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The Unspoken Food Waste Crisis: A Behavioral Challenge

by

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Thesis

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Dedication

This master thesis is the culmination of hard work through the past two years. I dedicate this final chapter of my masters program to my grandparents Simone and Francois How and my parents Claude and Lily How, for having presented me the opportunity of an education.

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First and foremost, I would like to thank my advisor, Mr. Kai Hansen for his constant guidance and support through out the master thesis process, and without whom the final output would not have been the same.

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Ultimately, the choice of my master thesis materialized itself out of an unrelenting interest in the food industry and eventually towards developing an approach for a better understanding of the attitudes towards, and the practice of food waste.

I cannot find words to express my gratitude to all of those who have been a part of this wholeheartedly journey.

Abstract

The Unspoken Food Waste Crisis: A Behavioral Challenge

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Food waste has been linked to the elevated level of methane gases that presents threats to the environment and a somber future for the years to come. Understanding the food waste phenomenon through the post-consumer behavior is key to achieving a sustainable future. Behavioral analysis can offer the methods to recognize the determinants and driving force behind food waste in households.

Efforts to raise awareness and create campaigns to reduce food waste will only succeed if they are supported by and with the collaboration of all the actors of the food chain.

Using a qualitative design and partial grounded theory, 10 residents of Norway were interviewed based on the theoretical framework of the theory of planned behavior (TPB).

The interviews took effect during the period of February to April 2014 focused on the participants' attitudes and behavior on food waste and their intention on reducing food

waste. The interviews demonstrated that the public experienced a lack of awareness on food waste as compared to recycling that was highly marketed. The findings indicated that the intention and willingness to participate in the behavior was influenced by societal moral standards, gender differences & external influence but also inhibited by the lack of awareness, perceptions and (in)convenience.

The study raises the need for further research at the post-consumer waste to fully understand the intention, behavior and attitudes before investing into campaigns.

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1. INTRODUCTION

This paper aims at contributing to the knowledge on the attitudes and behavior of individuals towards food waste. It is intended to add to the topic by filling up the gaps in the study of food waste by asking the following questions, “How does food become waste at the individual level?” And “what factors are influencing the decision-making process behind the practice?” and lastly “why are individuals practicing food waste?”

Aiding in tackling these questions are the theoretical grounded theory of Fishbein & Ajzen (2010) and the existing literature and research on food waste. Additionally, looking at the issue of food waste through the lenses of the existing academic research and literatures has been essential in linking food waste and the behavioral aspect of the prosumers. In this respect, the thesis focuses on the individuals, categorized into two groups, passive versus active defined by their exposure to the food industry whether due to their profession or degree of interest, thus providing the relationship between their behavior towards food waste and the factors influencing the behavior and hence, leading to the practice.

Research was conducted using a mixed-method approach that comprised mainly of a qualitative approach made up of focus groups, face-to-face in-depth interviews, and informal interviews with experts to test out the structure of the interviews and validate the approach as well as secure an unbiased result on the phenomenon and the participants’ response.

2. LITERATURE REVIEW

“The UK, US and Europe have nearly twice as much food as is required by the nutritional needs of their populations. Up to half the entire food supply is wasted between the farm and the fork” (Stuart, 2009).

Food waste is a topic that has received attention from various researchers and activists through out the last two decades (Shanklin, 1993; Tonglet, Phillips & Read, 2004; Stuart, 2009; Sonnino & McWilliam, 2011; Parfitt, Barthel & MacNaughton, 2010; Quested, Marsh, Stunnell & Parry, 2013), aiming at understanding and an attempt at reducing and preventing the practice. With global warming being at the main center of attention, and food waste being directly linked to contributing to the elevated amount of methane gases (Valentine, 2013; UNEP, P.32, 2009; FAO, 2011), it is not surprising that there has been vast amount of preventive campaigns aiming at raising awareness and promoting environmental friendly alternatives for that matter (UNEP, 2009, p29, p92-93; Stuart, 2009; “Climate Reality”, 2014). Not to mention that the research thus far have provided for considerable factors that pinpoint at the impacts of food waste and other valuable perspectives, going beyond the financial aspect, and including the impact on the environment and the social aspects, and its possible repercussions for the future (Bloom, 2007; WRAP, 2008; UNEP, 2009). Furthermore, there has been evidence through research carried out, just to name a few findings, which recognize that (1) there is the

need for a better understanding behind the practice of food waste, (2) that it is essential to enhance communication along the food chain and that (3) there is the necessity to intensify the collaboration among all actors of the food chain (Shanklin, 1993; Parfitt et al., 2010; Sonnino & McWilliam, 2011) if reducing food waste is achieved.

One of the earliest papers on food waste goes back to 1993 by Shanklin, following *The Earth Summit* held in 1992, which was intended to initiate the discussion on the implications for the hospitality and tourism industry as well as prompting a response from the industry. The Earth Summit conference was focused on the bigger picture as an attempt to raise awareness on the food waste phenomenon. The research paper by Shanklin (1993) was targeted at encouraging research and training in the industry, by acknowledging that as far as two decades ago, the issue of waste would be a critical threat to the environment and would affect the hospitality and tourism industry in the future. Shanklin's (1993) early assessment of the situation was only the tip of the iceberg that is the complex phenomenon of food waste.

One step ahead of the published paper by Shanklin (1993) and in the direction of the psychographic factors that investigate the prosumers' attitudes and behavior, can be observed through the (1) reports published by WRAP (2009) and (2) a research initiated by Refsgaard & Magnussen (2009) in Norway.

Reinforcing the previous studies, the reports by WRAP (2009) and the research by Refsgaard & Magnussen (2009) both the studies stress on the significance of communication among all the actors of the food chain and the importance of postulating educational and informative structure as a vital part of the framework; a stepping-stone in the direction of influencing the thought-process and decision-making involving food

waste.

Refsgaard & Magnussen (2009) have therefore attempted to link the bureaucratic influence, that is the political factors and to a certain extent, their effect on the individual's behavior and decision making process towards waste management.

Correspondingly, in the instance of Sonnino & McWilliam (2011), who argue that policies play an utmost role in the food waste phenomenon, particularly in their study that focused on the public food systems (p.829).

Sonnino & McWilliam's (2011) research is consistent with the framework of food waste and the mobilization of the various actors of the food chain in order to reduce food waste, but it is however confined to factors such as the role of service regarding the staff members and the communication flow among the different parties, that contribute to food wastage. Albeit the noteworthy findings, the research fails to include the motives at the individual level that is the behavioral aspects behind which individuals rationalize the practice of food waste (p828, 2011).

However, Sonnino & McWilliam (2011) study is similar to Refsgaard & Magnussen (2009) in that it is more focused on the effect of the communication flow and informative feature from the institutions and policy makers than the psychographic variables of individuals within the food waste phenomenon.

Successively, the food waste report (Global Food Security Programme, 2013), carried out in the UK and the research paper by Sonnino & McWilliam (2011) have both provided evidence for the need for further research in the domain and the necessity for optimizing a framework that ensures that all the levels of the food chain are mobilized in order to educate the actors of the food chain if a sustainable future should be achieved.

Albeit the plethora of research studies on the phenomenon of food waste, it is undoubtedly the quantification aspects of food waste that have been widely investigated (Sibrian, Komorowska & Mernies., 2006; WRAP, 2008; Hall, Guo, Dore & Chow, 2009; FAO, 2011; Valentine, 2013) and while a vast amount of the research grazed the idea of post-consumer waste and recognized the importance as well as the challenge the prosumers pose (Refsgaard & Magnussen, 2009; Parfitt et al., 2010; Sonnino & McWilliam, 2011; Quested et al., 2013), regardless, only a few actually investigate the issue from an in-depth qualitative standpoint, focused on the understanding of the behavioral facet (Tonglet et al., 2004; Wyngaard & De Lange, 2013)

Nevertheless, this worldwide phenomenon is being tackled through several channels aiming at understanding and attending to the socioeconomic effects. In the example of the Department of Agriculture and Environmental Protection Agency in the U.S, that has recognized the need to raise awareness on food waste and educate the consumers, culminating in a program known as the “U.S Food Waste Challenge” that was launched in June of 2013 (Valentine, 2013; “U.S. Food Waste Challenge”, 2013). A noteworthy observation about this particular plan of action is that it is explicitly aimed at the groups of consumers, that is, individuals are being recognized as an essential group to consider and include in the fight against food waste and are therefore being targeted, an aspiration for reducing food waste. Raising awareness through campaigns and as an initiative for the food waste phenomenon however requires various channels being investigated before an official launch (Hastings, 2007). In return, it raises a social issue whereby individuals are

being involved and feeling a part of, which can successively create *perceived social pressure*, an influential factor on an individual's intentions, attitudes and subsequently behavior towards an issue as argued by Fishbein & Ajzen in their theory of behavior (2010).

The psychographic factors such as intentions and attitudes are considered to be vital variables in the food waste phenomenon since the former are deemed to be strong determinants of behavior (Ajzen, 1985, 1991; Armitage, & Conner 1999; Conner, 2010).

Furthermore, there has been evidence that analyzing the consumers' behavior (Global Food Security Programme, 2013) in light of a better and clearer understanding of food waste in order to successfully instigate changes, is an angle that necessitates to be investigated (Tonglet et al., 2004; Quested et al., 2013). The analyses by multiple resources encase the whole supply chain, including but not limited to the patterns surrounding the area of consumer behavior (Parfitt et al., 2010; Global Food Security Programme, 2013, p.21) as a crucial attribute in understanding food waste and withal, Parfitt et al., (2010) touched base on the phenomenon of food waste across the whole food supply chain but particularly recognized the fragment of the supply chain that is assumed to be the most challenging; that is the post-consumer behavior (2010,p 3065).

A few research studies that have attempted to analyze the post-consumer food waste using a diversity of methodologies varying, from behavioral studies including reactive measures such the usage of daily diaries (WRAP, 2008,2009) and nonreactive methods of collecting data (Harrison, Rathje & Hughes, 1975), statistical methods and validated mathematical models (Hall et al., 2009; Sibrian et al., 2006; Sonnino & McWilliam, 2011) to analyzing existing research (Sibrian et al., 2006), are mainly focused on

quantitative research methodologies. In the instance of Hall et al's., (2009) research which used an unorthodox approach to investigating and tackling the issue of food waste, by adopting validated mathematical methods and models to calculate the progressive increase in food waste. This was achieved through plotting the food supply data and the food intake data in America collected through the US Food supply and the FAO in order to predict the amount of food wasted.

While Hall et al., (2009) have estimated food waste through a validated mathematical approach, the validity of the research results is in turn highly dependent on the validity and reliability of the data provided by the US Food supply data. Additionally, while the research, even though confined to US grounds and as a result cannot be generalized due to the limitation and the dependency of the data to the US food supply, is however arguably consistent with the theory of food waste and showcases the critical level of the issue, and along the way raises questions about the real “motivations” and “reasons” behind the practice of food waste. The research only grazes the core of the issue by chiefly focusing on the quantification of food waste, that is, the aggregate and along the way fosters substantial themes such as the psychographic factors, taking form in the behavioral aspects leading to food wastage. The drawbacks of these previous studies mentioned above, those that have attempted to uncover patterns and make inferences towards food waste at the post-consumer level, have for the majority adopted a quantitative methodology to account for the measurements (Harrison et al., 1975; Hall et al., 2009; Sibrian et al., 2006) with the exception of the study carried out by WRAP (2008, 2009) which attempted to use a mixed-methodology. The limitation of these studies was highlighted through the missing themes of attitudes and behavior of the

prosumers, an aspect that goes beyond the quantification of food waste and that needs to be explored to understand the full scope of the phenomenon. The difference in approach can be summoned through the design and methodology adopted, in terms of qualitative research and quantitative research. Quantitative methods fails to go beyond the numerical descriptions while Qualitative research methods are in fact focused on gaining in depth understanding of the phenomenon, the meanings, concepts and the social aspects that it encompasses (Berg, 2007, p.3). In other words, the qualitative research on the topic of food waste looks at gaining true understanding of the social aspects of how food waste occurs and how the context and the determinants affect the individual's decision making process and behavior, an aspect that is missing from the previous research (Harrison et al., 1975; Hall et al., 2009; Sibrian et al., 2006).

In order to account for the true understanding of the phenomenon, in the form of the attitudes, behavior and eventually patterns of the prosumers towards food and food waste waste, including recycling behavior, a few studies in the discipline (Sparks, 1994; Tonglet et al., 2004; Quested et al., 2013) have adopted the theory of Theory of Planned Behavior (TPB) (Ajzen, 1985,1991).

Studies adopting TPB are primarily used for predetermining behavior in the health and environmental fields (Conner & Sparks, 2005; Montano & Kasprzyk, 2008). In the instance of TPB, quantitative studies have been the to-go method to use, with Ajzen (2002) methodology providing guidelines only for a quantitative outlet. However, a few researchers in the name of Mynarska (2008) and Renzi & Klobas (2008) have used TPB aligned with a qualitative approach in their respective studies. While both are unpublished articles, and evidence weaknesses throughout sections of their respective

papers, they have nonetheless been used into assisting for the theoretical framework and guidelines for this master thesis. In the article by Mynarska (2008), the lack of descriptive and informative aspects on the methodology is flagrant, which Renzi & Klobas (2008) have attempted to correct through a thorough and detailed methodology. Both research studies have TPB as their theoretical framework but none encompass food waste as the phenomenon investigated. In addition, studies using TPB in a qualitative study as the theoretical framework and as related to food behavior, although not widely available and not easily found in abundance, can be located in the research papers by the authors (1), Brug, Debie, Van Assema & Weijts (1995), (2) Deskins, Harris, Bradlyn, Cottrell, Coffman, Olexa & Neal (2006) and (3) Barbeira, Attree & Todd (2008).

As mentioned previously, numerous research on food waste exist but are constricted to the quantification aspect of food waste, taking form in probing on the amount of food waste and exploring different ways and means to reduce this practice (Harrison et al., 1975; Sibrian et al., 2006; Hall et al., 2009; Sonnino & McWilliam, 2011).

Based on their findings, the research papers conclusive statements led to suggestions that include but are not limited to offering educational programs, including training programs, raising awareness campaigns and projects among other recommendations, which would mobilize all the actors in the food chain in order to create a shared vision for a sustainable development (Refsgaard & Magnussen, 2009; Parfitt et al., 2010).

In spite of the research papers about food waste mentioning behavior and attitudes as being two vital elements in understanding the food waste phenomenon in ultimately reducing food waste, and despite applying diverse angles in understanding the food waste behavior (Harrison et al., 1975; Refsgaard & Magnussen, 2009), only a handful of

research exist on the measurement of attitudes and behavior of the prosumers towards food waste (Harrison et al., 1975; Tonglet et al., 2004; Resgaard & Magnussen, 2009, NSW, 2011).

