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***The food waste phenomenon in the hotel and
conference industry: A case study of the
Helnan Marselis Hotel, Aarhus***

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Abstract

This master's thesis addresses the food waste phenomenon in the hotel and conference industry foregrounding the role of people's behavior, awareness and thoughts in dealing with this global issue. Moreover, this paper is trying to analyze the way in which people could be nudged to spread valuable good practice in order to reduce the food waste phenomenon in the hotel and congress industry.

Food waste phenomenon and tourism industry relationship is closely linked and spark interest among scientists as a sustainable development key approach yet being quite underrated nowadays. Therefore, on the one hand, this paper topic is important since it investigates this above-mentioned relationship and points out that tourists or staff behavior, and the decision-making process obviously affect the food waste phenomenon, which only recently has become subject to in-depth scientific research. On the other hand, the choice of this research area closely aligns with a huge worldwide tourism industry concern of developing new effective measures in raising awareness among decision makers regarding the efficient food waste management, especially in the case of our world, where one out of nine people suffers of hunger (Fighting Food Waste in the Tourism Sector, 2020). Apart from this, given that I have been working for almost one year as a waitress at Helnan Marselis hotel in Aarhus, my work allows me to observe the way food waste is present in the social and cultural milieu of this hotel.

In this view, different theories of 'nudges' have been studied and used in this thesis to explore the theoretical background of the paper topic and thus, to gain useful research skills and specific knowledge. This scholarly approach of the thesis core concepts triggers new functional managerial pathways that strongly influence people's behavior, choices and awareness in line with the context of this thesis and with regard to the food waste phenomenon in the tourism and hospitality industry.

Accordingly, mixed research has been carried out to capture food waste issues in hotel and restaurant context. Thus, significant desk and field research data has been carefully gathered so as to help answer the research question of this paper. On top of that, we carried out the investigation

based upon trustworthy and relevant academic literature (such as, articles, books, reports, etc.) , which was the starting point of the main research methods, i.e., an original survey questionnaire including 100 respondents and three qualitative interviews with applicable staff from Helnan Marselis hotel. These research methods aid in collecting precious data and understanding the main problems associated with the paper's research question.

After conducting a prudent and careful analysis by comparing and contrasting all the collected field and desk data, it can be inferred a few useful findings and potential future recommendations that provide new insights and spark interest and motivation of managers and tourists in food waste reduction for the hotel and conference industry (including the Helnan Marselis hotel referenced herein).

The study results have consequentially revealed some new dimensions of the food waste phenomenon and suggested possible new ways of diminishing food waste within the tourism industry. In addition, a strong public awareness of the food waste phenomenon has been activated. These study results mean not only that there is a great potential future possibility of nudging people to be more aware about food waste but also that managers, tourists, and staff can and should take action and important practical measures towards stopping this negative phenomenon in the tourism and hospitality industry. In this light, the hotel and conference sector is supposed to possibly play a major society's leading role in combatting starvation and ecological issues through facilitating the process of minimizing this terrible worldwide spread phenomenon of food waste.

In a nutshell, this paper findings imply that there are some possible valuable options or nudges as a way out of food waste if people can be successfully nudged forward both into sharing their positive experience and make the correct choice to act firmly against food waste and to become more educated on food waste reduction. Hence, the implementation of the study positive outcomes entails a functional valuable overview of the food waste issues and best practice impact on food waste reducing. To go further, the paper also suggests further research approaches to the interesting research area of reducing the global food waste phenomenon, which unfortunately badly affects the world we are living in, where, paradoxically, millions of people are dying every day from malnutrition and starvation whilst there is still so much food thrown away in the hospitality and tourism industry.

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1. Introduction

This thesis revises the phenomenon of food waste related to the hotel industry and the conferences and events held inside the hotels. By way of example, the hotel Helnan Marselis from Aarhus will be taken into account. Consequently, the roots of this paper arose while observing and experiencing the ‘food waste’ phenomenon when I was working as a waitress at the above-mentioned hotel, in Aarhus, Denmark.

As recent research indicates, despite the fact that food waste is one of the major, easiest and lowest-cost nudge intervention (Valério-Souza Netoa et al., 2022), there is a gap in food service hospitality research regarding this topic. Consequently, according to the same authors ethical consumption (Cozzio et al., 2020) and a causal relationship among food waste, BE (behavioural economics) and low-cost measures in restaurants and hotels is needed.

Given that tourists are not quite eco-friendly because they are mostly unaware of reducing the hotel consumption expenditure in terms of water and energy for instance (Kim et al., 2020; Valério-Souza Netoa et al., 2022) or food waste (Dolnicar et al., 2020), there is a need to fill this gap between the ecological behaviour and tourists’ attitudes and values (Juvan & Dolnicar, 2014). Thus, it is crucial to explore, impact and unlock the customers’ feelings as relevant tools to give way to the rise of new green behaviours (Han, 2021).

Accordingly, there is a huge demand for more researches focused on the lack of the *green nudges* causes and practice-based interventions in tourism (Valério-Souza Netoa et al., 2022). Thus, among other kinds of interventions which foster the tourists green behaviour, such as a long-term reusing towels during their accommodation, i.e. food waste (Dolnicar et al., 2020), good eating habits in food service (Filimonau et al., 2017), the reuse of towels in accommodation (Gossling et al., 2019) or the lack of carbon compensation if generated by their trips (Tyers, 2018).

When living in a world where one out of nine people in the world suffers of hunger (Fighting Food Waste in the Tourism Sector, 2020), and this is steadily increasing more and more since 2014 (United Nations, n.d.), it is extremely sad and unacceptable the fact that, on a yearly average, more

than one billion tons of food is lost or wasted globally (Fighting Food Waste in the Tourism Sector, 2020).

Furthermore, the Global indicator framework for the Sustainable Development Goals (SDGs), as well as significant targets of the 2030 Agenda for Sustainable Development draw attention on global food waste challenge through mentioning the core issue of *food waste reduction* in line with the *Goal 12 – Sustainable consumption and production patterns* (United Nations, 2022). Accordingly, the importance of diminishing food waste is highlighted by another key goal from the 2030 Agenda for Sustainable Development, i.e., indicator SDG 12.3., which recommends that we have to reduce it: *‘By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses’* (United Nations, 2022).

Therefore, tackling the food waste phenomenon is also considered to be a worldwide important goal and target.

1.1. Food Waste

The **food waste** phenomenon already slowly arises from the very first stage of the value chain (Fighting Food Waste in the Tourism Sector, 2020). However, in this paper, investigating and analyzing the food waste from the consumption’ stage will be mainly questioned and targeted.

Food waste or food loss denotes all the food which is compromised, thrown away and/or wasted at the level of farmers, retailers, different food service providers (e.g., restaurants, hotels, etc.), and consumers (Food waste in Europe: statistics and facts about the problem, 2021). In addition, some other examples which illustrate the food waste phenomenon include the following : if the fresh produce food does not meet the requirements of the retailers/buyers (shape, color, size) or if it is not considered optimal, all the food is thrown away by the retailers or customers; as the food expiry date approaches or is exceeded food is removed from the marketplace, and all the leftovers are thrown away from a restaurant/food provider enterprise or a household (Food waste in Europe: statistics and facts about the problem, 2021).

According to the estimates of the Food and Agriculture Organization of the United Nations (FAO), one third of the worldwide produced food is wasted, an amount which could be enough to feed at least two billion people (United Nations, 2022). As FAO mentions, an average of 14 percent of food produced is already being wasted during the harvest process or between the harvest and retail. Another very significant quantity (an estimated 17 percent) of the global produced food is wasted in retail and at the consumption level (United Nations, 2022). All the lost and wasted food is accountable for approximately 38 percent of the total energy which is consumed in the food system production worldwide (United Nations, 2022).

When wasting food, one can actually dissipate all the resources, transport and processes which helped to create that specific food, such as land, water and fuel. All these damages occur without getting any benefits out of it, there is nothing but pure waste (Food waste in Europe: statistics and facts about the problem, 2021).

Wasting food could be seen as quite a major element of negative influences on the entire world and its climate. According to the official statistics of the World Resources Institute from 2016 (World Greenhouse Gas Emissions: 2016, 2020), on the one hand the whole process of producing food (starting with farms, continuing with retail, and until consumption), and on the other hand the entire wasting processes are even worse than oil extraction (3.8%) or than the total emissions from flying (1.9%) (World Greenhouse Gas Emissions: 2016, 2020).

To be more precise, as the UNEP Food Waste Index Report from 2021 (UNEP Food Waste Index Report 2021, 2022) states, approximately 8% - 10% of the global greenhouse gas emissions are in fact caused by the food waste.

Some other sad facts regarding food waste, which could help nudging people and making them rethink this phenomenon can be mentioned. Hence, throwing away only one burger equals in value of a 90-minute shower waste (Water Footprint Network, n.d.), and eradicating food waste could save over four millions of CO₂ per year (Food Waste and Hunger Facts | OzHarvest, 2022). One more motivating element in order to fight food waste is that its decrease is seen as the third most operative instrument in the fight against climate change (Reduced Food Waste #ClimateSolutions, 2022).

1.2. The Paris Agreement

The Paris Agreement, which is ‘*a legally binding international treaty on climate (United Nations Climate Change - The Paris Agreement, 2022)*’, aspire to limit the global warming and reduce the Greenhouse Gas emissions of the countries. The Paris Agreement is a five-year cycle of gradually determined climate action supported and achieved by the majority of countries (United Nations Climate Change - The Paris Agreement, 2022). The Paris Agreement also provides financial, technical and capacity building support for the countries who need it in order to succeed their long-term development ideas (United Nations Climate Change - The Paris Agreement, 2022).

One of the most important things mentioned in the Paris Agreement is to alleviate the Greenhouse Gas consumption through developing sustainable solutions by the public and private entities (The Paris Agreement, 2015). This document recommendations are corroborated with the other ideas that have been expressed before in the paper, both food waste and all its cycle represent quite a part of the world’s greenhouse gas emissions. Consequently, it is through nudging people that we can constantly improve practice with regard to food waste. This solution might make a small but gradual difference to the world and its climate change.

All these above-mentioned elements and worldwide challenges have led to the following potential research question:

How to nudge people so as to have a better practice/behavior which helps to avoid food waste in the hotel and congress industry?

1.3. Carbonization

According to Marsh and Rodríguez-Reinoso, **carbonization** is ‘*a process by which solid residues with increasing content of the element carbon are formed from organic material usually by pyrolysis in an inert atmosphere*’ (Marsh and Rodríguez-Reinoso, 2006).

Food waste represents quite a major source of possibly available reusable nutrients. Therefore, different experiments conducted in laboratory in order to study the hydrothermal carbonization of

food waste from restaurants/hotels have been conducted. This research was mainly carried out with the scope of understanding how the changes in both product composition and carbonization process have an impact on the primary and secondary nutrient purpose (Idowu et al., 2017).

As stated by Liang Li and Ryan Diederick (2013), hydrothermal carbonization (HTC) represents a thermal conversion procedure which converts the food wastes and all related packaging materials into a respectively valuable and energy-rich resource. Different food waste which has been collected from restaurants was hydrothermally carbonized within a period at various temperatures such as 225, 250 and 275 degrees Celsius. This technological process was implemented in order to establish how process conditions do affect the carbonization product properties and its structure/composition (Liang et al., 2013). All these experiments were also conducted to define and determine if there was any positive or negative influence of packaging material on food waste carbonization (Liang et al., 2013).

1.4. Tourism Industry

Tourism is one of the major industries and economic activities *across* Europe which highly contributes and influences the economic growth, social development, and employment rate.

The travel and tourism industry is representing worldwide an average percent share of about 10 percent of the total gross domestic product (GDP) (Statista, 2021).

Nevertheless, like any other industry the tourism industry is extremely influenced by different external factors or challenges. For instance, in 2020, its total GDP represented only 5.5 percent of the global GDP which was a great discrepancy and decline in the travel and tourism industry's total GDP (Statista, 2021). This was due to the global Covid-19 pandemic which provoked many travel restrictions and disruption all over the world (Statista, 2021). Furthermore, political and social security, food and accommodation/location safety as well as different sustainability or socio-cultural threats and/or trends could also represent a few other possible challenges for the travel and tourism industry (Policy overview, n.d.).

Thus, a Communication by the European Commission (EC) was adopted in June 2010, with a completely new political framework and action plan regarding the tourism in Europe. The EC'

Communication ‘Europe, the world's No. 1 tourist destination – a new political framework for tourism in Europe’ focused on providing a much more sustainable and high-quality destination image of the tourism. Moreover, a great importance was given to the development of the responsible and sustainable tourism (Policy overview, n.d.). All these initiatives and strategies were taken/carried out in collaboration with public authorities, different tourism organizations, and other public or private tourism stakeholders (Policy overview, n.d.).

1.5. Hospitality and Hotel industry

Hospitality means offering a home away from home for travelers and warmly welcoming them (*What is hospitality?* 2022). As for the word hospitality, it etymologically originates from the Latin word ‘*hospes*’ literally meaning both ‘visitor’ and ‘stranger’, and it has its first roots already in ancient past (EHL Insights, 2022).

The hospitality industry is a quite massive industry sector that includes the economic activities which are mainly contributing directly or indirectly to travel and tourism industry (EHL Hospitality Business School, 2022). Thus, the hospitality industry is extremely broad and comprises different sectors e.g., for instance: the hotel, restaurant, travel, tourism, spa & wellness, cruise, and event industries (EHL Insights, 2022).

Hospitality and Tourism industry is continuously developing and growing. According to statistics and future forecast from the UNWTO’s International Tourists Arrivals 1950-2030, over the last two decades, the international departures have enormously increased from around 600 million departures to more than 1.4 billion in 2016 (Figure 1 below, UNWTO, 2022). Furthermore, as the World Tourism Organization forecasted, international tourists’ arrivals would reach 1.8 billion by 2030 (UNWTO, 2022).



Figure 1 (UNWTO, 2022)

Some interesting facts regarding the hotel and hospitality industry are that this one is a trillion-dollar worth industry, and Europe is the leading market for both hotel and hospitality industries in the world (Sushant University blog, 2021).

The food wasted within the hospitality sector represents a serious concern because it contributed more than 12 percent to the total food wasted in the last couple of years (Dhir, Talwar, Kaur and Malibari, 2020; Tostivint et al., 2016). Moreover, because of the developing trend of eating out - stimulated by the growth in incomes and tourism (especially after the Covid-19 pandemic)-, food waste in the hospitality and hotel waste became quite a significant issue for sustainability and the countries' environment (Dhir, Talwar, Kaur and Malibari, 2020; Wang et al., 2017).

Even though the abundant amount of food wasted in this industry sector could be such a big concern for the environment and its sustainability, it has not become yet such a very significant academic topic so as to raise questions, concerns, and awareness for people (Dhir, Talwar, Kaur and Malibari, 2020; Filimonau and De Coteau, 2019). Some other reliable scholarly sources largely agree that this topic of food waste which is encountered in the hotel and hospitality industry has not been much investigated, even though this is a crucial influential factor for this business

and its future concerning sustainability (Dhir, Talwar, Kaur and Malibari, 2020; Principato et al., 2018; Wang et al., 2017).

Accordingly, this paper purposes, on the one hand, to focus on analyzing the food waste phenomenon with regards to the hotel industry. On the other hand, this paper strives to find a few potential future solutions with the aim of nudging people to be more aware with food waste.

2. Nudging in the hospitality industry

2.1. Theoretical background of nudge theory

Nudge theory claims that, in order to change people's behavior, as well as their way of seeing things regarding different lifestyles concepts, it is more operative to put the emphasis on positive choices and options rather than to sanction or restrict the unwanted behavior or way of thinking (Behavioral Economics - Nudge, n.d.). In a nutshell, it is through using some targeted suggestions and much more positive explanations that a much more productive and successful way of changing one's behavior can be shaped. This strategy is more useful than using the 'top-down' instruction (vague) or enforcement.

This paper approach mainly focuses on the fact that by starting to nudge some people (in our case the hotel's customers), these actions will eventually influence and nudge forward other people – just as in the case of the word-of-mouth marketing process.

According to the scholar literature review, nudge is performed by originally applying the theory of behavioural economics (BE), which is a framework to improve the customers' healthiest and autonomous far-reaching behaviours (Thaler & Sunstein, 2008; Gilovich et al., 2002; Sunstein, 2014; Beshears & Kosowsky, 2020). Thus 'nudge paradigm' (Lehner et al., 2016) pragmatically addresses 'both unconscious and conscious behaviours' (Valério-Souza Neto et al., 2022, p.1) while activating the main reasons of the customers' uncounscious behaviors (Schubert, 2017).

Regardless of their severe criticism due to their political effectiveness or their ethical limits, nudge interventions addresses mainly the hospitality industry, namely food department in restaurants and hotels (Dhir et al., 2020). Likewise, as shown in Figure 2 below, recent research on applied studies about the importance of the nudge theory in improving behavioural knowledge demonstrates that 'restaurants (n = 10) and hotels (n = 8) are the domains that are the most attractive to the extant literature' (Valério-Souza Neto et al., 2022, p.10).

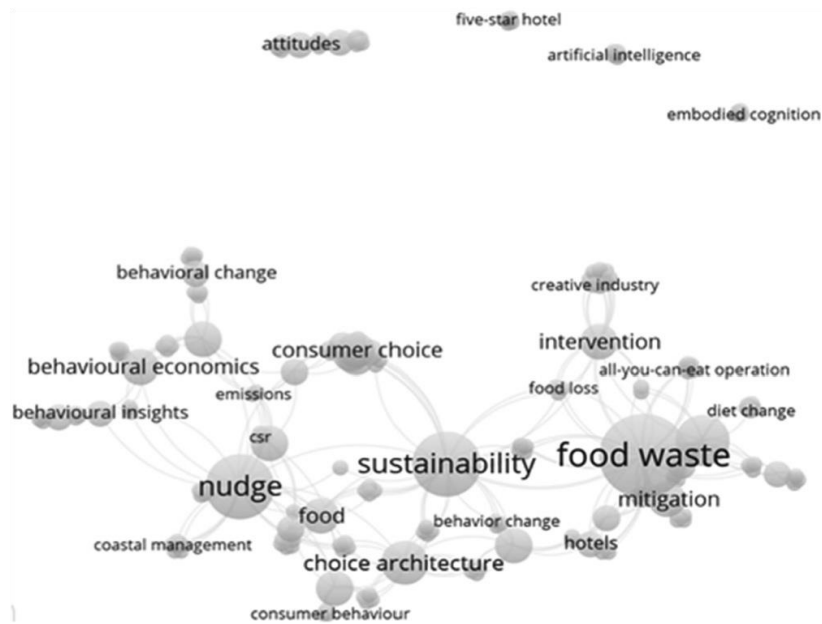


Figure 2 - Co-occurrence analysis of nudge theory in hospitality industry generated through VOSviewer - Valério-Souza Neto et al., 2022

Moreover, recent studies shows that the most frequent research item from the perspective of applying nudges theory in the hospitality industry is **food waste** (n ¼ 10) (Valério-Souza Netoa et al., 2022, p.10). Furthermore, there is a huge demand not only of exploring the consumers' behavioural profile during the nudge interventions, through the "test, learn, adapt" approach (Haynes et al., 2012), but also to carry out experimental studies to implement nudge theory to develop BE knowledge (Rossiter, 2002; Viglia and Dolnicar, 2020; Valério-Souza Netoa et al., 2022) especially in the food tourism industry.

In this paper, the researcher stays in line with the tripod model of nudge theory (Figure 3 below), which is based on tourists' choices, from a multiple perspective including both the libertarian paternalistic paradigm of an induced/a free best tourist option (Sunstein & Thaler, 2003; Thaler & Sunstein, 2008) and the 'behavioural paradigm' originating in behavioural habits (Gopalan & Pirog, 2017). The above-mentioned model conceptualises the 'behavioural intervention' through mainly highlighting the subconscious level through implementing a large array of nudges, whose 'interventions are designed to predictably change human choice behaviour' (Valério-Souza Netoa et al., 2022, p. 3), mainly in hotels or restaurants (Cozzio et al., 2020).

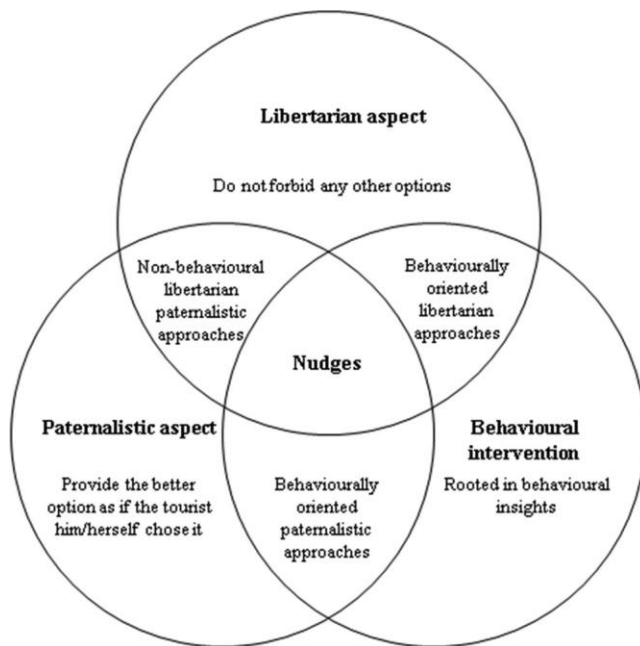


Figure 3 - The nudge tripod model. Valério-Souza Netoa et al., 2022, p.3

2.2. The mechanism of the nudge applications in tourism

According to Beshears and Gino (2015) as cited in Valério-Souza Netoa et al. (2022), in terms of its functionality, nudges can offer basically better insights into the tourists' pragmatic behaviour due to the fact that their mechanism spurs tourists'/customers':

- A. Instinctive thinking through enhancing their emotional stimulation;
- B. Reflective thinking via stimulating joint evaluations, varied views, creating new contexts for customers' decision-making, boosting self-responsibility, using mnemonics;

C. Find a new way of thinking through setting the missing choices or of automatically adjusting options.

2.3. Categories of nudges in tourism and sustainability studies

In the first place, to be in line with the broader literature, and according to Valério-Souza Netoa et al. (2022) who adapted the typology of Beshears and Gino (2015) the main two subcategories which target the effectiveness of nudges in tourists' decision-making process are '*emotional arousal*' and '*inspiring broader thinking*', respectively (Table 2 below).

