



Food Waste Management: A McDonald's Consumer Perspective

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Abstract

Food waste has been highlighted globally as being a significant problem and phenomenon. In South Africa a third of the food produced is not consumed and ends up being disposed. This approximately equates to 10 million tonnes of food being waste in South Africa out of the 31 million tonnes produced (WWF, 2017). The financial burden due to this food loss comes to a loss of R61.5 billion. The energy wasted annually due to producing food that is wasted is said to have been able to power the City of Johannesburg for up to 16 weeks (WWF, 2017). Successfully reducing and cutting out food waste allows the country to change the realities of many food insecure portions of the population (WWF, 2017).

This research study took the form of an interpretivist, qualitative research design. The research instrument undertaken was that of a digital questionnaire distributed online. The sample included South African McDonald's consumers aged between 18 – 60 years old. 3 themes were generated from the findings and data collected which include (1) Lack of awareness and knowledge on food waste management, (2) Food waste generated by consumers, (3) Food waste management methods implemented by consumer households.

Keywords: McDonald's, consumers, food waste management, awareness

Introduction

Food waste is a global problem with 1.3 billion tons of food being wasted annually. The phenomenon of food waste is not solely a problem from an environmental standpoint, it is a problem at the social and economic levels as well (Martin-Rios et al., 2018:196). Food waste has been estimated to increase over the years due to population and economic growth (Paritosh et al., 2017:1). Food waste generation is particularly concerning due to the rising global population that is food insecure – those who have gone without eating for a day or more (Jere et al., 2021). Businesses in the food industry have come under great scrutiny over their food waste management approaches with evidence showing significant amounts of food being thrown away during preparation or because they cannot be reused or stored. Food waste occurs at every stage of the food supply chain from the agricultural production up until final consumption. According to Martin-Rios et al. (2018:197) research shows that in developed countries, food is primarily wasted in the final consumer stage of the supply chain. This highlights the impact that consumer behaviour plays toward food waste management. This literature review will critically discuss the current literatures that exist on the topic of food waste management with a particular focus on South Africa and food service companies within the country. This essay will further outline the research paradigm being implemented for this study and the justification behind this chosen paradigm. McDonald's has been selected as the chosen brand where this essay will provide more information on the brand itself and the reasoning behind the selection.

Literature Review

1.1 What is Food Waste?

Food waste is considered to be any food or inedible parts of food that is taken out of the food supply chain to either be disposed or recovered (Sooklal et al., 2021:1). Some food waste can be avoided while others are unavoidable. The inedible parts of food that ends up as waste is unavoidable waste which includes bones, pips and peels (Sooklal et al., 2021:1).

1.2 The importance of Food Waste Management

Food waste management is important every business in the food service industry. As mentioned above, with the increase in population growth, this entails an increase in food waste generation (Paritosh et al., 2017:1). Food Waste has a triple negative effect including impacts on the environment (climate change), the economy and natural resources (Paritosh et al., 2017:1).

There is roughly 1.4 billion hectares of fertile land that is used yearly to produce food that is wasted. This one of the most important reasons for fast food companies to implement effective food waste management practices and policies. (Avris, 2021). The carbon footprint that is generated by food waste contributes to greenhouse gas emissions with approximately 3.3 billion tonnes of carbon dioxide being released into the atmosphere (Paritosh et al., 2017:1). Food waste is considered to be part of municipal solid waste; therefore it is incinerated or dumped which has severe health and environmental implications for the people of the country. This aligns with what Matinise states where he explains that food that is disposed at a landfill site contributes to climate change. When the food is disposed at a landfill site it decomposes and releases methane gas which is a greenhouse gas that traps heat in the atmosphere (Matinise, 2019:26).

Food waste is a financial burden for fast food companies. Implementing efficient food waste management methods can save companies a significant amount of money in the long run (Avris, 2021). According to Matinise (2019:18) restaurants adopt green practices such as food waste management methods due to the cost saving natures of these approaches (Matinise, 2019:18). Therefore, raw materials, energy, water and waste minimisation strategies enable fast food brands to maximise their profits at the lowest costs.

The final beneficial aspect of food waste management is that it conserves energy and resources. In the food production process valuable resources used throughout are also lost if the food being produced is wasted. When food is wasted or lost this also means that the water, energy, land and resources used to process, store or distribute this food is also lost as a result (Matinise, 2019:26). By implementing effective food waste management practices it allows fast food companies to save energy and resources.

1.3 Food Waste Management in South Africa

A key priority for South Africa is improving the waste management and removing waste away from landfills. The global waste management hierarchy undertaken by South Africa looks at waste avoidance as the most favourable approach for sustainable waste management. Recycling and reusing resources is the second approach undertaken if waste avoidance cannot be applied in specific situations (Matinise, 2019:26). South African businesses have been urged to reduce food waste to combat the hunger problem within the country. A study conducted by the CSIR has found that approximately 10.3 million tonnes of edible food is wasted in South Africa (Mandaha, 2021). This number equates to 34% of local production but due to the country being a net exporter of food it increases this percentage to 45%. Most of South Africa's food waste occurs in the early stages of production (68%) with 19% occurring during the post-harvest handling and storage and 49% during processing and packaging (Mandaha, 2021).

In southern Africa, the percentage increase of food insecure people rose from 20.4% in 2015 to 30.9% in 2017 (Jere et al., 2021:94). This emphasises the importance of implementing food waste management practices. As Jere et al. (2021:94) explains that the contradiction between increasing food waste and food insecurity underlines the unsustainability of the current food production and consumption system. Jere et al. raises the same point as Matinise in saying that there has been increased pressure placed on all South African industries to reduce food waste and be more environmentally sustainable (Jere et al., 2021:96). Legislation was also put into place such as the National Environmental Management Act (1998), the National Environmental Management Waste Act (2008) and National Waste Management Strategy (2020) all in attempt to support waste management efforts. In 2018, the Western Cape government placed a ban on organic waste disposal to landfills by 2027 as they aimed to achieve a 50% reduction by 2022 (Jere et al., 2021:96).

To significantly combat the food waste generation of the country, South Africa has committed to achieving the United Nations (UN) sustainable development goals for 2030 which include "by 2030 halve global food waste per capita at the consumer and retail levels and reduce food losses along the production and supply chains, including post-harvest losses" (Oelofse et al., 2021).

Although the country has aimed at achieving the UN's sustainable development goals by reducing food waste, the country continues to use landfilling as the main waste management option when more sustainable, cost-saving practices exist.

1.4 An overview of the fast food industry in South Africa

The South African fast food market was valued at \$2.7 billion in 2018 and is projected to reach \$4.9 billion by 2026, yielding a compounded annual growth rate of 7.9% from 2019 to 2026 (Thomas & Deshmukh, 2019). The South African food service industry is projected to grow exponentially – this is due to many factors fuelling this growth such as the significant number of domestic and international restaurant chains. The demand for 'convenience food' has also increased due to the increase in availability of the take-away restaurants (Thomas & Deshmukh, 2019). Urbanisation is a major driving factor in the increased demand for fast food with over 60% of the country's population living in urban areas. The McDonald's Corporation has stated that South Africa was one of the most successful markets in 2014 with the country opening a record-setting 30 restaurants in just under 2 years (Thomas & Deshmukh, 2019).

South Africa's fast food market consists of various aged consumers that can be categorised into below 18 years, 20-35 years old and above 35 years old. The 20-35 years category holds the largest share of the country's fast food market. Fast food brands are continuously changing their menus to attract millennials and meet their food consumption preferences, for example McDonald's has added gourmet sandwiches, salads and premium smoothies to their menu to target millennials (Thomas & Deshmukh, 2019). Consumers play a prominent role in what decisions are made by fast food businesses as they make up the target audience purchasing the food being produced, thus fast food brands need to cater their specific preferences to keep them interested.