Those research studies that specifically make use of the behavioral models theory such as the Theory of Planned Behavior or the reasoned action as their theoretical framework, to investigate social issues such as food waste and recycling are correspondingly limited to a handful (Tonglet et al., 2004; Quested et al., 2013).

Tonglet et al., (2004) research have undertaken a quantitative approach of the TPB (Ajzen, 1985,1991, 2002) in means of assessing the recycling behavior of 191 participants in the UK through questionnaires. In their research, they claimed that TPB offers a theoretical framework in discovering the determinants of recycling behavior that have implications for the success or failures of campaigns around recycling.

2.1. Prosumers

The issue of food waste is a complex phenomenon that requires different levels of interaction and cooperation among the actors of the food chain as argued by many researchers (Resgaard & Magnussen, 2009; Parfitt et al., 2010; Sonnino & McWilliam, 2011; Valentine, 2013; “U.S Food Waste Challenge”, 2013). The concept of prosumers and its implications around the phenomenon of food waste is portrayed through the core notion of prosumers.

According to Toffler (1980), the Post-industrial age has seen an evolution in the notion of consumers; the birth of prosumers, which is the fusion of consumers and producers.

Toffler (1980) initially portrays the prosumers as individuals who engage in the production and consumption of some of the merchandises and services. Kotler (1986)

also argued that the new category of consumers were a marketing challenge that needed to be investigated and understood.

Additionally, the fight against food waste underlines the concept of co-creation (Prahalad & Ramaswamy, 2004) in that the prosumers experience a level of transparency and are being made aware of the policies, whether it is government funded or privately owned sponsored campaigns, with regards to the interaction among the different parties, giving rise to co-creating values around the issue of food waste.

Prahalad & Ramaswamy (2004) believed that prosumers also raised concerns on the notion of co-creation and value creation. The concept of prosumers and its link to food waste relevancy in the thesis is the belief that, in order to tackle the food waste phenomenon and based on the literature reviews (Refsgaard & Magnussen, 2009; Parfitt et al., 2010; Sonnino & McWilliam, 2011; Quested et al., 2013) , the individuals at the post-consumer waste are fundamental segments to consider. Along the same line of thought, previous researches have engaged in the battle against food waste and considered that rallying all the actors of the food chain to raise awareness and implement strategies that would reduce food waste in the long run is an approach worth investigating (Parfitt et al., 2010; Valentine, 2013; “U.S. Food Waste Challenge”, 2013; Shanklin, 1993).

The link between the prosumers and food waste is the notion that in order to be impactful on post-consumer waste, it requires engaging the individuals as both consumers and producers by co-creating and co-operating for value creation purposes along the whole food chain, a challenging but yet beneficial group (Kotler, 1986; Prahalad & Ramaswamy, 2004).

Co-creation and co-operation within the notion of prosumers draws strikingly comparable and similar entities to Ostrom's (2009) concept of "action arena". The foundation upon which the action arena is supported, relies on the optimal equilibrium between a group of individuals known as players and their cooperation in achieving a common goal and/or overcoming a problem (Ostrom, 2009). The action arena therefore, refers to the area within which social choices and decision-making processes take into effect (Ostrom, 2009). The mobilization, leading to co-creation and the cooperation of all the actors of the food chain has been relentlessly conveyed through the various research (Parfitt et al., 2010; Valentine, 2013; "U.S. Food Waste Challenge", 2013; Shanklin, 1993) and the situation that needs to be undertaken forms what can be interpreted as the action arena (Ostrom, 2009).

The combination of the concepts of prosumers within the food waste phenomenon and taking into account the literature reviews' standpoint on the subject matter has formed the theoretical framework upon which this thesis is founded.

3. THEORETICAL FRAMEWORK

In light of the master thesis, the participants will be referred to as prosumers (Toffler, 1980), the challenging proactive consumers (Kotler, 1986; Prahalad & Ramaswamy, 2004) that are deemed to be of major contribution to the food waste phenomenon (Parfitt et al., 2010; Valentine, 2013; “U.S. Food Waste Challenge”, 2013; Shanklin, 1993). For the purpose of this study, food waste signifies (1) cooked and uncooked food articles that are intentionally or unintentionally uneaten that end up going to waste. The environment within which the thesis is investigating is within the individual household of the participants.

3.1. The Theory of Reasoned Action

There are countless numbers of research that have been carried out on food waste (Parfitt et al., 2010; Shanklin, 1993; Wyngaard & De Lange, 2013; Sonnino, 2011), from different perspectives and enclosing a diversity of disciplines, but some questions still remain at large on the topic. The theoretical framework for this particular thesis will be examined through the lenses of the social sciences and behavioral theories, going beyond the socioeconomic effects of food waste. The phenomenon that will be investigated has been developed in connection with the behavioral theory such as information processing theory (Fishbein & Ajzen, 2010, p.24) that will assist in answering the main questions of the thesis and the remaining factors that are in correlation to food waste.

The Theory of Planned behavior, a concept that was initially proposed by Ajzen (1985), is an extension of the Theory of Reasoned Action that was developed through a prior mutual collaboration by Fishbein & Ajzen (1975). The reasoning behind and the pillar of the Theory of Reasoned Action assumes that if individuals evaluate a specific behavior as

positive, known as their attitude towards the behavior, and believe that their closed surrounding supports and wants them to execute the behavior, also known as subjective norm, this will lead to an increase in their intention to complete the behavior and subsequently increases the likelihood of the individuals actually committing to perform the behavior (Fishbein & Ajzen, 1975). TRA is a behavioral model aiming at predicting behavioral intention, intending at solely explaining volitional eg. Conscious, voluntary behaviors, and has hitherto missed the mark to explain other behaviors that are considered to be of unconscious nature, such as impulse (as cited by Hale, Householder & Greene, 2002) or/and behaviors that require a specific skill (Liska, 1984). TRA stipulates that volitional behaviors are predetermined through one's intention as experienced through one's attitude and subjective norms about carrying out the behavior (Fishbein & Ajzen, 1975).

Critics of the TRA have questioned whether the variables of attitudes and subjective norms that make up the construct of TRA are satisfactory enough prognosticators of behavioral intentions (Eagly & Chaiken, 1993; Conner & Armitage, 1998; Sparks & Guthrie, 1998; Terry, Hogg & White, 1999; Hale et al., 2002). Atop of attitudes and subjective norms, it has been suggested that the variables of self-identity, affect, moral obligations and prior behaviors could similarly be recognized as indicators of behavioral intentions (Hale et al., 2002). Additionally, the scope of the meaning of TRA and the limitation of the theoretical definition, in regards to the volitional behavioral TRA is restricted to, have also been highly criticized (Tesser & Shaffer, 1990; Hale et al., 2002).

Eagly & Chaiken (1993) suggested that the TRA model should encompass behaviors that are not merely restricted to volitional behaviors, and instead include social behaviors that are consciously and unconsciously executed.

In response to the criticism on the TRA, and in an attempt to widen the scope of the behaviors to not only volitional, Ajzen (1985) introduced the concept of the Theory of Planned Behavior. TPB is similar to the TRA but provides an additional component, the *perceived behavioral control* that aims at assessing the individual's perception on the ease or/and difficulty in executing the behavior and refers to the individual's judgment on his own ability to execute the behavior (Ajzen, 1985).

3.1.1. The Theory of Planned Behavior

TPB is used to predict one's intention to execute a behavior through attitudes, subjective norm and perceived behavioral control (Ajzen, 1985). TPB assumes that if these predictors are altered or manipulated, it can be an indicator of the behavior, that is, it increases the probability of the intention and thus increases the chance of committing to actually executing the behavior. While Ajzen (1985) argued that while TRA was still a valid methodology, the concept of TPB complemented the weaknesses of TRA in that it was less restricted to volitional behaviors; a statement also approved and validated by Eagly and Chaiken (1993). Nonetheless, on the other hand, critics of TPB begged to differ and challenged Ajzen on the (1). The causal relationship between perceived control and intentions, (2). The adequacy of the TPB as an explanatory factor in predicting and explaining behaviors and (3). The role of planning in planned behavior (Hale et al., 2002).

The causal relationship between perceived control and intentions was subject to scrutiny from Eagly & Chaiken (1993) in that it is only in conjunction with positively causal relationship. The adequacy of TPB as a sufficient predictor of behavior is a recurring concern from the existing TRA, with Ajzen (1991) refuting the argument and concluding that there is the need for more extensive research before making any rash conclusions on the topic (Hale et al., 2002, p.280). Last but not least, the paradoxical element of the theory of planned behavior in that “planning” is non-existent but rather refers to *“producing one or more schemes for goal attainment, evaluating their overall effectiveness, and choosing among them”* (Dillard, 1990, p.48).

Nonetheless, TPB can be a useful tool in planning strategies for inducing individuals to adopt healthy behaviors or as a means to influence behaviors within various fields, and has along the way been widely used in many researches encompassing a variety of fields (Conner & Sparks, 2005; Deskins et al., 2006; Montano & Kasprzyk, 2008).

At the core of solving the food waste scandal are the individuals; the prosumers (Toffler, 1980; Kotler, 1986; Prahalad & Ramaswamy, 2004), and their behavior when it comes to food waste. Analyzing the prosumer at an individual level and understanding their attitudes towards food waste and the underlying behavior and driving forces can shine a new light on this growing issue (Tonglet et al., 2004; Quested et al., 2013), that is directly interconnected to global warming and other economical, financial and social issues (Shanklin, 1993; Bloom, 2007; WRAP, 2008; Stuart, 2009; UNEP, 2009; FAO, 2011). Additionally, the thesis assumes that using the logic behind Fishbein & Ajzen’s (2010) theory and the article by Rise, Sheeran & Hukkelberg (2010) on human behavior, in tackling the issue from another angle by focusing on the role of the prosumer in the fight

against food waste, can lead to a more efficient and effective campaign and preventive methodologies, which in turn can ensure a higher success rate, assuming that all the actors of the food chain are as involved and active in the process. Without jumping to conclusive statements, the thesis aims at investigating the patterns behind food waste at an individual level so as to develop an understanding of the phenomenon by filling the gaps and contributing to the knowledge of the complexity that is the topic of food waste. Additionally, the thesis aims at finding the determinants of food waste that are influential factors at the individual level.

Nevertheless, as many researchers have acknowledged, the challenge of reducing food waste remains in altering the human behavior in order to reach an effective and efficient food waste reduction as a strategic goal (Parfitt et al., 2010; Wyngaard & De Lange, 2013).

Henceforth, the theoretical framework of this master thesis incorporates the theory of planned behavior and the theory of reasoned action in an attempt to investigate the individual's behavioral attitudes (Montano & Kasprzyk, 2008) towards food waste.

The TPB has been a mainstream for quantitative research studies, with Ajzen providing for guidelines to build up a TPB questionnaire (2002) to ensure for the correct usage.

The TPB provides the theoretical framework in helping to identify the determinants of the food waste behavior. The thesis uses a qualitative approach and methodology, an approach that aims at collecting data from the individuals and whereby the data analysis will determine patterns and/or themes for the behavioral aspect of the individuals in regards to food waste (Campbell, 1996; Bogdan & Biklen, 1998). The qualitative approach is a combination of a phenomenological research and partial grounded theory

research, by which the use of in-depth interviews will assist in developing the patterns for gaining insights and perspective into the prosumers' motivations and actions, as reflected through the decision-making process. The theoretical framework will be enhanced by Fishbein & Ajzen (2010) theoretical approach to provide for a supported structure.

Adopting a qualitative approach to the TPB will be correspondingly closely monitored through previous research that have similarly used the TPB in a qualitative research methodology (Brug, Debie, Van Assema & Weijts, 1995; Deskins et al., 2006; Barbeira et al., 2008; Mynarska, 2008; Renzi & Klobas, 2008)

Moreover, the choice of qualitative research method of the Theory of Planned Behavior for investigating the phenomenon of food waste is justified by an attempt to explain the differences between the behavior of the group of individuals who are one hand, considered to be knowledgeable to a certain extent because of the direct exposure to informative aspects due to the close relation to the food industry, are referred to as active and on the other hand, the group of individuals that are classified as passive according to the degree to which they are exposed to information concerning food topics but more specifically, food waste but are not directly related to the industry in that they are do not work in the food industry.

Research and studies implementing TPB commonly make use of quantitative methods, but due to the nature of the aim of the thesis and the nature of the available data, a qualitative research method was deemed fit for this study (Renzi & Klobas, 2008), in adapting TPB to determine factors that influence the prosumers' attitudes and behavior towards food waste.

TPB has been developed alongside a majority of quantitative methods for collecting data

and the analysis as the backbone (Ajzen, 2004), however, if qualitative methods are to be implemented for the usage of The Theory of Planned behavior, Ajzen (2002) points out for the latter to be used in accordance to evoking beliefs rather than attitudes and behavior. The thesis is looking into digging into a mix of the interpersonal beliefs as well as the normative beliefs and attitudes of the prosumers' towards food waste.

The handful of published studies that have used qualitative research methods with the Theory of Planned Behavior (Brug et al., 1995; Deskins et al., 2006; Barbeira et al., 2008; Mynarska, 2008; Renzi & Klobas, 2008) will provide the guidelines and framework for the methodology; and while Renzi & Klobas (2008) have offered a detailed description of the methodology, it cannot be said the same about Mynarska (2008) who presented minimal amount of information on the methodology, process and insufficient explanation on the results.

In respect to the prosumer behavior, Fishbein & Ajzen (2010) approach on The Reasoned Action, the Theory of Planned Behavior and the integrated behavioral model will therefore be meticulously integrated into analyzing and linking the behavior with food waste. A research paper focused on the TPB and recycling behaviors (Tonglet et al., 2004) founded on Ajzen's (1980, 1985) theory that the Theory of Planned Behavior and behavioral intention are predetermined by individuals' attitudes towards the behavior, subjective norms and the perceived behavioral control, is the epitome of the investigation of the link between food waste and the prosumers' behavior.

Similarly, most of the research paper on food waste and subsequent behavior on the issue have been focused on investigating the link between food waste and the areas of recycling, the politics behind the waste management and their link between the

prosumers and the policies and the preventive aspects of food waste (Tonglet et al., 2004; Parfitt et al., 2010; Quested et al., 2013).