Table 2. Nudge categories and subcategories. Valério-Souza Netoa et al. (2022)

Categories	n	Subcategories	n
Trigger System 1	30	Arouse emotions	26
		Process simplification	4
Engage System 2	15	Inspire broader thinking	11
		Create opportunities for reflection	2
		Using joint evaluations	2
Bypass both types of thinking	11	Set default options	11

Valério-Souza Netoa et al. (2022) studies, these specific nudge interventions may occur namely through exploring 'social norms' (including *customers' beliefs*). Customers' eco-friendly behaviours may be studied and then fostered through 'default option opt-out/appeals' or while 'framing effects', and 'anchoring; prompted choice' (Table 4 below).

However, according to scholar literature, setting default options like a bypass both types of thinking (Table 2) is supposed to be an efficient direct intervention to reach an appropriate customers' green behaviour through offering undecided guests' induced choices (Brown & Krishna, 2004), despite its ethical limitation (Schubert, 2017; Valério-Souza Netoa et al., 2022).

In the second place to discuss the state of art in achieving BE in hospitality industry through nudges, the literature shows different recommended clusters of pro-environmental behaviours synthesized by Valério-Souza Netoa et al., 2022 (Table 3 below).

Identified pro-environmental behaviours (PEBs)	n
Bed linen reuse	11
Use of refillable shampoo; use of soap dispensers	9
Energy conservation	8
Towel reuse	6
Donate for conservation; ethical eating; healthier eating; water consumption reduction	5
Reduce paper consumption; voluntarily carbon offsetting	4
Reduce the carbon footprint	2
Engage in sharing economy services (mobility, tourism, retail, and finance)	1

Table 3 - Effectiveness of nudges in hospitality industry via pro-environmental behaviors identified in (quasi-) experimental designs, Valério-Souza Netoa et al. (2022)

In line with Valério-Souza Netoa et al. (2022) studies, these specific nudge interventions may occur namely through exploring ‘social norms’ (including *customers’ beliefs*). Customers’ eco-friendly behaviours may be studied and then fostered through ‘default option opt-out/appeals’ or while ‘framing effects’, and ‘anchoring; prompted choice’ (Table 4 below).

Frameworks	n	Behavioural triggers	n
Nudge theory	7	Social norms	9
Social norms	3	Default option opt-out; appeals	8
Others	10	Framing effects	6
		Default option opt-in; salient information	5
		Embodied cognition (priming); personal norms; recommendation	4
		Watching eyes effect	2
		Anchoring; prompted choice	1

Table 4 - Frameworks and behavioral triggers identified in PRO-environmental behaviors with VOSviewer, Valério-Souza Netoa et al. (2022)

2.4. Actions

According to scholar literature, implementing nudges is crucial not only for the economic reasons, but also a challenge in pursuit of the sustainable tourism. Hence, the importance of nudging in improving tourists’ behaviour so as to reinforce sustainability, as well as to improve business efficiency (Valério-Souza Netoa et al., 2022) through reducing food waste.

Nevertheless, there is a huge demand for more researches focused on the lack of the *green nudges* causes and practice-based interventions in tourism (Valério-Souza Netoa et al., 2022).

Nudge interventions targets at 'changing beliefs', not only through predicting new tourists' sustainable behaviours, but also via prescribing original ethical and social approaches so as to shape their green practices (Juvan and Dolnicar, 2017; Dolnicar, 2020).

Thus, this thesis focuses on adapting customers beliefs into some valuable realistic managerial actions, measures and/or initiatives in the hospitality industry / hotel industry taken to find realistic pathways so as 'tourists may demonstrate a proenvironmental attitude (e.g. state their preference for green services' (Valério-Souza Netoa et al., 2022 , p. 4).

In addition, with regard to both gain efficacy and to diminish costs (Chang et al., 2016; Tyers, 2018) this thesis also summarises some tourists' behavioural inquiries and interventions result in low costs (Loewenstein et al., 2012; Tyers, 2018 ; Valério-Souza Netoa et al., 2022) or cost reductions (Kallbekken & Saelen, 2013), high efficiency (Chang et al., 2016), and, in some cases, increased tourist satisfaction (Dolnicar, 2020; Dolnicar et al., 2020), so as to diminish 'the mismatches between attitudes and actions' (Valério-Souza Netoa et al., 2022, p. 2).

3. Background of the case

Studying Global Sustainable Tourism and being at the same time an employee at Helnan Marselis Hotel in Aarhus made me realize and experience on my own a great majority of the global sustainable challenges learned in school and more precise, especially the food waste phenomenon. All this information, and all these challenges brought to life the topic and the main hypothesis of this master's thesis.



Figure 5 - Helnan Marselis Hotel (Faciliteter på Helnan Marselis Hotel i Aarhus, 2022)



Figure 4 – event/conference hall at Helnan Marselis Hotel (Salen, 2022)

Helnan Marselis hotel is a 4-star hotel in Aarhus, opened in 1967, which, together with Helnan Phønix Hotel in Aalborg, is part of one of Denmark's leading hotel chains namely, Scandinavian International Hotels (Helnan • Helnan hoteller i Aarhus & Aalborg, 2019).

Helnan Marselis Hotel is a resort and a conference center which provides 156 rooms, 12 flexible meeting, events or conference rooms with a capacity to up to 750 people (Figure 4). At Helnan Marselis Hotel, the customers can organize their weddings, personalize their own parties, conferences, meetings, confirmation, banquets, christening days, or many other events (Helnan • Helnan hoteller i Aarhus & Aalborg, 2019).

Because of the hotel's peaceful and special location - by the sea and the forest (Figure 3) - , the customers have the opportunity to enjoy and experience a calm and unforgettable stay. Thus, the biggest advantages of Helnan Marselis Hotel are both its location and amenities. The hotel is also very close (within walking distance) to some of the biggest touristic places in Aarhus (VisitAarhus, 2022) such as for instance, Tivoli Friheden, Aros Kunstmuseum, Den Gamle By and Dyrehaven. Furthermore, the hotel provides its customers with sauna, pool and Jacuzzi and fitness room (Helnan Marselis Hotel • Unik beliggende Hotel i Aarhus, 2022).

Nevertheless, because I am currently working as a waitress in the Food and Beverage hotel's department, I was able to observe and experience the food waste phenomenon. Here, like in most hotels in the world, there is food wasted on a daily basis, especially leftovers from the buffet or from customers' plates. From this viewpoint, some days are worse than others and sometime food loss is not so noticeable. However, given that this specific phenomena have been spotted at Helnan

Marselis Hotel and I am an employee there, it is easier and more efficient for me to gather trustworthy information for this research paper. Therefore, the hotel in case will be used in order to gather and use field data via both observational method and interviews.

All in all, the purpose of this thesis is not only to closely analyze the food waste phenomena in the hotel and meetings/conference industry, but also the main possible solutions to nudge people to be more responsible and to care about this sustainability challenge in the near future.

4. Methodology

This thesis arises mainly from a great interest in the hospitality and food industry, more precisely in the hotel industry in Denmark, as well as from the sustainable challenge closely connected with the food waste. This research paper has been completed using an inductive approach, which means that all the relevant data and information have been gathered on an ongoing basis. Then, the research question for the respective empirical data (Thomas, 2006, p. 239) was reframed. Consequently, the paper main analysis has been developed according to the raw data which was collected by field and desk research, and not by using a specific model/theory as in the main analytical approach (Thomas, 2006, p. 240).

In order to answer the (temporary) research question of this written paper, both secondary and primary data have been gathered. Therefore, this study is based on the mixed method research design (Schoonenboom & Johnson, 2017) which comprises at least one qualitative and one quantitative method. Schoonenboom et al. (2007) defines the mixed methods research as *‘the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approached (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration’* (Schoonenboom & Johnson, 2017, p. 108).

The goal of using this research method design was both to generate further information or data about the topic and reinforce the validity of the acquired information/data (Schoonenboom & Johnson, 2017).

4.1. Secondary Data

Regarding the secondary data (or desk research), the very first step in approaching this research was to get a global agenda (a full overview of the whole tourism and hospitality industry). Secondly, focusing and gathering relevant data concerning the tourism industry and its connection with food waste was the next concern. The subsequent step addresses following, defining and getting deep into details and information about the global food waste phenomenon and how (in which way/proportion) this phenomenon is linked with the hospitality industry and, more precisely, the hotel industry. Multiple relevant information about different events or movements was also gathered such as, the Paris Agreement and Carbonization which could be seen as a link chain of the topic of this research.

All this has been made possible by searching and gathering information from different trustworthy online sources and via literature research or academic papers.

Consequently, regarding the secondary data, reliable information for the paper has been gathered throughout academic and trustworthy websites, blogs, articles, newspaper, books and a broader literature research on the topic.

4.2. Primary Data

Concerning the primary data (or the field research), the idea of this thesis topic raised from my own passion and interest in the hotel and restaurant industry and also, considering my own experience of being an employee at Helnan Marselis Hotel, Aarhus, Denmark. Bearing this in mind, this project consists in some relevant data from my own observation and field work/research. Therefore, the observational method for gathering data and answering the problem statement of

the research has been used. Furthermore, consumer surveys considering the *Food Waste in Hotels and Conference Meetings* and personnel interviews at Helnan Marselis Hotel have been conducted.

4.2.1. Survey

The survey questionnaire has been designed with the aim of getting as much reliable information from the informants as possible regarding not only the food waste phenomenon, but also their own perception and understanding of it. Therefore, the survey questionnaire mainly comprises open-ended questions in order to have the opportunity to get both as many different and open answers as possible and important data containing a broad variety of opinions concerning this topic. Bearing this in mind, the survey questions were divided in 3 sections: demographics, hotels/travelling and the food waste phenomenon.

In the first section of the survey questionnaire, *demographics*, inquiries were targeted to understand people's age group, gender, nationality. This was mostly focused on establishing if, in the end, the participants' answer will show a pattern on how the same age group people or the same nationality/gender know, think or perceive things about food waste and/or hospitality industry.

To begin with, the demographics data of the survey is extremely broad. Thus, it should be mentioned that the research survey revealed quite a vast variety of people's culture, age and gender similarities and differences which therefore may illustrate and affect the way that they answer the rest of the survey's questions.

The analysis of the demographic profile of respondents sheds light about the way that the meaning and the importance of food waste vary for each demographic segment of the study population.

Firstly, according to this food waste survey in terms of respondents' age-group, most of them were between the ages of 25-39 years old (61.2%), followed by the age category of young people aged 18-24 (22.4%) and 40-59 years old (16.4%) which represents the working-age population (Appendix 1). There were no respondents aged 60 or above that age, and the elderly population was not represented (Eurostat Statistics, 2020).

Secondly, with regard to the respondent's gender, it is interesting to notice that 67 respondents out of 100 were females and only 33 were males (Appendix 1). This detail might show us that women might be much more interested in this food waste phenomena and sustainability than men are. A possible explanation of this noticeable phenomenon can be found in the fact that women usually allocate more time than men to answering a questionnaire survey.

Lastly, when the nationality question is being raised, it could be mentioned that the survey respondents come from many different parts of the world. This finding opens new avenues for our research through creating an even broader perspective on the research impact and relevance considering that people from all over the world and cultures took part in this survey. The most widely represented nationalities in this survey were Romanian and Danish people (31 and 28 respondents, respectively) (Appendix 1). This outcome could be due to the fact that most of my family, friends and relatives are Romanians, so they also helped me a lot by sharing my survey questionnaire on their social media or through word-of-mouth to their friends, family and relatives. In addition, as I have been living in Denmark for almost seven years now, I managed to create and continuously develop my own network of professional relationships and friends here, and that helped me gather so many responses from Danish people.

The other nationalities which took part in my questionnaire survey were the following : Hungarian, German, French, British, Nepalese, Irish, Filipino, Lithuanian, Czech, Argentinean, Zimbabwean, Swiss, Australian, Indian, Greek, Bulgarian, Iranian, Bangladeshi, Swedish, Slovakian, Thai, Mexican, Portuguese, Taiwanese and Columbian.

In the second section, the questionnaire intended for the travelling and the hospitality (hotel) industry topics. Moreover, this second section mainly comprised mainly open-ended questions in order to make the respondents explain and offer a broader perspective on the topic and their thoughts/opinion.

Last but not least, the most important section targeted at the food waste phenomenon. In this section, the questions were, again, mostly open-ended given that their main purpose was to gather as much information as possible to tackle with the problem of the food waste, e.g., thoughts, understanding, knowledge and potential future ideas/solutions.

At the very beginning of the survey questionnaire, the precise target group, and its aim were explained. The target group for this survey has been chosen based on both the official age of an adult (18 years old) and a little bit above the age of a pensioners. This was mainly due to the fact that a minor cannot travel/experiencing places alone, on the one hand, and because some of the pensioners are still travelling and experiencing the world, on the other hand.

Even though the survey has been mainly composed by open-ended questions, obviously some closed-ended questions were created to make it easier for the respondents, and to not take too much of their precious time. However, as mentioned before, the questionnaire has been mainly formed by open-ended questions with the intention of collecting different various types of data and information about both the whole food waste phenomenon and people's perception and understanding about it, mostly in connection with the hospitality (hotel) industry.

Consequently, the diversified responses to the questionnaire survey would help me with understanding how people can see/imagine/are being aware of this phenomena. Moreover, their answers could indicate what might be done or improved, which appropriate measures can be taken in the near future concerning the hotel industry and food waste in terms of reducing food waste. Hence, all specific database gathered from field research would enormously help me answer the research question of this written thesis.

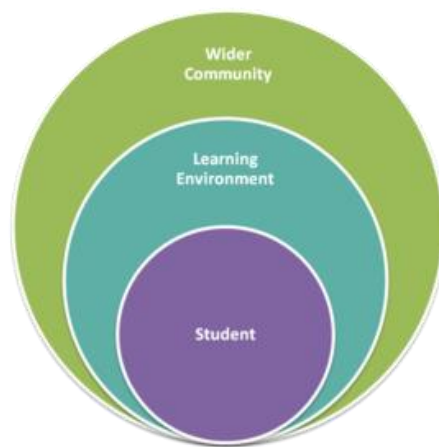


Figure 6 (Social Constructivism Assessment/Recommendations and Relevance - WikiEducator, 2011)

All the collected data from surveys and interviews aimed at widening people's horizon and perspectives regarding the food waste phenomenon in the hotel industry. Thus, a social

constructive approach has been used in order to gather all the field data. Accordingly, all my academic insights into this topic knowledge merged with my learning achievements and this case study's example. Furthermore, these elements have been linked and compared with all the gathered data from a wider community (Figure 3 form above) in order to collect trustworthy valid information about the food waste phenomenon and, thus, to answer the paper's problem statement.

First, all this process of collecting the appropriate/relevant data started from conducting a significant and in-depth desk research on the topic I have chosen for this thesis, considering my study, my work background and knowledge. Secondly, creating the survey questionnaire was the next research step. It was only after getting sufficient data from the survey to gain validity of the scientific investigation that I made up the interviews guide/questions. This way, I had the possibility to take a sneak peek on the survey respondents' answers and therefore, to create the interview questions based on that premise, to get even more trustworthy details and explanations/examples from few staff of the Helnan Marselis Hotel. Consequently, I had the great privilege to focus and deepen some information/details and data, which I did considered to be interesting and potentially extremely relevant to this specific hotel in case. Nevertheless, the use of some of the information and questions from the survey when creating the interviews offered me the opportunity to make direct comparisons between a large array of data, answers, and opinions. Thus, all the collected data have been successfully analyzed, and relevant similarities and/or differences were noticed. Accordingly, thirdly, putting together all the acquired information from desk research and surveys and compare it with the interview data was precisely the third step in the process of collecting/analyzing the primary data for this paper. Thus, all the gathered information and data have been compared and analyzed together in order to see people's perception regarding food waste in general, and in the hospitality (hotel) industry, in particular. Hence, this research design enormously helped building trustworthy and reliable answers for this thesis' research question and topic.

The precise survey questionnaire for this thesis can be seen in the *Appendix 1* of this written paper.

The survey was first shared with my network on 23rd of March 2022, on social media – more precisely, on Facebook, on my own profile and on my university classmates' group. I chose to share it on my Facebook profile because I am aware that Facebook is one of the largest social

media's platforms where you can connect virtually with people from all around the world and, by only a simple click and message, they would immediately connect with you virtually. Another reason is because I am aware that making people answering surveys it is quite complicate so, because I have more than 2 thousand friends on my Facebook profile, it made me think that it was highly possible that some of these people would spend a few minutes to answer this survey. I also shared the questionnaire with my classmates and with all fellow students from Aalborg University (by email, by asking for help the study secretary), mainly because it is obvious that they are supposed to fill in it, as they are people with academic knowledge and background.

On the same date, the 23rd of March 2022, the survey has been shared also on LinkedIn (*'the world's largest professional network on the internet'*) (LinkedIn Help, 2022), given that I am aware of LinkedIn's trustworthy information, connections and network. In addition, there are many people who might have some inspirational ideas regarding tackling food waste and/or adequate knowledge about the hospitality industry and food waste in general on LinkedIn.

Starting from the 26th of March 2022, the same survey has been shared on many different relevant social media groups on Facebook.

At first, it was posted on different Facebook groups whose favorite topics are about (food) waste and sustainability, such as: *Zero Waste Vejle & Billund, Sustainable Development, Eco Friendly and Sustainable Living, Journey to Zero-Waste, Zero Waste to Nature, Sustainable Living, Reduce Your Food Waste, Sustainable Travel & Tourism, Sustainable Community of Amsterdam, Switch to Sustainable (All Things Sustainable), Sustainable Future, Sustainability and Environmental Conscious Community, Sustainable Development Goals*.

It was by posting in these specific groups that I aimed at getting the most complete information, opinions or details/ideas about the food waste phenomenon from sustainable-lovers, sustainable-passionate, and people who are hoping for a better world with less/zero waste. Therefore, I did not care from which part of the world these people were coming from as far as they were in the targeted age group, travelled/stayed in a hotel in the last five years.

Then, Facebook groups for travelers (travel-lovers, travel-addicts, world-wonderers, and so forth), and special Facebook groups for sharing academic surveys were targeted at.

The minimum required number of questionnaire/survey responses is 100, for validity reasons, and to be relevant and useful to this thesis. Consequently, I sent my survey questionnaire to these above-mentioned groups because I realized that people are not really ‘survey lovers’ and, thus, it is quite difficult to get enough reliable answers to reach the criterion of validity. Thus, for instance, I was sharing my survey on: *Travel Lovers, Spørgeskemagruppe/Surveygroup, Survey Exchange / Survey Group / Survey Participants – Dissertation, Thesis, Dissertation Survey Exchange, Thesis/Survey Questionnaire Filling Group* on Facebook.

After that, on the 29th of March 2022, I posted the survey questionnaire on more Facebook groups, this time groups related to students in Denmark. I also embattled these types of groups knowing that they are also students, and they have also been experienced composing and gathering survey data for their own paper/s. Besides, as they are also international students, I could get hopefully more different innovative/interesting ideas and perceptions about food waste and hotel industry. Thus, I was sharing my survey questionnaire on: *International Students in Denmark, International Students in Aarhus, International Students in Copenhagen, and International Students in Vejle*. Lastly, I even posted it on the official Facebook group of the first university I graduated from, here in Denmark, where I received my AP and BA Degree. Thus, I have sent the questionnaire to the group called *Danish Academy DANIA – International Students Randers*, in order to gather more academic and trustworthy data for my study survey.

Nevertheless, it should be definitely mentioned that all of these above-mentioned Facebook groups had some different kind of requirements before successfully sharing people thoughts/post with the respective network. Moreover, some of these groups were private so I had to become a member of their group first, and only afterwards I was allowed to share my post including the survey questionnaire. Furthermore, most of the groups had to check my post beforehand the official post on the group and only afterwards they shared it to that specific group’s network. So, one can also mention the fact that some of the above- mentioned groups did allow my post in their group but others, unfortunately, did not.

Following, on the 7th of April 2022, because I noticed I still do not have enough answers for validity (at least 100 responses), I started to re-share it on social media and also, through word-of-mouth. More precisely, I started to call/text many of my friends and family and kindly ask them to share my survey on their personal profile hoping that some more people from their own network would also help answering my survey. In this way, it was a chance that more potential respondents would see and have the opportunity to access/answer my survey.