1.5 McDonald's

McDonald's is one of the biggest food service brands in the world with over 36 000 restaurants in over 100 countries. The brand serves a selection of burgers, fries and beverages and the company have also recently broke into the breakfast market with exclusive breakfast deals and marquee items such as the

Egg McMuffin (Svoboda, 1995:2). The brand was started by Ray Kroc whose dream was to build a restaurant system that would be famous for providing food of the highest quality and consistent methods of preparations (Svoboda, 1995:2). Kroc ensured the brand's operating system required franchisees to follow the core McDonald's principles of quality, value, service and cleanliness.

The popular fast food company has made major strides in their packaging and waste approaches. Over 80% of the brand's guest packaging was made from fibre sources with the remainder (20%) being made of plastic (McDonald's, 2022). In total, 80% of McDonald's guest packaging has come from recycled, renewable or certified sources. 99.6% of the brand's primary fibre-based packaging was sourced from certified or recycled materials and the brand's supply chain is also deforestation-free. (McDonald's, 2022).

The top priorities of the McDonald's would be improving the sustainability of the packaging and progressing towards a more circular economy. These strategies align with the brand's long term goals - to keep the communities clean and protect the planet for future generations (McDonald's, 2022). McDonald's recognises that their packaging plays an crucial role in reducing food waste as well as aiding them to serve fresh and hot food safely to consumers (McDonald's, 2022). When plastic and packaging are not recycled properly it causes great harm to the environment, creating litter and pollution. With McDonald's being one of the food service market leaders, it plays a vital role in addressing the issue of packaging and can make use of their scale to transform packaging across the entire industry (McDonald's, 2022).

The McDonald's brand aims to switch to using more sustainable materials when it comes to their packaging as well as encouraging their customers to recycle and reuse. The brand has set out the goal to source 100% of guest packaging from renewable or recycled materials and to recycle guest packaging in all McDonald's restaurants by the year 2025 (McDonald's, 2022). McDonald's have emphasised that once they achieve this goal, they will no longer source any primary guest packaging from fossil fuel based plastics.

The company has taken the steps to ensure that they meet the consumer expectations of safety and sustainability by investing in research and development of new materials and packaging that fit customer needs for food

safety. This is done in partnership with franchisees, industry partners and suppliers (McDonald's, 2022). This shows the holistic nature of the brand and that McDonald's actually falls into the criteria of a meaningful brand.

Minimising waste behind the counter is also crucial for a brand to be holistic. McDonald's have been working alongside suppliers to remove food waste in their kitchens and supply chains and to reduce, reuse and recycle more (McDonald's, 2022). In various restaurants globally, the brand has been actively recycling kitchen waste materials such as organic waste, cooking oils and corrugated cardboard, which can all be turned into new resources (McDonald's, 2022).

McDonald's have explained that their logistics providers play a significant role in their goals to reduce waste by collecting and back-hauling recyclables when delivering the supplies to McDonald's restaurants. This helps recycle material from restaurants in remote locations as well as reduces road mileage as the brand does not need to hire a different waste company to do this collection (McDonald's, 2022).

McDonald's has highlighted that their restaurants waste less than 1% of edible food stock as they closely monitor what they sell at different times of the day (McDonald's, 2022). The restaurant only orders and prepares the amount of food that is mostly likely to be sold. The brand also sends all leftover food for composting, anaerobic digestion and rendering (McDonald's, 2022). McDonald's has also explained that on average they separate 180kg of food waste a week which goes towards anaerobic digestion, rendering and composting (McDonald's, 2022).

Matinise has highlighted McDonald's as being one of the most notable food service brands in adopting green practices which include sustainable packaging, energy innovation and efficiency, waste management and green building design (Matinise, 2019:1).

The brand has made brochures available in restaurants informing consumers on McDonald's position on topics such as the rain forest, packaging and ozone depletion. This was done in attempt to actively educate its' consumers about the company's environmental positions and activities (Svoboda, 1995:4).

This shows the way in which McDonald's is a healthy and meaningful brand. Cook et al. (2010:21) explains that a healthy brand is one that considers sustainability, value, identity, authentic communication and has shifted its focus away from solely maximising profits. More brand are shifting their focus to the welfare of people and the environment instead of chasing profits and this evident through the actions undertaken by the company (Cook et al., 2010:12). This can be seen in the McDonald's brand where the brand has updated its' policies to mitigate the global problem of food waste as well as turning to using recycled materials for their packaging (McDonald's, 2022).

One of the most important indicators of a healthy brand is adding value to the lives of people and by looking at the current environmental policies put in place it is evident that McDonald's is a healthy brand that has prioritised the welfare of its consumers as well as the sustainability of the environment.

1.6 Reasoning behind the chosen brand

McDonald's has been selected as the chosen brand as it is one of the market leaders of the food service industry not just in South Africa but in the world. McDonald's is a brand that many South African consumers feel familiar with. This makes it easier to find consumers of the brand that would be willing to participate in this research study. The brand has also laid out specific sustainable goals and put strategies in place in order to achieve these goals which are evidence that they are trying to come up with solutions to the global problem of food waste management. Another reason on why McDonald's was the chosen brand was because research was very limited on the food waste management within the food service industry in South Africa.

This study will therefore investigate the South African consumer perceptions of food waste management within the context of McDonald's policies. There have been many research studies conducted on food waste management from the perspective of food service brands but not many on the consumer perspective of food waste management. This study will therefore aim to gain a deeper understanding of the relationship that exists between consumer perceptions of food waste management and the current McDonald's policies. This research will

also investigate whether consumer actions on food waste management align with the brand's policies.

1.7 Research Paradigm

According to Antwi & Hamza (2015:218) a paradigm can be defined as a framework or system of academic ideas, assumptions, values and beliefs that is shared among a group of researchers regarding the way research is conducted. They further explain that it is an approach to doing and thinking about research (Antwi & Hamza, 2015:218). The interpretivist paradigm was built on the premise that approaches used in understanding knowledge related to human social sciences cannot be the used the same as in physical sciences as humans interprets their world and take action based on this interpretation while the world does not do this (Pham, 2018:2). This relates to the ideas the authors Nelson, Groom & Potrac (2015:31) propose where they state that the interpretive paradigm provides a radical alternative to the positivist school of thought. They explain that interpretivism rejects the belief that the social world can be assessed and understood with the same assumptions that scientists use to understand the physical world (Nelson, Groos & Potrac, 2014:32). The interpretive lens is built on the idea that the social world is complex and that people place their meaning onto things and this cannot be understood in the same way as the physical world. Interpretivist researchers have a relativist ontology where a phenomenon may have many interpretations rather than a single truth that is determined through a measuring process (Pham, 2018:3). Through the interpretivism perspective, researchers aim to gain a deeper understanding of the phenomenon and the complexities that exist in the context instead of generalising the base of understanding for an entire population (Pham, 2018:3).

1.8 Advantages of Interpretivism

The first advantage of this research paradigm would be using diversifying outlooks when looking at the phenomena, interpretivist researchers do not just describe humans, objects or events but gain a deeper understanding of these

things. Researchers are also able to conduct these types of studies in natural settings by using methodologies such as ethnography, life history or case study to gain insider insights of research objects to provide more authentic information (Pham, 2018:3-4).

Another advantage would be using the method of an interactive interview which allows the researcher investigate things we cannot usually observe such as an interviewee's values, perceptions, views, beliefs, etc. This allows interpretivists to collect data that will provide them with better insights to improve their study (Pham, 2018:4).

1.10 Research Position and Lens

A research paradigm places its focus on 3 crucial lenses which are ontology, axiology, methodology, epistemology (Antwi & Hamza, 2015:218). They elaborated on this saying that the research paradigm is associated with the concepts of epistemology, methodology and ontology. A research investigation should be based on the concepts of ontology, which is the way a researcher defines the truth and reality; epistemology, which is the process whereby the researcher comes to know the truth and reality and finally methodology, which is the method being used in conducting this investigation (Antwi & Hamza, 2015:218).