Parfit et al., (2010) mentions the importance and shines a light on the link between the prosumer and food waste, but assiduously highlights the challenge of reaching a behavioral change drastic enough that would reduce food waste imminently. Along the same line of thought, Quested et al., (2013) have discussed the behavior of the prosumer and the effect on reducing food waste through an analysis research through WRAP that have led to successful preventive campaigns, emphasizing primarily on the reactive plan of action and the preventive aspect. Consequently, this paper aims at using the acquired knowledge, findings and results of the previous research, by straying away from the socioeconomic effects of food waste, and instead focusing on the psychographic effects and factors of the practice of food waste. The goal accordingly, is to find determinants of the factors that lead to individuals “practicing” food waste, and to find differences and/or similarities, if any, in the attitudes and behavior between the two categories of prosumers mentioned previously.

Hence, in light of the arduous topic that is the food waste world, analyzing and reflecting on the issue through the lenses of the academic research papers and the several diverse areas of study touched upon is a crucial step in providing a refined framework on the phenomenon.

The study of this research paper has in many ways a strong link to the existing literature about the practice of food waste and the behavior. The distinction relies on the aspect of the behavior of the prosumers; whereby this current investigation relies on a qualitative

methodology, grounded on exploring and researching the “motives” behind the practice of food waste through a decision-making process, all from the prosumers’ standpoint. The objective of the master thesis is to inquire about the extent to which attitudes, motives and informative aspects generate the behavior of prosumers in practicing food waste. The influential factors leading to the behavior behind food waste will be investigated through a qualitative study, whereby the prosumers will self-assess the external and internal influence, also known as perceived social pressure (Fishbein & Ajzen, 2010) and their personal motives respectively. The thesis is indoctrinated on the belief that the perceived social pressure and the prosumer’s knowledge and motives are the pre-determinants in the decision-making process leading to acting out the practice of food waste. One of the assumptions is that prosumers obtain information from various sources and process the information inversely, that is being sequentially influenced by internal and external factors (Fishbein & Ajzen, 2010), leading to a certain behavior that can be predetermined if the variables are fully understood.

The thesis aims at investigating the following; the Behavioural beliefs, Normative Beliefs and Control beliefs constructs that are believed to be conveyed within a mediation process through Behaviour and successively the decision making process towards food waste. It follows that the thesis is looking into contributing to the understanding of the practice of food waste at the individual level, in order to comprehend the behaviour first and foremost before attempting to design preventive food waste campaigns.

The chosen theory as mentioned above includes the theory of reasoned action, theory of planned behaviour and the integrated behavioural model but predominantly the TPB. The usefulness of the theories mentioned will provide new insights on the beliefs and norms

that influence an individual's attitude and accordingly attempt to contribute to the knowledge on food waste and more specifically on the concept of the decision making process behind it, believed to be a determinant in the "intentions" category.

Various research have been reviewed in assisting the behavioral theories in order to adapt the theoretical framework of behavior and model to the topic of food waste for the purpose of this study (Brug et al., 1995; Tonglet et al., 2004; Deskins et al., 2006; Barbeira et al., 2008; Mynarska, 2008; Renzi & Klobas, 2008; Parfitt et al., 2010; Shanklin, 1993; Wyngaard & De Lange, 2013; Sonnino & Mcwilliam, 2011).

The theoretical framework of the behavior according to the Ajzen (1991), includes the *perceived behavioral control* within the TRA and TPB, taking into account that there are factors outside of the individual's control that in turn have an influence on the intentions and behaviors (Montano & Kasprzyk, 2008,p.71). After an in-depth analysis of the behavioral theories and intensive literature review, the framework has been adapted to this study, and ultimately has been judged to fit the phenomenon that this research study is looking into investigating.

Notwithstanding that TPB is associated with predominantly quantitative research methods, this research paper will follow a qualitative standpoint using Ajzen's web of theoretical framework in analysing the practice behind food waste. As a rule of thumb, Ajzen's theory have been widely used in quantitative research, however, Renzi & Klobas (2008) argue that the Theory of planned behavior can be used and adapted in qualitative research as well. Evidently, various research papers analysing food waste behavior consciously and subconsciously touched base on Ajzen's theory (Brug et al., 1995;

Tonglet et al., 2004; Deskins et al., 2006; Barbeira et al., 2008; Mynarska, 2008; Refsgaard & Magnussen, 2009; Quedsted et al., 2013).

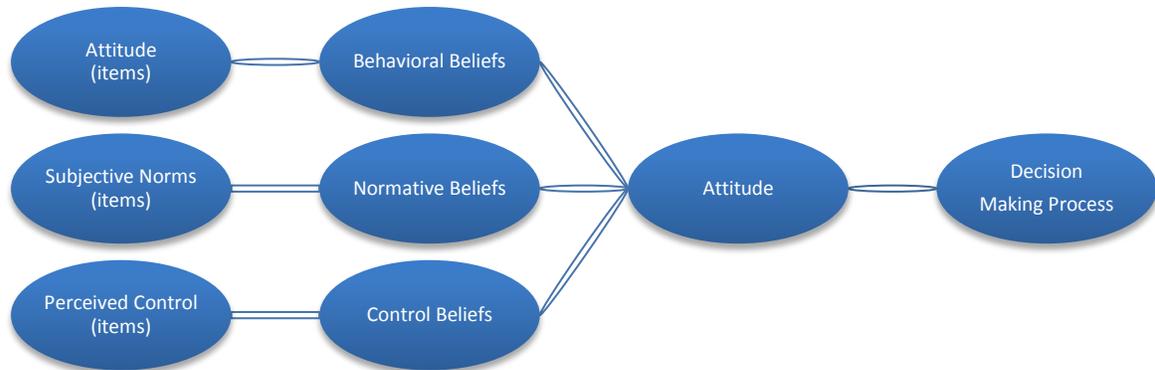


Figure 1: Ajzen Theory of Planned Behavior (1991)

4. METHODOLOGY

“Where quantitative researcher seek causal determination, prediction, and generalization of findings, qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations. Qualitative analysis results in a different type of knowledge than does quantitative inquiry” (Hoepfl, 1997, p.48).

A descriptive research design has been chosen that would best fit the research study; the aim of the research is to use a contrasting sample of individuals working in but not limited to the restaurant and hotel industry, deemed to be appropriate for the studying the phenomenon. The unit of analysis remains the individuals.

Semi structured face-to-face interviews were chosen for the data collection. This methodology was chosen since according to Neuman (2006, p. 339), face-to-face interviews provide for elevated response rates as compared to surveys. It further allows the interviewer to probe as the interview is taking place, as a means to extract and maximize the responses.

The questions have been designed using, to the limit of its application of, the TPB guidelines of constructing a questionnaire by Ajzen (2002). The usefulness of the Ajzen (2002) guidelines was prominently found in structuring the interviews in such a manner that it would cover all angles of the TPB. Assisting in the formation of the interview questions were a meta-analysis of the past researches that have used a qualitative research method (Renzi & Klobas, 2008; Mynarska, 2008) that have been reviewed and refined. Additionally, a section of the interview included a survey type questionnaire where the interviewees were asked to review statements and circle the appropriate scale number they felt they belong to and/or best described their usual behavior. The survey was

derived from the NSW (2011) benchmark study. The timely manner in which the interview and survey was carried out was purposely done to ensure that the interviewees were not influenced and remain unbiased to the questions asked. The sequence in which the interviews were conveyed also secured for the genuineness with which the interviewees responded. Following the interview, the topic became obvious, to which the interviewees were asked to fill out the survey part of the process. The survey fragment, adapted from the NSW (2011) benchmark study, of the interview was not only carried out to test out the knowledge of the interviewee but also used as a test to ensure that the response to the interview questions and to the survey matched each participant's thought process.

An intentional and required segment included an open question to which the interviewees were given the opportunity to ask and/or explain their thoughts on the topic of food waste. They were given the opportunity to add to and discuss on the topic of food waste from their standpoint.

There are pros and cons to the method used and the orderly manner of the interviews, which will be further discussed in the "interview administration" section of the thesis. The research questions were tackled through the amalgamation of the data collection and the formulation of the interviews and the survey that made use of the Theory of Planned Behavior.

To the limit of its application, the respondents were also subjected to a degree of observation during the interview. Their body language was assessed as well as continuous pauses during the interview that showed times of reflection or times where their thought process was being instigated (Babbie, 1985).

The interviews were recorded using a computer program, QuickTime on the interviewer's Macbook, with the sound quality being of high resolution and the interviews audible for the transcript.

4.1. Measurements

4.1.2 DATA CODING

The initial coding was done in accordance to the methodology for grounded theory (Glaser & Strauss, 1967; Glaser, 1978; Strauss & Corbin, 1994). In order to assist the manual coding, the use of NVivo (QSR International), which is a qualitative data analysis software was included in the measurements. The NVivo program used was only a beta version for MAC since QSR International had not released an official program compatible with Apple computers until late May 2014, and assisted as a back up to the coding analysis. The program allows for queries to be searched and word-trees set up according to the criteria the researcher has set up. This allowed for the researcher to verify and confirm the coding previously achieved manually and as a means to minimize the risk of errors during the transcript.

Additionally, the transcripts were read through numerous times, keywords were highlighted, creating unwritten concepts and themes and recurring themes, keywords, wordings were selected and written out as memos. The next stage included creating provisional markers to synopsise the blocks of data to represent the transcript the way it was being observed

4.1.2 Questionnaire development through interview and task

The first part of the interview was configured from a qualitative standpoint whereby the participants were asked to answer questions that took place in the form of an informal conversation. A portion of the interview included a quantitative method that consisted of having the participants carry out a task-oriented action, designed to help assist the scope of the TPB as associated to food waste. The survey as implemented from the Food waste avoidance benchmark study (2011) carried out by the Office of Environment & Heritage and a section of the survey was duplicated for the thesis. The survey questions were designed to test the knowledge of the interviewees on the concept of labeling on food products. The scale and the questions were not altered for the exception of an additional question to test out the views on the labeling strictly focused on fresh and perishable products such as meat, dairy products and fruits. It is to be noted that fruits are not date stamped and lack labeling as to the “best before” or “used by”, and the added question served as a test to evaluate whether the interviewees noticed the outlier, in the instance of fruits.

To uncover *attitudes*, the participants were asked to list what they considered to be positive and negative outcomes of the practice of throwing away food and the practice of food waste. The goal was to uncover whether the participants distinguished between the notion of food waste and the action of throwing away food and whether they were positively or negatively associated towards the two.

Subjective norms, according to Fishbein & Ajzen (1975) refer to the internal and external influences on an individual’s attitudes and beliefs on a subject matter.

The *Subjective Norms* aspects were designed so as to assess the degree to which the participants believed others influenced their attitudes towards the topic of food waste. The concept relies on the individuals' perceptions that the external influences are groups of people that they consider relevant and important in their lives. In other words, it places reliance on the individual's belief that the group of people, whom the former considers important, thinks that he/she should or should not carry out the behavior. The questions were developed through Fishbein and Ajzen's (1975) definition of subjective norm.

The *Social Norms* construct was formed in aim of assessing the degree to which the interviewees' perceptions are influenced by their own evaluation of social groups such as their peers or/and the society. The perception of social norms is not restricted to subjective norms such as the group of family and friends, which is believed to influence the interviewees' belief that he or she is expected to perform the behavior. Focusing on the interviewees' perception of performing the behavior was queue to assessing social norms as well as evaluating whether they believed it was influenced by social norms.

To assess for the *Perceived Behavioral Control* aspect, the questions were adapted from the paper "An application of the theory of planned behavior to study the influencing factors of participation in source separation of food waste" by Karim, Rusli, Biak & Idris (2013). The questions were designed in close association to the study by Karim et al., (2013) and adapted to the fit this current study. This part of the interview was to assess the interviewees' perceived ease or difficulty of reducing food waste and recycling. The decision to add a question focused on recycling as opposed to reducing food waste was due to the fact that during the pretest, the interviewees answered the question as being two different entities. The choice of adding both the action of reducing food waste and

recycling proved to be an essential attribute to the findings and will be explained later in the analysis. Additionally, the construct of *Situational factors* was included in the interview from the standpoint that TRA includes factors that are out of the individual immediate control that affects the intention and thereafter the behavior, including but not limited to the environment surrounding the individual (Fishbein & Ajzen, 2010).

The *intention* aspect was developed in accordance to the likelihood that the interviewees would change their habits and as a means to assess their intention to make changes for the betterment of the reduction of food waste post-interview.

The *Behavioral Intention* aspect was intentionally left out of the questionnaire template since assessing the motivational factors that have an influence on behavior, without compromising or leading the interviewees into bias answers did not seem plausible. The behavioral intention was evaluated through the overall interviews, after the coding and analysis had been carried out. Additionally, the motivational factors were evaluated with the interviewees' response to the social issue that is food waste. The thesis objective is to find determinants and factors that would influence the likelihood of performing the behavior, reducing food waste. In those determinants lie the motivational factors.

Consequently, the behavioral intention is the analysis of the findings, which justifies the decision to deliberately leave out questions that would directly assess the construct. The likelihood of the interviewees' to perform actions that are associated with reducing food waste was designed to evaluate the interviewees' intention of changing their habits rather than their intention of performing the behavior of reducing food waste. The construct of *intention* was intended to instigate the interviewees to reveal their thought process on the construct of *habit*, but also as a means to evaluate the impact of the interview.

4.2. Design

The design that has been chosen fit for this master thesis relies on the theory of partial grounded theory (Creswell, 2007). Grounded theory is based on the development of theories that is methodically achieved through collection and analysis of data (Glaser & Strauss, 1967; Corbin & Strauss, 1990; Strauss & Corbin, 1994). The backbone of grounded theory relies on the approach often referred as “comparative analysis” (Glaser & Strauss, 1967, p.vii) whereby the theory can be developed from initial data or prevailing grounded theory, compared against each other and the grounded theory altered as new sets of data are being introduced. As Glaser so eloquently explained “Grounded Theory explicitly involves generating theory and doing social research as two parts of the same process” (1978, p.2). The systematic design of grounded theory uses the data analysis of open, axial and selective coding by Strauss & Corbin (1990; 1994).

Nevertheless, there are pros and cons to adopting grounded theory as the research design. Thomas & James (2006) provided various criticisms to the usage of Grounded theory. They claimed that grounded theory is a flawed theory that misrepresents qualitative analysis. Additionally, Thomas and James (2006) argued that grounded theory was in itself a contradiction in that the interpretation of data is subjective and therefore gives way to fabricated theory rather than the discovery of theory as it is principally aimed at achieving.