On the 19th of April 2022, I still needed to gather few more responses in order to get to the total of 100 which is why I continued to share the questionnaire on even more Facebook groups. This time, I was focusing more on the groups designated for students which were conducting their survey for a specific exam paper/research. Therefore, I had to first become a member of these specific groups and only afterwards sharing my survey to the according group. Sharing my questionnaire survey on different Facebook groups such as: *Survey Exchange*, *Thesis/Survey Questionnaire Filling Group*, *Waste Management*, *Student Survey Exchange*, *Survey Sharing 2022*, *Get Survey Responses – Share Survey*, *Data Collection*, *Dissertation and Thesis*; and many other groups alike these ones. All these Facebook groups and continuously re-sharing my survey there again and again, helped me, after few more weeks, to successfully reach the needed/necessary number of 100 survey responses.

4.2.2. Interviews

The other important primary data collected from field research are the interviews which have been conducted with different hotel staff/employees. These interviews will provide extremely useful qualitative data for this paper.

Considering that Helnan Marselis Hotel from Aarhus is the representative hotel which is taken as a concrete example and analyzed in this paper, different colleagues of mine and/or management staff from this specific hotel have been interviewed.

All of the interviews were mainly held in-house at the above-mentioned hotel (Helnan Marselis Hotel) or via email. Some of the interview questions were also sent via email due to the big changes

in the hotel during springtime, more specific during the months of March-May this year. There have been several major changes in the workplace in personnel at Helnan Marselis hotel, especially concerning the staff and the head of the hotel (hotel manager and the heads of the hotel sectors). Therefore, during this time, the head of the conference (i.e., the conference manager), the restaurant manager and the hotel manager have been dismissed, and were replaced at least two times. Moreover, it was a time during these distinct months where the hotel did not have a permanent stable hotel manager and some of the long-time employees assumed that responsibility. Therefore, it was a stressful hard time at my workplace (i.e., the hotel which is relevant to the study in this paper) during this spring season, so I could not have the possibility to interview all the targeted staff in person. Consequently, this is the reason why some of the interviews were held via email in order to help people to better concentrate on their answers. Thus, I did send them the interview questions and the interviewees answered them in writing and send me back their answers throw email.

The main goal of this interviews has been to gather as much inside concrete and relevant information, opinions and knowledge as possible about this specific hotel and food waste. Thus, all the interviews have been designed using a semi-structured technique, meaning that most of its questions have been open-ended questions. Thus, the opportunity arose to hear and get even more detailed information than it has been expected.

The main idea concerning the interviews and the interview technique was to interview people from a few different departments of the hotel and to see their understanding and perception/opinion about food waste outside and inside the hotel. More specifically, I did intended to interview and I did send the interview questions to people working at the Helnan Marselis hotel's reception, kitchen, restaurant and conference departments, and to the hotel manager. These departments were found relevant for the paper's topic and thus these people were chosen to be mostly interviewed because they are directly or closely connected with the food department – food waste phenomenon – in this specific hotel. Nevertheless, it should be mentioned the fact that, unfortunately, not all the people to whom I have sent the interview guide have replied. However, I did receive the answers from three out of five respondents. This might be due to different factors such as: the difficult stressful times at the hotel during these last months, and the language/communication barriers. The latter factor is also noticed by Finn Taul, the manager of the hotel, who states in his interview that

‘a lot of my staff, is extra people also from outside the company [...] we also have a lot of foreign people, from Romania’ (Appendix 2), given that most of the staff at Helnan Marselis hotel are Danes and Romanians. This means that several staff members might not be comfortable to speak or write in English and, on top of that, some of them do not actually know English at all. Hence, this could definitely be seen as a quite unfavorable situation for this paper but, however I finally managed to get some really interesting and valuable information from the staff members working in the hotel who did make time to answer my interview questions.

There was determination and curiosity in finding multiple similarities and differences between these people. By using an inductive approach, all information which was collected from field research (the survey data, and the interviews) has been compared and analyzed to successfully answer the core final problem statement of this thesis.

All the interviews conducted in person have been recorded and transcribed word-by-word in the Appendices of this paper. The same goes also for the ones which have been conducted online, via email.

As previously mentioned, the interviews were semi-structured and, in order to compose their questions, different relevant literature search has been conducted. Moreover, a preliminary quick analysis and investigation of the survey responses have also been made with the aim of comparing and testing some of the important interesting data from the survey interviewee.

The interview, which has been conducted in person, with Finn Taul, the general hotel manager of Helnan Marselis has been extremely interesting and fascinating, and it has brought new important relevant details to the table. To begin with, the interview took place on Thursday, the 19th of May 2022 at Helnan Marselis hotel. The interview has been conducted in a quite informal manner considering that I do work at this hotel for a quite long time now, and we are all familiar with each other at the hotel as we all trying to keep a friendly work environment too. This has been the very last interview for this paper so, considering that it has been made after conducting and gathering all the rest of the data, it is maybe one of the most interesting, accurate and detailed interview of all. After reading and considering the important information gathered both from the

survey and other interviews, alongside with other different relevant desk research data, the interview guide has been slightly modified and shaped accordingly. This approach provides the advantage of gathering as much relevant, detailed and trustworthy information and data as possible for this research paper. Accordingly, the interview has been semi-structured and I was also intending to fill it in with some on-the-go spontaneous relevant questions when I was feeling that an idea or some detail which was mentioned by Finn was relevant and interesting enough to dig deeper into details and answers to our study question research. At the same time, when I did feel that perhaps some of the following questions I wanted to ask were not relevant anymore or that some questions had been actually already answered by Finn, they have been dropped from the interview. Therefore, the interview questions have been modified and shaped accordingly, not only in line with the previous answers and data gathered from the rest of the field and desk research for this paper, but also through considering Finn's answers and information shared during our interview.

4.2.3. Narratives

The interviews inside the hotel have been mostly focused on narratives.

Polkinghorn defines narratives as stories which express exclusive and unique human moments, knowledge and actions/happenings which are united into specific episodes (Polkinghorn 1995, 7-8).

When pragmatically handling with the narratives and all the gathered data – pragmatically – all the research analysis and scientific work have been conducted thoroughly in an inductive way.

Furthermore, in line with scholar literature, narratives are always linked to unique human experiences that can be obviously either positive or negative which actually means that narratives are permanently subjective (Polkinghorn 1995, 7-8).

5. Philosophy of science

5.1. Hermeneutics

Considering that this thesis is mostly based on qualitative methods and field study, hermeneutics was also implied as one suitable research approach so as to obtain validity and meaning from all the attained information / data. To be more precise, hermeneutics is the code and practice of interpretation (Paterson & Higgs, 2005). Consequently, a broader and more specific understanding of data was drawn from the knowledge produced throughout the interviews and survey and permitted to see beyond the interview spectrum. Accordingly, according to Raffin-Bouchal and Moules (2012), the interpretation of a specific state/situation is directly linked to our preconceptions and past/present awareness and consciousness.

Furthermore, Gadamer (1975/1989) states that comprehension arises from both the past and the present. He also affirms that there are three main concepts which have a great impact on one's understanding and interpretation: dialogue, fusion of horizons and hermeneutic circle. All these elements and understandings are seen as 'horizons', where all past memories and experiences merge into the present ones and thus, they create new comprehensions (Zambas, Smythe & Koziol-McLain, 2015).

Hence, given that I have previously worked in the hotel and hospitality industry and experienced food waste, and afterwards I have collected actual information/data from the consumer survey and hotel staff interviews, a more rounded trustworthy comprehension and final answers to this thesis research issue have been reached.

Moreover, as Zambas et. al. (2015) demonstrate, both active listening and openness help expand the thinking horizons for both the participants and the researcher. That is why, while interviewing the hotel staff, I was careful and aware about always creating a friendly, quite informal and relaxed atmosphere, for instance via also engaging in a few more personal conversations. In this way, the respondent felt more relaxed and 'free' to more open-hearted and open-minded about the interview questions. This potentially entails potentially a broader offer of more interesting and valuable in-depth details/information.

Likewise, during the interview's sessions, I was keeping a relaxed and flexible attitude, by means of original different strategies, e.g., merging two or three questions into only one synthetic question, skipping or even adding a question or two - which possibly seemed to make more sense and to be more relevant to my research context and topic.

5.2. Triangulation method

In order to avoid a unique subjective perspective in this paper based upon gathering the information and data exclusively from interviews and/or survey, more significant data from other different relevant and trustworthy sources has been collected. This could be characterized as data triangulation. Thus, triangulation method in this paper has been used while working with different data sources in order to get as much validity and recognition as possible (Flick, 2018, p. 2) for this specific topic in order to successfully answer the problem statement. This means that the written paper has been composed by a mixture of significant and trustworthy data/information not only from interviews and survey (narratives) or relevant literature research on the topic, but also on my own observations/knowledge during work at the hotel and during the interviews. For instance, this study was intended to test and compare the information/saying from the hotel's staff with the actual practices and the information gathered from the survey, and with the data stated in diverse academic literature. Hence, having the opportunity to read both the survey respondents and the hotel staffs'/guests' opinions, along with understanding scientists' concerning the food waste phenomena in connection with the hotel industry, gave me the chance to think about, to understand, analyze, interpret and discuss all this data and trustworthy sources of data to solve the research problem of this thesis.

Accordingly, during the analysis phase, all the information gathered from the informants' interviews was structured and categorized into different topics, themes or concepts. Therefore, a previous pragmatic analytical approach has been used in order to deal with finding some patterns – a large array of similarities and differences between the interviews' respondents (Polkinghorn, 1995, p. 13) - and, afterwards, all this information was also compared with the survey respondents' data.

5.3. Ethical considerations

When reaching out Helnan Marselis hotel as my workplace, as well as throughout the entire process of gathering significant trustworthy data, the purpose, focus and topic of the research have been clearly and honestly discussed since the very first stage (American Anthropological Association, 1998, p. 2). Prior to starting to record each and every interview, interviewees have been asked for giving their permission to be questioned in order to gain allowance. Furthermore, all the informants have been offered the possibility to remain anonymous in this paper when citing or using their thoughts/words. Thus, the thesis has been composed and written according to the ethical rules in scientific research (American Anthropological Association 1998, p. 3).

In addition, with regard to the survey questionnaire, its topic, aim and purpose had been once again stated starting from the very first paragraph so as all the respondents had been openly and directly informed about all study goals and its privacy through a survey opening confidentiality agreement as well – the survey has been completely anonymous for all the participants.

At the end of the introductory part of the survey questionnaire, all the informants who have shown interest in obtaining and reading this paper after its publishing date, have also been informed that they will receive it by email.

5.4. Limitations of the study

This entire research process has encountered some limitations on the way, which might as well have a slightly influence on the validity of this entire thesis. Thus, these specific limitations should be mentioned.

The main specific limit of this paper has been the fact that it is only limited to the hotel industry and food waste, exclusively for the purpose of the case study of the hotel Helnan Marselis from Aarhus. This was mainly due to the impossibility of studying - and thus testing - more hotels, mostly because of the limited time, characters and relevance of this thesis. Likewise, even if the survey questionnaire reflects a more general answer and opinions of people generally concerning the hotel industry and food waste, however, the case study of this paper remains limited to the study of only one specific hotel. It was the impossibility of gathering more inside reliable data

from other hotels as well as the fact that the hotel exemplified in this paper has provided easier access to relevant hospitality industry market, and to also collect relevant and trustworthy data, information, opinions and observations.

Accordingly, it has been agreed that this paper addresses the food waste phenomenon in the hotel industry in general and, only studies one specific hotel in detail/thoroughly. As mentioned above, this was mainly due to the limited amount of disposed time and participating characters in the research of this written paper.

Consequently, this thesis framework is about a non-exhaustive and locally situated studying and understanding of peoples' perception, knowledge and consideration about the food waste phenomenon. And, keeping things in proportion, this study comprises the food waste phenomenon in relation with the hotel industry and how to nudge it more in the near future to raise tourists' awareness and reflectiveness about all sustainability problems in the hospitality industry, within its limits, however.

On top of this, taking into account the interviews and survey conducted for this study, it should be mentioned the impossibility of interviewing all the staff of the hotel in question (Helnan Marselis). Furthermore, interviewing all the relevant employees (all the staff of a specific department) was not feasible. Thus, only a few relevant staff of the hotel have been inquired, i. e., those who have been available for an interview. Nevertheless, the language barriers, along with staff members' time and work schedule were also real factors which played a significant role in selecting the eligible persons who were supposed to be interviewed for this paper.

Moreover, considering the survey questionnaire, it has been designated a minimum of 100 respondents to participate in the survey questionnaire to ensure validity and reliability. It would certainly have been impossible to gather a higher number of travelers' written opinions and answers (as previously mentioned), because of the lack of time to fill in the questionnaire, means of sharing the survey and, probably, due to the difficulty of this specific nature of this topic in this field of study.

5.5. Validity of study

It is through using more diverse methods and way of database analyzing that the exact same matter/issue can enlighten repeated trustworthy patterns throughout the variable. In this way, the findings are not relied on just one type of measurement or data approach and sources (Abowitz & Toole, 2010).

This paper is based on both desk and field research and thus, and it builds upon both quantitative and qualitative data. With regard to the research validity, on the one hand, I have only been using methods/theories derived from academic research and studies (e.g., books, academic articles, reports, academic papers and/or researches). On the other hand, given that the research survey was administered to a representative minimum number of respondents - in terms of validity of sample size (i.e., 100) -, and interviews, which were conducted only with people working in the specific hotel for this study (Helnan Marselis) like different observers, allow me to verify the results of my inquiries, I strongly believe that all the above-mentioned reasons build up and express the reliability and the validity of this research.

This thesis scientific quality depends on its both validity and reliability. Reliability is usually reached if the paper contains at least one trustworthy source of quantitative data (Bryman, 2012).

Moreover, validity is one other crucial element in determining paper's legitimacy. Validity proves the truthfulness and integrity of the final conclusions of the study (Bryman, 2012). Considering the numerous mixed methods research, and due to the fact that most of the scholars have controversial points of view in their discussions or when they choose various research design, research methods and different threats, validity has been seen as a controversial topic. More precisely, despite its importance, nowadays validity is not been seen any more as such an important element or priority (Long, 2017).

In addition, Smith & Heshusius (1986, p. 4) argue that both reliability and validity do not represent any more the '*nucleus of logic*'. However, these two elements are both indeed the '*logic of justification*' in research (Long, 2017, p. 204).

Therefore, the validity of this study is mostly based on Habermas' critical theory, the Theory of Communication Action (TCA) and validity is fulfilled. Epistemology is one of the most important

element in Habermas' theory (Carspecken, 1996, 2003), which is in contrast with the traditional way of thinking mentioned above (Long, 2017). Hence, by elaborating questions about meaning, truth and power, the critical epistemology becomes the core element of the validity of this study. Furthermore, connecting the critical epistemology with ontology is also pragmatic because '*doing/claiming implies being*' (Dennis, 2013, p. 30; Long, 2017, p. 205).

Nevertheless, one quite disadvantageous element when using mixed methods research is, obviously, that you receive various different realities such as, subjective, objective and/or intersubjective viewpoints (Long, 2017). Anyhow, as Habermas' theories shows, the great truth which emerges from direct/indirect communication is interpreted as a validity claim which in fact can be, once again, subjective, objective and/or normative (Long, 2017).

One additional element which helps build the validity of this study is the rich information retrieved from the field research, in terms of both qualitative data – throughout the interviews and few questions of the survey – and quantitative data – throughout the survey. This centralized database was both equally and highly contributing to the validity of study. Accordingly, the survey has been conducted on 100 respondents from worldwide, all of them travelling, staying at a hotel, ordering food/eating at the hotel restaurant, experiencing the buffets and/or events/conferences. In addition, most importantly, they experienced therefore the food waste phenomenon by and for themselves (directly and/or indirectly). Thus, all the 100 answers were collected and analyzed, and they provided valid results for the respective research issue and research question of this paper.

Another relevant element which should also be mentioned is the study sample of our interviews. They also confirm and demonstrate the original scientific contribution to this study's validity and reliability. In a nutshell, the interviews were conducted with people working in this specific industry, i.e., the hotel and conference industry and, even more than that, they are highly-skilled hotel and restaurant workers. All interviewees are people with many years of experience in this industry. For instance, Finn Taul, who is the general hotel manager of Helnan Marselis hotel, has been working in this industry for 30-40 years, and he has been a hotel manager '*since 1989*', as he mentions in his interview (Appendix 2). His professional experience also spans the food waste phenomenon. This element sheds light on the study reliability, and proves that all the information gathered from the interview is reliable, trustworthy, and extremely relevant for this research paper.

Thus, Finn Taul's interview analysis is a cornerstone for important possible future considerations for the hotel industry and Helnan Marselis Hotel about tackling the food waste.

6. Theoretical framework

The following chapter emphasizes and describes the theories that were found to be relevant and useful models in solving the problem statement of this paper.

Accordingly, these three theories mentioned below have been the most relevant and helpful ones to guide this thesis analysis. Thus, given their relevance to explaining and analysing our thesis findings, these theories are very closely related to the topic and research question of this written paper, i.e., investigating the nudging people's behaviour regarding the food waste generated in the hotel and congress industry.

6.1 Decision-making theory

Firstly, the **decision-making theory** has been challenging for our study because it helps us make new assumptions which are extremely interesting and relevant to the thesis topic, not only both in terms of analysing the paper's topic and research question from the managerial (hotel/conference business) point of view, but also from the customers' point of view. According to Herbert A. Simon, the winner of the Nobel Prize for Economics in 1978, decision-making theory is an innovative strategic theory 'of *how rational individuals should behave under risk and uncertainty*' (Harter et al., 2014). This theory also deals with understanding different market strategies for innovation and development, such as dominating, adapting s.a. strategies. The decision-making theory, which has strong biological backgrounds, strongly recommends to search for strategies of innovation through mastering the best ways of finding new creative win-win situations through collaboration. Accordingly, it is through discovering new potential appropriate managerial solution in diminishing food waste through a holistic involved persons' inquiry that

hotel and restaurants managers may meet the need that Nathan Harter et al. (2014) designated as a new break in order to avoid the lack of source of food might diminish or migrate away.

Secondly, according to A. Simon, '*a strategy of coping through a quick adaptation*' has to be mastered by both customers and managers, owing to the rapid changes that society and environment undergo nowadays (Harter et al., 2014). Consequently, according to the latter scholars, there are many managerial tools seen as important alternatives to adapt to food waste challenges for instance, in our thesis case, e.g., to find an adaptive plan for your next managerial tasks, there were and steps through experiencing errors and find new flexible pathways to solve important problems and gain managerial skills /to find new key strategic alternatives.

Thirdly, scholar literature recommends to continuously strengthen the relationship between different clusters of our society, to boost the society web-like structure (Simmel, 1922/1955). This social cohesion can offer the manager key leverage to help him be able to. Hence, on the one hand, people may be really involved in making *holistic decisions*, which is extremely relevant to solving contemporary economic, social, and political issues. On the other hand, as stated by scientists, it is important to legitimate institutions or important people to be the active leaders we all ask for. Their mission in this view is to 'study, diagnose, treat, and ameliorate our sufferings of institution' (Harter et al., 2014) through building strong community practices whose importance had already been captured and developed previously by the sociologist Georg Simmel (1922/1955), and then by the Berger, P. & T. Luckmann. (1966), who see this community-based practice as a social construction of reality in the sociology of knowledge.

Last but not least, running a successful company, namely in the tourism industry field, means to be a strong flexible leader, who is always willing to cooperate with the company staff or clients. Thus, as professor Harter affirms, a manger has to be a leader who sets boundaries and perhaps break them down while forging new decisional paths in search of fresh ideas and managerial approaches to ensure business profit and to adopt original collective solutions that make common life easier within the company.

6.2. Consumer behavior theory

Secondly, the consumer behavior theory is another theory which has been considered to be very relevant and useful to work with closely in order answer the research question of this thesis.

The term ‘consumer behavior’ (also called *guest behavior* or *tourism behavior*) is well-known in the marketing management and academic world and it helps scientists to mostly understand and recognize some specific patterns that act as determinants of the customers’ buying behavior via pushing them to purchase a product or service (buying behavior) (Kotler and Keller, 2009). According to Dixit, consumer behavior theory focuses not only on offering an explanation about why people are tending to choose or to use a particular kind of product or service but also about what exactly might influence their decisions and choices (Dixit, 2017). There are so many things that could influence the consumer behavior in the field of food waste phenomenon. As an example, even considering the fact that wasting food could mean a big negative element of influence for the entire world and its climate (World Greenhouse Gas Emissions: 2016, 2020), there is no certainty that people will be really ‘influenced’ or ‘nudged’ in positively changing their practices in the correct direction of food waste reduction. That is why, there is a powerful link and synergy between the decision-making theory, consumer behavior theory and the nudging theory. Thus, it is by combining and analyzing them together with the field data in line with the use of theory triangulation, that one can reach valid trustworthy answer to this paper’s research question.

The purchase process, created by John Dewey (Mehrguth, 1910), is one of the most famous theories in the world, and in wide-use within the context of consumer behavior. This theory is structured into five different main stages of a consumer’s decision making: *awareness, information, evaluation, process of decision – leading to purchase and post-purchase evaluation* (Dixit & Wood, 2017). Nevertheless, if we get deeper into details, and according to Dixit & Wood (2017), all consumers are somehow influenced and affected by different other variables such as gender, age, religion, social and economic status, values, culture and traditions, etc. All these variables can also highly influence the decision-making process when purchasing any kind of new service or product (Dixit & Wood, 2017).