Using interpretivism would be best in carrying out the research investigation as it looks at the McDonalds' consumer perceptions surrounding food waste management. With Interpretivism being a paradigm that does not generalise a simple truth as it is built on the belief that there can be a number of different interpretations concerning a phenomenon (Pham, 2018:3 The theoretical framework for the majority of qualitative research views the world as constructed and experienced by people in their social interactions with one another. Qualitative research methodology relies on the personal interaction between researcher and participant over a period of time (Antwi & Hamza, 2015:219). This partnership enables researchers to gain deeper insights and understanding on the topic being investigated. According to interpretivism, the nature of inquiry is interpretive and the purpose of this inquiry is to understand a specific phenomenon and not generalise it , i.e. concept of food waste management through the consumer perspective (Antwi & Hamza, 2015:219).

Researchers implementing the interpretivist paradigm use methods of data gathering that are sensitive to the context and enable detailed description of social phenomena by encouraging participants to speak open and freely on their perception and experiences (Antwi & Hamza, 2015:219).

Methodology refers to the process of data collection and the way in which the researcher gathers the necessary information. It is a research strategy that uses the principles of both ontology and epistemology and translates it into guidelines on how research should be conducted (Antwi & Hamza, 2015:220). Qualitative research methods are primarily concerned with Interpretivism and aims to record participants' experiences and perspectives. Qualitative research usually follows an exploratory scientific method and is used to describe what is seen or experienced. Qualitative research is used when there is a limited amount of information on the specific topic. Qualitative research uses data collection methods such as questionnaires, interviews and focus groups (Antwi & Hamza, 2015:220).

By using Interpretivism, it enables the research to gain the deeper and in-depth understanding needed when investigating consumer perceptions of food waste management. The interpretivist paradigm also looks at experiences, perceptions and perspectives of participants.

2.1 Research Topic

Food waste management in the South African fast food industry through the perspective of McDonald's consumers. This study will look to investigate South African consumer perceptions of food waste management within the context of McDonald's policies. From the conducted literature review it can be said that the existing research studies conducted on the topic of food waste management primarily looked at the actions companies undertook in mitigating food waste generation and their management approach in response to food waste and loss. However, not much research has been done on the consumer perceptions of food waste management and whether these perceptions align with the food waste policies of fast food brands. This is what this research study is centred.

Food waste management is an important global phenomenon hence why there is constantly new research being conducted on the topic. The more research that is done, the better the understanding of food waste management will be. After conducting the literature on the existing research on food waste management in South Africa, it can be said that there is limited research that exist on the topic. Furthermore, many of the research studies conducted places a great focus on food waste generation and food loss over the management approach to food waste. Many of the existing literatures on food waste management also places a great focus on what the chosen brand is doing to minimise food waste through their policies and goals and not looking at consumer perceptions of food waste management. A few to no studies look at the perspectives of consumers on the food waste management policies of fast food brands. Researchers have not conducted studies whereby they assess the effectiveness of the food waste management policies of the selected brand and whether these policies have impacted consumer thoughts of food waste management. This can be seen in the literature of Matinise who conducted their research on gaining an understanding of the food waste generation and management climate within South Africa (Matinise, 2019:2). Matinise primary objective of his study was to provide an understanding of waste management practices in the commercial food service industry and identify waste reduction methods and ways to recover resources through a method of source separation (Matinise, 2019:6).

Matinise (2019) further explains that his research was done from a manager's perspective and has made the recommendation that for future research looking at the waste generation from a customer perspective within the South African context is an important area of research to investigate (Matinise, 2019:107). A similar point was made by Jere et al. (2021:241) where they explain that their research contributes to the understanding of the causes of food waste but did not investigate the consumer perspective of this.

The interpretivist research paradigm is used in gaining an in-depth understanding of the phenomenon as well as the complexities that exist within the phenomenon (Pham, 2018:3). This is supported by du Plooy-Cilliers et al. (2014:82) whereby they explain that the primary aim of the interpretivist research is to gain a deeper and empathic understanding of aspects of human behaviour and social life. They further explain that under interpretivism

researchers do not aim to control and predict outcomes like in the positivist paradigm (du Plooy-Cilliers et al., 2014:65). Overall, interpretivist researchers look to gain a deeper understanding of a phenomenon and the way in which people make sense of their daily experiences (du Plooy-Cilliers et al., 2014:65). The interpretivist paradigm has been undertaken in conducting this research study as it aims to gain an understanding of food waste management through a consumer perspective and whether they align with the food waste management policies of McDonald's.

2.2 Problem Statement

Food waste management is a phenomenon that affects the entire world with approximately 1.3 billion tons of food being lost annually. South Africa's food waste equates to approximately R61.5 billion annually (Marx-Pienaar et al., 2019:1). McDonald's has a responsibility to their consumers to ensure that the food waste they produce does not have a negative impact on their customers' health and on the environment (Matinise, 2019:26). McDonald's recognises this responsibility and have thus established global policies and goals to mitigate food waste in all franchises (McDonalds, 2020). Food waste generation causes a variety of significant implications for South Africa such as economic loss, an increase in food insecurity, loss of fertile land, loss of crucial food resources and an increase in pollution and environmental detriment (Avris, 2021). Matinise highlights the issue of consumer plate waste and how it is a contributing factor to overall food waste. He explains that plate waste is viewed as consumer-related food waste although strategies can be implemented by both consumers and restaurants to reduce it (Matinise, 2019:80).

2.3 Research Questions

The primary research question for this research has been posed as follows:

Do the McDonald's consumer perceptions of food waste management align with the food waste management policies of the brand?

Additionally, a set of sub-questions have been derived to assist in the research process. These questions include:

1. What food waste management practices do consumer households currently implement?
2. Is there a lack of food waste management awareness in South Africa among consumers?

The research questions of the study are important as it narrows down the topic to a focused area that the study can aim to address (du Plooy-Cilliers et al., 2014:65).

2.4 Research Objectives

The research objectives have the primary goal of understanding the phenomenon. For this study the research objectives are outlined below:

1. To gain a deeper understanding of what McDonald's consumers thoughts on food waste management are
2. To see what contributions they are making in mitigating food waste in their households (if any)
3. To gain new ways in which to manage food waste more holistically from a consumer perspective
4. To understand the relationship between consumer perceptions and McDonald's food waste management policies

2.5 Aim of the study

The aim of a research study represents the primary goal and purpose of the research. With existing literatures on food waste management looking at this phenomenon through different lenses and perspectives, there has not been extensive research done on the consumer perspective of food waste management. This research study has chosen to focus on the McDonald's brand as it is one of the biggest fast food companies in South Africa and one of the most popular inside of Cape Town (News24, 2017).

The aim of this study is to gain a deeper understanding of McDonald's consumer perceptions of food waste management specifically in Cape Town, South Africa and whether these attitudes align with the brand's current food waste management policies and projects. With the lack of food waste management literature within South Africa accompanied with the shortage of studies on the

consumer perspective of food waste, carrying out this research study seemed very necessary. The aforementioned research objectives provide the guide and outline on how this study will be accomplished successfully.

This research study will take the form of descriptive research approach – which falls under the Interpretivist research tradition. The overall purpose of descriptive research is to describe the characteristics of phenomena and the relationships that exist between different variables (du Plooy-Cilliers et al., 2014:75). Du Plooy-Cilliers et al. (2014:80) explain that the overall aim of a descriptive research is to draw comparisons, describe a situation or phenomenon systemically and provide information on things.

2.6 Research Rationale

The rationale of a research study is significant as it serves as the statement explaining how the researcher gained an interest in a certain topic and the reason why the researcher believes the study is necessary to pursue (Maree, 2019). Overall the research rationale acts as the justification of the research study's importance.