Qualitative and Quantitative adepts highly criticize each other, whereby quantitative critics solemnly question the ability of qualitative methods to meet the standards as experienced in quantitative methods in replicating observations, reliability and the extent to which the process is adept in measuring what it is intended to measure, the validity (Kirk & Miller, 1986). Concerns surrounding qualitative research methods also questions the integrity and influential factors that the researcher exerts on the data

but also the inaptitude of the researcher to capture and observe all the aspects that may impact the study (McCall & Simmons, 1969; Shaffir & Stebbins, 1991).

However, Neuman (2006, p.313) argues that in the instance of qualitative studies, a wholesome questionnaire needs to provide for a valid and reliable measure, meaning that the questions are easily, meaningfully and truthfully understood and answered. As a result, partial Grounded Theory allows for findings that are closely connected to the data rather than making early assumptions prior (Strauss & Corbin, 1994), a property primordial for this thesis.

4.3. Sample

A total of 12 interviews, including the pretest (2), took place face-to-face and conducted at a distance by Skype, a software program that allows for computer-to-computer communication, over the period of February to April 2014.

Selective sampling of the participants was fundamental for the grounded theory design of the thesis, and as a result the subjects were chosen according to the criteria of the study: based primarily on the theoretical framework and literature review, and the characteristics of contrast sampling that are relevant to the study.

The unit of study being the individuals; the participants were consequently chosen according to their work experience as related to the food industry and classified into two categories. The purpose of the sampling was due to the premise that the two groups would produce maximum variation within the sample. As a result, the first category was the group of individuals that had a higher interest in food study and/or individuals who have worked or were currently working within the food industry. This category was considered the active group and consisted but was not restricted to current and past employees of restaurants, food bloggers and avid food lovers.

The second category consisted of individuals who had no further interest in food besides considering and seeing it as a basic need and necessity, these included individuals that had limited knowledge on food and food waste and for the majority were white-collar employees. The two categories were a crucial element for the purpose of *subjective norms* in this particular study, in the form of attitudes, and the *perceived control*, in the form of the individuals' source of information concerning food and food waste.

Accordingly, the purposive sampling also followed the selection characteristics based on gender whereby 5 males and 5 females were part of the final interview process. Of the 5 females, 3 were active and 2 were categorized as passive. A characteristic found in both the female and male group.

The sample included individuals from the United States, Norway, Lithuania and Germany residing in Norway during the interview administration.

4.4. Data collection

4.4.1. PRETEST

Once the questionnaire was formulated, an initial pretest was carried out with two individuals, a male and a female, that were not included as part of the final interview sample. The purpose of the pretest was to ensure that the questions of the interviews were straightforward, understandable and not misleading in any way. It allowed the interviewer to reformulate the questions where needed and clarify any ambiguity that otherwise would have been experienced during the final interviews. Additionally, a pretest of the questionnaire was also carried out with an expert in the domain of food waste, which aided in clarifying but also refining some wordings that sounded ambiguous and/or were confusing.

The pre-testers presented conflicting results with a few questions and those questions that raised concerns were evaluated using an actual candidate in order to assess whether the candidates were on the same line of thought. In some instances, both pre-testers concurred on the same ambiguity surrounding particular questions that were formulated in such a way that it created a degree of uncertainty, that both the expert tester and the interviewer failed to notice. The interview questions were altered accordingly to minimize the risks of errors and bias; one example being the questions surrounding the evaluation of the construct of Perceived Behavioral Control.

The initial question was phrased in the following manner:

“Avoiding food waste and recycling, do you think you have complete control over that decision?”

After pre-tester #1 and pre-tester #2 answered the question as two different entities, and both providing substantial justification through the response, it was critical that the interview template was altered. It was strongly relevant that the question was rephrased and separated into two different questions for the sake of the data collection. Pre-tester #2 postulated strong reasoning that was not thought of initially while formulating the interview template but was vindicated through the actual interviews.

The question was therefore rephrased in the following manner:

(1) *“Avoiding food waste, do you think you have complete control over that decision?”*

(2) *“Recycling, do you think you have complete control over that decision?”*

The pre-testers presented arguments, that were also presented by the respondents of the thesis, showcasing that recycling was highly dependent on the facilities made available, that is a third party being involved whereas avoiding food waste was a conscious choice and comprised of intention and motivation. This particular segment will be further discussed in the findings and analysis section of the thesis.

4.4.2. THE INTERVIEW ADMINISTRATION

The process included face-to-face interviews as well as the usage of videoconferences for the participant that was located in a different country and therefore not available otherwise. Each participant was sent a consent form and once signed and dated, the interview took place appropriately.

The interviews, both face-to-face and the videoconference were digitally audio-recorded, transcribed, coded and evaluated accordingly. The method of recording, i.e audio recording, was achieved through a recording aid software known as QuickTime player. To secure for confidentiality and anonymity of the participants, the recording as well as any data collected during the interview were assigned a code that only the interviewer could identify. Any personal information as related to the respondents was not made available during and after the interview process and on any data collected. The audio recording does not mention the names or any personal information of the respondents at any given point.

Key points brought up during the interview, in accordance to the theoretical framework of the study, was handwritten on a printed copy of the interview form that was only visible to the interviewer to avoid any form of biasness from the interviewee. The key points were noted down as a precaution and a preventive measure to ensure that any crucial information was not being overlooked.

After each interview, the key points that were noted down or/and if there was any hint of confusion about any of the questions, and if needed, they were re-written or re-phrased for the rest of the interviews in order to facilitate the understanding for the participants. This specific example occurred during the first two interviews after which, the main

questions were standardized for the rest of the interviews as mentioned in the pretest chapter of the thesis. (Please see p43)

Following the interviews, the audio recordings were transcribed and important information; as in key points and major themes were translated and further placed in pools of main concepts.

Initially, there was a set of 24 open-ended questions, classified into 6 categories; namely “Personal/Attitudes”, “Social norms/Perceived norms”, “Subjective norms”, “Perceived Behavioral Control”, “Situational factors” and “Overall Intention”.

Following the face-to-face interview, the candidates were asked to fill out a short survey. The survey was based upon a section of the Australian Food waste avoidance benchmark study carried out in 2009, which was used to assess the “attitudes toward food nearing its end of use period” (NSW, 2011, p.33). The section about attitudes towards food nearing its end of use period was the only part of the survey that was replicated and was deemed to be useful in assessing the individuals’ knowledge on labels. The scale used being 1-5 was not altered since the thesis is looking into only replicating part of the survey in evaluating the participants’ knowledge and attitudes as a contribution to the topic of food waste. The participants being asked to fill out the survey at the end of the interview may raise questions about biasness; the decision of the orderly manner of the interview was consistent with the fact that the qualitative aspect of this thesis is the most crucial part of the thesis, and was therefore regarded as being undertaken first and followed by the survey last. The purpose of the survey under the Australian study executed by NSW in 2009 and published in 2011, was included to uncover the respondents’ attitudes towards food waste but more specifically the “end of use periods”, also known as “labeling”.

Additionally, during the interview, the participants were asked on their knowledge on the different labeling of the end of use periods on food products as means of instigating thinking on the topic but also to test out their current knowledge on the issue. At the end of the interview, the respondents who were uncertain of the differences between the labels and those who had shown no knowledge on the labeling conceptions were given an explanation on the “use by” and “best before” labels and asked to fill out the survey. The survey relies on the respondent’s comprehension of the terms, and the clarification of the distinctive meanings of the different labels and the nuances found among them, in order to evaluate their attitudes and the influence the labels present in the food waste phenomenon. The interview on the other hand was highly dependent on the respondents’ current knowledge and the design of the interview was meant to stimulate their thought-process on the topic without directly influencing their responses and without creating any form of bias. The order selection behind the interview and the survey questionnaire is therefore due to the fact that prioritizing the qualitative design was of highest importance. Moreover, the interview’s purpose was to instigate their thought-process while the survey was to test out their knowledge and to understand their attitudes towards the “end of use periods” labels on food products.

4.5. Data Saturation

Data Saturation was reached when no new or/and relevant information materialized from the interviews. The data saturation in this thesis (Glaser & Straus, 1967; Flick, 2009, p.172) occurred when the last participant unequivocally mentioned the same aspects the previous respondents had mentioned. The use of keywords during the interviews and post- interviews assisted in operationalizing that data saturation had been achieved. Furthermore, transcribing was done after each interview and memos added to the transcript, that assisted in recognizing data saturation. The questionnaire template was designed in a manner that would facilitate identifying main themes and block of information as well as enabling interview comparison and data saturation. The transcribed interviews were compared to each other, assessing the memos and the main concepts in order to resolve that end of data collection had been attained (Flick, 2009, p.172-174).

4.6. Data Analysis

4.6.1. QUALITATIVE DATA ANALYSIS

The data analysis is highly dependent on the concept development of the thesis, that is, the selective sampling of literature that has led to the theoretical framework of this research. In turn, the selective sampling that has been carried out to fit the framework and design of the study are majorly crucial in assisting the development of the core concepts. The data was collected following a consistent method of interviews in an informal setting such as at restaurants or at coffee stores for the face-to-face interviews and a calm and quiet setting over the videoconference interview for each participant. Each participant's taped interview and survey questionnaire were attributed a code to ensure for their anonymity. Following the interview process, the audiotape for each interview was transcribed twice to minimize the probability of errors. The basics of the grounded theory analysis of qualitative data (Glaser & Strauss, 1967; Strauss & Corbin, 1990) have been reviewed and followed. The four stages of analysis for grounded theory include the coding, core concepts, categories and theory (Glaser & Strauss, 1967) in the analytical process of the thesis. Furthermore, the analysis followed the guidelines by Corbin & Strauss (2008) for developing the partial grounded theory for the phenomenology of food waste. Glaser & Strauss (1967) jointly theorized the two coding levels of grounded theory as an integrated system and as non-linear. In 1990, Strauss and Corbin further developed the coding into three levels, open coding, axial coding and selective coding respectively. The differences between the two schools of thought, the Glaserian, also known as the Classical, and the Straussian, the contemporary, lies in that Glaser (1978, 1992) argued that grounded theory is inductive while Strauss & Corbin (1994) argued that it is both deductive and inductive. While Glaser provides for substantial arguments to his thought

process of grounded theory, he also argues that Strauss & Corbin (1990) version of grounded theory was not at its core, grounded theory itself (Weathersby, 2008, p.55)

This thesis utilizes the Straussian grounded theory of analyzing the data, thus providing for the three levels of coding, a clear-cut and more detailed coding system of Grounded Theory (Strauss & Corbin, 1990, 1994), that is relevant to this study.

As part of the preliminary analysis, the process of notes and memos was followed by the three levels of coding, which were attributed using the transcribed version of the interviews. The transcribed interviews were read through a second time and using the memos and notes to give way to the open coding. The open coding allows for the early stage of identifying broad concepts and categories from the raw data of the interviews. Once the open coding was achieved, the second step was to introduce axial coding in the analysis. Axial coding refers to the stage of analysis where the categories that had emerged from the open coding are scrutinized to find relationships among each other. Rereading the transcript using an amalgamation of inductive and deductive thinking by identifying the links between the concepts during the open coding is the key to achieve axial coding (Strauss & Corbin, 1994). Selective coding follows the axial coding, which is the final step of the coding procedure. This stage of the data analysis can be achieved after identifying the core concept and variable from the open coding and axial coding. In selective coding, it is crucial to reread the transcribed interviews in order to identify the data that belongs to or relates to the core concept/variable that had emerged from the open coding and axial coding. The final stage of the coding analysis shows the emergence of the core variable, which can be related to the behavior of the respondents but primarily towards providing explanations behind the behavior. The core category that

emerges from the selective coding is around which the final analysis will be based upon Strauss & Corbin's analytical framework. (1990)

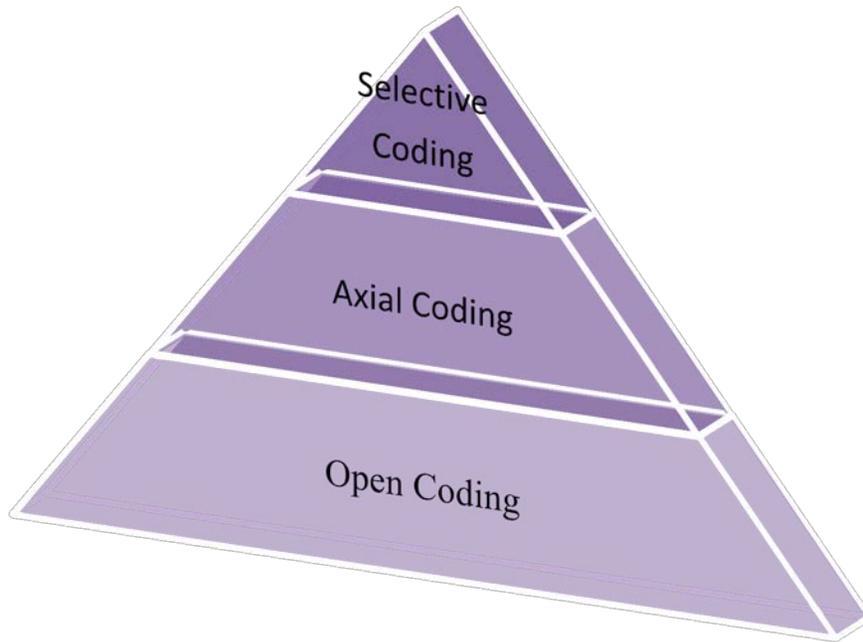


Figure 2: Coding Pyramid (Strauss & Corbin, 1990)

4.6.2 Preliminary analysis

Preliminary analysis of the data collected consisted of a set of methodologies such as coding, memos and visuals. The transcribed interviews were manually scanned through and memos as well as coding were also developed manually. Keywords that were also introduced during the interviews were used a guideline as to the emergence of the core concepts. Afterwards, the data was organized using open coding (Corbin & Strauss, 1990).

The analysis of the interviews was executed thoroughly while also showcasing transparency by making use of a validated method for grounded theory (Corbin & Strauss, 2008). Comparably, the steps of presenting, summarizing and analyzing the data collected through the survey segment of the thesis, was accomplished in a similar manner as the benchmark study (NSW, 2011), that is, as a chart.

The set of statements that was adapted from the Australian study carried out by the NSW in 2009 and published in 2011, was used to understand the attitudes towards food waste but most specifically towards the notion behind labels, including “best before” and “use by”. This section of the questionnaire was to ascertain the knowledge of the candidates on food waste and evaluate their attitudes towards food waste in correlation to labeling. And to a certain degree, the set of statements relate to and assess the situational factors that probe into the respondents’ knowledge.

5. FINDINGS

The results were presented in a table providing for the three coding levels. Each selective coding is explained thoroughly in the next section.

The table below provides for the coding and analysis of the data collected.