In accordance with the above-mentioned theory, the thesis will be based on adapting and using the consumer behavior theory to investigate the elements which might trigger public awareness or

important changes in hotel guests' decision-making process and their habits regarding the food waste phenomenon within the hotel sector. Hence, this approach could lead to the possibility of encounter and investigation of the relevant potential variations or alterations that might be necessary to implement in the hotel industry in order to sustain the positive beliefs and manners of the guests who have been educated to understand the importance of acting urgently to mitigate the consequences of the growing phenomenon of food waste.

6.3. Nudging theory

Thirdly, the nudging theory (or the theory of nudges) is another extremely relevant and important theory with regard to this thesis purpose to shed light on the research problem statement and inquiries within the framework of this thesis.

Nudge theory was methodologically framed by Souza-Neto and al., 2022 through a 'tripod model' which prioritizes three kinds of interventions based upon specific perspectives as follows: paternalistic (choosing the best options), libertarian-preserving approaches (clients being free to choose what they prefer) and actions rooted in behavioral insights. In fact they are decision-making tools mainly able to change customers' choice behavior (Souza-Neto and al., 2022).

According to Souza-Neto et. al. (2020, p.1), nudges embody 'cheaper and more powerful ways of inducing better social choices, such as [...] healthier eating habits, reducing food waste, and conscious consumption.' However, despite its practicality, this theory remains quite underrated. On the one hand, given its main above-mentioned axes, it is obvious that nudge theory highlights the importance of minimizing the unacceptable waste of food through important decision making processes, namely in the tourism industry (Souza-Neto et. al., 2020). Thus making zero waste should be a target for this economy sector, not only due to its enormous potential for application in hotel and restaurant industry, but also in terms of enhancing sustainability via stopping the overconsumption.

On the other hand, scholar literature mainly describes nudges theory in the tourism industry as a profitable leadership tool to increase a large array of '*win-win situations*', (Souza-Neto et al., 2020, 2022), not only as an important cost-saving measure for the tourism industry and clients'

budget, but also as a forceful action which fosters the customers' experience. Therefore, the same authors emphasize that nudges theory is undoubtedly contributing to reinforce and expand both positive tourists' behaviour and constructive valuable management decisions in view of food waste assessment and reduction within the tourism business.

In fact, according to literature nudges theory mainly involves two main assumptions as follows: the overwhelming power of a gentle driven action of important external forces, such as decision-making people for instance, that may surreptitiously redirect people's decisions in one direction or another (Thaler & Sunstein, 2008), and the existence of a crucial person, a 'choice architect' such as a strong hotel manager who has the power to design the company environment for instance 'in order to make a certain option more likely to be chosen' (Arno, A. & Thomas, S., 2016, p. 2).

Accordingly, given that the concept 'food waste' is referred as 'material which was produced with the intention to be consumed by people' (Bojana Bajželj et al., 2020, p. 2), the actions of sparing food in hotels and restaurants through 'synergetic interventions' may enhance the company efficiency while boosting the health of the world ecosystem through adaptative interventions. In a nutshell, with regard to food waste phenomenon and taking into account the nudges theory, the literature mostly recommends to implement strong decision-making strategies as policies targeted at 'food waste measurements and reporting', mainly through driven fostering conditions and interventions (Bojana Bajželj et al., 2020, p. 3-4). This wind of change concerning the food waste managerial approaches also entail new social and economic challenges by gaining other economical outcomes such as lowering 'operations expenditures' within the tourism company or by raising tourists 'awareness of the critical need for responsible environmental and social consumer behaviour and habits (Souza-Neto et al., 2020).

7. Results

This following chapter examines the key challenges facing all the findings from the primary field data of this study, as well as the relevant, trustworthy secondary data collected from different scholar literature, books, articles and academic websites. All this with the aim of exploring in depth and solving the issue and topic of this research paper, which deals with food waste. The main elements and thoughts retrieved from the interviews at Helnan Marselis hotel, the research survey results, and my personal observations within Helnan Marselis hotel are going to be analyzed and discussed in close connection with all the data gathered about the food waste phenomenon in general (and especially regarding the hotel/hospitality industry), in line with the nudging behavior. The main challenge is to find new practical approaches to diminish this worldwide problematic phenomenon in the hotel industry.

Accordingly, in this chapter all the primary data gathered throughout the survey of this project will be analyzed and discussed/interpreted. As previously mentioned in the paper, 100 responses from 100 worldwide respondents were retrieved from clients.

Consequently, at the very beginning of this chapter all the survey data will be preliminary analyzed. Following, the results will be accordingly interpreted and discussed in light of some relevant and academic theories. These research steps mainly aim to obtain a more precise sense of what these survey results mean for the paper's topic and how could these answers representing people thoughts and perceptions. Eventually, these research stages of the work help get closer to answering the research question of this project. Accordingly, one of the most relevant and helpful theoretical assumption which has been considered, and finally chosen to be applied for the survey analysis focused on the term 'nudging' is the theory of BE (behavioural economics), which is a framework to improve the customers' healthiest and autonomous far-reaching behaviours (Thaler & Sunstein, 2008; Gilovich et al., 2002; Sunstein, 2014; Beshears & Kosowsky, 2020). In this way, it was possible to better understand and easier both to analyse more in depth the survey responses and to comprehend how the people could be nudged in order to become more aware and careful about the food waste phenomenon in the hotel and conference industry.

Finally, all the interviews gathered at Helnan Marselis Hotel have been all briefly analyzed and compared to one another. Afterwards, the relevant and important data, was formerly compared and discussed in very close connection with the survey findings. This technique has been done to see the hotel staff's, and managerial team's similarities and differences between ideas/thoughts/perspectives regarding the food waste phenomena in this specific hotel (Helnan Marselis) and to compare them to the rest of the worldwide respondents.

7.1. Data analysis and interpretation of data (*survey and interviews*)

On the one hand, the questionnaire survey (see Appendix 1) has been shaped in order to cover important paper discussion prompts. In addition, questions for our research variables are spread all over the questionnaire form. Consequently, some questions work for more variables to accomplish some research goal which were divided into three different specific research areas, e.g., demographics, hotels / travelling and the food waste phenomenon. Hence, the preliminary analysis of the data has been made accordingly in this subchapter.

On the other hand, the semi-structured questionnaire survey included both open-ended and closed questions whose main purpose is to avoid biasedness, to discover new respondents' perspectives on this paper's research questions, as well as to carry on the qualitative research. Moreover, the interviewees' fresh approaches and valuable information to the research topic are crucial for the qualitative research in line with the respondents' answers the questionnaire survey data pointed out new main ideas, topics and thoughts to be discussed and thus, they were mainly used to crystallize the main framework of the thesis interview. Furthermore, my research sample do represent the targeted population and the sample size of respondents. Thus, interviewee's responses are supposed to explore further follow-up queries about the food waste phenomenon in Helnan Marselis hotel.

The list of open-ended questions of both the research questionnaire survey and interview are discussion driven, and clearly aimed at addressing our research objective: find more about the food waste and its prevention in Helnan Marselis hotel touristic environment.

There were also some closed-ended driven standardized questions namely in the questionnaire survey which allowed the researcher to collect some major quantitative data regarding interviewees' answers to the topic of the food waste.

7.1.1. Hotels and Travelling

As question number four of this survey (Appendix 1) reveals, the respondents who participated in this survey research usually used to mostly travel at an average rate of 3-5 times per year (50.7%), while 32.8% of respondents reported that they are travelling about 1-2 times per year. However, only 16.4% of the research participants usually travel 6 or more times per year.

On top of that, more than half of the respondents (e.g., 61 out of 100 persons) chose the hotels as their favorite option of accommodation while having travelled in the last 5 years. To go even deeper in the detail of this approach, as it can be seen in the pie below (see *Figure 7*) almost all respondents, i.e., 92.5% of the research participants answered that they would rather choose to have at least one meal included in their room rate while travelling in the last 5 years.

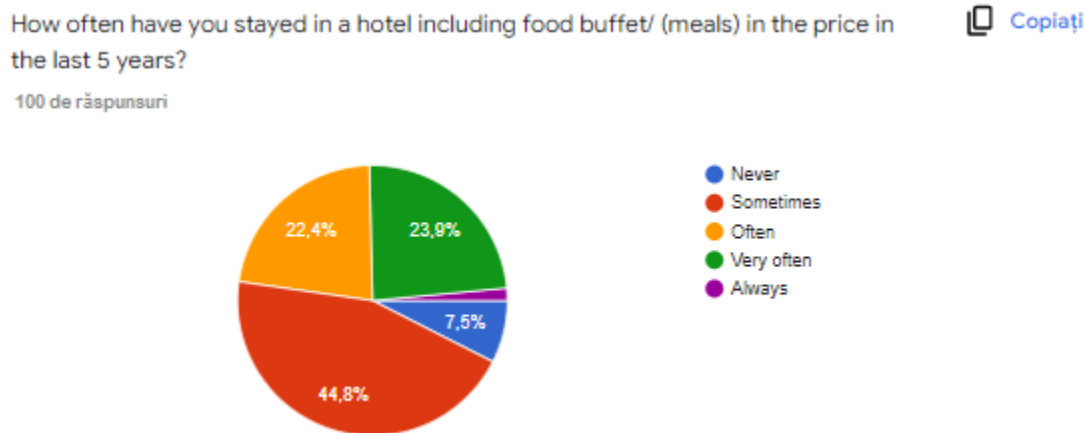


Figure 7 - Question number 6 of the survey (Appendix 1)

Then, proceeding to the next survey question (question number seven), the respondents were asked to tick as many boxes as they want and make the choices that best suit them, when choosing between all different menu types at a hotel. Thus, the statistical analysis indicates the following

trends: 81 respondents out of 100 chose the breakfast buffet, 31 respondents selected food buffet option (breakfast/lunch/dinner), 30 respondents wanted an all-inclusive offer, 24 persons would prefer to have a la carte breakfast, 21 chose a la carte option, 19 pointed out a half-board option, and only 9 designated the full-board option.

The respondents' explanations for having chosen these meal options were heterogeneous. Accordingly, various types of answers, thoughts and opinions were provided by survey participants, which they freely shared when answering the open-question number 7.1. (Appendix 1).

On the one hand, from the perspective of the breakfast buffet option, most responses collected while conducting the survey show that people in general are mainly choosing it because it saves money, time and 'it is easy' , i.e., it is stress free. In addition, they mostly prefer the above-mentioned option during a leisure trip or when travelling with their children. Otherwise, i.e., for a business trip, they would rather prefer the 'a la carte' option instead of the buffet choice, according to most respondents' statements. Another much highlighted thought excerpted from the questionnaire responses was that the breakfast buffet option offers the clients much more variety of food choices. Nevertheless, even though a large majority of the respondents have chosen the breakfast buffet. Furthermore, they also wrote their specific reasons for having chosen it on the questionnaire form, and they also specified that, unfortunately, they were aware both of the huge amount of wasted food and of some lack of the food hygiene in a few cases.

On the other hand, some of the survey participants indicated the fact that, while travelling, they usually preferred to taste and try the local specific food and traditions. Consequently, that is the reason why a large majority of respondents like to have only breakfast at the hotel. Conversely, only some respondents stated that they would rather also have breakfast and dinner in order to have time to explore that specific city and its traditions / local food.

All these elements could be extremely important, positive, and effective when talking about the topic and problem statement of this research project. Considering that most of the questionnaire respondents have been staying at a hotel while travelling, and eating at a hotel restaurant's buffet in the last couple of years, the following answers in this survey might be extremely relevant and

useful for a potential future solution and further efficient ideas of how to nudge people's behavior regarding the food waste phenomenon in the hospitality (hotel) industry.

This information collected and retrieved right above from the survey, i.e., regarding people's meals choice when booking a hotel could both be linked to and match the information offered by Finn Taul in Appendix 2 of this paper, in his interview, when he mentions that at Helnan Marselis hotel, the guests always get their breakfast as buffet included in the room rate. At the same time, Finn also states the fact that in terms of breakfast *'we have talked about to take it out, but mainly to have the chance to take the higher price [...] to take extra for breakfast'* but *'we could not do it in Denmark. I think it has to be included in the room rate, people are expecting that'*, he also mentions (Appendix 2).

Moreover, if we do consider what the respondents of the survey mentioned above about the choosing of meals types in conjunction with the type of the preferred travelling (e.g., leisure or business) – it could be concluded that there is a great option for the Hotel Helnan Marselis to still keep the breakfast buffet included in the room rate as most of their guests are business customers. This detail can be easily retrieved from Finn's words *'our guests are mostly international because most of the time we organize/hold meetings and so on, that is the main focus here at the hotel [...] our main business here is conference'* (Appendix 2). Consequently, if we also take into consideration the mentioned small details extracted from many of respondents' questionnaires, the business customers would rather chose a buffet breakfast at the hotel to save time and effort. This reveals the fact that Helnan Marselis hotel is really capable of delivering targeted services, which are expected and desired by its main customer segment.

Taking into account that Helnan Marselis hotel is part of a Scandinavian International Hotels chain (Helnan • Helnan hoteller i Aarhus & Aalborg, 2019)), it is harder for the hotel manager to take decision on his own without consulting and agreeing with the other hotel management staff, especially the Helnan Phønix hotel Executives. As an illustrative example, in terms of reducing food waste, even though Finn Taul may consider that it is better to take out the breakfast buffet availability for *'each and every guest'* who books a stay at the hotel or *'to find a new solution on*

how we [the hotel' staff] are doing it [...],[i.e.,] quality over quantity' (as he affirms in Appendix 2), not being allowed to decide by himself to implement these measures represents a real struggle and an impediment to creatively develop good management practice in the area of food waste reduction. This is mainly due to the lack of freedom to act or decide only by himself.

On the basis of the results yielded by the survey questionnaire responses, we found out that most of the participant people often choose the breakfast option meal while being away from home (or while booking a hotel room). Keeping in mind that one third of the worldwide produced food is, unfortunately, wasted (United Nations, 2022), and this amplify the *food waste phenomenon* worldwide, it is interesting to note some new possibilities to diminish its spreading, which were mentioned by the hotel manager of Helnan Marselis in his interview (Appendix 2), and which targeted the clients' breakfast option, e.g., maybe by choosing a breakfast a la carte option instead of a buffet or diminishing the amount of served food while increasing its quality.

Besides, considering the recommendations of the *Paris Agreement*, there is a need to limit the global warming and to reduce the Greenhouse Gas emissions worldwide, and this also involves *food waste* reducing as key part of this successful process achievement.

It is obvious that some radical changes - or at least some positive ideas –, and creative techniques focused on minimizing the food waste in the hotel and conference industry have to be rapidly put into practice.

Question number eight of the survey (Appendix 1), deals with the respondents' familiarity with the conferences/professional meetings/events attendance in a hotel. As the graph below shows (see Figure 8), more than half of the survey participants (67.2%) affirm that they took part in such

events by choosing them quite often. Approximately 32.8% of the research participants answered ‘never’ to this question, while no one replied ‘always’.



Figure 8 - Question number 8 of the survey (Appendix 1)

These results mean that most of the questionnaire participants are familiar with these types of activities in the hotel and, consequently, they should provide their reasonable opinion/view on the food/food buffets while participating in at these types of gatherings/events at a hotel. Thus, we are getting closer to get deeper into details and hear more from the respondents about their thoughts, knowledge and opinion regarding the food waste phenomenon in the hotel and conference industry.

Sub-conclusion 1

To sum up, it is indeed not easy at all to implement some decisions and to put into practice changes in the hotel and conference industry while you are part of a national or international chain. But, even in this case, the main responsible for all these radical or small changes is the hotel manager, who should definitely voice his opinion on this drastic issue, and take managerial effective action against dangerous and harmful phenomena for their company such as this worrying food waste. When food waste becomes such a dominant negative worldwide factor and problem, leaders should definitely at the highest level take action and work hard to reduce it, if not eradicate it. However, that is not easy because another crucial influential factor/element pops in: the guests.

They also have their own opinion, education and beliefs about these specific ‘problems’, i.e. food waste. Thus, in some cases their opinion may be influenced in the ‘good direction’ – by nudging them- or, sometimes, their opinion cannot be changed or influenced at all, and this leads to a probable misunderstanding between the guest and the host within the hotel. This situation may also potentially lead to guests’ disappointment, which could be perceived as a case where the host have not met his/hers clients’ needs and expectations like customers.

It is by understanding and being familiar with the worldwide major issues and concerns regarding the hotel and hospitality industry that the hotel managers should think about various potential ways to fulfill customers’ needs and expectations BUT also about how to be more aware of the negative factors such as the food waste phenomenon, and to raise their clients’ awareness about this issue.

Accordingly, given that most of the customers at Helnan Marselis hotel are business travelers, the hotel manager urges to keep their breakfast meal option but, generally speaking, it has been concluded that there definitely are some other potential better ways of serving it so as to reduce food waste, i.e., serving smaller portions or implementing the principle of less quantity and more quality.

7.1.2. The food waste phenomenon

As previously mentioned, the final section of the questionnaire survey focuses on the problem of gathering as many reliable and interesting information about the respondents’ beliefs, knowledge, thoughts and awareness concerning both the origin of food waste phenomenon and the major practical measures to be taken to reduce it within the hospitality (hotel) industry.

To begin with, question number nine of the survey (Appendix 1) has been shaped to identify issues that arise from the respondents’ own experience and to draw their evidence-based opinion on food waste.

The research participants' answers provided useful insights into their opinions and thoughts about food waste in general. In a nutshell, the large majority of the respondents mentioned the words *'bad'*, *'affects the economy and climate change'*, *'big/huge problem around the world'*, *'should and must be reduced somehow'* when describing about food waste. Furthermore, some of the respondents also recommended that the remained food from the hotels/restaurants buffets should be donated instead of being thrown away. An interesting fact to be taken into account related to this question would be that many answerers were actually directly referred to the hotel, restaurant and conference industries in their specific examples, and listed them accordingly. Thus, the respondents also particularly expressed/revealed their knowledge and thoughts about the food waste in these specific industries, given that they have noticed that major food waste usually happens in hotels and restaurants buffets or during conferences. Additionally, another piece of information which has been drawn from all the participants' answers retrieved from the questionnaire responses to question number nine is that people are actually trying to do their best to reduce food waste. As a matter of fact, they started to consciously act to diminish it while being highly self-aware of this phenomena in their homes.

Accordingly, by corroborating the findings from this last analyzed question with the results of question number one of this survey, by inference, it can be deducted and stated that the people aged between 18-59 years old do have an idea and some basic knowledge about food waste (Appendix 1). Considering that the respondents within the group age 25-39 years old were the vast majority of this survey (more than a half, 61.2%), it could be concluded that this might be the main age group that should be considered actually being aware and quite informed about the food waste phenomena (Appendix 1).

Consequently, these respondents' trustful answers and opinions, help researcher make inferences about the people's/clients', hotel staff's and managers'/ basic understanding and knowledge about food waste. Thus, it is obvious that respondents are quite aware, and even worried about this terrible worldwide phenomenon. Furthermore, based on their answers, these people are even trying somehow to take little successful steps which might, little by little, lead them to save food from being wasted. This could be seen as a potential 'cheer-up' situation which gives us both greater faith in finding new solutions and great hope that, eventually, the food waste phenomenon could

be reduced in the near future. Nevertheless, it will be only through the help and support of all the travelers who decide to be hotel restaurant guests. In this way, if all these guests are aware about food waste and its major negative consequences, the hotel, restaurant and conference managers will receive a higher support, understanding and appreciation than they could possibly think to face this issue.

Keeping in mind that Finn Taul, the manager of Helnan Marselis hotel, is working in the hospitality industry for almost 30-40 years now (Appendix 2), this can be a great opportunity to take advantage of his whole solid training and years of extensive experience and to try to implement ‘something new’ for the Hotel Helnan Marselis in terms of positive impact on food waste reduction. However, Mr. Finn have only been working as the hotel manager of Helnan Marselis since April this year. As a matter of fact, taking into account both this detail and the fact that Helnan Marselis hotel is only part of a hotel chain, it can be noticed that these two factors might be seen as two slightly impediments in quickly taking radical decision for the hotel, for instance about food waste reduction in our case study. Moreover, one more element which might have a negative influence, and which constitutes an impediment to implement new ideas and practical managerial tools to avoid food waste could be the fact that Helnan Marselis hotel is quite and old hotel (it was built in 1967).

In the light of the survey results based on the respondents’ answers, the amount of food waste generated in the hotel and hospitality industry embodies a significant major concern on a scientific basis because it represents more than 12 percent of the total food wasted in the last couple of years (Dhir, Talwar, Kaur and Malibari, 2020; Tostivint et al., 2016).

Next, the question number ten of the survey (Appendix 1) concerning the possible connection between the food waste and the hotel industry, indicates that, unsurprisingly, 82.1% of the respondents are aware about this close and great interdependence. And, what is more, this conclusion was also reached after summarizing the respondents’ open responses and thoughts to the previous question of this survey also considering this above-mentioned linkage.

Then, people reactions to the subsequent question (question number 10.1.), which addresses the further development of respondents' thoughts and individual awareness of food waste phenomenon, reveal a great perspective on their strong beliefs related to the main factor that causes food waste in a hotel.