After critically discussing and assessing the current literatures on the topic of food waste management both globally and within South Africa, a prominent gap in the literatures began to show. Previous research studies have looked at the various problems within the topic of food waste management. Matinise (2019) for example aimed to understand waste management practices in the food service sector within South Africa while Jere et al. (2021) looked at the effect that food waste has on green retailing in South Africa. These two studies both conducted these studies through the perspectives of managers and higher staff members. Jere et al. made the recommendation to conduct a research study looking at consumer perceptions as it would provide a different perspective of the phenomenon (Jere et al., 2021:111). Matinise (2019:107) recommended the same thing saying that examining the reasons for food waste generation from a customer's perspective in a South African context would be an important area of potential research. Investigating the food waste generation and management from a consumer perspective is already gaining attention as potential research in the United Kingdom (Matinise, 2019:107).

That is the focus of this particular research study – it aims to investigate consumer perceptions of food waste management. For this study the chosen fast food brand is McDonald's as it is one of the largest companies within the fast food market in Cape Town, South Africa (News24, 2017). The focus of this research study is to see whether consumer perceptions of food waste management align with the current policies and projects of the McDonald's brand. This research aims to fill the gap in current knowledge and build on previous literatures.

This study looks to gain an understanding of food waste management through a consumer perspective and gather reasons for consumer food waste generation. This is an important area of research as it has not been covered before within the context of South Africa. With food waste being a global problem it is important to find answers or information that assist in finding solutions in order to minimize this problem.

3.1 Research paradigm

This research study will follow an interpretivist, qualitative design. This research paradigm will be undertaken as it is best suited to successfully conduct this research study. The interpretivist research paradigm aligns with the objectives of this research in aiming to understand consumer outlooks on food waste management (Gemma, 2018:8). Interpretivism is built on the notion that truth and knowledge is subjective therefore based on people's experiences and their understanding of these experiences. With this research aiming to understand the perceptions of consumers on the phenomenon of food waste management it is best to undertake an interpretivist, qualitative design (Gemma, 2018:8). Gemma (2018:8-9) explains that there are four main approaches within the paradigm of interpretivism. Gemma further explains that *Verstehen* is an interpretivist approach that focuses on the understanding and perception of research participants from their view to understand why a phenomenon exists or why participants behave in the way that they do (Gemma, 2018:9). This interpretivist approach is seen as most feasible for this proposed research as it intends to understand the phenomenon of food waste management from a consumer standpoint (Gemma, 2018:9).

The author Pham (2018:3) explains that through the research method used an interpretivist researcher is able to probe things that cannot be observed such as a participant's thoughts, views, perceptions, feelings and perspectives. These aspects are important in understanding the behaviour of consumers in terms of food waste generation and it enables the research to investigate the thoughts of consumers on the matter.

3.2 Research Approach

This research will make use of a qualitative research approach in an attempt to gain a deeper understanding of consumer perceptions. This research study will investigate thoughts and perspectives of consumers on the phenomenon of food waste management. Teherani et al. (2015) explains that qualitative research can be described as an investigation into a social phenomenon within the natural environment. This includes the lived experiences of individuals, how people or groups behave and how organisations function (Teherani et al., 2015). The qualitative research approach focuses on answering the questions of 'what', 'why' and 'how' rather than those of 'how many' and 'how much' that exists in quantitative studies (Tuffour, 2017:1). Qualitative research primarily focuses on describing, exploring, interpreting and understanding rather than measuring and counting. This research study will be a qualitative study as this approach will be more effective in achieving the set out objectives of this research study.

3.3 Data collection Method

This proposed study will collect its data through online questionnaires created through Google forms. These electronic questionnaires will be made up primarily of open-ended questions along with a few closed-end questions. The reason behind the heavy focus placed on the open-ended questions is to ensure the necessary data for this research is obtained. An open-ended question refers to a question whereby there are no options provided to participants to choose from (Dawer, 2019). Instead, it is informative and allows participants to express their thoughts and viewpoints through freestyle answers such as sentences and stories. Participants have been enabled to fully express their thoughts and opinions with great freedom (Dawer, 2019).

There are many advantages of using open-ended questions, these include:

- Provides real customer insights

- Allows a wide variety of answers
- Enables demographic information to be obtained
- Can provide detailed information
- Provides valuable qualitative data

By using open-ended questions it provides researchers with detailed information related to the particular study. Open-ended questions provides great advantages to a qualitative research study as participants are able to express detailed answers outlining their thoughts, beliefs and standpoints (Dawer, 2019).

Open-ended questions also generate real customer insights as participants are able to explain their experiences, perceptions and attitudes towards the phenomenon, in this case it would be food waste management (Dawer, 2019).

A major difference between closed- and open-ended questions is that there is a wide range of answers that participants can write. Participants are given the freedom to write while the researcher is able to gain rich, valuable data from participant answers (Dawer, 2019).

The most important advantage of using open-ended questions is that it enables qualitative data to be collected by researchers. These questions enable researchers to gather the opinions, perspectives and viewpoints of participants (Dawer, 2019).

For this proposed research study, using electronic questionnaires with primarily open-ended questions will be the most efficient research instrument in achieving this study's objectives. By using an online questionnaire it makes it easy to distribute to the participants especially in the light of the Covid-19 pandemic. The online aspect of the questionnaire is also beneficial as it can reach a larger target group of McDonald's consumers. By using online questionnaires it makes it easier to find participants for this study (Dawer, 2019). With semi-structured or in-depth interviews a smaller group of participants would be used due to the time-consuming nature of these interviews. A potential problem that could be incurred is the lack of willing participants to partake in an interview as it is a tedious process (Dawer, 2019).

3.4 Population

A population can be defined as the total group of people from which information is needed. The population is necessary to determine what group of people would best help in achieving the research objectives and best answer the research question (du Plooy-Cilliers et al., 2014:132). The population that this research study is targeting are McDonald's consumers that reside in Cape Town, South Africa who fall into the age range of 18-60 years of age. This age interval was selected as it allows younger and older participants to be partake in this research study which allows the study to evaluate whether the age demographic plays a role in the different perceptions of food waste management amongst the targeted population. A lot of value can be obtained from the age demographic to assess whether participants of similar age share similar perceptions or thoughts (Cleave, 2020). Behavioural traits or patterns can also be identified by looking at the age of the participant in the study (du Plooy-Cilliers, 2014:133).

3.5 Unit of Analysis

For this research study, the unit of analysis is human being more specifically McDonald's consumers that reside in Cape Town, South Africa who between the ages of 18-60 years old.

3.6 Population parameters

Du Plooy-Cilliers et al. (2014:132) explain that the shared characteristic and number of people within a population is known as the population parameters of the research study. Population parameters thus refer to the nature, size and distinct characteristics of the population (du Plooy-Cilliers, 2014:132).

For the proposed research study the following population parameters have been identified:

- Enjoys eating at fast food outlets or ordering take-out from these outlets
- Must have some awareness of the McDonald's brand
- Has consumed McDonald's food products before
- Resides in Cape Town

3.7 Sampling

For a qualitative research study non-probability sampling methods are used (Maree, 2019). A significant difference between probability sampling and non-probability sampling is the focus of the study is not on the number of participants partaking in the study but rather the number of artefacts needed to be analysed to gain an in-depth understanding of the research problem being explored (du Plooy-Cilliers et al., 2014:137). Du Plooy-Cilliers (2014:137) explain that for qualitative studies there will be a point where participants are not providing new information and that everything being said has been mentioned before. This is known as data saturation. Therefore, in qualitative research studies the focus is not on ensuring the sample size is large enough but more on including a sufficient amount of participants in the sample so that the data saturation point is reached (du Plooy-Cilliers et al., 2014:137).