Open Coding	Axial Coding	Selective Coding
<ul style="list-style-type: none"> -Eliminating bad habits -Challenging -Changing -Altering Routines -Ease or difficulty with which one can start performing the behavior 	<ul style="list-style-type: none"> -Fear of Changes -Process of elimination -Outlining tasks and Goals -Holding back people; as an inhibitor for change and assessing how to overcome the failure 	<p><u>Change & Challenges</u></p>
<ul style="list-style-type: none"> -Rules seen as an obligation to abide by -Laws and Policies for instigating change -Law abiding citizen 	<ul style="list-style-type: none"> -Rules and personal decision making- not optional, it becomes conformity 	<p><u>Societal moral standards</u></p>
<ul style="list-style-type: none"> -Feeling that “I” don’t make a difference but belief in the industry 	<ul style="list-style-type: none"> -Seeing the industry as the medium through which changes can be achieved 	<p><u>External Influence</u></p>

-Insecure		
-Controlling factors outside of individual's personal control that can impede or facilitate -Circumstantial	-Increase/Decrease ease -State of being able to proceed with actual behavior without difficulties	<u>Convenience</u>
-Industry and large companies are negatively seen as the hauling system -Over consuming and over production acknowledgment -Resulting from the transfer of knowledge from the educational system and personal experience	-Exposure to educational system -Observation of the system and personal experience	<u>Information Processing</u>
-Trusting your own judgment and instincts -Standardizing to norms -Internal factors and personal beliefs -Unpleasant=social issue	-Co-dependency -Recognition -Feeling helpless with a sense of impossibility to save the world	<u>Perception & Awareness</u>
-Environmental concern and impact -Nurturing instincts -Helping others and participating -Idealistic -Altering belief	-Believing that they can make a difference -Selfless and ideologist -Desire to make a difference	<u>Willingness to change behavior</u>

-Making changes		
-Visionary differences among genders -Creating rifts in attitudes and intentions	-Degree of passion and interest on topics that are gender driven, -Alter the willingness to participate -Women believe they can change the world -Idealistic vs realistic	<u>Gender differences</u>

The memos that were written out provided the research with recurring aspects that the participants brought up during the interview. The process of memos included steps that were achieved by breaking down the data and finding differences and similarities among them. The sentences were grouped in blocks representing and showing commonalities after which, each grouping was read through and analyzed in order to provide for a segment named “properties” whereby attributes of the “memos” were defined. After analyzing the properties, the open coding as described by Strauss & Corbin (1990) was fulfilled. The open coding was achieved by analyzing the raw data in the form of the memos and the properties in order to generate categories.

The next step, known as the axial coding was executed by analyzing the data in order to foster connections among the different categories from the open coding. At this stage of the analysis, patterns had started to emerge within the data thus providing a more complex and an intricate level of understanding of the phenomenon of food waste.

The last stage of coding known as the selective coding is an amalgamation of the research whereby the research is challenged in the analysis of the data. At this stage, the effectiveness and efficiency with which the axial coding is the prerequisite for the

selective coding. The categories that were identified previously are connected to the central core category; in other words, the core category is the medium that integrates all the other categories/concepts formed during the axial coding. In this particular thesis, the selective coding provided the core category that linked the other concepts/categories through a classification of the determinants of individual's decision making in the food waste phenomenon. The axial coding generated the main concepts that the participants unconsciously and consciously touched upon during their interviews.

Once the coding was completed, 8 main arguments emerged from the data that are believed to influence the decision-making process and behavior in the food waste phenomenon. The 8 determinants as correlated to food waste and the behavior and decision-making process were as follows.

1. Change & Challenges

Challenges to alter behavior combined with the participants' acknowledgment that there are existing measures for reducing food waste was emphasized through the process of change. The fear of change and the challenges in altering their current routine create resistance to change.

The participants brought up the use of tools that many were consciously and unconsciously implementing in their daily lives and touched based on the effect of changes. The use of the words "Planning" and "portioning" was frequent during the interviews, an aspect that can incite changes in food waste. The participants used mental management tools without being aware of it, and simultaneously as a process of elimination in setting goals in their daily routines. With the acknowledgement that changes are imminent in the food waste phenomenon, the theme of change in one's personal life surfaces. Furthermore, the participants raised the question about the challenges of dealing with change and recommended measures that could be adopted,

reinforcing that the changes have to be gradual if no resistance is to be met:

“... I think it is important to also have information on how you can avoid it. Simple, simple, measures people can take in their daily lives, that doesn't take a lot of time and a lot of effort. And that people can easily “make” into their like routines...” (FA28)

Two participants mentioned a recommendation to improve waste wastage in their own personal lives; measures that they believed would help reduce food waste. Consequently, the participants inferred that they were aware of the changes and the challenges of food waste and the awareness that there are changes to be made in their personal lives as a means to reduce food waste but also hinted that the measures to be implemented needed to neither be time consuming nor drastic.

“..Maybe if we make better plans..” (MKPZ)

“...I mean if I really sit down and plan out everything, I am sure I could like super reduce my waste.” (MADB)

2. Societal moral standards

The need for conforming to what the participants believed to be societal moral standards, such as rules and laws, was a strong determinant in the findings and for this thesis. The participants expressed a strong belief in the legal system

and the society's role to reinforce the regulations. The participants saw the Government as a rule-maker and saw themselves as law-abiding citizens. As a result, rules were influential on their decision-making process to engage in a behavior, especially their views on recycling in this instance. The difference in attitudes towards recycling and food waste was believed to be influenced by the existence or the lack of rules. One of the participants reinforced this finding by claiming that

“... It's like just a rule, you have to do these things. So if it's a rule, it's a rule, and you follow the rules. I don't think it would help. But I follow the rules..”(MKMB) , as referred to recycling and opposed to food waste, justifying his reasoning behind recycling and not reducing food waste.

One of the participants mentioned the role of the government, an imperative aspect to consider when tackling the issue of food waste and its link to implementing rules and policies around social issues:

“...Well my impression is that companies are doing what they are obliged to do. So if the government has a rule, for like instances you have a lot of rules, strict rules about the ingredients, you should mark the ingredients on product. So if there is a rule from the government saying that you should have information about food waste on your food, they would probably do it more. So I think it's and I think it's nice, well I think it's sadly mostly, well, lot of the responsibilities is on the government cause they are not, they are there to make money

or earn money. They are there to see like in the bigger context...” (FA28)

This emphasized on the fact that even though participants don't feel strongly about a cause, they would invest time in it if it were set as a rule to abide by. The policies form part of the bigger picture in the food waste phenomenon and therefore cannot be disregarded as such.

3. External Influence

The dependency with which the participants rely on the industry to set the example provided the participants for rationalizing their decision to participate or not to participate in the behavior. Many of the participants focused on the point that the industry was a driving force in the food waste phenomenon and were a significant actor in the fight against food waste. The participants had mixed feelings about the role of the industry, an ambiguity that needs to be considered. The participants believed that the industry was responsible for the amount of food waste accounted for but also conversely and strongly believed that the industry set the trends in setting the example, such as being a corporate socially responsible company.

“..If everyone started to go to [Store brand] because they think that's a good idea then it will force other similar stores like [store brand] or [store brand] all of those to follow suit...if a lot of people do that

then you will reach a tipping point, where other chains are forced to follow suit. ..”(MADB)

“...well it would have to be a socially responsible company that just doesn't care about earning just based off of people..” (FA24)

4. Convenience

Participants raised concerns on the topic of convenience when it comes to food waste and their intention to implement a certain behavior. To account for the variance, participants were asked about the recycling and reducing food waste as two different entities. One common and recurrent topic that was raised was the degree of convenience they were subject to. In assessing their intention to reduce food waste and participating in reducing food waste, the participants assessed the convenience with which they would be able to achieve the behavior. Additionally, convenience played an utmost role in their decision making process. Participants believed that facilities made available to them were a crucial aspect when considering committing to the behavior, atop of it being circumstantial. The reliance on situational factors that were out of their control is noteworthy for this thesis.

“...So I would say what we do at home and stuff in your own choice but what you do not at home it depends on the facilities available..” (FKGE)

One of the participants mentioned the convenience of the facilities made at their disposition and drew differences between recycling and reducing food waste:

“...I am strongly influenced by the kommune and them providing three bins. If they only provided 1 bin, I probably wouldn't drive so much. I drive with bottles but I don't think I would drive with rotting food in my car, 5 km to put that somewhere.. I would not be as tempted to use it...” (MAGE)

5. Information Process

The participants' decision-making process was subject to rationalizing the decision-making or allowing the emotional aspect affect the process.

The transfer of knowledge they were passed down through their upbringing formulated their opinion, which was in turn influenced by exposure to the media's portrayal of the industry and consumerism for instance. This led to stimulation of both their rational and emotional side when involved decision-making processes. However, the lack of education and knowledge on food date labels stimulated their thought process during the interview. Misunderstanding and confusion on food date labels due to a lack of information or the fact that the participants were misinformed formed part of the information process. Food date labels contribute to the factors that lead to food waste.

A female participant reiterated the influence of education and upbringing in information process concerning food waste:

“...My mom does not condone food waste.. I definitely had influence growing up .my mother taught us how not to be wasteful , be resourceful with whatever you can and whatever you have. It’s up to me to implement it..”(FA24)

The respondent elaborated on the information exposure that affected and prompted a self-assessment of the food waste phenomenon:

“...definitely not the people producing food but I don’t know I mean essentially tossing food helps grocery stores and suppliers because we are purchasing more food..uhm but I don’t know I feel like it’s a personal mental thing. If you feel guilty tossing away food when there’s so many people need food...” (FA24)

6. Perception & awareness

The participants’ perception on the topic of food waste was influenced by the their internal belief system. Many acknowledged that food waste is not social issue that is openly discussed and that a lack of awareness is problematic. Their codependency on the industry contributed to the feeling of being helpless and not impactful enough on reducing food waste. The negative connotation the participants associated with their own degree of discomfort and unpleasantness emphasized through the feeling of being helpless in situations that they felt was beyond their control and aptitude.

The lack of knowledge on food labeling is also corroborated through the lack of awareness on food waste, with the respondents unable to see the link between the two. A lack of knowledge and information on food labels during the interviews caused the respondents' inability to define "best before" and "used by" labels on food products.

The interviewees' intention to participate in reducing food waste was altered by their own belief system and their feeling of inferiority in that as a single human being, any means of reducing food waste would not make any difference that is significant enough.

A response towards the impact the participant felt he/she was making by reducing food waste and recycling was as followed:

"...I think definitely helping the society but I am not sure how much of an impact it's making.." (FA24)

Furthermore, another respondent associated with the same feeling towards participating in social issues such as recycling and reducing food waste, emphasizing that there is a lack of information available and a lack of awareness that cause the respondent's standpoint on the topic

"...it doesn't have any impact because it's just a small part. When the rest of the world is not recycling so much, so I don't really think it's helping with just a few people in one country do it..." (MKMB)

7. Willingness to change behavior

On the other hand, the participants' struggle with making a difference can be reinforced with constant moral support. Many brought up a reinforced system in the form of campaigns similar to the existing smoking campaigns. The willingness to engage in the behavior was heightened when a reinforcement tool as a driving force was introduced such as informative campaigns. A few respondents compared the campaigns to smoking campaigns as well as indicating that the success of the campaigns was conditional on the method used. The participants noted that campaigns are not solely subject to financial resources but investigating the public's awareness and opinion on the issue that is focused on the public's opinion prior to launching a campaign.

(1). *"...You need information about, they need to make interviews in the street and ask about more people about wasting. If they know about it and if they throw it..." (FAGU)*

(2). *"...it's the same with the smoking campaign on television, the more you see it, all the time you think about it..." (MAPZ)*

The willingness to engage in the behavior was not only subject to the degree of convenience as previously mentioned, but also can be tackled using a reinforcement tool as a driving force as some of the respondents touched base on:

“I would probably just throw it in the container that are provided in the city but if there was separate container I would probably separate it, for sure...If I was in front of the sorted thing, if I had the possibility to sort I would definitely sort it”
(MADB)

8. Gender differences

One of the findings that erased prior expectations of the thesis was the gender difference. Gender differences in this thesis were interpreted with the idea that such differences contributed into shaping the individual’s belief system. It is to be reminded that at the beginning of the thesis, the individuals were separated into two categories believed to have an influence on the phenomenon of food waste. The underlying concept of exposure to information was believed to be a determinant in the food waste phenomenon. The gender differences among the respondents disproved the “hypothesis” that individuals working in the food industry were more concerned with food waste. However, following the interviews and the analysis of the data, differences among the active and passive groups were minimal compared to the differences among genders. The women were more passionate and showed a higher degree of interest on the phenomenon of food waste than the men did. Men are creatures of habits and were not as readily willing to alter their behavior as the women of the thesis were.

The next few quotations were abstracts from the men's transcribed interviews

(1) “ *Ja maybe you can do it for a week or two but then you go back to the normal*” (MKPZ)

(2) “ *It's a routine, it's just the way I live my life*” (MKMB)

Differences among genders also emerged in respects to the amount of food purchased:

“That when we make, especially me when I make food I maybe make too much food and then we eat half of it then we throw it away.” (MKPZ)

“I will forget it about 5 mins after you are gone..” (MKMB)

“I have never really seen wasting food was a problem until you start asking all these questions..” (MAGE)

“ya, I use the internet but not for this thing. I just hear from radio or tv..” (MKC27) **This thing refers to food as a topic*

“...Ja, but I will probably fall back into my old tracks but it is something I have thought about before..” (MADB)

The excerpts provided above are from all 5 of the participants, it showcases the depth of the issue, men showed little interest in the food waste movement. On the opposite, women showed more interest on the phenomenon of food waste, with emotions being at the center stage to express their stand on the topic. Quotations from the transcribed interviews are found below:

“...And on the other hand, I am very hands on, I think I have a very like probably overly developed relationship with food and cooking and stuff just because of my own passion...”

(FKGE)

“...well if I were the government for one day, I would try to create campaigns about it in the news or on the television for people to become more aware of it.” (FA28)

“,,No, it is up to everyone. At home, we should be a team on it, if not it doesn't work..[..]ya, I usually do that. Especially to my husband because he can buy double...” (FKPZ)

Women in general, whether they were active or passive in the food industry showed more concern on the social issue of food waste. They were more eager about changing the world than their fellow male partners. The willingness to change their behavior was superior to the willingness of the opposite sex.