Hence, respondents' most advocated answer pointed out that the main factor of wasting food in a hotel was '*food waste in the buffet at a hotel restaurant*'. This option has been chosen by a total of 79 participants. However, there were many research participants who considered that not only '*last minute events/conferences participants' cancellations*' are also important reasons which impact food waste in hotels (58 respondents), but also '*clients ordering too much food for their events/meetings*' and '*too many options/variety of food*' (57 respondents each). Accordingly, these were the *first* most important factors considered by the respondents that is causing the food waste phenomenon in the hotel industry. Moreover, there is another important detail which should be mentioned here, i.e., these two last above-mentioned options have also been considered by 52 and 49 respondents respectively as the *second* most important factor which is causing the food waste phenomenon in the hotel industry.

With regard to the most insignificant factor responsible for the food waste in a hotel, the respondents' most selected option which was on the one hand, '*food waste at a la carte at a hotel restaurant*', and, on the other hand '*too big portions of food for a la carte option*'.

Concretely, this means that the respondents' perception and thoughts on wasting food in a hotel is mostly influenced by the organization and the functioning of the hotel restaurant' buffet. More than a half of the survey respondents also believe that an enormous volume of the food wasted in a hotel comes primarily from the abundance of food supply during different conferences, meetings and/or events which are held in the specific hotel.

Little by little, through exploring this valuable respondents' points of view and perceptions about the food waste in the hotel and congress/conference industry, we are approaching the main research problems, and we are getting closer to the principal aim of this written paper and its research

question – *How to nudge people so as to have a better practice/behavior which helps to avoid food waste in the hotel/congress industry?*

When focusing on the Helnan Marselis hotel overall situation and positioning regarding this last above -mentioned topic, the general manager of the hotel is also considering the exact same thing as the survey' respondents mentioning in terms of food waste – *'I have the food waste still at this hotel during the breakfast buffet because we make and offer clients too much food sometimes'* (Appendix 2). At the same time, Finn Taul, highlights another detail that, in his view, is completely due to the fact he does not have yet hired the right people in the kitchen and in the restaurant for a breakfast delivering service excellence in that sense too. Accordingly, he sums it up as a problem of food waste education and communication (Appendix 2).

One interesting element which Finn is considering implementing in order to *nudge* his employees to be more aware of the food waste, namely during the breakfast buffet is *'to make a kind of a system where some of the staff could have a kind of bonus if we can save of the food cost'* (Appendix 2). At the same time, he is also trying to consider how to motivate and nudge his staff to have a better outcome considering the present food waste, while he comments that *'always, if you have the possibility to earn some money, people are thinking more about'* (Appendix 2).

Thus, in line with the theory of nudges which has already been mentioned and developed earlier in this paper, 'interventions are designed to predictably change human choice behaviour' (Valério-Souza Neto et al., 2022, p. 3), Finn Taul actually tries to create a psychical intervention which aims to motivate his employees to become better and be more aware of the food waste by simply slightly changing their behaviour during the morning buffet breakfast. Considering that the Helnan Marselis hotel's breakfast staff would have the opportunity to earn some additional money when saving food and not wasting it, this would lead to a great potential win-win situation between the hotel management and staff. Consequently, by simply getting a more accurate estimation of the needed amount of food or, as Finn Taul stated, by a keener sense of observation so as to see something empty on the buffet, measures can be taken in order to reduce food waste by not supplying food for a full new one buffet, for instance, speaking of basket of breads, just simply

briefly estimate and ask for 5-7 pieces first and then ask more if more is needed (Appendix 2). This solution may be one step at a time for the employees to get some extra money and save the hotel's food waste.

To sum it up, the manager of the hotel Helnan Marselis is having some thoughts on how he could change his staff's choice behaviour and awareness concerning food waste by designing few motivational win-win *interventions*.

After that, in order to go further, question number eleven focuses on receiving at least three personal workable suggestions per respondent on how to reduce/tackle the food waste in a hotel restaurant or during the events/conferences held in a hotel within the framework of a completely open-ended question, which encourages free answer.

This question has raised multiple different interesting and reliable ideas and ways of trying to tackle the food waste in a hotel.

To begin with, the most frequent solutions of the respondents concerning food waste diminishing in the hotels (generally speaking) in decreasing order of importance were mostly about collaborating and offering the remained food surplus from a buffet to 'Too Good to Go' application or food-sharing, offering it to the employees (staff food) or donating it to different associations or people in need such as homeless, churches, orphanages and old people residences.

Furthermore, in decreasing order of importance, respondents idea was also that of 'less food, smaller menu and portions', which gives rise to limit the portion size and the buffet options, to stop giving customers too many fancy selections just to impress them, to encourage people to **eat** smaller portions (for instance, by using smaller plates for customers at the buffet or by preparing/split the food into smaller portions first, so as the guests can afterwards ask for more if necessary).

The next valuable respondents' idea in order of importance for reducing food waste in the hotel industry reveals that there is a need for a guests' register for food so that a good planning can be done. Thus, the respondents think that some effective managerial measures are to be taken in this

regard, i.e., when cancelling a booking or an event/meeting, if the cancellation was not made at least one week or at least three days beforehand, the hotel should definitely impose a food waste cancellation fee. Likewise, if the customers have a full plate of remained food, they might as well be charged an extra fee for it.

There were few other original respondents' ideas and opinions that enhance the food waste reducing effectiveness while raising clients' awareness about its importance which addresses the guests in the buffet area and/or website (while booking a meeting/event), or the employee to fill up the buffets on the go, reuse the remained "fresh" food for some other courses, to use the vegetables for compost and, to provide some doggy-bags or eco recipients so that guests can take any leftovers home with them.

To sum up, this tenth open-ended question of the survey (Appendix 1) provided relevant insights into interesting opinions and a broader understanding of people's perception on how to lessen the food waste in a hotel. Therefore, this results also briefly and indirectly provide an answer to the research problem question on *how could people be nudged in order to be more aware about the food waste phenomenon in the conference and hotel industry?*

From our case study perspective, which examines the case of Helnan Marselis hotel from Aarhus, it is extremely interesting to see that the manager of the hotel was not at all familiar/acquainted with the reducing food waste app *Too Good to Go*, given that he reacted with a mixture of surprise and positive interest in this topic while exclaiming rogued 'oh, very interesting, but I did not hear about it!' (Appendix 2). Because he started to be extremely interested in knowing more about *this above-mentioned* app, I started to briefly explain to him briefly its functioning and usefulness, i.e., how it works and how it is relevant for the hotel and restaurant industries as a tool to reduce the food waste. After talking about the practicality of Too Good to Go app, Finn Taul was extremely interested in implementing it and trilled to potentially try this solution by studying it more in the future so as to potentially implement it at the Helnan Marselis hotel with the aim of diminishing and tackling food waste in the hotel, especially in the case of the huge food waste during the breakfast and lunch time. (Appendix 2).

Furthermore, according to Finn Taul, both the portions size and variety on the buffet at Helnan Marselis hotel are also supposed to be taken into consideration when speaking about diminishing food waste. He admits bearing in mind that ‘maybe we have to change the way how we serve it [...] maybe if I serve a smaller portion and it is okay, and if you want to get more you can be served after eating all’ and ‘I’m waiting to find a new solution of how we doing it [...] that could be another portion served for you [...] making a special plate for each guest [...] quality over quantity’ (Appendix 2).

Likewise, the detail regarding *filling up the buffet on the go* in order to help reducing food waste was as well mentioned by Finn Taul. That was while trying to *estimate* better the quantity needed on the buffet and while supplying it on the go according to the estimation of both how many guests have already eaten or how many should still come eat that a challenging huge help dealing with the food waste phenomenon at the hotel Helnan Marselis could had obvious beneficent registered effects of avoiding food waste (Appendix 2).

The information gathered from Nicholas Jesuthasan, who has been working as a waiter at Helnan Marselis hotel since two years ago (Appendix 3), is extremely similar to both the answers from the survey respondents and those of the manager of Helnan Marselis. Nicholas mentioned that his top priority in reducing food-waste is, in his opinion, to ‘use some kind of app, like Too Good to Go, where students and people with a low budget can come and buy the food for low price’ (Appendix 3). Another valuable option mentioned by Nicholas in his interview was in line with that of other respondents and with the hotel manager (Finn) answer, i.e., to be more aware of the size or portions of food for the guests while making a buffet or serving at conferences or events (Appendix 3).

Subsequently, all this information explained last above, gathered from Finn Taul and Nicholas Jesuthasan, is actually very similar to the one above received from the survey’ respondents which means that it could actually be extremely useful, relevant and trustworthy in working out the nudging of people behaviour regarding the food waste phenomenon in the hotel and conference industry.

Moreover, in terms of question number eleven of this questionnaire survey (Appendix 1), its respondents indicate who they consider being mainly responsible for the food waste in a hotel. Thus, firstly respondents mostly blamed the hotel (its management team), secondly the customers themselves, and even both of the two. Also, the chef or kitchen staff was frequently being held liable for the food waste phenomenon by the survey respondents.

Some of the respondents also developed/wrote a more complex answer and solutions to this question through giving personal views and explaining why they chose that specific person. As a concrete example, some respondents justified why they accused the hotel management team for wasting the food by offering the following explanations: the managers are the ones responsible in raising the awareness of the customers in terms of reducing leftovers through designing all policies, procedures and practices programmed to eliminate or reduce food waste, to boost good communication between the hotel departments and good leadership, to shape clear strategy, and, last but not least, to provide enough training to employees, especially to the kitchen employees.

Moreover, a great similarity between the survey's respondents answers and our case study example has been noticed, in the case of the hotel Helnan Marselis from Aarhus. As it can be drawn from the interview with the hotel general manager Finn Taul, he himself agrees that he is indeed a big pawn responsible for the food waste problems in the hotel, together with his staff (i.e., the restaurant and conference waitress and the kitchen staff too), but also, the customers themselves (Appendix 2). When talking about the problems of food waste at Helnan Marselis hotel, Finn explains the origins of this issues saying that 'it's mainly because we are a few people [i.e., working there], and we are running very fast' (Appendix 2). The hotel manager clearly agrees that a shortage of workforce, along with a very crowded hotel, and the lack of time for the staff training in the light of the food waste education are the three major obstacles to a better management of food waste). This reasons might also be inferred from the Finn's own words because he clearly states that 'I have a small education problem' and 'that is also a management problem' (Appendix 2). Consequently, on the basis of Finn's interview, it can be concluded that Finn Taul is really aware

of these negative aspects increase the amount of wasted food in the hotel which are currently happening in the hotel. Nonetheless, he mentions that he would like to radically change this situation by assuming a commitment to breakthrough authentically, and to implement new managerial actions to reconnect to diminish food waste, especially in the case of the breakfast buffet. In this respect, he considers that it is through putting in charge someone more educated and aware of food waste to supervise the breakfast buffet department activities that there will be an improvement both in diminishing the buffet breakfast food waste and in communication and cooperation between this department and the kitchen sector (Appendix 2).

Furthermore, Finn Taul is also considering designing and putting up some ‘beautifully made posters’ at the buffet, in the room where the meal is served (Appendix 2). These suggestive bilingual advertisements may inform customers about both the food waste issues and preventive measures against this phenomenon, which are both awareness raising measures and in campaigning for changes in clients’ behavior via, hopefully, educating the guests’ daily gestures of care regarding food waste. In this way, Helnan Marselis hotel would also start nudging people’s behavior about food waste phenomenon through moving forward slowly but surely beyond reducing food waste. All in all, this might be a future potential example for many other hotels from the same area in providing low food waste breakfast/lunch buffets.

Nicholas Jesuthasan considers that the main responsible for the food waste at Helnan Marselis hotel at this moment is ‘the chef because he does not measure the food or divide by the number of persons that are participating at the buffet [...] because of the lack of help he gets to prepare the food’ (Appendix 3). Accordingly, Nicholas is completely sure that the main problem starts from the fact that the hotel does not have enough kitchen staff so that is why the chef should better ‘make more than make too little’ (Appendix 3). Hence, Nicholas’s main solution to this problem would be to ‘hire 1 or 2 chiefs more, this will help the one chief there is at the hotel, and then there is more time to calculate how much food should be produced for the exact number of people that are participating’, adds Nicholas (Appendix 3).

Nevertheless, the roles/positions in the company might have a bigger significance when talking about who could be in charge of a change or new strategy regarding reducing food waste and finding the main problem generating it. Therefore, Nicholas is just a simple waiter at Helnan

Marselis hotel but, Finn is the general manager of it. However, despite the fact Nicholas does not have such a powerful role in decision making, perhaps if the two of them would communicate and listen to each other's suggestions, the hotel can also implement some of their valuable ideas.

Henceforward, question number thirteenth showed the most quoted respondents' practical solutions and specific action-driven measures which target the food waste reduction, and easily stood out from their perspective.

As certainly expected, analyzing their answers to my creative proposals collected from question eleven previously mentioned, it was noticed that an overwhelming majority of participants, i.e., 80 people agreed that the main action to be implemented in hotels to reduce food waste is '*a collaboration with different companies/apps for stopping the food waste such as, Too Good to Go*', while 76 persons opted for the solution of '*sending leftovers to local orphanages*', and 75 respondents considered that '*educate more the people regarding food waste*' is the best measure to be taken in this respect. The other two actions to mitigate this issue that I have proposed to the respondents, were less noticeable in the respondents' view. More precisely, '*making the customers' pay a small fee if they have more than half plate with leftovers*' and '*creating motivational posters to avoid food waste*' have only been rated by 44 and 42 participants, respectively as the most important actions related to the food waste reduction.

However, this answers mean that almost all respondents are willing to cooperate in order to tackle food waste issues in the hotel and conference industry, mostly by considering and supporting the hotels collaboration with *Too Good to Go* (or other applications of food saving). In addition, all research participants agreed on the necessity of stimulating the customers' interest in diminishing food waste throughout the hotel industry. Accordingly, some attention-grabbing measures were suggested such as, for instance, including a few motivational adverts or posters to raise awareness in that matter in the hotel, and even convincing clients to be willing to pay a slightly amount of money as a fee for their more than a half remained leftovers in the plate.

When comparing this information gathered from the respondents at question number thirteen of the survey to the interview of the Helnan Marselis hotel manager, Finn Taul, a few striking similarities are evident, but there is also one major difference between the two research approaches of food waste. More exactly, as already mentioned before in this subchapter of this paper, one of the most evident similarity from this perspective is that Finn has not been familiar with the app for stopping the food waste Too Good to Go yet. However, when he hear me speak about it, he was extremely thrilled to search for more information about this app and, potentially, put it into practice and experience it at Helnan Marselis hotel in the near future. Another similarity between the two above-mentioned research tools is the fact that Finn Taul seems to know practical facts and to be extremely aware of the hotel *people (e.g., hotel staff, guests) obvious need to be more educate* regarding food waste. Accordingly, he mentioned in his interview that he was thinking of designing ‘some signs beautifully made which say *„Please only take a little, there will be enough for all of you, we will fill up afterwards’* (Appendix 2).

In this way, Helnan Marselis hotel’s manager believes that ‘we can both educate and make a new way to behave [...] and of course, it has to come also from us who deliver’ (Appendix 2). Therefore, once again the element of **nudging** people’s behavior with regard the food waste phenomenon can also be encountered through these collected data.

Furthermore, considering the case of Helnan Marselis hotel, Nicholas Jesuthasan stated in his interview that while being a waiter at this hotel he did experience a lack of personnel training and education regarding food waste, as well as deficiency in kitchen staff and chefs – the lack of personnel in this sector (Appendix 3). Accordingly, Nicholas also mentioned that these elements always led to a great amount of wasted food, which he regrets a lot because it ‘is sad [...] when food hunger is such a big problem in the world, and also when you see a lot of homeless people on the streets who has not the luxury of buying food for themselves’, Nicholas affirms/adds (Appendix 3).

Another important measure which can diminish the food waste at Helnan Marselis hotel that Nicholas mentioned in his interview is obviously the same as the one given by the survey

respondents and Finn Taul, i.e., to ‘make sure that the customers know about the situation, by *posting posters* in the restaurant or on the tables about being more responsible about food wasting’ (Appendix 3).

Given that the main above-mentioned two subcategories which aim the effectiveness of nudges in tourists’ decision-making process are ‘*emotional arousal*’ and ‘*inspiring broader thinking*’ (Valério-Souza Netoa et al., 2022), it may be inferred that there is a strong connection between this theory and practice when it comes to the specific case of Helnan Marselis hotel. More precisely, the thoughts and ideas shared by Finn Taul (Appendix 2) and Nicholas Jesuthasan (Appendix 3) regarding Helnan Marselis hotel’s large array of opportunities to reduce the food waste (i.e., creating and using some ‘posters in the restaurant or on the tables [...] that evoke some feeling in the customers psyche about being more responsible and being more aware about the problem food-wasting’) (Appendix 3) will actually be able to raise the guests’ *emotional arousal*’ and thus, these measures can be understood as a nudge in improving their decision-making techniques and in raising their awareness about ending the colossal food waste.

However, as the nudge tripod model by Valério-Souza Netoa shows (see figure 9 below), nudges are composed by three main crucial elements or aspects: the behavioral intervention, paternalistic aspect and the libertarian aspect. This theoretical aspects may also be taken into account when implementing the hotel industry policy of diminishing food waste.

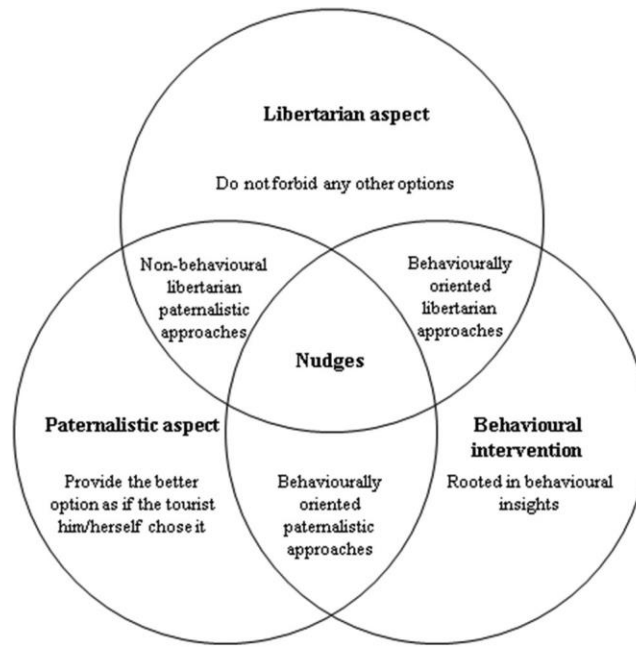


Figure 9- the nudge tripod model (Valério-Souza Neto et al., 2022, p.3)

Accordingly, ‘making customers pay a small fee for letting leftovers in their plate’ is a technique that might disagree and thus, be in contrary with the theoretical *libertarian aspect* – given that people are, somehow indirectly, not allowed to have a wasteful behavior and act like that or, otherwise, they would be sanctioned. On the one hand, Finn Taul did not agree with this idea of introducing penalties or charging fees to clients for the leftovers (Appendix 2) either. However, on the other hand, the survey respondents seem to be more open to this suggestion and even to like it very much (Appendix 1).

In a nutshell, the survey respondents suggestion of designing and put up some artistic convincing posters at the buffet area to raise guests’ awareness about food waste, might be seen and understood as a *behavioral intervention*. In this way, the customers can gain some insights on food waste and they can see ‘exclamation signs’ regarding this phenomenon. Hopefully, these visual warnings can even help them to become more educated from this point of view, which would therefore support building or rising the hotel guests’ nudges.

Furthermore, the brilliant innovative ideas and options of sharing the remained food from the buffet with the Too Good to Go sharing-food app, as well as that of creating smaller portions of food can also represent great suggestions for the *paternalistic aspect* of building nudges. Hence,

the guests would be provided with a better option to save food, which might be a great and important pawn in successfully building their nudging towards better outcomes to solve the problem of food waste.

As a result, all these elements and ideas contribute to provide potential successful answer to this paper's research question

Question number fourteen is actually built up in close connection with the previous question, designed to add value to the prior issue. It was through asking the participants' opinion that we found out some important answers to our problem statement. Hence, generally speaking, respondents think that the more sustainable friendly the hotel is, the more its guests become aware about the food waste problem, and the more they appreciate that specific hotel they are staying at.

All the respondents' answers were yes and/or maybe, which reflects the fact that they would namely appreciate the hotel's concern about reducing food waste, thereby, if the hotel shared their leftovers of food on some already-mentioned food apps (e.g. *Too Good to Go*) and with people in need or use more high-quality food (local food, minimally processed food, e.g., fruit and fresh vegetables, and fresh ingredients) than quantity food, this would even make them come back again. Other suggested recommendations which were made by participants were as follows: to reduce food waste in order to help reducing greenhouse gas emissions, to educate people to deal with this problem given that '*education is the key*', and not to raise the hotels' price abusively as a consequence of food waste reducing measures. Thus, some people spoke about the challenges of increasing the hotel price due to extra fees and they argued that this one should remain the same and not become more expensive for the guests simply because managers are focused on gaining hotel environmental sustainability.

The following question (number fifteenth) has meant to test the accuracy and validity of the previous question (Appendix 1).