For this research, the researcher will distribute the online questionnaire to willing participants and these participants will be selected according to the following criteria:

- Between the ages of 18-60 years old
- Must have some awareness of the McDonald's brand
- Has purchased McDonald's food from a delivery application such as Uber Eats, Mr Delivery, McDonald's app, etc.

Non-probability sampling will be implemented in this research study as this study follows a qualitative research design. The findings gathered from non-probability sampling are not used to generalise results to the larger population (du Plooy-Cilliers et al., 2014:137). The results of the research study will not be generalised as each individual within the population does not have a fair chance at being selected for the sample (du Plooy-Cilliers et al., 2014:138). The sample will be selected on the basis of time constraints, financial situation and the specific data collection and analysis approaches undertaken (Maree, 2019).

3.8 Sampling Method

Non-probability sampling methods will be undertaken for this research study as there will be no generalisation made for the larger population (du Plooy-Cilliers et al., 2014:142). Convenience sampling will be implemented as the sampling method for the proposed study. A convenience sample includes individuals who

are most accessible and available to partake in the research. This method of sampling is viewed as an inexpensive and easy way to gather data but there is no way of telling whether the sample is representative of the population, therefore a generalizable results cannot be produced from the study (McCombes, 2019). Convenience sampling was selected for this study as it is affordable, data can be gathered within a reasonable timeframe and it is easy to use and follow (McCombes, 2019).

3.9 Sample size

This research study will aim to gather responses from 30-40 participants. This selected number of participants allows for a vast amount of opinions, thoughts and experiences to be collected to enable the research to achieve the goal of data saturation and gain the deeper understanding of consumer perceptions on food waste management.

3.10 Data Analysis

Qualitative data analysis involves data being transformed into findings by the researcher. The transformation is made possible by the researcher describing and identifying the different patterns of meaning that exist within the collected data (du Plooy-Cilliers et al., 2014:229). Qualitative data refers to non-numeric information which include notes, video or audio recordings, images and text documents (Dudovskiy, n.d.). Qualitative data analysis is seen as the process of bringing structure and meaning to the bulk of data collected (du Plooy-Cilliers et al., 2014:232). For the proposed research study, the data analysis method implemented will be that of content analysis. Content analysis is the process of categorising behavioural or verbal data to tabulate or summarise this data (Dudovskiy, n.d.). Content analysis is a method whereby themes, concepts and certain words are identified within the qualitative data. Content analysis allows the researcher to analyse the meanings and relationships of these themes and concepts that exist within the given data collected through open-ended questionnaires or interviews (Hsieh & Shannon, 2005:1278).

3.11 Timeframe

The data collection process will occur from the week of the 13th of July until the 20th of July. This will provide the researcher with an adequate time to analyse the collected data and come up with efficient conclusions from the findings.

4.0 Presentation of findings

The data and findings were collected through the method of an online questionnaire which consisted of a combination of open- and closed-ended questions that respondents needed to answer. The online questionnaire had a total of 16 questions made up of 9 closed-ended questions and 7 open-ended questions. Although closed-ended questions are primarily used in quantitative research and open-ended are used in qualitative research, this is not an absolute rule (Fauvelle, 2019).

Closed-ended questions offer a certain amount of answers for respondents to select. This can range from pre-written answers that a respondent is able to select as well as "yes" or "no" answers. Their purpose is to provide a clear and easily identifiable answer (Fauvelle, 2019). Closed-ended questions can be worked into interviews and questionnaires used in qualitative research. There are two types of closed-ended questions that exist. The first is specific closed-ended questions where participants are offered choice answers and the second type is implicit closed-ended questions which involves assumptions about the answers that can be provided by participants (Fauvelle, 2019).

Some researchers believe that the use of closed-ended questions can be restrictive while others see it as a way of generating unique data and findings when used in conjunction with open-ended questions (Fauvelle, 2019).

The questionnaire has used a combination of open- and closed-ended questions to generate different data. Open-ended questions were implemented to allow participants the freedom to express their thoughts, beliefs and experiences on the topic of food waste management. Specific closed-ended questions were also included in the questionnaire to provide participants with choice answers to ensure that they did not misunderstand the question and provide an answer that was not relevant to the question (Fauvelle, 2019).

.The questionnaire used to collect data was constructed on Google Forms which enabled the researcher to view all the responses while ensuring participants remained anonymous. Google Forms also allows collected data to be presented in visual form and allows the researcher the option to view responses in summary or individually (per respondent) (Fauvelle, 2019).

4.1 Participant Demographics

All graphs were made on the website Canva and has been cited in the reference list below