Three of the participants acknowledged that their respective partners, being the opposite sex, needed guidance on food related topics disregarding of their professional position. One of the female participants, quote,

“uhm he’s a guy..he notices after the fact if it’s gone bad..” (FA24)
about her boyfriend

Another respondent’s views were as followed:

“My boyfriend is very strict with it. If it is expired he won’t eat it. Are you crazy? Some people buy it, especially expired things because they are cheaper and they are still good”
(FKFS)

The above quote is an excerpt from the transcribed interview of a participant classified as active, with her boyfriend also being classified as an active member. She divulged that even though her boyfriend was an active member of the food industry, and was exposed to information that passive members were not directly exposed to, he was strict on rules and abided by them more rather than trusting his own judgment and senses. The gender differences emerged through the attitudes towards both the social issue of recycling and food waste:

“But it’s not interesting for me. I would do it because I would care about something but if I don’t have interest in it, then I would forget it.” (MKMB)

The results from the survey have been summarized and are presented in the figure below

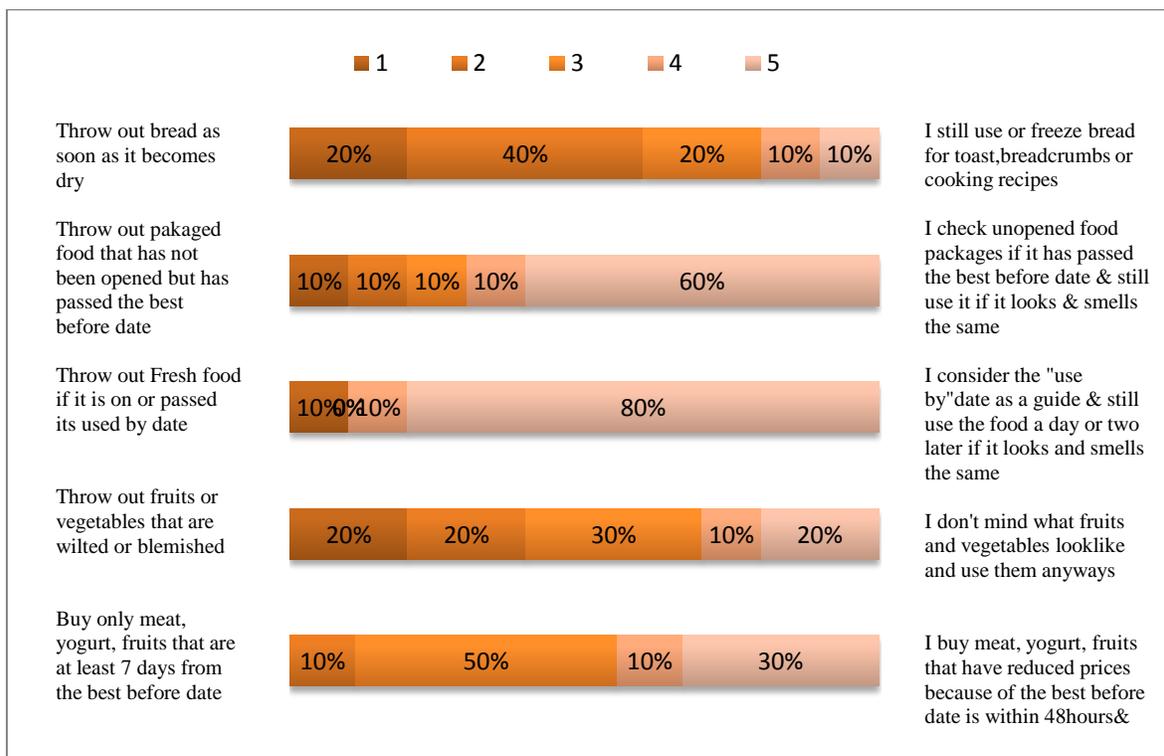


Figure 3 Attitudes towards food and labels

The survey results presented showed the respondents' views on the end of use period labels are dependent on the types of food products. Packaged foods are more likely to be

checked even though it has passed the best before date as compared to fresh produce such as meat and fruits.

The respondents' feedbacks on the first question showed that the majority tends to throw away bread as it becomes dry as compared to 20% who find alternatives for bread that has gone dry. Fruits are not tagged with labels and meat products in Norway are generally labeled with "use by"; an aspect that went unnoticed by the respondents.

5.1. Validity

Validity in qualitative studies is an essential aspect to consider, it focuses on the researcher's aptitude to see the results for what it really is and therefore, questions whether the researcher is being objective (Flick, 2009, p.387).

To check for the validity of the interviews and the authenticity of the interviews, the interview template was designed for all the interviewees and given opportunities elaborate on topics or themes that the latter showed higher interest in (Neuman, 2006, p.26).

The validity and authenticity of the interviews was analyzed using "the conditions of non-strategic communication" of the recorded audio and the transcript (Flick, 2009, p388). Further extension on the validity of the interviews, grazing the question of whether the interviewer influenced the participants' response, was achieved by including the latter in an informal dialogue post-interview. Through out the interviews, the majority of the participants sought for verification and acknowledgment of their responses as well as sought for a reaction from the interviewer by using the following quotes "right?", "You know what I mean?", "You know?".

Post-interview, a few of the participants mentioned the fact that the interviewee did not acknowledge their responses and showed a lack of face expression, and only after the interviewer explained that positive reinforcement would lead to bias answers that the respondents understood the process.

The constant analysis of the raw data and defining the relationships between the coding levels, and finding connections among the concepts and themes that arose from the open coding are according to Neuman (2006, p. 216) a way to increase validity. The grounded theory and the coding level that ensued through the Straussian (Corbin & Strauss, 1990) pool of thoughts gave way to a “web of dynamic connections” (Neuman, 2006, p.216).

The validity of the survey segment of the interview can be attested through the characteristic that the part of the survey was replicated from the NSW (2011) benchmark study. The external validity of the part of the survey that was replicated for this thesis, underlines the generalization with which the findings can be addressed (Neuman, 2006, p.217).

5.2. Reliability

Once validity is proven, reliability is not a prerequisite in quantitative studies (Neuman, 2006, p. 216). On the other hand however, once reliability is proven, it does not necessarily sustain for validity. The question of Reliability in qualitative studies has been one of the main and recurrent arguments contested by researchers who embrace quantitative paradigms (Neuman, 2006).

To increase the reliability for the interview data, the interviewer set up questions that were consistent for all the interviewees. As mentioned previously, the pretest was carried out in order to assess the quality of the questions but also as means to set interview guides throughout that would result in a clear and concise interview process (Flick, 2009, p.386-387). Reliability in qualitative research studies is reinforced by the criteria of “dependability of the data and the procedures” (Flick, 2009, p.387). Reliability in this respect does not condone the quantitative research method of reliability, which focuses on the consistency and repeatability of the measures (Neuman, 2006).

The methodology was written out in details in order to meet the requirements of the “dependability of the data and procedures” (Flick, 2009, p.387), ensuring that the

methodology steps were concise in recoding the observations and being consistent in both meeting the goals of the thesis and in answering the thesis questions.

According to Neuman (2006, p.211) reliability can therefore be improved by using pilot studies and replication. The reliability of the quantitative segment of the interview process can be corroborated through the replication of part of the survey from the Australian study carried out in 2009 (NSW, 2011). The survey was further developed by adding an indicator and tested with the pre-testers before the final draft was completed (Neuman, 2006, p.211)

6. DISCUSSION & IMPLICATION

The framework of the research and the sampling was designed with the expectation that individuals' information exposure as correlated with their profession would indicate differential connotations in attitudes and behavior regarding food waste. However, based on the findings from the coding, the determinants of food waste at the individual level showed discrepancies between the initial expectations of the researcher and the actual findings. The gender differences provided substantial element to the topic and attitudinal disparities that affect the decision-making involving food waste. As a result, the rational and emotional appeal to the decision-making process was a dilemma that the participants experienced with social issues, such as food waste, whereby a lack of awareness on the topic and related topics made it a constant struggle.

The females of the research sample, appealed to the emotional reasoning while the males of the research sample appealed to their rational reasoning. Gender differences in reasoning and attitudes can therefore be an influential factor in the fight against food waste but also any social issues aiming at eradicating bad habits. It is therefore necessary for an in-depth understanding of the genders in anticipating their intention, reaction and willingness to perform the behavior before campaigns can be implemented. This finding is similar to the benchmark study carried out by NSW in 2009 by the Australian

Government (2011, p. 5,54) that concluded that a few aspects of their research noted variances that was associated to gender differences.

Additionally, the usage of management tools included but not limited to planning and portioning were recurrent themes conveyed. The determinant was also reinforced by the notion that the respondents dependency on the industry (Parfitt et al., 2010, p.3068-3069) There is also the need for the government to act as facilitator (Wyngaard & De Lange, 2013, p.311) as the participants reinforced through the findings. This finding is similar to previous studies (Refsgaard & Magnussen, 2009; Sonnino & McWilliam, 2011) that emphasized policies and the role of the government as facilitators.

The lack of awareness on the topic of food waste can be observed in this thesis, with the majority of the participants being Norwegians and/or have been a resident of Norway. It can be observed through the fact that most of the participants raised concerns only after having seen or heard a commercial from a grocery store, in which statistics on food waste is provided. Prior to the commercial, the topic of food waste was not mainstreamed and most definitely not a “topic” of conversation among friends as many explained. The lack of knowledge on “ending use “ period as well as alternative use of the products that have reached their end of use period is also perceived in the survey (refer to p.75 of thesis).

The misunderstanding or lack of knowledge on food labeling was also a finding that the benchmark study by NSW (2011) revealed. The implications are promising through creating informative campaigns that would update and advise the prosumers on the topic that can facilitate reducing food waste.

The interviewees emphasized on sustainable changes that are easily implemented in their daily lives and constant reinforcement through media to get the message across in order

to make an impact on reducing food waste. Parfitt et al., (2010) stated that policies that are government-supported are of major importance, a finding that has been stated across other various researches (Tonglet et al., 2004; Sonnino & McWilliam, 2011; Quested et al., 2013) but a fact also supported by the interviewees of the thesis.

Additionally, the information process aspect of the thesis raises the uncertainties that the consumers face but can be overturned with the help of educational systems that would include but not limited to engaging the consumers on the topic of food waste and inform the latter and an enhanced understanding of food labeling (Parfitt et al., 2010, p.3076; NSW, 2011).

The interviewees were highly influenced by the industry as either it being the source of change or as cause of the issue to start with. In order to fully comprehend the post-consumer behavior and attitudes, it is therefore crucial to understand their views on the topic and in this instance, the amount of external influence; that the industry exerts that are beyond their control (Parfitt et al., 2010, p 3068; 3079).

As many of the previous research have stated (Refsgaard & Magnussen, 2009; Parfitt et al., 2010; Sonnino & McWilliam, 2011; Quested et al., 2013), the post-consumer waste is the most challenging group of the food chain in altering their behavior. Solely based on the findings, the participants provided evidence that altering their behavior and incorporating measures into their daily lives can be challenging due to habits. Constant reinforcement as compared to the smoking campaigns, such as advertising on food products, posters and any media related, were a solution that many interviewees believed would influence their willingness to alter their behavior and would work in the long run. Food waste being a social issue that is according to the interviewees not a topic of

conversation, advertising and educating the consumers can lead to changes for the enhancing communication and improving the understanding to reducing food waste. Communication among the whole food chain as argued by Shanklin (1993), Parfitt et al., (2010) Sonnino & McWilliam (2011) and stated by the interviewees is seen as an inevitable measure to adopt in reducing food waste. The actors of the food chain, primarily the industry, the government and the consumers have to collaborate for campaigns concerning food waste to be effective and efficient.

As a result, the reinforcement can be strengthened if the interviewees' are witness of the differences they are making in reducing food waste. The interviewees internal belief system that they cannot affect the outcome can be a barrier in altering their behavior.

However, with the constant corroboration through the media and the support of the government through policies as well as collaboration among the actors of the food chain (Shanklin, 1993; Parfitt et al., 2010; Sonnino & McWilliam, 2011), the results from the incentives can be made publicly available resulting in co-operation and co-creation of campaigns. Co-creation and co-operation (Prahalad & Ramaswamy, 2004) is a value-creating paradigm that involves transparency, and can be wholeheartedly applied in the case of food waste.

The government and policies surrounding recycling can be altered and adapted for the food waste phenomenon. The process of recycling as the interviewees stated involves a degree of convenience as well as the implementation of rules surrounding the topic (Tonglet, Phillips & Bates, 2004).

The implication of the findings provide for a foundation upon which the study of food waste can be further elaborated on, especially for understanding behaviors as related to

social issues in building up campaigns. The implications of the findings that drew distinctions between recycling and reducing food waste indicate that similar procedures in recycling campaigns can be used.

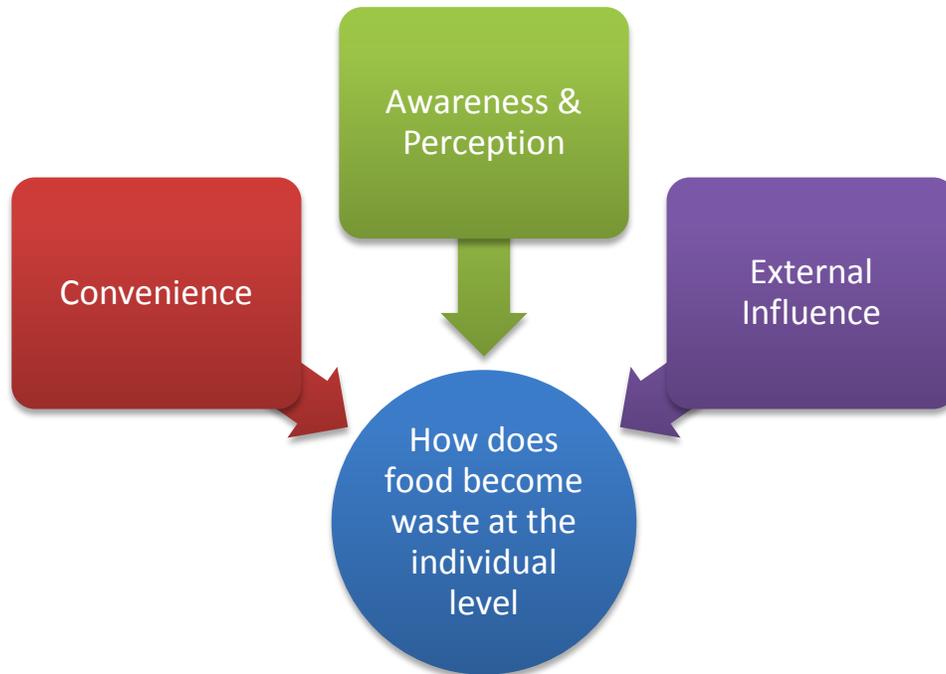


Figure 4: Thesis Question 1: How does food become waste at the individual level?