As it can be observed in the pie below (see Figure 9), more than a half of the questionnaire respondents (56.7%) has chosen the last option ('I would very much appreciate it and it would raise my interest in booking my stay there') which fits to the prior answers above-mentioned as well, and can be therefore surely be considered trustful. Moreover, 31.3% of the respondents have chosen the same prior option which is in line with the previous respondents' idea which states more or less the same as the previous mentioned one but without raising their interest in booking their stay there. The third selected answer at this question which was chosen by only 7.5% respondents was that it would not make any difference for the respective person.

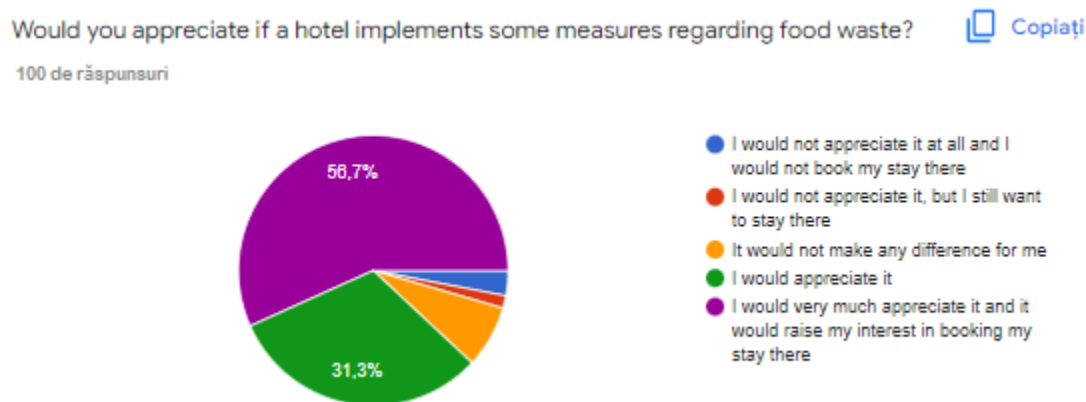


Figure 10 - Question number 15 of the survey (Appendix 1)

The most crucial aspect considering this question is that, accordingly, an impressive percentage of 88% of the participants would actually truly appreciate if a hotel implemented some measures regarding food waste reducing. This is supposed to be a great positive factor for the future sustainable development regarding this industry.

Last but not least, the final question of this questionnaire has provided quite similar respondents' answers. Nevertheless, there was a visible outstanding difference of four out of five options (see Figure 10 below). As the graph bellow shows, the greatest majority (37.3%) of the respondents stated that the option of taking the food with them in the hotel room for instance, could be one of the recommended measures for them to help reduce food waste. The second most chosen

alternative to this question (in proportion of 20.9%) was defined by respondents in terms of not being allowed to take more than a plate per person at a time from the buffet. Being allowed to ask for more food only after having all eaten from the plate, as well as paying a small fee for having more than a half of remained leftovers were equally (16.4%) ranked third in terms of respondents' preferred means of reducing food waste in the hotel industry.

If your answer is positive, please choose your first option between the following proposed measures relating to help reduce food waste:

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Figure 11 - Question number 15.1. of the survey (Appendix 1)

Again, however, it must be remembered that as it was mentioned in some analysis of the previous questions, the option about food waste focused on the 'A la carte' was not largely picked out by the respondents. This situation reinforce once more the conviction that the participants do not believe that food waste in a hotel is generated or encountered in the A la carte of a hotel restaurant.

While keeping in mind Finn Taul's responses regarding measures relating to help reducing the food waste subject encountered in this last question of the survey, further analysis and observations can be carried out, which reflect that there are some resemblances but also some differences between the respondents' answers and the opinions of the hotel manager of Helnan Marselis in our separate private interview. Accordingly, Finn totally agrees on the option of the possibility of taking the food away in the room, when mentioning that 'I will myself enjoy it too to do that because I also like to sit in my own room and maybe also I have my own wine' (Appendix 2). Regarding the second most chosen option (only taking one plate at a time from the buffet) by the

survey respondents at this question, the interviewed Helnan Marselis hotel's manager not only specifically indicates it, once again, but also positively embraces it while designated this way out verbally during the interview. In Finn's opinion, that idea should be indirectly generated and transmitted to the guests at the hotel restaurant buffet in a polite and civilized manner nice through respectful and beautifully designed posters about the dangers of food waste along with a few ways to prevent it. For instance, to act as a responsible person clients may be invited to only take one plate per person at a time from the buffet, given that the staff will make sure that there is enough food for everyone. (Appendix 2). This could be also seen as a nudge method of influencing people's behavior and raising their awareness of wasting food through a suggestive strong analogy used in everyday life, i.e., Finn's comparison of food waste discovery as follows: 'like in the traffic where you have a sign', you have to take a look at the wasted food and search for its causes, be aware of it. So, just like the traffic signs, the posters or signs which could be created and displayed in the breakfast/lunch buffets rooms, could be a real method not only to potentially successfully influence the nudging customers' behavior, but also a way of thinking about the food waste phenomenon in general, with a targeted reference to the hotel and conference industry. Furthermore, in this way, the education and interest of the hotel guests in knowing more about food waste, as well as the possible sharing of their best experiences by word-of-mouth to some of their friends, family and/or relatives might raise awareness of this wide spread phenomenon. This also can entail strengthening the transformation in attitudes and behavior of the hotel people, who might accordingly be nudged to become more aware and careful about food waste, generally speaking.

Sub-conclusion 2

To conclude, given the study results, people seem to be quite informed about the food waste phenomenon in the hotel and conference industry. As a hotel, it is by having a collaboration with a food-sharing company such as Too Good to Go, by posting some 'beautifully made posters' in the hotel restaurant buffet area and by minimalizing the portions by slightly reducing the quantity to increase food quality that we can see alternatives and some potential future solutions/suggestions that hotels might use and develop to reduce the amount of food wasted. All the people in the hotel would be extremely grateful to see some more interest in diminishing the

food waste. On top of that, they seem quite willing to lend a hand to help fulfill their slightly positive mission for a better world.

It is through linking this last mentioned questionnaire respondents' suggestions for the hotel and conference sector to the consumer behavior theory, that can be encountered a fine synergy between scientific theory and people thought and practice in the field of food waste. Accordingly, as previously mentioned in this paper, this theory is structured into five different stages of a consumer's decision making: *awareness*, *information*, *evaluation*, *process of decision – leading to purchase and post-purchase evaluation* (Dixit & Wood, 2017). Consequently, the *awareness* stage can be encountered at the very first interaction between the customer and the hotel restaurant buffet. The *information* stage could arise at the precise time when the guest sees the poster about the food waste which directly or indirectly offers him/ her an information/facts about the food waste. The *evaluation* stage can be extremely subjective and different from a person to person but, basically, it should happen when the consumer meets and, in our case, even tastes the product and he/she can see its quality. As mentioned before by Finn Taul, the buffet should mostly assure the highest quality, and it will not necessarily insist on increasing quantity. The *process of decision* stage should be encountered by the guest after finishing eating his/hers meal at the respective hotel restaurant buffet. As regards the last stage to be mentioned, i.e., the *post-purchase evaluation*, this might be encountered at the end of the service, when the respective customer should decide not only the level of their holistic experience as customers but also if they would potentially come back again, and also if they do recommend that tourism service or place to others. His/her recommendation and positive experience could also result from being involved in civic actions that diminish the food waste.

Nonetheless, another crucial aspect which has been drawn from this last sub-chapter of the thesis is that all the nudges and implementations regarding the food waste phenomenon have to be based on the scientific *top-down approach*. This means that, this time, only the hotel managers are the ones with the foremost power of decision and change, and not the customers. Throughout this paper it has been noticed and encountered the fact that, when talking about the food waste phenomenon, the customers cannot have the power to act first but the powerful side. Thus, it is the management staff, i.e., the people who lead the company that have in practice the real power to

concretely change something in the respective hotel. More specifically, to implement a new concept or strategy in the hotel (in our case, the food waste reduction), the managers must nudge the customers to be able to act in a specific way. In other words, the customers should not be given any other alternative but what is best for that specific goal and strategy.

Accordingly, in this paper research, placing posters whose aim is raising guests' awareness about food waste, collaborating with different apps, slightly reducing the food quantity, and increasing the food quality, as well as allowing customers to take their plate of food in their room have been concluded to be some of the most productive and frequently mentioned strategies of nudging people's behavior regarding food waste in the hotel and conference industry. Finding different strategies to better educate both the staff and the guests were also two potential suggestions largely mentioned by the respondents of the survey and interviews conducted in this paper.

8. Findings and Discussions

This chapter shed light on the interpretation of the entire data and explains more in depth what the gathered results mean for this specific paper and topic. Moreover, the following chapter also shows the practical implications of these study outcomes. At the same time, we try to explain why these specific results matter for the near future of the world and, more specifically, for the hotel and hospitality industry, and its future development.

Moreover, in this chapter, as some facts and elements drawn from the study research, which have been illustrated in this paper, cannot be shown or concluded without the scientific support of the results collected from the field and desk research, they were embedded in this topic/paper. Accordingly, it has also been briefly mentioned a few other future recommendations, as follows: what other potential scientific studies or experiments should be carried out starting from these study results so as to potentially develop and maximize the awareness and trustworthy outcomes of the specific topic of food waste phenomenon, and what other solutions may be found both to

cause people's awareness about this issue and to find creative emergency escape keys to diminish the worldwide phenomenon of food waste in the hotel and hospitality industry.

This paper made it possible to visualize the fact that the consumer behavior could be slightly but firmly influenced by the choices which, in our case, a hotel offers to its customers. In other words, it has been proven and concluded that, to nudge people's behavior and awareness about a specific tourism product or service, the management team has to champion the main initiative because their members are the main power of change. In our case, which is that of nudging people to be more aware and thoughtful about food waste in a hotel, the management team has to use a top-down approach and way of thinking to avoid this phenomenon. When people are being provided with several different options to be chosen, the probability of choosing the wrong ones would be higher when compared to the situation where there are only a few or one single option (i.e., the case when they are strictly provided by the hotel). For instance, let us take as a concrete example our case study for this paper, i.e., Helnan Marselis hotel from Aarhus. If the hotel manager, Finn Taul, and his team only could decide to adopt a specific strategy about food waste reduction, where they would only offer to their guests more quality and less quantity in terms of food at the hotel restaurant buffet, and if only they could put up some posters about food waste in the hotel dining room their guests would therefore become more nudged to accept the choices they are being offered. Thus, they can appreciate them even more and, consequently, they will behave in a different way next time (when they are more aware and educated about this food waste phenomenon) (see the visualization below – Figure 12). Furthermore, if Finn Taul would decide to also collaborate with a food-sharing app (i.e., Too Good to Go) and let the guests know it by placing this additional information on the above-mentioned poster, the customers would definitely become once again nudged and their level of awareness concerning the danger of wasting food might raise even more (see *figure 12*).

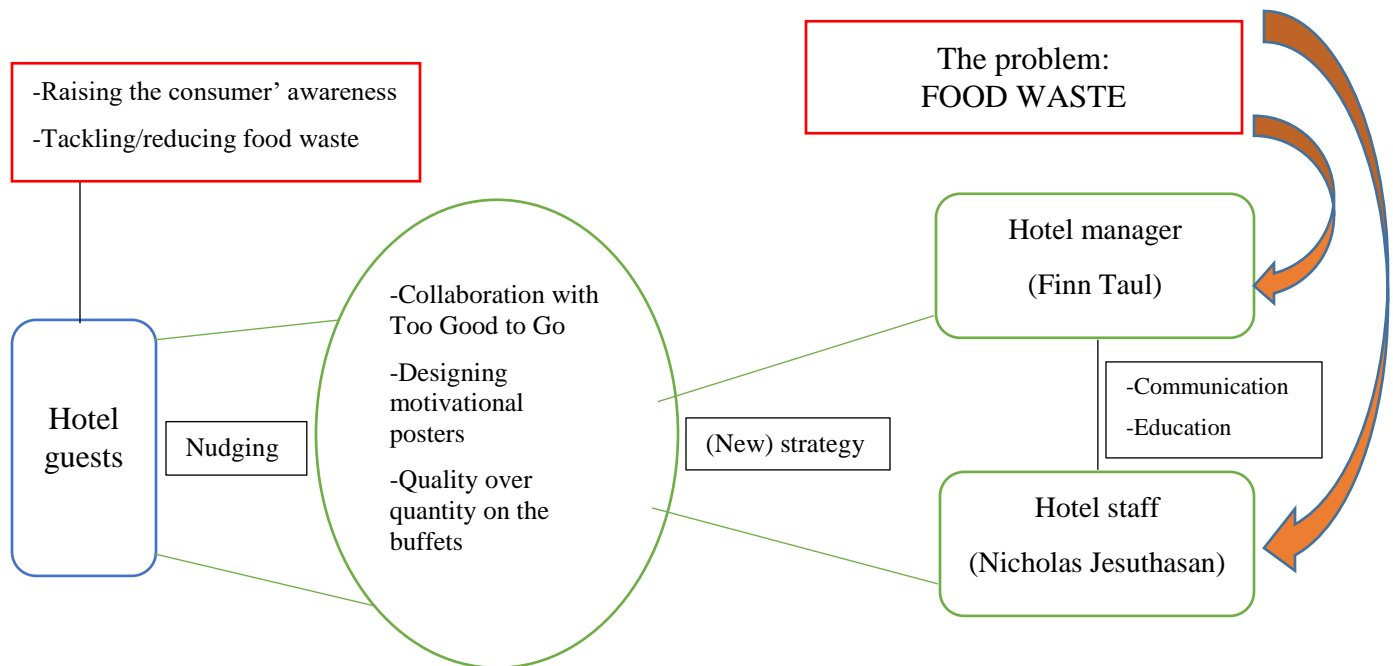


Figure 12 – Visualization of Helnan Marselis Hotel aiming to tackle food waste (based upon Appendices 1, 2 and 3)

Furthermore, while taking a closer look to the visualization exemplified above, it could be noticed that, undoubtedly, the main trigger problem is *food waste*. Accordingly, when interviewing the hotel manager of Helnan Marselis, Finn Taul, and one of his employees, Nicholas Jesuthasan, we found out that they are indeed both extremely aware of the food waste global phenomenon and, they are aware that, unfortunately, this negative phenomenon can be encountered even at Helnan Marselis hotel (Appendix 2 & 3). Consequently, they have mentioned in their interviews that they would like very much to tackle this problem or at least to try to diminish food waste in the near future through suggesting some problem-solving strategies. However, keeping in mind their roles and positions in this specific company, Finn Taul, who is the hotel manager, has much more significant power of decision-making than Nicholas Jesuthasan, who works as waiter at the hotel restaurant. Thus, the thoughts, even though perception and future innovative ideas of Nicholas may not be surely implemented, however, by means of a private discussion with the hotel manager, who perhaps would pay attention to his valuable fresh approaches of the food waste issues, some of this waiter's innovative ideas could also be taken into consideration and even creatively exploited. As previously mentioned in the paper, in order to make it work and to nudge people's (guests') behavior and practice about food waste, the hotel has to be the first primary factor in

decision-making process that takes the initiative and that has the major power to nudge and change people positive behavior in that sense, via the famous principle of top-down approach. Hence, by having a good communication and education about this phenomenon of food wasting, the management of the hotel should then implement its own relevant innovative strategy to help tourism organization to reach the desired goal.

As it has been deducted from this paper narrative and analysis, this written paper findings will enable us to state that collaborating with Too Good to Go app, designing few motivational posters about food waste placed in the hotel restaurant buffet, and choosing quality over quantity for the food buffets will be some of the feasible best ideas and suggestions targeted to tackle the food waste. In this way, the hotel guests would be nudged to have a better behavior and tourism practice about food waste and, given that nudges theory is seen as a profitable leadership tool to increase a large array of ‘*win-win situations*’ (Souza-Neto et. al., 2020, 2022), all parties involved in this research - the hotel and its guests - should be happy and self-fulfilled with saving food from wasting.

9. Conclusion

The food-waste phenomenon is a critical problem encountered in multiple industries nowadays, whereas the hotel and hospitality industry represents a severe concern because it adds more than twelve percent to the total food wasted globally in the last couple of years (Dhir, Talwar, Kaur and Malibari, 2020; Tostivint et al., 2016). Moreover, one third of the total food produced worldwide is wasted, and this amount could eventually be sufficient to feed at least two billion people instead (United Nations, 2022). It is extremely sad to know that, even though we are living in a world where many people are suffering of hunger (Fighting Food Waste in the Tourism Sector, 2020), there is still more than one billion tons of food wasted globally on a yearly average (Fighting Food Waste in the Tourism Sector, 2020).

This paper mainly put an emphasis on this above-mentioned drawback by starting to nudge some people (in our case, the guests of the Helnan Marselis Hotel), their actions and behavior might

eventually lead to progress actions aimed at influencing and nudging forward other people. In this way, it can be possible that the world becomes gradually, little by little, much more aware and careful about the food waste phenomenon. In order to fill the existing gap in food waste research area, the purpose of this study is to analyze one hotel from Aarhus, more precisely Helnan Marselis hotel, as a case study example via using relevant desk and field research/data. The main process of the analysis has been mainly carried out by collecting data and information both through interviews with some of the hotel staff and representatives and through survey questionnaire with a number of 100 respondents. On top of that, everything has been analyzed as a whole at first, and then compared with the information gathered from different significant academic literature (e.g., books, articles, journals, reports, etc.) and diverse relevant theories for the topic and research question while using the triangulation method.

Afterwards, by analyzing both the survey questionnaire and interviews answers, it has been proven that people, generally speaking, do have a basic knowledge and understanding about food waste and, even more, they are familiar and aware that in the hotel industry there is an excessive amount of food wasted on a daily basis. When the question regarding what should be done in order to have less wasted food, the respondents have been extremely open and inspired to share multiple interesting suggestions which might be worth trying to implement in order to tackle the food waste issue in the hotel and conference industry. In order to retrieve concrete real-world data, the case study of Helnan Marselis hotel has been taken into consideration, analyzed and studied from this paper's problem statement perspective.

Accordingly, after analyzing and comparing all the answers and suggestions of both the survey respondents and the interviewees, it has been noticed that, surprisingly, some of the answers do match and fit together indeed. However, there also was little information from both data collecting techniques that was different or might not work so efficiently for both parties involved in the study (i.e., the hotel Helnan Marselis and its guests).

After conducting a comparative analysis with the help of some relevant original research tools and of some important theories from the theoretical background of the paper, it has been concluded that *collaborating with different food-sharing apps (such as, Too Good to Go), creating some motivational beautifully-made posters about food waste, serving quality over quantity on the buffets and attempting to educate more the guests and staff* might be some of the most efficient

ideas and solutions to nudge people. These fresh approaches to our issue contribute to improve positive behavior which, therefore, might successfully lead to avoiding food waste in the hotel and congress industry.

For the sake of completeness and clarity, this paper has holistically shown that a collaboration between the hotel and a food-sharing app (Too Good to go) might effectively lead to less wasted food, mostly because people with a lower economic status could have the opportunity to get some delicious food at a very low price (Appendix 2). Hence, this element should lead to a win-win situation for both the customer and the hotel, given that the amount of food waste should be tackled or even fully avoided. When analyzing the following two main gathered ideas have been brought up: creating some motivational beautifully, and made posters and educating more the guests and staff respectively, it has been discovered and realized that these two people's suggestions are actually extremely interconnected and that, somehow, they rely on each other. In this way, for instance it is by designing some posters in the buffet area of the hotel restaurant, which aims to tackle the food waste and raise guests' awareness about this phenomenon that the customers might as well be, indirectly but firmly, nudged and educated about food waste.

On top of that, this paper has shown that the highest amount of food waste in the hotel and conference sector can be identified at the *hotel restaurant buffet* sector, especially during the breakfast buffet. It has been concluded that the amount of food wasted at the hotel restaurant *A la carte* is almost insignificant, especially when comparing it with the one generated at the hotel restaurant buffet.

Last but not least, based on the theory of nudges, and on the fact that 'interventions are designed to predictably change human choice behaviour' (Valério-Souza Neto et al., 2022, p. 3), this paper has pointed out another extremely crucial element for tackling food waste. Foremost, in close conjunction with the specificity of tourism industry, especially in the hotel and conference sectors, when there is an idea of a new strategy (i.e., in our case, tackling the food waste and nudging people' behavior about it), it is useless to use a bottom-up approach. There should definitely be used the *top-down approach*, which means that it is the management of the hotel that implements

the new strategy without giving any other further option/s to the hotel guests. This strategy will not be a linear process but, it should consist of following all the steps mentioned and analyzed in this thesis. In this way, the customers' behavior would be nudged and their awareness about the food waste phenomena should accordingly raise. Hence, this would eventually help diminish the amount of food waste generated in the hotel and congress sector as well.

Henceforward, this thesis generated some extremely useful answers and potential future suggestions in terms of nudging people to have a better practice and behavior, which should contribute to avoid or tackle the food waste phenomenon in the hotel and congress industry.

10. Recommendations

Alongside the previous dimensions of this paper discussions, and given the results that have been analyzed and discussed throughout this study, several limitations of the research should be addressed, leading to discussing further opportunities and recommendations for additional investigations within the framework of this thesis research area, i.e. the food waste phenomenon.