Figure 1: Graph showing the different age categories that respondents fall into

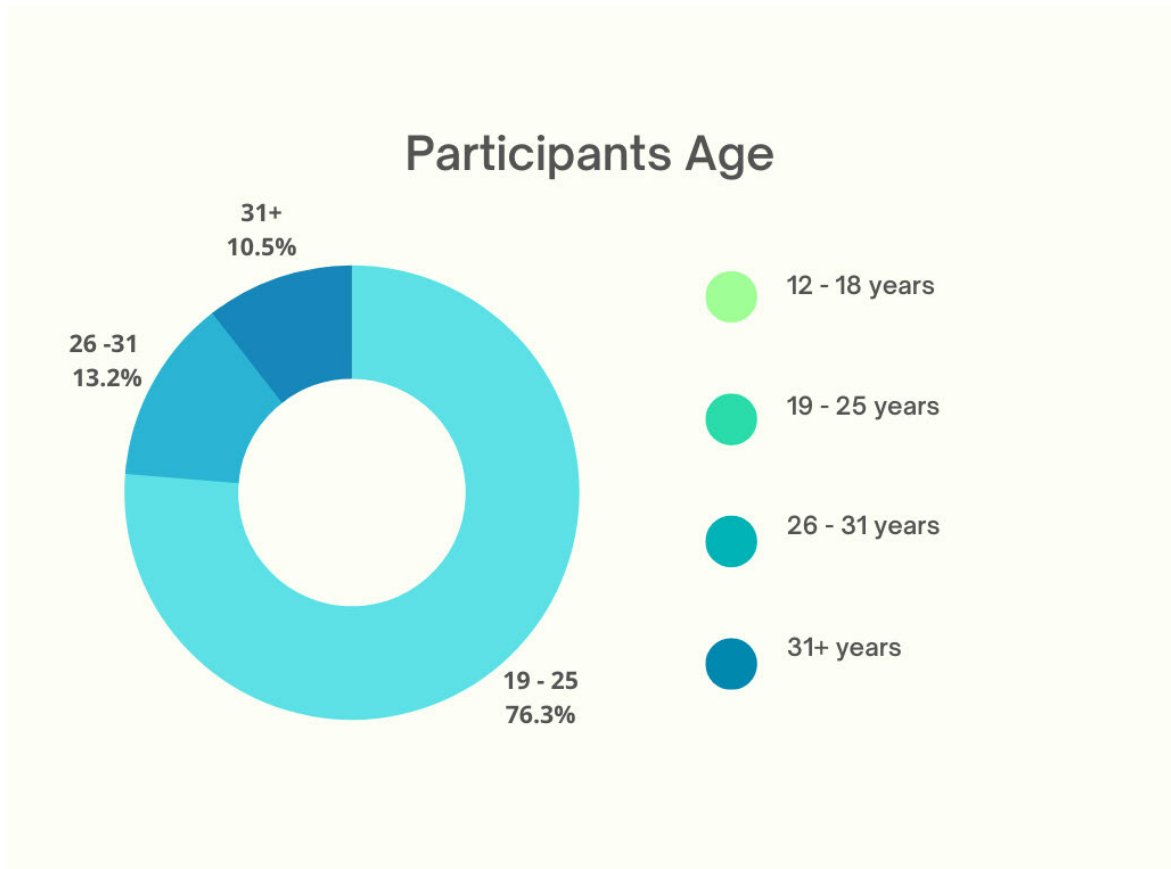


Figure 2: Graph showing all participants reside in South Africa

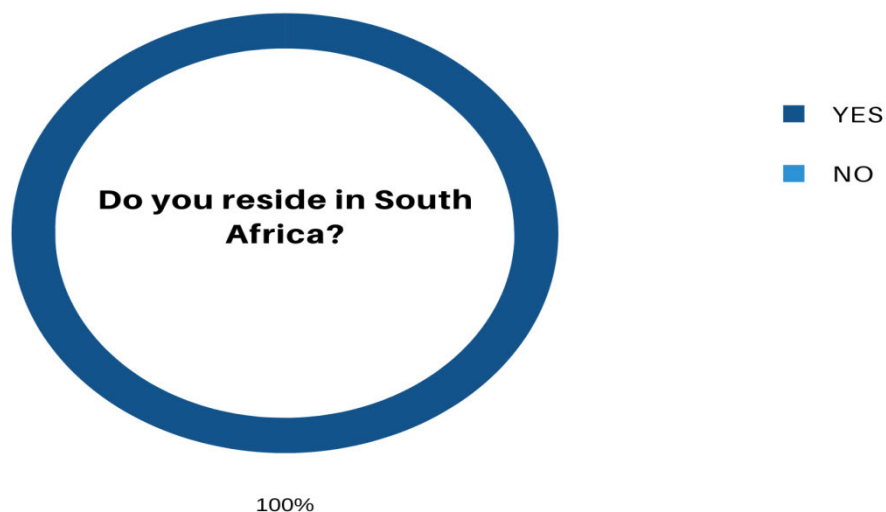
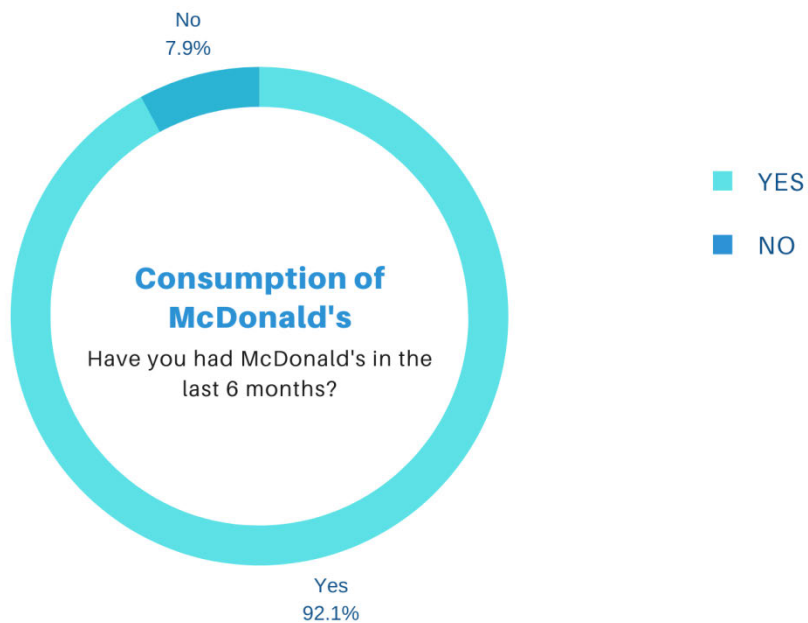


Figure 3: Showing whether participants have eaten McDonald's in the previous 6 months. With the respondents that have selected no, their responses were still taken into account as they still had sufficient knowledge about the McDonald's brand



4.2 Participants understanding of food waste management

Table 1: Participants' defining the term "food waste management" in their own terms answering question 5

	Participant Responses
Q: How would you define the term "food waste management" in a simple sentence?	"An approach that looks to decrease the amount of food that goes to waste, rather than being used"
	"Instilling systems to apportion food waste (left overs/off cuts etc) to avoid disposal"
	"Food waste management would be the management of trying to minimise the wastage of food. A good example would be saving vegetable scraps to improve the quality of the soil in your garden."
	"The supervision and control over how much is wasted when preparing and consuming meals."
	"I'm not sure exactly. Perhaps managing wasted food Irdk."
	"The reduction, recycling or reusing or food waste"
	"An approach that looks to decrease the amount of food that goes to waste, rather than being used"

Figure 4: Showing the opinions of participants on whether food waste is an important problem within South Africa



Figure 5: Participants response to whether they remove their garnish off their McDonald's meal or not

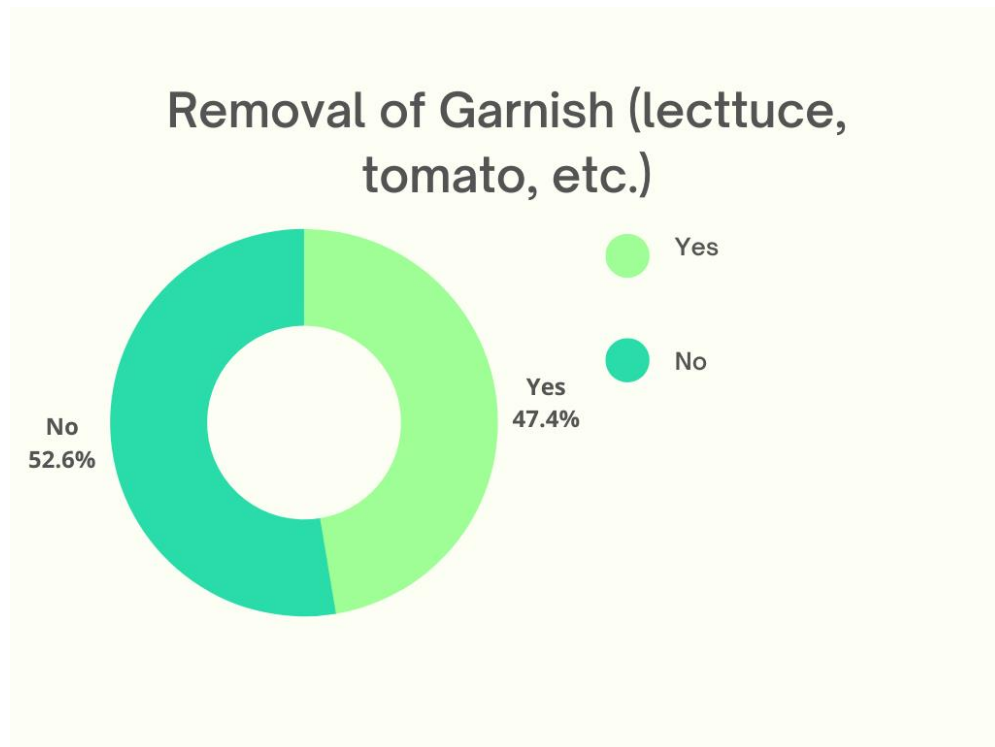


Table 2: Highlighting participants' responses to Q7 in the questionnaire on what happens to their removed garnish

	Participant Responses
Q: If you remove any garnish off your meals, what usually happens to the removed garnish?	"I put it aside temporarily and once I have completed eating my full meal I dispose of it with the packaging of the meal, normally in the burger box."
	"I would simply throw it away."
	"Not 100% sure however I would hope it goes unused and used in future meal."
	"I would simply dispose it/throw it away. Therefore, I would be wasting it, as it could be used in a better way."
	" I discard it"
	"Usually given to the people in the family that do eat it"
	" I either ask to remove it or I throw it away when I forget to ask to remove it"
	"I throw it away."