The thesis questions were tackled through the final selective coding and applied accordingly. Figure 4 shows the means by which food becomes waste in the respondents' households. The influential factors were the degree of convenience that the respondents experience, which is applicable through the facilities made available or through the convenience of throwing away leftover food and food that is believed to have gone out of date rather than trusting one's own senses. The misperception around the end of use periods on food products is due to the individual's lack of awareness and personal perception. Additionally, external influence such as the industry and the media postulates

affects the information process of the respondents, leading to over-purchasing and increased food wasting.

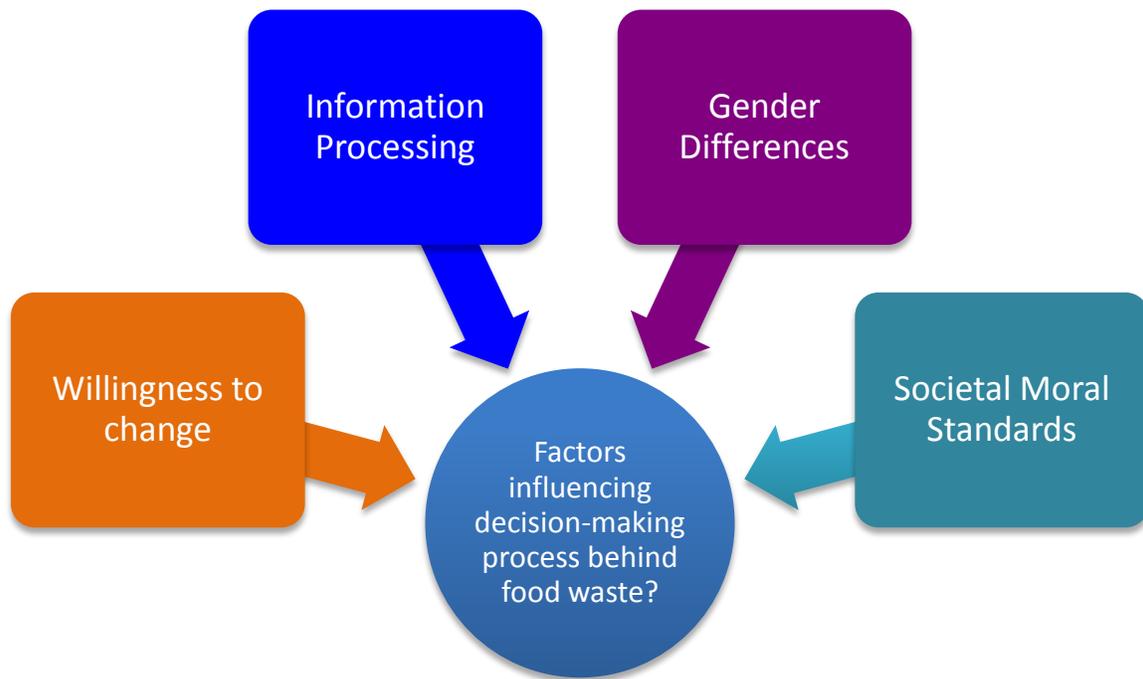


Figure 5: Thesis Question 2: What factors are influencing the decision-making process behind the practice?

The factors that influence the decision-making process behind food waste are willingness to change, information processing, gender differences and societal moral standards.

The decision making process is relevant to the individual's willingness to change behavior towards the social issue of food waste. The higher the willingness to change, the higher the likelihood to commit to reducing food waste is. The decision-making process is also influenced by the information processing, that is, the exposure to information relevant to the scheme as well as an educational upbringing and/or notion on the topic. Tonglet et al., (2004) argued that the respondents in their study drew differences between recycling and food waste reduction, a finding that was also communicated by the

participants of this thesis. Their behavior and decision to engage in the behavior of food waste reduction is both positively and negatively influenced by their recycling behavior. Gender differences also affect one's decision-making in this thesis, the female respondents showed enhanced concern while their male counterparts proved otherwise. The male respondents mentioned societal moral standards as an influential factor in reducing food waste and made comparative distinctions between recycling and food waste. They drew the conclusion that recycling involved rules and policies while reducing food waste implicated an “unwritten rule” that needed not to be abided by.

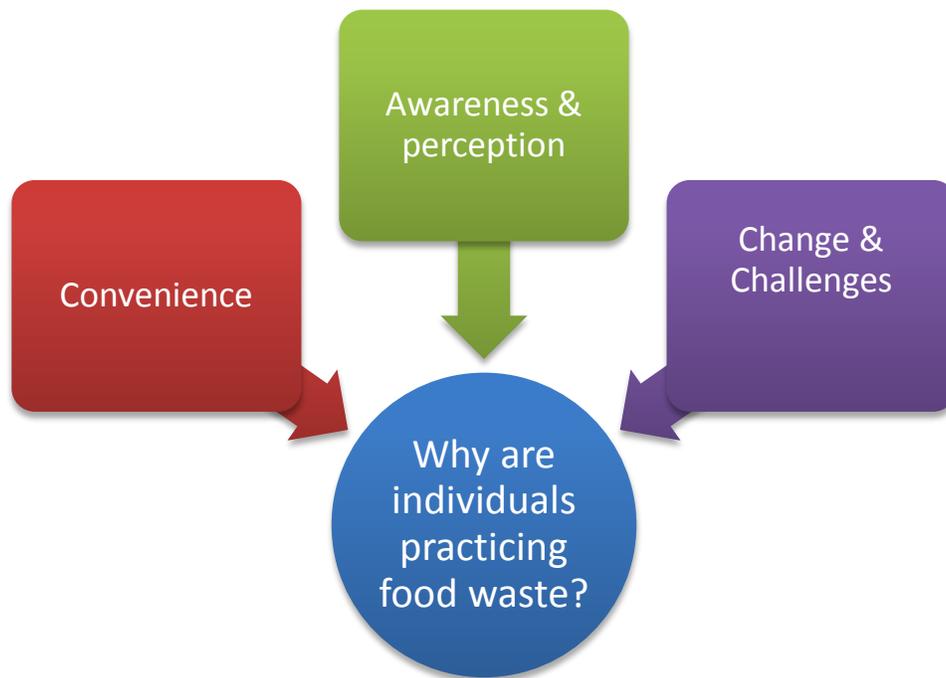


Figure 6: Thesis Question 3: Why are Individuals practicing food waste?

The main question as to the reasons behind food waste at the consumer level revealed that the concepts of convenience, awareness & perception, and change & challenges were the main arguments. The respondents disclosed that throwing away food that was either leftover or had reached/passed the date stamp was convenient to perform instead of

reheating the leftovers or risking spoiling a dish that would make use of the “out of date” product.

Additionally, the lack of awareness on food labeling and their perception on the food labeling based on their own experience led to food wasting. Last but not least, the acknowledgment that changes and the challenges involved with altering their behavior and daily routines required adaptation that was not only, not necessary but also time consuming.

7. BIAS

This section of the thesis acknowledges an important aspect to consider following the reliability and validity of the results as a part of the global analysis of the research paper (Flick, 2009, p.329). One of the ways of securing for any form of bias during the interview process was to ensure that prior relationship between the interviewer and interviewee did not interfere during the interview process. This was achieved by maintaining professional boundaries and by avoiding positive reinforcement during the interview (Neuman, 2006, p.347).

According to Neuman, there are 6 categories of interview bias (2006, p.347), (1) respondent's slip-ups affected by personal feelings, (2) Accidental errors from the interviewer's inaptitude, (3) Interviewer's intentional errors, (4) the interviewer's expectations affecting the interviewer's aptitude, (5) failure of an interviewer to inquire during the interview (6) the interviewer's effect on the respondent's answers due to tone, body language etc.

Even with all the precautionary measures adopted, after analyzing the transcript and listening to the audio, one of the interviewee stated a form of bias from the interviewer. The participant "MKMB" retracted one of his answers citing "when you look at me like that, then I feel like I have to say yes". The interviewer apologized for any form of influence she might have professed and asked the interviewee for the honest opinion to the question as a counter measure.

Some of the participants are non-native English speaker and as a result, it is to be acknowledged that some of the questions may not have been received the way it was intended to be, thus leading to a form of bias. The example of the participant who answered the question “Where do you get information on any food related topics” as associated to recipes. The interviewer re-directed the participant by reformulating the question. Furthermore, the participants were informed at the beginning of the interview to ask for clarification when needed, which many applied through out the interview. This was taken as a measure to counter act for bias in the responses due to misunderstandings, whereby following suit, the questions were reformulated.

Reformulating the questions during the interview was also taken as a counter measure when long pauses were observed. Following the interview, the participants mentioned that reformulating the questions and adapting to the circumstances assisted the process.

8. ETHICAL ISSUES

This need for ethics between the researcher and the participants form the basis of any research. As a result, this thesis was carried out within an ethical framework (Neuman, 2006, p. 154-155; Lichtman, 2013) that encompasses an understanding of the ethical issues that are included in qualitative research. Codes of ethics are generally conveyed to secure for the relationship between the researcher and the participants and assuring that the latter is not harmed during the research process. Subsequently, to ensure that the code of ethics was not violated, the researcher included the following requirements to be abided by.

1. Informed consent form

The participants willingly participated in the interview process based on the information the researcher provided to them. The nature of the study being scrutinizing the participants' behavior and reaction to the questions, they were initially made aware of only the superficial aspect of the topic, which is the food industry. They were not in any manner coerced into participating. Once they accepted the offer, the researcher initiated communication to set up a date for the interview. One participant who had initially accepted the offer, declined to communicate back for an interview, a choice that was respectfully received and whereby all communication ceased.

The informed consent form provided for relevant information that included the researcher's supervisor being a part of the thesis without being physically available during the interview process.

In medical and health studies that involve drugs or treatment that can have adverse effect on the participants or lead to the participants being harmed, the study is often discontinued (Lichtman, 2013). In this particular study, although not involving any types of treatment, the researcher was fully aware of the effects that could cause discomfort among the participants on the social issue of food waste.

2. Voluntariness

Additionally, the participants were given the option to decline the offer to be a part of the interview after the initial contact and after the informed consent form was signed.

3. Confidentiality

Information gathered during the interview is rightfully expected to remain between the researcher and the participant. Any information that is divulged to others can be harmful to one's reputation. Additionally, if the researcher comes across a situation where the interview takes a personal turn, whereby the researcher is not professionally qualified for, it is best to stop the interview and guide the participant to a professional. In this thesis, the information was treated in a confidential manner with the researcher and her supervisor being the only two

people having access to the information. The supervisor's access is limited to only informative aspects that the researcher brought up, therefore not having access to the transcript or recorded audio.

4. Privacy & Anonymity

To secure for the participants' anonymity, their private information was not associated with the recorded interviews. The recorded interviews were tagged with codes that only the researcher had access to. The individual's privacy and anonymity is guaranteed since no identifying information has been written out or made available during the audio recording. Furthermore, the privacy of the institution the participants work for has also been secured in the same manner.

9. LIMITATION & FURTHER RESEARCH

The research lies in the qualitative methodology. Qualitative design focuses on the meanings and focus on the interactive processes (Neuman, 2006, p.17) and due to the nature of qualitative research, any findings cannot therefore be generalized (Hoepfl, 1997; Neuman, 2006)

One of the limitations of this thesis is therefore the generalization of the results obtained. However, the significance of the findings for the phenomenon that is food waste cannot be disregarded; on the contrary, it only emphasizes that there is the need for further research before launching campaigns against food waste.

Investigating the complex phenomenon of food waste was time-constraint because of the due date of the thesis. Time is of essence when studying the determinants of food waste and to have a thorough understanding of the phenomenon, so as to obtain reliable and valid findings.

Due to the limitation of the NVivo beta version for mac, the program was not used to its full capacity and as a result was only incorporated into the thesis as a means to assist the analysis and coding, specifically towards verifying the memos and the first tier of the coding that is the open coding. Consequently, the NVivo program was therefore not used any further. The creators of NVivo launched towards the end of May 2014 an official NVivo version that is compatible with Apple computers that can be used for further research on food waste, thus making the analysis and sharing the data files from a Windows to Mac possible.

As mentioned earlier, bias whether it conscious or unconscious subsists, however the researcher took measures to avoid causing or sustaining any types of bias (p. 71-72 of thesis)

As a result, there is the need for further research on the topic of food waste that goes beyond the quantification and the socioeconomic factors and in the direction of psychographic factors. The participants' point of views and the subsequent findings are only the tip of the iceberg, probing into the behavioral analysis and decision-making process behind the phenomenon of food waste is more complex and the need for full immersion into the phenomenon. This research is limited to the sample size and only reflects the findings based on the 10 respondents living in Norway.

Further research need to be focused on the determinants of the food waste that would emphasize the attention towards the individuals and their understanding of the phenomenon. In order to achieve a sharp understanding of the food waste phenomenon and its determinants at the consumer level, an in-depth study at the national level needs to be generated, for example, launching a study in Norway, similar to the Australian benchmark study on food waste (NSW, 2011) so as to assess the Norwegians' standpoint on food waste.

10. CONCLUSION

Food waste is a multifaceted issue with various researchers having investigated and elaborated on the topic from different angles and perspectives, while focusing on various actors of the food chain (Shanklin, 1993; Parfitt et al., 2010; Sonnino & McWilliam, 2011). Significant attention has been concentrated towards the production segment of the food waste chain as well as the importance of policies surrounding food waste (Refsgaard & Magnussen, 2009; Sonnino & McWilliam, 2011). The post-consumer waste has been raising concerns, indicating that this fragment of the food chain is the most challenging yet due to the fact that it implies altering or affecting attitudes and behavior (Parfitt et al., 2010)

The existing researches on post-consumer waste have been primarily quantifying the amount of food waste without attempting to understand the reasons behind the practice. A few exceptions can be noted, mainly by the benchmark study by NSW (2011) and Tonglet et al., 2004; Quested et al., 2013 although limited to recycling and does not

Subsequently, this research has attempted to use the Theory of Planned Behavior to investigate and inquire on the phenomenon of food waste directed towards the behavioral aspect of the prosumers. A qualitative design was used as the methodology whereby grounded theory approach was employed.

The methodology included face-to-face interviews and a video interview, which were recorded using Quicktime on a Macbook and consequently manually transcribed. The transcripts were also verified using a beta version of the qualitative analysis program called NVivo. The analysis that followed was achieved through the Straussian pool of

thought of grounded theory of memos, open coding, axial coding and selective coding (Strauss & Corbin, 1990; 1994).

The adapted survey data was presented on a chart as the NSW (2011) displayed in the benchmark study.