Firstly, some limitations with regard to the surveys' respondents were encountered, as the questionnaire survey has been available and designed for people from all around the world and not only for Danes. As a matter of fact, it would probably have been advisable to create a more regionally driven questionnaire, which would have been more useful and precise when investigating the specific research sample targeted in our case study of this paper, the Helnan Marselis Hotel people from Aarhus, Denmark. This is also due to the fact that people can respond differently according to their provenience and their status (i.e., it depends from which part of Denmark they are coming from). Hence, further attentive examination might be needed to be carried out on this specific segment of customers in order to study more carefully their behavior and resilience as regards the food waste phenomenon in Denmark.

Secondly, another encountered challenge which might have affected the accuracy of findings in this paper is likely due to low number of participants, and thus to a small limited research sample for both the survey and interviews.

With regard to the survey, both the limited number of the respondent customers (approximately 100 people) and the large variety of age groups may have been interfered with the survey relevance, and they might have slightly influenced the research final findings. Accordingly, the people below the age of 18 and the ones above 60 years old, were not present in this survey. But, when thinking about it more in depth, teenagers, children and pensioners or old people also constitute segments of people who travel and they might have a different effect on the research results. From the perspective of the complexity of the study, in this study there is not too much space left for further questions and debates on the survey respondents as for instance those based on their educational status or occupation. In this sense, the respondents' answers to the questions about their field of work/occupation or education level are missing. However, we would have managed perhaps to draw a few more conclusions and answers about the food waste phenomenon and to find out if this phenomenon had also been caused by a lack of education and knowledge or a lack of time and interest of the people within these age groups. Consequentially, the education or professional status might have also been relevant to our topic and, probably, this situation could have slightly influenced the way respondents answered the survey questionnaire of this written paper.

As for the interviews, the number of participants was low mainly due to the lack of responsiveness and people free time. Besides, as it was mentioned in the chapter about the research limitations of this thesis, this constraining situation was due to the impossibility to participate in the research interviews because of many managerial and operational changing factors inside the company (i.e., Helnan Marselis Hotel) during the last two months when this paper research was conducted. Hence, the research investigation and results would have possibly taken a slightly different direction if the research would have covered more age groups and questioned a higher number of employees and guests of the Helnan Marselis hotel.

Furthermore, another extremely relevant recommendation would be that of replicate this study by doing again the research and *test* its findings, after having implemented in the case of Helnan

Marselis hotel some of the results and innovative ideas which has been already revealed by this study. By conducting the same kind of research once more in the same place, some guests' survey or interviews could be re-used to test the consumer' view, behavior and level of satisfaction about all these 'new' found and recently implemented elements and strategies which, basically, aim both at reducing the food waste phenomenon in the hotel industry and at raising the consumer' awareness about food waste. Besides, given that this study only investigated one single hotel from Denmark, it might have been desirable to put into practice an even more trustworthy approach and to carry on another research which will focus on analyzing a few more hotels from the same city (Aarhus) or from Denmark from the perspective of food waste phenomenon. Perhaps, while comparing and contrasting both studies results we might reach to a valuable conclusion about new solutions to be taken in this field. In this way, it can be possible to spark curiosity, to aid more understanding of the food waste issues, and to also compare the hotels between themselves from this perspective so as to possibly add more reliable results and findings for this paper main topic.

References

2015. *PARIS AGREEMENT*. [online] United Nations. Available at: <https://unfccc.int/sites/default/files/english_paris_agreement.pdf> [Accessed 19 March 2022].
2020. *Fighting Food Waste in the Tourism Sector*. Development through the Private Sector Series. [online] IDB Invest, p.iv. Available at: <<https://www.oneplanetnetwork.org/sites/default/files/fighting-food-waste-in-the-tourism-sector.pdf>> [Accessed 17 March 2022].
2022. *Food Waste and Hunger Facts / OzHarvest*. [online] Available at: <<https://www.ozharvest.org/food-waste-facts/>> [Accessed 17 March 2022].
2022. *UNEP Food Waste Index Report 2021*. [online] United Nations Environment Programme. Available at: <<https://www.unep.org/resources/report/unep-food-waste-index-report-2021>> [Accessed 21 March 2022].
- Abowitz, Deborah & Toole, T.. (2010). Mixed Method Research: Fundamental Issues of Design, Validity, and Reliability in Construction Research. *Journal of Construction Engineering and Management-asce - J CONSTR ENG MANAGE-ASCE*. 136. 10.1061/(ASCE)CO.1943-7862.0000026.
- Alan Bryman (2012). *Social Research Methods*. Fourth Published in the United States by Oxford University Press Inc., New York
- Alijoyo, D., 2021. *Risk Management and Decision-Making Theory - CRMS*. [online] Center for Risk Management & Sustainability. Available at: <<https://crmsindonesia.org/publications/risk-management-and-decision-making-theory/>> [Accessed 27 May 2022].
- American Anthropological Association. 1998. *I Code of Ethics of the American Anthropological*
- Arno, A., Thomas, S. The efficacy of nudge theory strategies in influencing adult dietary behaviour: a systematic review and meta-analysis. *BMC Public Health* 16, 676 (2016). <https://doi.org/10.1186/s12889-016-3272-x>
- Association*. American Anthropological Association.

- Berger, P. & T. Luckmann. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. Doubleday
- Beshears, J., & Gino, F. (2015). Leaders as decision architects. *Harvard Business Review*, 2015(May), 52–62.
- Beshears, J., & Kosowsky, H. (2020). Nudging: Progress to date and future directions. *Organizational Behavior and Human Decision Processes*, 161(Suppl), 3–19. <https://doi.org/10.1016/j.obhdp.2020.09.001>
- Blom, S., Gillebaart, M., De Boer, F., van der Laan, N., & De Ridder, D. (2021). Under pressure: Nudging increases healthy food choice in a virtual reality supermarket, irrespective of system 1 reasoning. *Appetite*, 160, 105116. <https://doi.org/10.1016/j.appet.2021.105116>
- Bojana Bajželj, Thomas E. Quested, Elin Rööös, Richard P.J. Swannell, 2020, The role of reducing food waste for resilient food systems, in *Ecosystem Services*, Volume 45, Available online 31 July 2020, Version of Record 31 July 2020. <https://www.sciencedirect.com/science/article/pii/S2212041620300826>
- Brown, C., & Krishna, A. (2004). The skeptical shopper: A metacognitive account for the effects of default options on choice. *Journal of Consumer Research*, 31(3), 529–539. <https://doi.org/10.1086/425087>
- Chang, H. S., Huh, C., & Lee, M. (2016). Would an energy conservation nudge in hotels encourage hotel guests to conserve? *Cornell Hospitality Quarterly*, 57(2), 172–183. <https://doi.org/10.1177/1938965515588132>
- Cozzio, C., Volgger, M., Taplin, R., & Woodside, A. (2020). Nurturing tourists' ethical food consumption: Testing the persuasive strengths of alternative messages in a natural hotel setting. *Journal of Business Research*, 117, 268–279. <https://doi.org/10.1016/j.jbusres.2020.05.050>
- Dhir, A., Talwar, S., Kaur, P. and Malibari, A., 2020. Food waste in hospitality and food services: A systematic literature review and framework development approach. *Journal of Cleaner Production*, 270, p.122861.

- Dhir, A., Talwar, S., Kaur, P., & Malibari, A. (2020). Food waste in hospitality and food services: A systematic literature review and framework development approach. *Journal of Cleaner Production*, 270, 122861. <https://doi.org/10.1016/j.jclepro.2020.122861>
- Dixit, S., 2017. *The Routledge handbook of consumer behaviour in hospitality and*
- Dolnicar, S., Juvan, E., & Grun, B. (€ 2020). Reducing the plate waste of families at hotel buffets—A quasi-experimental field study. *Tourism Management*, 80, 104103. <https://doi.org/10.1016/j.tourman.2020.104103>
- Ehl.edu. 2022. *What is hospitality? What is international hotel management?*. [online] Available at: <<https://www.ehl.edu/en/what-is-hospitality>> [Accessed 1 April 2022].
- Eufic.org. 2021. *Food waste in Europe: statistics and facts about the problem*. [online] Available at: <https://www.eufic.org/en/food-safety/article/food-waste-in-europe-statistics-and-facts-about-the-problem?gclid=Cj0KCQjw29CRBhCUARIsAOboZbKTZNSZ4LpQAUX0BDvMU-3FOC6HeA9-UfCEJGW_py5FLv8jhXKepegaAvzsEALw_wcB> [Accessed 21 March 2022].
- Eurostat Statistics. 2020. *Being young in Europe today - demographic trends - Statistics Explained*. [online] Available at: <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_demographic_trends#Europe.E2.80.99s_demographic_challenge> [Accessed 31 April 2022].
- Filimonau, V., Lemmer, C., Marshall, D., & Bejjani, G. (2017). Nudging' as an architect of more responsible consumer choice in food service provision: The role of restaurant menu design. *Journal of Cleaner Production*, 144, 161–170. <https://doi.org/10.1016/j.jclepro.2017.01.010>
- Flick, Uwe. 2018. *I What is triangulation?." In Doing Triangulation and Mixed Methods,*.
- Gilovich, T., Griffin, D. & Kahneman, D. (Eds.). (2002). *Heuristics and biases: The psychology of intuitive judgment*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511808098>
- Gopalan, M., & Pirog, M. (2017). Applying behavioral insights in policy analysis: Recent trends in the United States. *Policy Studies Journal*, 45(S1), S82–S114. <https://doi.org/10.1111/psj.12202>

Gossling, S., Ara € na, J., & Aguiar-Quintana, J. (2019). Towel reuse in hotels: Importance of normative appeal designs. *Tourism Management*, 70, 273–283.
<https://doi.org/10.1016/j.tourman.2018.08.027>

Haiying Long (2017) Validity in mixed methods research in education: the application of Habermas' critical theory, *International Journal of Research & Method in Education*, 40:2, 201-213, DOI: 10.1080/1743727X.2015.1088518

Han, H. (2021). Consumer behavior and environmental sustainability in tourism and hospitality: A review of theories, concepts, and latest research. *Journal of Sustainable Tourism*, 29(7), 1021–1042. <https://doi.org/10.1080/09669582.2021.1903019>

Harter, N., 2014. Herbert Simon on organizational decision-making for long-term survival. *International Journal of Innovation Science*, 6(4), pp.249-256.

Haynes, L., Service, O., Goldacre, B., & Torgerson, D. (2012). Test, learn, adapt: Developing public policy with randomised controlled trials. Cabinet Office-Behavioural Insights Team, 2012(June), 1-35. <https://doi.org/10.2139/ssrn.2131581>

Helnan hoteller i Aarhus & Aalborg. 2019. *Helnan • Helnan hoteller i Aarhus & Aalborg*. [online] Available at: <<https://www.helnan.dk/en/helnan/>> [Accessed 23 March 2022].

Helnan hoteller i Aarhus & Aalborg. 2022. *Faciliteter på Helnan Marselis Hotel i Aarhus - Læs alt om dem her*. [online] Available at: <<https://www.helnan.dk/marselis/faciliteter-omgivelser/>> [Accessed 23 March 2022].

Helnan hoteller i Aarhus & Aalborg. 2022. *Helnan Marselis Hotel • Unik beliggende Hotel i Aarhus*. [online] Available at: <<https://www.helnan.dk/en/marselis/>> [Accessed 23 March 2022].

Hospitalityinsights.ehl.edu. 2022. *Hospitality Industry: All Your Questions Answered*. [online] Available at: <<https://hospitalityinsights.ehl.edu/hospitality-industry>> [Accessed 1 April 2022].

Idowu I, Li L, Flora JRV, Pellechia PJ, Darko SA, Ro KS, Berge ND. Hydrothermal carbonization of food waste for nutrient recovery and reuse. *Waste Manag*. 2017 Nov; p. 480-491.

Internal Market, Industry, Entrepreneurship and SMEs. n.d. *Policy overview*. [online] Available at: <https://ec.europa.eu/growth/sectors/tourism/policy-overview_en> [Accessed 15 March 2022].

- Juvan, E., & Dolnicar, S. (2014). The attitude–behaviour gap in sustainable tourism. *Annals of Tourism Research*, 48, 76–95. <https://doi.org/10.1016/j.annals.2014.05.012>
- Juvan, E., & Dolnicar, S. (2017). Drivers of pro-environmental tourist behaviours are not universal. *Journal of Cleaner Production*, 166, 879–890. <https://doi.org/10.1016/j.jclepro.2017.08.087>
- Kim, J., Kim, S., Lee, J., Kim, P., & Cui, Y. (2020). Influence of choice architecture on the preference for a pro-environmental hotel. *Journal of Travel Research*, 59(3), 512–527. <https://doi.org/10.1177/0047287519841718>
- Kotler, P. and Keller, K. (2009). *A framework for marketing management*.
- Lehner, M., Mont, O., & Heiskanen, E. (2016). Nudging – A promising tool for sustainable consumption behaviour? *Journal of Cleaner Production*, 134, 166–177. <https://doi.org/10.1016/j.jclepro.2015.11.086>
- Liang Li, Ryan Diederick, Joseph R.V. Flora, Nicole D. Berge. Hydrothermal carbonization of food waste and associated packaging materials for energy source generation. *Waste Management*, Volume 33, Issue 11, 2013, Pages 2478-2492
- Linkedin.com. 2022. *What is LinkedIn and How Can I Use It? / LinkedIn Help*. [online] Available at: <<https://www.linkedin.com/help/linkedin/answer/a548441/what-is-linkedin-and-how-can-i-use-it-?lang=en>> [Accessed 29 March 2022].
- Loewenstein, G., Asch, D., Friedman, J., Melichar, L., & Volpp, K. (2012). Can behavioural economics make us healthier? *BMJ (Clinical Research ed.)*, 344, e3482. <https://doi.org/10.1136/bmj.e3482>
- Marsh, H. and Rodríguez-Reinoso, F., 2006. *Activated carbon*. Amsterdam: Elsevier, pp.454-508.
- Nathan Harter, 2020. *Leadership Across Boundaries (Leadership: Research and Practice)*, 1st Edition, Edition Routledge, pp. 302
- Nations, U., n.d. *Food Loss and Waste Reduction / United Nations*. [online] United Nations. Available at: <<https://www.un.org/en/observances/end-food-waste-day>> [Accessed 17 March 2022]. OzHarvest.

Paterson, Margo & Higgs, Joy. (2005). Using Hermeneutics as a Qualitative Research Approach in Professional Practice. *The Qualitative Report*. 10. 10.46743/2160- 3715/2005.1853.

Polkinghorn, Donald. 1995. *I Narrative configuration in qualitative analysis*. Qualitative studies in education.

Principato, L., Pratesi, C. A., & Secondi, L. (2018). Towards zero waste: An exploratory study on restaurant managers. *International Journal of Hospitality Management*, 74, 130-137.

Project Drawdown. 2022. *Reduced Food Waste @ProjectDrawdown #ClimateSolutions*. [online] Available at: <<https://www.drawdown.org/solutions/reduced-food-waste>> [Accessed 18 March 2022].

Rossiter, J. R. (2002). The five forms of transmissible, usable marketing knowledge. *Marketing Theory*, 2(4), 369–380. <https://doi.org/10.1177/147059310200200407>

SAGE Publications Ltd.,

Schoonenboom, J., & Johnson, R. B. (2017). How to Construct a Mixed Methods Research Design. *Kolner Zeitschrift fur Soziologie und Sozialpsychologie*, 69(Suppl 2), 107–131. <https://doi.org/10.1007/s11577-017-0454-1>

Schubert, C. (2017). Green nudges: Do they work? Are they ethical? *Ecological Economics*, 132, 329–342. <https://doi.org/10.1016/j.ecolecon.2016.11.009>

Simmel, G. (1922/1955). Conflict & the web of group-affiliations (pp. 127-195)(R. Bendix, trans.). Free Press.

Souza-Neto, V., Marques, O., Mayer, V. and Lohmann, G., 2022. Lowering the harm of tourist activities: a systematic literature review on nudges. *Journal of Sustainable Tourism*, [online] pp. 1-22. Available at: <<https://www.tandfonline.com/doi/full/10.1080/09669582.2022.2036170>> [Accessed 12 April 2022].

Souza-Neto, V., Marques, O., Mayer, V. F., & Lohmann, G. (2022). Lowering the harm of tourist activities: a systematic literature review on nudges. *Journal of Sustainable Tourism*, pp. 1-22. <https://doi.org/10.1080/09669582.2022.203617>

Souza-Neto, Valério & Marques, Osiris Ricardo & Mayer, Veronica & Lohmann, Gui. 2020. *An overview of Nudge Theory on Tourism research: Some insights from a systematic literature review in Conference: XVII Seminário ANPTUR*

Statista. 2021. *Travel and tourism: share of global GDP 2020* / Statista. [online] Available at: <<https://www.statista.com/statistics/1099933/travel-and-tourism-share-of-gdp/>> [Accessed 15 March 2022].

Sunstein, C. R. (2014). Nudging: A very short guide. *Journal of Consumer Policy*, 37(4), 583–588. <https://doi.org/10.1007/s10603-014-9273-1>

Sunstein, C. R. (2014). Nudging: A very short guide. *Journal of Consumer Policy*, 37(4), 583–588. <https://doi.org/10.1007/s10603-014-9273-1>

Sunstein, C. R., & Thaler, R. H. (2003). Libertarian paternalism is not an oxymoron. *The University of Chicago Law Review*, 70(4), 1159–1202.

Sushantuniversity.edu.in. 2021. *HOTEL AND HOSPITALITY INDUSTRY – FACTS VS MYTHS* / *Sushant University blog*. [online] Available at: <<https://sushantuniversity.edu.in/blog/hotel-and-hospitality-industry-facts-vs-myths/>> [Accessed 1 April 2022].

Thaler RH, Sunstein CR. *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New Haven: Yale University Press; 2008

Thaler, R. H., & Sunstein, C. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven, CT: Yale University Press, p. 6.

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.

Thomas, David. 2006. *I Method Notes*. American Evaluation Association.

Tostivint, C., Östergren, K., Qvested, T., Soethoudt, J. M., Stenmarck, A., Svanes, E., & O'Connor, C. (2016). *Food waste quantification manual to monitor food waste amounts and progression*. BIO by Deloitte.

tourism. New York, N.Y.: Routledge.

Tyers, R. (2018). Nudging the jetset to offset: Voluntary carbon offsetting and the limits to nudging. *Journal of Sustainable Tourism*, 26(10), 1668–1686.
<https://doi.org/10.1080/09669582.2018.1494737>

Unfccc.int. 2022. *United Nations Climate Change - The Paris Agreement*. [online] Available at: <<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>> [Accessed 20 March 2022].

United Nations, 2022 — *SDG Indicators*. [online] Unstats.un.org. Available at: <<https://unstats.un.org/sdgs/indicators/indicators-list/>> [Accessed 22 May 2022].

United Nations, 2022. *Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*. [online] United Nations, pp.14-15. Available at: <https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf> [Accessed 22 May 2022].

Unwto.org. 2022. *Home / UNWTO*. [online] Available at: <<https://www.unwto.org/>> [Accessed 1 April 2022].

Viglia, G., & Dolnicar, S. (2020). A review of experiments in tourism and hospitality. *Annals of Tourism Research*, 80, 102858. <https://doi.org/10.1016/j.annals.2020.102858>

VisitAarhus. 2022. *VisitAarhus*. [online] Available at: <<https://www.visitaarhus.com/aarhus/see-and-do/attractions>> [Accessed 23 March 2022].

Wang, L. E., Liu, G., Liu, X., Liu, Y., Gao, J., Zhou, B., ... & Cheng, S. (2017). The weight of unfinished plate: A survey based characterization of restaurant food waste in Chinese cities. *Waste Management*, 66, 3-12.

Wang, L. E., Liu, G., Liu, X., Liu, Y., Gao, J., Zhou, B., ... & Cheng, S. (2017). The weight of unfinished plate: A survey based characterization of restaurant food waste in Chinese cities. *Waste Management*, 66, 3-12.

Waterfootprint.org. n.d. *Water Footprint Network*. [online] Available at: <<https://waterfootprint.org/en/resources/>> [Accessed 18 March 2022].

Wikieducator.org. 2011. *Social Constructivism Assessment/Recommendations and Relevance - WikiEducator*. [online] Available at: <https://wikieducator.org/Social_Constructivism_Assessment/Recommendations_and_Relevance> [Accessed 27 March 2022].

World Resources Institute. 2020. *World Greenhouse Gas Emissions: 2016*. [online] Available at: <<https://www.wri.org/data/world-greenhouse-gas-emissions-2016>> [Accessed 18 March 2022].

Zambas, S.I., Smythe, E.A. and Koziol-McLain, J. (2015), Hermeneutics and pragmatism offer a way of exploring the consequences of advanced assessment. *Nursing Philosophy*, 16: 203- 212.
<https://doi-org.zorac.aub.aau.dk/10.1111/nup.12094>

Appendices

Appendix 1 – Survey questionnaire

Food Waste in Hotels and Conference Meetings

This survey addresses if you are between 18-70 years old and stayed in a hotel when traveling within the last 5 years (or took part in a conference/event held in a hotel).

The survey should take about 5-7 minutes, and its main aim is to provide relevant feedback relating to customers' perceptions regarding the food waste phenomenon. This information is useful to conduct a masters' degree research on food waste within the tourism (hotel) industry.