Figure 6: Respondents answers to Q8 posed in the questionnaire asking what generally happens to leftovers of meals that are not finished at restaurants

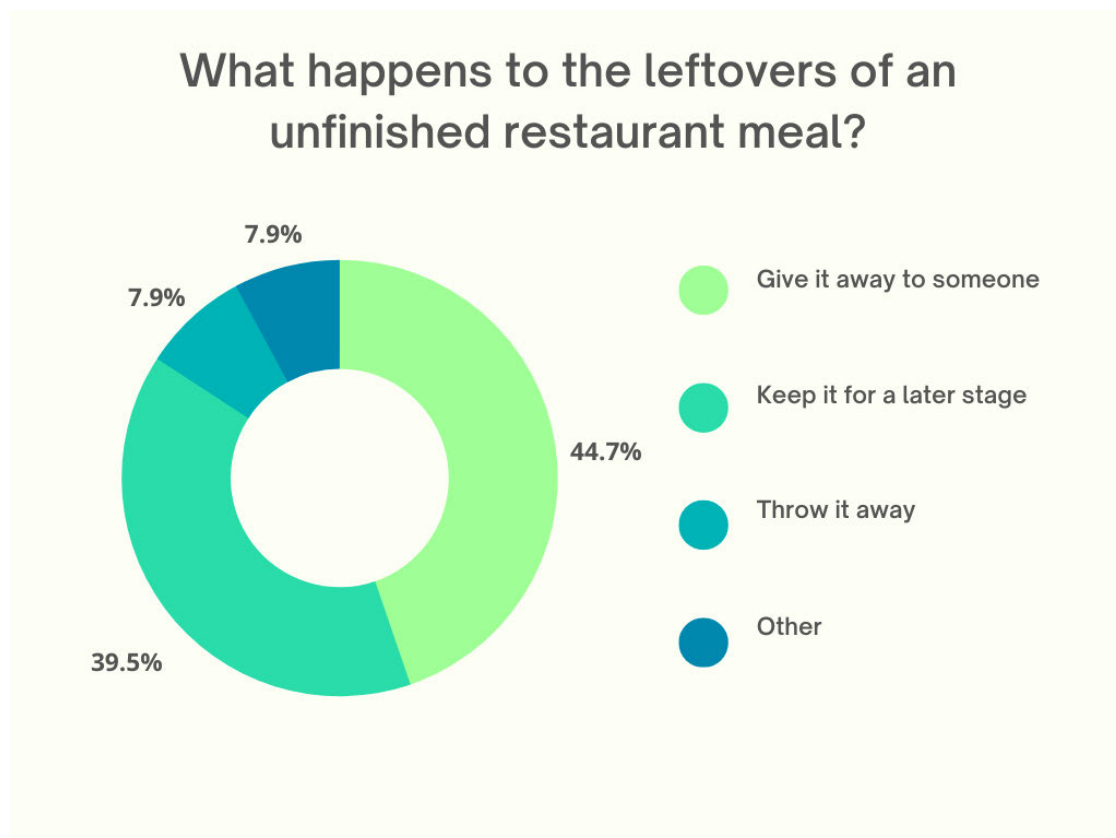


Table 3: Participants' responses explaining their knowledge on McDonald's food waste management policies and goals

	Participant Responses
Q: What is your knowledge on the current food waste management policies and goals of McDonald's	"None"
	"No idea"
	"Very limited"
	"I have no knowledge of any policies"
	"My knowledge of wasted food has environmental, economic and social implications. When you waste food that could have been eaten, you are also wasting the natural and human resources that were used to grow, produce, process and transport that food. I don't ever heard or read any policies of McDonald's yet and would like to read into this"
	"I have no knowledge on it, but also have not gone to the extent on learning about it."
	"I have zero knowledge on the food waste policies at Mcdonalds"
	"No idea. But I assume that everything gets thrown in the trash if it is not used and that there is no real policies on food waste management with fast food restaurants such as McDonald's."

Table 4: Participants' responses to the question asking about suggestions that McDonald's could do to reduce food waste

	Participant responses
Q: What suggestions would you want to see implemented in fast food restaurants to reduce food waste?	"That if people did not finish their food the fast food restaurant would have a system to give the food to homeless people especially in winter when it's cold"
	"A way of donating leftovers to people who need food."
	"To create more information and awareness programme in every fast food Resturants with small posters (information and reminder about reduce food waste) and also especially to pre- schools, primary schools , high schools and universities info shared and awareness too"
	"Promoting the practice of giving your food to homeless. Restaurants should constantly be reviewing and adjusting their proportion size to reduce food waste of customers."
	"Using biodegradable packaging"

Figure 7: Consumer thoughts on the question posed on whether there is a lack of awareness on food waste management

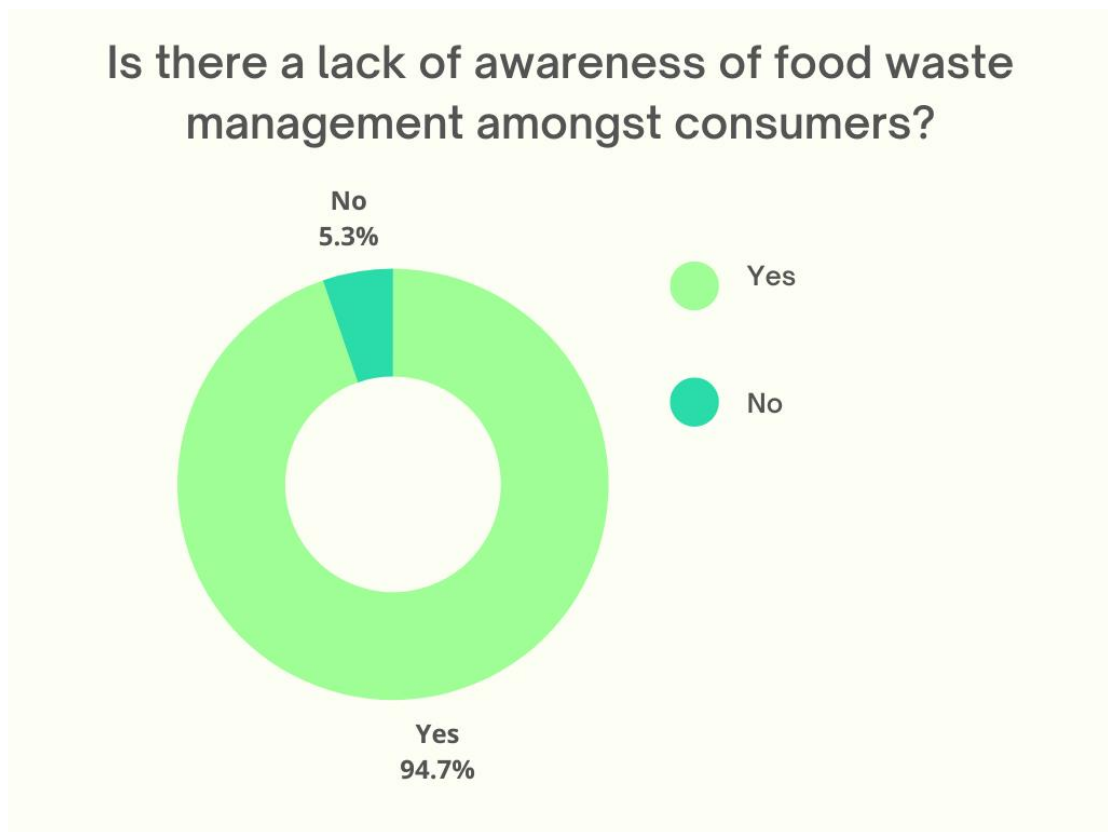
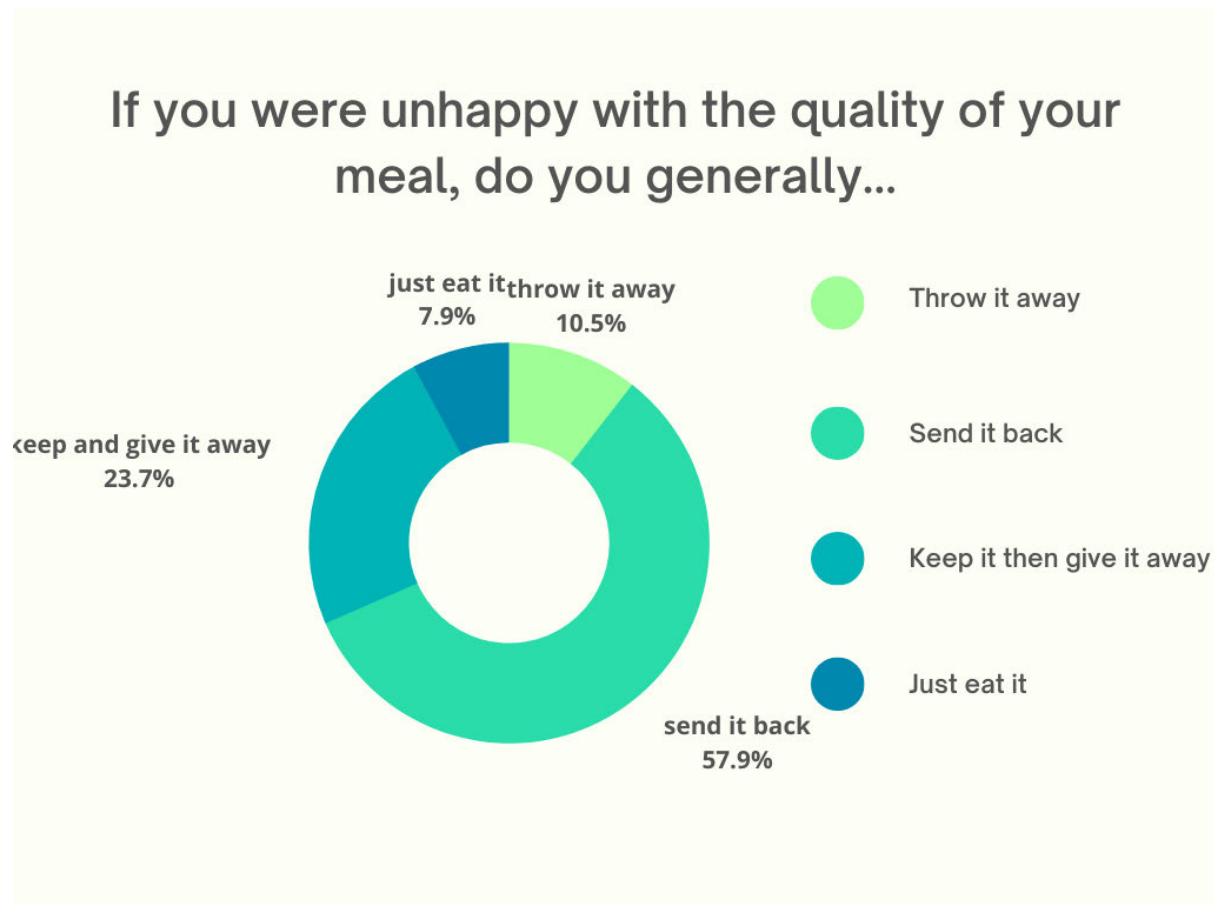