The analysis revealed 8 determinants in the food waste phenomenon that affected the prosumers perspective and decision making process, namely Change & Challenges, Societal moral standards, External Influence, Convenience, Information Processing, Perception, Willingness to change behavior and Gender differences. Each determinant influenced the prosumers' intention to act the behavior of reducing food waste as well as in answering the thesis questions and influencing their decision-making process. The findings disclosed that the prosumers' views on determinants that could act as inhibitors to reducing food waste, in the example of convenience and external influence. The participants were highly influenced by the degree of convenience in acting out a behavior, and many differentiated between recycling and food waste in that conveniently placed bins enhanced their decision to recycle. Additionally, the external influence as related to the role of the industry and the societal moral standards, as the participants portrayed the importance of rules, policies and the role of the Government are considerable factors in understanding the food waste at post-consumer level. Many participants brought up the concept of campaigns, mentioning the need to gather all the necessary information prior to launching a successful campaign. They believed that the rallying all the actors of the food chain and especially the public's opinion and stand on the social issue of food waste was crucial in developing the campaign. There is the recognition that food waste is not a social issue among the public and that a lack of

awareness on the topic is currently experienced. The participants acknowledged that food waste and reducing food waste meant changes and challenges in the process; changes that may not be received openly unless they did not drastically affect their daily lives. Some of the factors to consider therefore before launching a campaign on food waste are how information is processed, the participants' willingness to change their behavior and the gender differences that can affect the impact the campaign is aiming at making. The expectations prior to the thesis relied upon the variance between the information exposures of the respondents, classified into two categories corresponding to their professional position in or out of the hotel & restaurant industry. However, the findings revealed that gender differences experienced more variances in answers compared to their exposure of information in their profession.

Additionally, the misconception surrounding labeling on food products was revealed during the interviews and in the post-interview survey. The majority of the participants was not well informed on the different labeling approaching out of date food products and considered all labels as equal. 20% of the participants were definite on the differences and displayed knowledge on the labels where as 80% of the participants were either uncertain on the labeling or were without a doubt unaware of the differences.

The validity and reliability of the results rely in the qualitative nature of the study, inferring that the thesis is not looking for generalization but rather on the dependability of the methodology, reinforced through the consistency of the interviews throughout the whole thesis. Additionally, the thesis recognizes that there are forms of bias that took place during the interview administration and that measures were taken to reduce or

overcome the biases, in the form of suppressing positive reinforcement and avoiding confirming the respondents' inquiries during the interviews.

The interviews followed the code of ethics in guaranteeing anonymity and confidentiality of the data collected as well as ensuring that the respondents' voluntarily engaged in the interview.

The thesis attempted to investigate food waste in order to understand the behavior and intention at the post-consumer level of the food chain. The limitation of this thesis is subject to time, the sample size as well as the geographical inference, with the sample being reduced to respondents being residents of Norway. Further research on the topic of food waste at the post-consumer level is necessary in order to grasp the full extent of the issue surrounding the individual's behavior, intention and decision-making process of food waste. This research aimed at filling in the gaps on the knowledge on food waste, initially with the belief that differentiating among professions and the information exposure individual's are subject to would reveal major distinctions. However, gender differences revealed to be a stronger determinant, with larger variances in the results. There is the need to further investigate the gender differences in understanding the implications for the fight against food waste. Additionally, rallying all the actors of the food chain, a recurrent theme from past research (Shanklin, 1993; Parfitt et al., 2010; Sonnino & McWilliam, 2011) also came up as one of the thesis findings. Post-consumer waste is the most challenging part of the food chain; as compared to the Industry and the Government that involve cognitive reasoning as well as laws they have to abide by. The prosumers are subject to altering their belief system and behavior, and includes an in-depth understand of their intentions and decision-making process. It is therefore essential

to further study the prosumers before launching food waste campaigns; the success or failure depends on understanding the prosumers awareness, behavior, intentions and decision-making process surrounding the social issue of food waste. Further research on food waste at the consumer level is an indispensable factor that should not be disregarded if reducing food waste is to be implemented as a global movement.

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12. APPENDIX I

Interview questions template:

Personal

Attitudes about food waste, what is considered positive and negative about food waste

1. Do you do the grocery shopping in your household? (Who does? Anyone specific that usually does the shopping)
2. Do you check your fridge before going to the store?
3. Do you write down when you go to the store?
4. In your fridge, when do you decide that it is time to throw products in the trash?
5. What do you consider wasting food? (be it an action) Can you elaborate?

Social Norms/ Perceived Norms:

1. Do you know the difference between “use by” and “best before”? (any alternative for the expired food? Any knowledge?)
2. Do you recycle? Do you think you are/are not helping the society by recycling? List items you recycle? (who is the society? Environment??)
3. Who do you think will benefit the most from recycling? Reducing food waste? (not a specific person, but in general)

Subjective Norms: influence by others

1. Does anyone in your family/ or any person who you consider important to you help you 1. shopping? 2. Prepare meals? 3. Throw away the trash?
2. Have you seen the commercial by Kiwi about helping out the Norwegians to save from throwing away (Norwegians only). What do you understand by that commercial? Words that came to your mind: smart advertising, environment, waste
3. When trashcans are available, color-coded for “bottles “paper”, do you throw your trash according to the color coded? Are you more likely to follow it when people around you are watching? (not color coded- but the names)
4. Do you think your family thinks you should avoid food waste? (test it out, do they live alone?)

Perceived behavioral control: (questions adapted from the work By Karim G.W.A., Rusli I.F., Biak, D.R & Idris, A, 2012).

1. Avoiding food waste and recycling: do you have complete control over that decision?
2. Can you try to think about using your senses more when you throw away food?
3. Do you think it is easy to start checking your fridge everytime you go shopping? And start using the leftovers more often?
4. Do you think it is only up to you to avoid food waste at home? (think about work)

Situational factors:

1. Where do you get your information on any food related subjects?
2. Do you think you are not getting enough information on food related topics, including the best before and used by, that would help you reduce food waste in your home?

Intention

1. Do you throw away leftovers immediately after a meal?
2. Do you save leftovers and eat them later?
3. Are you more aware on the topic of food waste and how much you “Waste” food, throwing away uneaten food?
4. Are you more likely to think about it when you go to the store now?
5. Are you more likely to check your fridge before going to the store?
6. Are you more likely to use your senses more now?

So this was my last question, is there anything that you would like to elaborate on? Any topics you want to add on? If you owned a restaurant, or if for one day you were the government, would you do anything differently?

12.1. Appendix II

The survey section of the interview:

1	2	3	4	5
Throw out Bread as soon as it becomes dry				I still use or freeze bread for toast, breadcrumbs or cooking recipes
1	2	3	4	5
Throw out packaged food that has not been opened but has passed the best before date				I check unopened food packages if it has passed the best before date and still use it if it looks and smells the same
1	2	3	4	5
Throw out fresh food it is on or passed its use by date				I consider the “use by” date as a guide and still use the food a day or two later if it looks and smells the same
1	2	3	4	5
Throw out fruits or vegetables that wilted or blemished				I don't mind what fruit and vegetables look like and use them anyways
1	2	3	4	5
Buy only meat, yogurt, and fruits that are at least 7 days from the best before date				Buy meat, yogurt, fruits that have reduced prices because of the best before date is within 48hours and freeze them

12.2. Appendix III

Initial coding sheet

Memos/notes	Properties	Open Coding	Axial coding	Selective Coding
<p>See what we need Get ideas Not easy to remember Maybe if we make Better plans Buy more than what we need Leftovers If I took the time to , Help in plan meals, list, DON'T USUALLY PLAN OUT my Need to know what to buy Weekly shopping, Helps me remember</p>	<p>Planning ahead Consequences of not planning Time consuming Time management Creating a sense of familiarity Conscious about Assisting Tools</p>	<p>Fear of Failure/Changes Eliminating Bad habits challenging</p>	<p>Process of elimination based on a cost benefit Outlining Tasks and Goals</p>	<p>Management tools for decision making</p>
<p>Contamination issues, Previous lawsuits Legal reasons Can't be donated, Regulations Legal obligation Legal issue, Government Politicians Companies obliged, Rules I follow the rules, Govt set</p>	<p>Following Rules Laws that are set Obligations Regulations that have to be abided by Norms that society creates Having to abide Government approval High rank Hierarchy aspects</p>	<p>Laws and policies for instigating change Rules are seen as an obligation to abide by Rule Making Law abiding citizen</p>	<p>Rules overrule personal decision- Not optional Conformity</p>	<p>Power of Rules</p>

Memos/Notes	Properties	Open Coding	Axial Coding	Selective coding
<p>Set ground rules You have guarantee on labels Supposed to,</p>				
<p>This is how I live my life, Helps me remember Daily lives Simple measures easily-Don't take a lot of effort or time Routines, Will forget about it in 5 min, That's the way we live I buy standard things, Buy the same stuff, Fall back into my old tracks Used to Maybe you can do it for a week or two but , I then you go back to the normal I usually Generally buy the same stuff, Unwritten policy for myself</p>	<p>Adapting to changes Sticking to routines Following routines Creating retraceable steps Personal policies Unwritten Guidelines Assessing the "break in routines"</p>	<p>Changing routines perceived as hard without reinforcement Ease or difficulty with which one can start performing a behavior</p>	<p>Holding people back-an inhibitor for change How to overcome Failure</p>	<p>Fear of changes</p>

Memos/Notes	Properties	Open Coding	Axial Coding	Selective Coding
<p>Types of products Types of food Depends what kind, Depends on the products Mom does not condone Grow up with Didn't grow up with This is how I was raised, My mother taught us, I grew up with, Influence growing up, Educated myself I grew up with a dad We've never discussed it, My parents taught me</p>	<p>Influencing factors Upbringing Educational aspects School system Unwritten personal policies that influences Belief of knowledge on the topic</p>	<p>Learning skills Educational systems Transfer of knowledge Categorization</p>	<p>Experience as influential factor</p>	<p>Opinion formulation</p>
<p>Have to go far away Don't know where it is What is available- if there was a separate container If I had the possibility to, I don't think I would drive with rotting</p>	<p>Availability of facilities Convenience Easiness of performing depends on what is made available</p>	<p>Controlling factors outside of individual's personal control Circumstantial</p>	<p>Facilitator and inhibitor in anticipated and actual performance of behavior</p>	<p>Social facilitation as a factor in altering behavior</p>

Memos/Notes	Properties	Open Coding	Axial Coding	Selective Coding
Food ,Fact that there is the bin on wheels, Recycling facilities are available				
Socially responsible company Communicate that we throw away Help us doing that, Responsibilities of the, moral obligation They are trying to help us,	Companies' responsibilities Industry set the rules Seeing the industry/companies as the change maker	Seeing the industry as the medium through which changes can be achieved	Feeling that "I" don't make a difference as compared to the industry	Dependency on Industry to set the example
Strategically Profit/Price Demand Labor/Create jobs, Export, To earn or make money Producers, Over consuming, Consumerism Producing extreme amount of garbage Industry, Increase profit Financial Overproduce Companies investing getting you to buy	Strategy Profit Export Job Financial Price Consumers Over consuming Producing Industry Demand Money Materializing everything	Industry and large companies are negatively seen as the hauling system Over consumerism and over production as cost-driver Keeps the wheel running	Manipulative side of the industry driving the system and leading to an economical issue	Rational versus emotional appeal in decision making

Memos/Notes	Properties	Open Coding	Axial Coding	Selective coding
See /Smell Looks good When there is mold I look or touch Helps grocery stores, Suppliers Purchasing more food, Visually Common sense/Taste	Use of Senses Out of date Expired food Labels Dependency on labels	Trusting your own judgment and instincts Experience Standardizing to norms	Co-dependency as an inhibitor Learning process	Enabler of the behavior
Nature Well-being of mother earth Recycle I recycle because I believe it is a small participation, Environment The entire globe The entire system/Trees Saving forest, Composting, Consequences Producing garbage Draining resources, Goes back to the farmers, Seasonal Harvest/Prod cycle	Environmental impact Personal Impact on Environment Belief of Ecosystem Consequences	Environmental concern, environmental impact Caring instinct	Believing that they can make a difference	Willingness to participate in behavior

Memos/Notes	Properties	Open Coding	Axial Coding	Selective Coding
<p>Future generation Ideal world You need to take care of the person you care, Helping the society, people living in this world and animals, Everyone The entire whole chain</p>	<p>Future Food chain Resources People focused Better world</p>	<p>Helping others Participating because of the nurturing instinct Idealistic</p>	<p>Selfless Ideologist Goals</p>	<p>Support system</p>
<p>I hate it I don't like it I have no interest, It doesn't interest me, I feel guilty, Personal mental thing, I feel bad It bothers me More difficult to actually do it, I think I have a fairly good control I don't feel guilty, in my mind, He doesn't care ,Choice Everybody can decide, I Don't make a difference I don't know how much of an impact it's</p>	<p>Perceptions Personal beliefs Feelings towards Personal Impact versus Industry impact Personal choices</p>	<p>Internal factors Personal beliefs Unpleasant Careless Egoism</p>	<p>Feeling helpless Sense of impossibility to save the world</p>	<p>State of mind as an enabler of behavior</p>

Memos/Notes	Properties	Open Coding	Axial Coding	Selective Coding
If you see it all the time You think of it all the time Motivation to Financial motivator, Has no choice, Maybe if you read more about it Budget conscious Don't like to waste money	Motivations Reinforcing Personal beliefs versus monetary motivator	Altering belief Making changes Not optional choice	Desire to make a difference	Driving force behind behavior
I cook too much for instance, Usually just make 1 portion They buy a big when they can order a small I would make smaller portions, I would cook what I think is the right amount, We try to cook what we need and not more	Lack of knowledge on how much is too much Portioning Finding excuses Believing in their own excuses Justifying the action	Taking accountability for actions	Self-awareness	Personal power in decision making,
He's a guy he notices after the fact, I DO but my bf doesn't Sometimes my wife asks Culture is different	Differences between genders Women tend to care more Women try to make a difference Women believe They can make difference Men are creatures of habit	Visionary differences among genders Create rifts in attitudes and intentions Passionate	Degree of passion and interest on topics Topics of interest are gender Driven Realistic vs idealistic Women	Gender differences

Memos/Notes	Properties	Open Coding	Axial Coding	Selective Coding
	Women feel they have more control and will and can try harder		believe they can change the world	
Convenient, If I am at home People around me I don't know what they are doing at home Date on package influence Dates overrule me So it's more easy to just throw it away I go after work From past experience	Convenience Depending on location Being home vs being out Personal experience	Controlling factors that can impede or facilitate outside of the individual control	Surrounding controls your belief system	Power of convenience on facilitating decision making