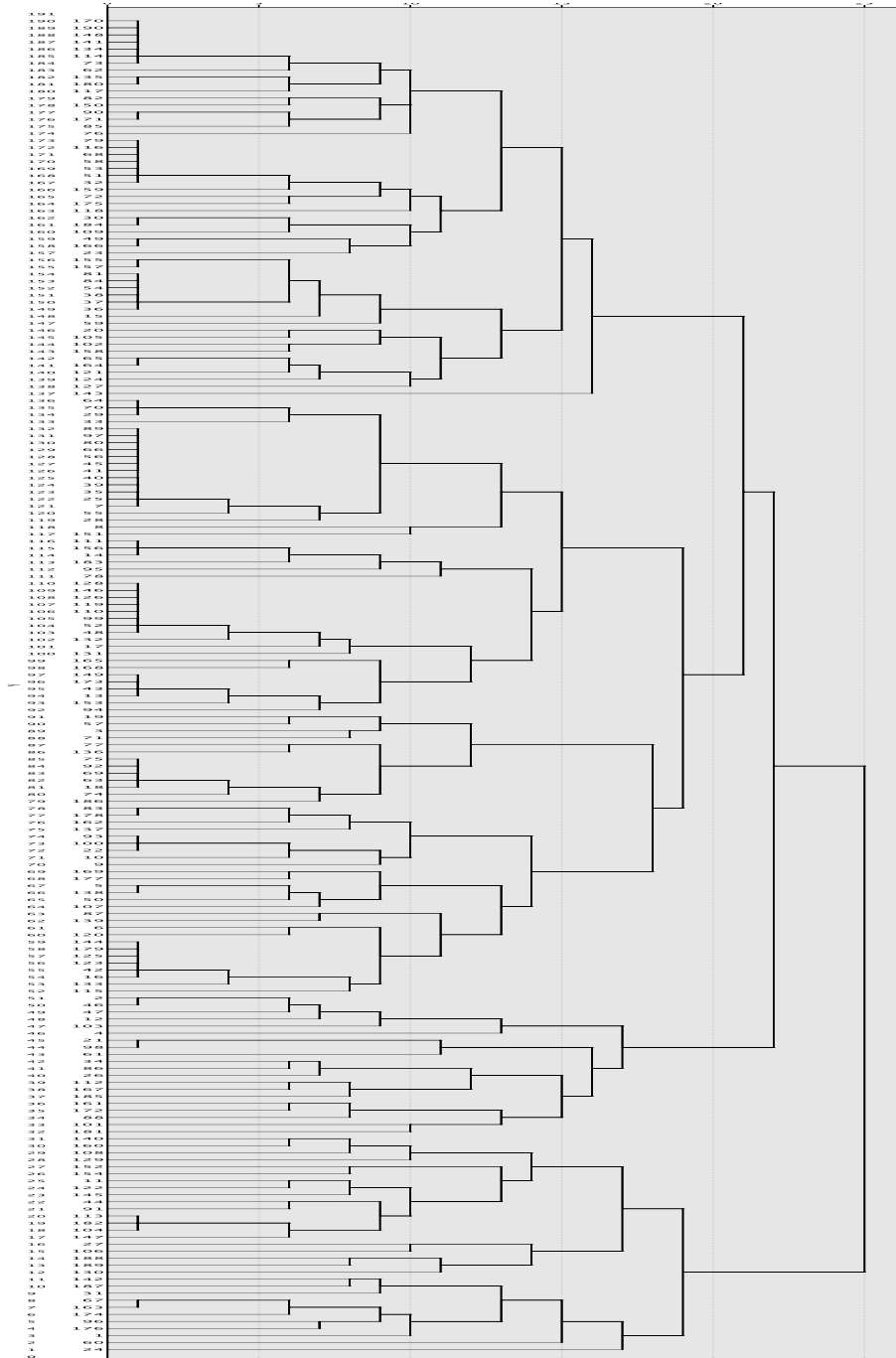
Open answer width Quizz Value

500 500 500 500 500 500 500



Saves the response time on a page. Hidden question which does not allow Auto-Next.

Attachment E: Cluster analysis dendrogram



Attachment F: Professional CV

Arno Friedrich Böhnert was born on the 6th of May 1991 in Hamburg, Germany. He earned his dual bachelor's degree in business administration from Corporate State University Baden-Wuerttemberg in 2015, in conjunction with a 3-year apprenticeship at MOBOTIX AG in Kaiserslautern. After graduation, he took the position of executive assistant to the CSO at Mobotix AG. After one year he continued his academic career at Munich Business School and successfully graduated with a Master of International Business. He continued his studies at Florida International University in Miami and graduated with a Master of Business Administration in 2017. He afterwards joined Robbe & Berking in Flensburg as Export Manager for the regions Middle East & Africa. After six month he got promoted to Sales Director Middle East, Africa & Asia Pacific. In 2018, he started his part-time PhD at MATE University, Kaposvar Campus, where he primarily focused his research on the luxury industry which has also been the focus of his professional carrier, which he continued as Chief Sales Officer at M Yachts AG, a worldwide operating superyacht management, brokerage and charter company. His doctoral dissertation is titled "The Impact of Sustainability on Luxury Consumption Behaviour – Analysis within the German luxury goods industry". From 2020 to 2022, Arno Böhnert was a lecturer for marketing and sales at Hochschule für Technik und Wirtschaft Berlin. Since a young age he also pursued his carrier as a professional offshore sailor which he is still continuing today, being involved in world-wide regattas.

Attachment G: Publications

Peer Reviewed Journals

1. Biewendt, M., Blaschke, F., Böhnert, A. (2020). The Rebound Effect – A Systematic Review of the Current State of Affairs. *European Journal Of Economics And Business Studies*, 6(1), 106-120. doi: 10.26417/ejes.v6i1.p106-120.16
2. Biewendt, M., Blaschke, F., Böhnert, A. (2020). An Evaluation Of Corporate Sustainability In Context Of The Jevons Paradox. *SocioEconomic Challenges*, 4(3), 46-65. doi: 10.21272/sec.4(3).46-65.2020.17
3. Blaschke, F., Biewendt, M., Böhnert, A. (2020). The Repercussions of the Digital Twin in the Automotive Industry on the New Marketing Logic. *European Journal of Marketing and Economics*, 4(1), 68–73. doi: 10.26417/229eim64f.
4. Biewendt, M., Blaschke, F., Böhnert, A. (2021). A Review of Contemporary Challenges in Business Culture. *International Journal of Applied Research in Business and Management*, 2(1), doi: 10.51137/ijarbm.2021.2.1.1.
5. Biewendt, M., Blaschke, F., Böhnert, A. (2021). Motivational Factors in Organisational Change. *SocioEconomic Challenges*, 5(3), 15-27, doi: 10.21272/sec.5(3).15-27.2021M.
6. Böhnert, A., Blaschke, F., Biewendt, M. (2022). Impact of Sustainability on the Strategic Direction of Luxury Companies. *European Journal of Marketing and Economics*. 8(1).59-73. ISSN: 2601-8659.18

7. Böhnert, A. (2023). Influence of sustainability on the purchasing behaviour of luxury customers - A consumer survey and trend analysis. *European Journal of Marketing and Economics*- under review