The survey addresses persons between ages 18 and 70 years who stayed in a hotel both when traveling within the last 5 years on week-end or holidays and when taking part in an event or conference held in a hotel. The student researcher will only analyze this questionnaire on the basis of anonymity for all participants: you will by no means be identified.

Thank you very much in advance for answering each question.

1. What is your age?

- 18-24
- 25-39
- 40-59
- 60 or over

2. What is your gender?

- Female
- Male
- Other

3. What is your nationality?

.....

4. On average, how many times per year do you usually travel?

- 1-2 times
- 3-5 times
- 6 times or more

5. Which were the most selected types of accommodation for you while travelling in the last 5 years? Rate your favorite accommodation from 1 to 4, where 1 is very much and 4 is very little.

- Hotel
- Airbnb
- Hostel
- Other:

6. How often have you stayed in a hotel including food buffet/ (meals) in the price in the last 5 years?

- Never

- Sometimes
- Often
- Very often
- Always when travelling

7. If you are given the opportunity to choose between the following menu types at your hotel. Which of the following options best describes your situation? (Thick as many boxes as fits your situation)

- Breakfast buffet
- A la carte breakfast
- Half-board
- Full-board
- All inclusive
- Food buffet option (breakfast/lunch/dinner)
- A la carte option

7.1. Please give the main reason for your choice regarding the previous question
.....

8 How often did you attend events/ conferences/ professional meetings held in a hotel meeting room in the last 5 years?

- Never
- Sometimes

- Often
- Very often
- Always when participating in big events or business meetings

9. What is your opinion on food waste?

.....

10. With regard to food waste, are you aware about it in connection with the *hotel industry*?

- YES
- NO

10.1. If your answer is YES, rate from 1 to 6, where 1 is the most important and 6 the less important which do you think is the main factor of wasting food in a hotel:

- Food waste in the buffet at a hotel restaurant
- Food waste at A la carte at a hotel restaurant
- Clients ordering too much food for their events/meetings
- Last minute events/conferences participants' cancellations
- Too many options/variety of food
- Too big portions of food for A la carte option

11. Regarding a hotel restaurant or events/conferences held in a hotel, please suggest 3 ideas in order to tackle/reduce food waste.

.....

12. Who do you think should be the main responsible for the food waste at a hotel?

.....

13. Given the huge amount of food waste in the hotel industry, assess the importance of the following actions relating to the food waste reduction by rating their importance from 1 to 4, where 1 is very important and 4 the least important.

- A collaboration with different companies/apps for stopping the food waste such as, ‘Too Good to Go’
- Creating motivational posters to avoid food waste
- Sending leftovers to local orphanages
- Making the customers’ pay a small fee if they have more than half plate with leftovers
- Educate more the people regarding food waste

14. Would you value it/appreciate it more if the hotel you are staying at, and its guests become more sustainable friendly and aware about the food waste? Could you please elaborate your answer?

.....

15. Would you appreciate if a hotel implements some measures regarding *food waste*?

- I would not appreciate it at all and I would not book my stay there
- I would not appreciate it, but I still want to stay there
- It would not make any difference for me
- I would appreciate it
- I would very much appreciate it and it would raise my interest in booking my stay there

15.1. If your answer is positive, please choose your first option between the following proposed measures relating to help reduce food waste:

- To not be allowed to take more than a plate per person at a time (from the buffet)
- To be allowed to ask/take more food after having all eaten on your plate
- To have the option to take the food with you (in your hotel room)
- To have less variety of options of food on the menu cart (A la carte) / buffet
- To pay a small fee if you have more than half plate with leftovers

Thank you so much for answering this questionnaire! 😊

Appendix 2 – Interview with the hotel manager of Helnan

Marselis hotel

Interviewee: Finn Taul, *general manager of Helnan Marselis hotel from Aarhus*

Interviewer: Astrid Onet

Place of interview: Helnan Marselis Hotel, Aarhus

Date and time: 19.05.2022, 16:00 o'clock

Astrid: The very first question is, of course, to simply tell me a bit about how long have you been working at Helnan Marselis Hotel and if you have been working in the hotel industry, hospitality industry before that?

Finn: Yeah. I've just started here the first of April 2022. But I have been in the company for 12 years before, and I have been in the hospitality industry almost for 30, 40 years. I started in 87' as a hotel manager. Well... so I have been here, in this industry, for many years.

Astrid: Oh, that is amazing! So you have a lot of experience in this industry.

Finn: And at the same time, I have some... I'm a member of some boards regarding tourism industry and some destination companies. So I am very close related, yeah.

Astrid: Very nice! Thank you. So what are your daily responsibilities which you have at the hotel? Do you mostly need to manage all the departments, right? Or what are your daily tasks?

***Finn:* Yes, that's right. Yeah.**

Astrid: Right.

***Finn:* That's my normally function. At the same time, of course, I have to be much focused on marketing and also the economic parts and how we can save salary and so on. But right now, in this time in this hotel, we have been struggling with some effects from the time before here at the hotel. So now it's a little bit different because I'm more in the daily running of the business that I normally would be.**

Astrid: Okay. Yeah. To repair the mistakes from the past.

***Finn:* Correct. Right.**

Astrid: And then the next question will be – what kind of tourists are mostly coming the hotel Marselis? Are they mostly national or international, and, do we have a lot of loyal customers?

***Finn:* Yeah, but I think it's mostly international because a lot of time we have meetings and so on, that is the main focus here at the hotel. A lot of times the companies have department also abroad, so I'm quite... maybe it is 50-50 because also when I have the universities and I have the hospitality and so on, of course, most of times it's mostly Danes but still, our main business here is conference.**

Astrid: Conference. Yeah, ok... And I noticed actually that there are always coming a lot of international people at conferences - indeed, a lot of people talking English.

***Finn:* That's right. Yeah.**

Astrid: Okay. So now let's move on to the next topic, which is the main topic of my paper - food waste. I would like to ask, what do you think that most of the hotel staff around here think about the food waste? Do you think they consider it in general, how are they reacting to this phenomenon? Or did you experienced someone saying something or?

***Finn:* At the moment, I think I have a problem. We have a problem at the hotel because the staff don't think about it. But it's mainly because we are a few people and we are running very fast. And at the same time it is strange, but some of the young people and I don't understand why I can feel that some of the young people don't think about it and normally it should be the young people who want to change it. And then also we have a lot of foreign people from Romania and so on who are working in the morning and in the breakfast. And they don't have the same knowledge and the same attitude that we have here in Denmark. So I have a small education problem, yeah...**

Astrid: Yeah. Yeah, I fully understand and agree with you. But do you think that you should, maybe talk with them about it at some point or?

***Finn:* Certainly I already have done it and I think I have a huge demand to change because sometimes I would have seen when we are very close to close to breakfast like 10 or 15 minutes before then certainly they will fulfil my buffet again with bread, with cheese, with everything, with bacon and everything really. But everybody have to know that from 7:00 to 9:00, I have 80% of my guest. So only missing the last 5 or 10% after 9 o'clock. But again, also that is management problem.**

Astrid: Okay. Then I would like to ask you, what do you think about food waste? How would you describe it? How do you understand it? And yes, could you please say some more about it?

***Finn:* I think we have a huge possibility both the hotel and the company itself, I'm so angry every time I throw something away from my fridge at home. So I think. I have to do something, of course, in my professional work here, but also in our mind all the guests, they have to change. I know it's a huge issue worldwide, but you can still see some guests here fulfilling their plate in the buffet. And when you clean up the table, you have a lot of waste. So maybe we have to change the way how we serve it. Maybe if I serve a smaller portion and it is okay if you get more. But why should people take everything? Salad, fish, bread, meat, everything. And they cannot eat everything. So, yeah, I'm waiting to find a new solution on how we doing it. That could be a portion. That could be so. So you're making a special plate for one for each guest. Quality over quantity.**

Astrid: Yes... I also I got some really interesting answers from the survey. And people were saying something about maybe an option could be to offer the guest a smaller plate. For example, as I saw that we are already doing here at the hotel, we put smaller plates so they cannot put too much in the plate. That's one good option. And also another one to maybe let people know, to only take one plate at a time from the buffet and then if they want more, go and take more.

***Finn:* Yeah, but I think like in the traffic where you have a sign and take care of the small child or in the road, they'll be both the car and bicyclists. Maybe we could do the same and have some signs beautifully made and say, please only take a little, there will be enough for all of you, we will fill up afterwards. Because sometimes it look like people are afraid that... Oh, I have to take everything now.**

Astrid: Exactly.

Finn: So I think if we can both to educate, but also to make a new way to behave. And of course, it has to come also from us who deliver.

Astrid: Yeah, of course. Okay. One more question about the buffet. How many options do the guests, the tourists have when they book a room? Is the breakfast buffet always included in the room rate? Or it's just sometimes and they can choose? How is it exactly?

Finn: Right now it is always included. Breakfast... we have talked about to take it out, but mainly to have the change to take the higher price. So if I have to the room price and you can take extra for breakfast. And a lot of hotels are doing that in other countries, but I don't think we could do it in Denmark. I think it have to be included in the room rate. People are expecting that.

Astrid: Okay, I can understand. So please tell me more about your experience at this hotel regarding wasting food. And as you said, the clients are leaving a lot of food in their plates. But what about conference or events? Do you think that it's somehow influencing the food waste when we have events or conference booked and they cancel last minute?

Finn: That's right. But, it's very few who cancel in the last minute. So I think no, it's not a food waste there. I have the food waste still at this hotel in the breakfast buffet because we make too much sometimes. And it's, it's strange to, to, to say because it should be very easy to change it tomorrow. But still, we have to have the right people in the in the kitchen, the right people who take it up. And also, if something is empty, then you have to go from the restaurant to the kitchen and not to ask for a new full basket of bread... just ask for 5-6 or so. And so, more education and communication.

Astrid: Yes, to estimate. To estimate. Consider the time, how many guests we have, how many guests they have already eaten.

Finn: But maybe, maybe it's possible to make a kind of a system where some of the staff could have a kind of bonus if we can save of the food cost. Because always, if you have the possibility to earn some money, people are thinking more about.

Astrid: Oh yes, that is true – people become more motivated somehow. Yeah.

Finn: And again... a lot of my staff, is extra people also from outside the company. So it's another thing if you have, if you make a car and everybody know that this time you have to make a car that is take more care of the environment. But here they are coming to fulfil a job for 5 or 8 hours and then they leave again. So sometimes it's difficult to, to implement all of this.

Astrid: Okay. Next question is – what kind of things do you plan to apply to prevent and diminish food waste here at Helnan Marselis hotel? What are your thoughts?

Finn: I like, as I said before, to try to find a new way to serve how we serve the lunch or the breakfast, maybe. Because, it's the same if you are at home in your private home, you should get a plate with just few small things. It is enough and you have your meal. But if I have a kind of buffet, maybe you eat too much. Always. We have the same problem. If you have a Christmas party, there's always too much food. So you can learn of that. I think we have to. I'll be waiting to tell our guests that maybe it will look a little bit empty in the end. Like tomorrow, we have to have 280 people. And of course, I cannot have fulfilled food for one hour. So after half an hour, a lot of the things will look empty. Maybe I could change that if it was another kind of service. I'm not quite sure how it should be, but...

Astrid: Do you think that also the variety of food like influence? I mean, if you have too much variety of food on the buffet, maybe you tend to think, okay, I want to try also this and also this and also this.

Finn: Yes, very good point, I am quite sure.

Astrid: Maybe if you have a little less variety. But the elementary thing as you said some salads, some meat, some veggies, some potatoes or something, and then you take just necessary, as you said, like it is at home. At home you don't cook ten different things.

Finn: Yeah, you are right. And, and at the same time, I think the guests are expecting to see a buffet with different kind of selection of food. But then again, if we could educate both the staff and I guess, let's say – please today let's take care of the environment and the food here we have, we made this and this for you and it is one for each. And then of course I make an extra 10%. So I have behind if some guy he wants to have extra food.

Astrid: Yes.

Finn: But yes, I agree. We have... today we still have too much food waste.

Astrid: Okay. But as I said, I was doing this survey and some like the greatest majority of 100 people, they mentioned this app, Too Good to Go, for example. Did you heard about it? What do you think about it? Would you be interested maybe in collaborating with them?

Finn: And the app is where I can announce that I have some food left or how?? Oh, very interesting, but I did not hear about it.

Astrid: Yes, exactly. You have a collaboration with them and then they put your advertising there on the app, and then the people see it and they pay and come get the food. For example, if we have a buffet for lunch and there's so much good food remaining, maybe there are some students or some people which cannot or do not want to pay full price, but they can pay a little money to get

some food, a meal. Let's say, for instance like 30, 40 or 50 crowns for a small full with food. They bring a box, recipient or something and they just fill it up with a portion of food for them and then they are happy. And then, the food waste was actually saved and not wasted.

Finn: Oh, I see... and the people are coming and picking it up from here?

Astrid: Yeah, exactly. Exactly. So they come let's say you finished with the lunch at 1:00 and you put it from 1:10. They can come from 1:10 until 1:20. So in that timeframe, 10 minutes, they can come and pick up food from the buffet. You don't have to take it out first. They take how much they want and then what is remained, usually almost nothing because they take a lot and they are happy as well. They sometimes share it with their colleagues, family, or friends.

Finn: I didn't know about that, but that sounds like a good solution! Really interesting! Yes, I'd like to see more about that and do it.

Astrid: Yeah, sure! I can show it to you.

Finn: Yeah, thank you, thank you.

Astrid: Following, imagine when you take your next vacation (as a Helnan Marselis hotel potential client/employee), how important do you think is being notified by the hotel that you are allowed to take food in your room and/or to take only one plate at once from the hotel buffet during your meals?

Finn: Like, yeah, that would be nice, taking food with you in the room... And I will myself enjoy too to do that because I also like to sit in my own room and maybe also I have my own wine. So yes, I think that would be fine. Yeah.

Astrid: And then they still consume the food. So it's not food waste and they just consume it in another place.

Finn: Yes. Yes, agree.

Astrid: And the last question, if there is anything you would like to add regarding the food waste phenomenon and its prevention in the hotel.

Finn: Yeah. I think again, also in the kitchen and when we had the production of the food and I think it's important not to play so many system, but I think the most important is that we think about it, that we talk about it, that like I told you, that when I have the buffet breakfast, that I have too much sausages and bread and all of those. And again, I had to show them how to do it. And also, again, if I had the sign, so maybe instead of I have 25 or 30 slices of the scrambled eggs on the buffet, then I can just have five and I have a sign to take care of the food waste. I only have a small plate, please ask the waiter if you want more. Yes. So I think and again, please, I can save so much money from the hotel... So I think that will be the best because the education of the guest that will happen at home definitely come from the government and from the different kind of companies through talking about the food waste. But we shall change and we have to adapt us so we can fit onto the new system. And right now, if I look at today, we do exactly the same like we did for 20 years ago. It's still the same breakfast. This is the same buffet for lunch. So it's strange that we not have changed that yet and there's too much food in it. But I can also see sometimes the guest is strange because you can have 100 people to a conference and the last five or eight that maybe come too late, they come 5 or 10 minutes after or they're sitting and talking at the buffet, I can see it in their eyes that they don't like to see an almost empty buffet. So sometimes in my mind it's strange because at home it's the same. If you are finished with your dinner at evening, of course it will be almost empty. So you can take the weight. So I think we have to be aware of that. This would be the new because there's no doubt about it. I can hear a lot of guests at the same time. They take care of the food waste. Yeah. A lot of guests don't like it when they

see... They ask me ‘how you really throw this out?!’ Yeah... So I think the first one which I am thinking is the one you talked about, the app - that could be a good idea. Yeah.

Astrid: Yes, so you believe that the app and some posters made in a nice way to kindly try to educate more the hotel guests, then educating more the staff. This is what I understood you are aiming of doing regarding food waste at Helnan Marselis Hotel, right?

Finn: Yes, that is totally correct. Those are my main thoughts and goals about food waste here at the hotel.

Astrid: Okay, thank you so much, Finn!

Finn: You are welcome! That was interesting!

Appendix 3 – Interview with a waiter from Helnan Marselis

Hotel

Interviewee: Nicholas Jesuthasan, *waiter at Helnan Marselis hotel from Aarhus*

Interviewer: Astrid Onet

Place of interview: Helnan Marselis Hotel, Aarhus

Date and time: 23.05.2022, 17:00 o'clock

Astrid: Please tell me, how long have you been working at Helnan Marselis hotel and if you have worked in hospitality industry before?

Nicholas: I have been working for Helnan Marselis hotel for about 2 years now, and been working in the hospitality industry for about 13 years.

Astrid: Which is your current job position and what are your daily responsibilities for this job?

Nicholas: I am a waiter at the hotel, where I am serving the many customer who are visiting the hotel in the restaurant, or it can be at some of the private parties that is being hold at the hotel, but also preparing the many conferences there are at the hotel.

Astrid: What kind of tourists can be encountered at Helnan Marselis hotel? For example, are your guests mostly national or international travelers, do you often have the same clients (loyal customers)? Tell me more about that.

Nicholas: There are many kinds of customers who are visiting the hotel, but mostly Scandinavians and Europeans. And some of the customers have been loyal customers for years and it's funny to see and meet them again because they usually remember someone even when you can't remember their faces.

Astrid: I would like to move on to the next topic. What do most hotel staff round here think of food waste in general? And how they react to this phenomenon in the hotel/conference industry? Why do you believe they are doing that?

Nicholas: We often talk about how much food we throw out and how much that is being wasted because they produce too much compared to how much the customers can eat, especially when it comes to the private parties. But I also think it's because at the hotel we are a bit under staffed on chiefs, so the chef thinks it's better to make more than making too little, because then you have a bigger problem! And when you are not fully staffed on chiefs it can be a problem to measure how much 200 customers eat. That's just my opinion.

Astrid: Is that the way you feel too? What do you mean by food waste? Could you say some more about that?

Nicholas: I think it's sad that all this delicious food is being wasted when food hunger is such a big problem in the world, and also when you see a lot of homeless people on the streets who has not the luxury of buying food for themselves and here, we are throwing so much out. But also, when you see the persons behind the making of the food who are working their asses off to make sure that there is food enough and it is just being wasted.

Astrid: When booking a room at Helnan Marselis hotel, how many options do tourists have regarding the buffet options? Is breakfast buffet often included in the room rate? Tell me more about all food options facilities in this hotel.

Nicholas: The customers are getting the opportunities for getting something to eat in the morning, at lunch and at the evening. In the morning the customers are getting the

opportunities for eating in the restaurant where there will be a buffet with about 9-14 different dishes. Often the buffet and the food that are being served in the evening is being included in the room rate when they book their rooms.

Astrid: Tell me about your experience in Helnan Marselis hotel regarding the causes of wasting food in this hotel restaurant buffets. Describe what you can usually see when clients order food for their events/meetings. Thinking back to when there were last minute events/meeting participants' cancellations or too many variety of food, how important was the total of wasted food for you?

Nicholas: I think the reason why there is so much food being wasted is because the chiefs at the hotel don't measure the food divided in the persons that are participating at the buffet because of the lack of help he gets to prepare the food, so he have to make sure there is enough food so he doesn't have to make food in the last moment all the time. Another reason can also be that we at the hotel want to give the customers a lot of different kind of foods they can choose from, and it's not all the dishes I think that the customers like. And another reason why there is so much food being wasted is because some of the waiters don't know when to call after more food because, we always have 2 of the same dishes and when 1 plateau of food is finish they call for a new one to replace the empty one, instead of thinking that there still is actually one more back on the table.

Astrid: Imagine you are the hotel manager. What kinds of things do you plan to apply to prevent and diminish food waste in this specific hotel?

Nicholas: I will hire 1 or 2 chiefs more, this will help the one chief there is at the hotel, and then there more time calculate how much food they should make fore the amount of people that there are participating. Then I will train the waiters to think more about not wasting so much food because it can be very expensive bill for the hotel if the calculate on how much food is being wasted, instead of being used. And at some point, I will use some kind of app (like Too Good to Go) where students and people with a low budget can come and buy the food for low price so the amount of food we would usually throw out, can be used for someone else.

Astrid: Would you agree to potentially collaborate with different apps/companies interested in reducing food waste such as TOO GOOD TO GO, for example? What else do you think would be also helpful to avoid throwing out remaining perfectly good food and reuse leftover food in collaboration with other companies/institutions?

Nicholas: Yes! I would agree because it helps the cause, and it helps a lot of people which is on a low budget.

Nicholas: Another reason that would help is making sure that the customers know about the situation, by posting posters in the restaurant or on the tables about being more responsible about food wasting.

Astrid: When clients fill out their check-in forms or have breakfast/lunch/dinner, what kinds of suggestions do you think will be useful to make clients act/eat responsibly in terms of reducing food waste? Describe how / simple ways you can get involved in reducing food waste.

Nicholas: As I said before in question 9, you could post some posters that evoke some feeling in the customers psyche about being more responsible and being more aware about the problem “food-wasting”... Also, I think that it’s more the chiefs/waiters who dictates how much food there is being wasted, because I think the chiefs should be aware about how big the portions are when the customers buy their food.

Astrid: You mentioned some measures/tips for reducing food waste, tell me how these actions would typically influence the protection of our environment. How important is that for you?

Nicholas: By using apps to prevent food wasting, you make sure that we don’t throw a lot of food out but instead making sure that most of it is being used. And by measuring the portion you assure that you don’t overuse the quantity of food. And if you know how much you are going to use for one company you can make sure that you don’t overproduce food.