Table 5:

	Participant responses
Q:What more can fast food restaurants do to ensure consumers partake in reducing food waste?	"Be more public about their policies"
	"They should run awareness campaigns that focus on the adverse effects of food waste mismanagement, and what they (McDonald's) are doing to combat it and what we (the community) can also do in our individual lives. It should also highlight the benefits of proper food waste management. Basically, more focus should be done in the impact of food waste management and less so and what it actually is (i.e., defining it)"
	"Having awareness programmes or reminders about food wastage would make a big difference as there is currently little to none in place."
	"Definitely use incentives"
	"If they finish their meals inside the store they collect a sticker and maybe after 10 stickers they get a free meal or something"
	"Use it as rewards system Because it gets people's attention , spreads awareness and starts conversations"
	"New slogan ' Plan your meals and shop smart' and most important is that ' Learn how to read expiration dates' to avoid food waste"
	"I think that humans are very selfish creatures and in order for them to make an effort that requires more of them one needs to incentivize them to make the "right" choice. I also think that restaurants could raise awareness because most people aren't consciously aware of this food waste phenomenon. Show customers the lifecycle of food from production phase to the end."
	"A good way to ensure this would be by using rewards as an incentive so that people earn or feel good for not wasting food. In that way, there would be a reduction on food wastage and food wastage can be managed well."
	Use eco-friendly packaging and sustainable produce, cook food to order as well ""

Figure 8: Respondents answering the final question of the proposed questionnaire explaining what they would do if unsatisfied with the quality of their restaurant meal



5.0 Interpretation of findings

Food waste being a problem worldwide has placed pressure on many fast food restaurants to establish effective management practices to reduce food waste and manage leftover food in a more holistic way. The reason behind food waste being a global concern is due to the increasing number of food insecure people around the world, the nutrition and resource inputs lost with wasted food and the negatively environmental effect of food waste (Jere et al., 2021:96). In South Africa, pressure has been increased on industries to reduce food waste and be conscious of their impact on the environment. Legislation such as the National Environmental Management Waste Act (2008) and National Waste Management Strategy (2020) have been put into place to provide support to waste management efforts (Jere et al., 2021:96). Jere et al. (2021:111) has highlighted that their study was focused on understanding the causes of food waste and the practices being used to alleviate the problem but explains that understanding consumer perceptions of retail food waste would provide a different perspective of the phenomenon. This recommendation is backed up by Matinise (2019:107) stating that future research should seek to investigate a customer's perspective of food waste generation and understanding current customer's food wasting behaviour. Therefore, this qualitative research study focused on the consumer perceptions of food waste management and aimed to see whether consumer thoughts aligned with McDonald's current waste management policies and goals.

The following themes have been identified by using the content analysis approach in analysing the data collected from the online questionnaires. Through the content analysis of the results four main themes have been identified, which include (1) Lack of awareness and knowledge on food waste management, (2) Food waste generated by consumers, (3) Food waste management methods implemented by consumer households

5.1 Theme 1: Lack of awareness and knowledge on food waste management

The first theme identified from the collected data is lack of awareness and knowledge on food waste. This theme refers to consumers having a lack of awareness on the phenomenon of food waste and the importance of having some sort of food waste management practices in place. One of the questions

posed in the questionnaire aimed to find out how respondents would define the term “food waste management” in a simple sentence to measure their level of understanding of the phrase. These responses are depicted above in table 1. This question aimed to investigate the respondents’ level of understanding of the term. Most respondents had a good idea and understanding of what food waste management was with a 32 out of the 38 participants (84.21%) providing a good explanation of food waste management. The 6 other respondents was unsure about the term. A significant number of respondents expressed that they believe that food waste is a serious problem in South Africa – with 35 respondents (92.1%) saying they believed it is a problem and 3 respondents (8.57) stating they don’t believe it’s a problem. None of the respondents partaking had any sort of knowledge on the food waste management policies and goals of McDonald’s with some respondents saying:

“None, in terms of McDonald’s. I regard them as a very unsustainable brand that contribute to a lot of landfills” – Anonymous respondent

“I have no knowledge of any policies” – Anonymous respondent

Respondents also suggested that there needs to be an increase of awareness around the phenomenon of food waste and placing a greater importance on effective management practices of food waste. Many respondents called for fast food restaurants such as McDonald’s to educate their consumers on food waste management as this would make consumers more conscious and considerate in in future situations. This can be seen in the respondent’s response below:

“To create more information and awareness programme in every fast food Restaurants with small posters (information and reminder about reduce food waste) and also especially to pre- schools, primary schools , high schools and universities info shared and awareness too” – Anonymous respondent

Creating awareness and educating consumers through awareness campaigns can combat the existing wasting behaviours of consumers. From research studies conducted, it can be said that a significant amount of food waste occurs at a consumer level. According to Chinie, Bellini and Biclesanu (2021:13) awareness campaigns promoting the reduction of food waste could have a positive impact on consumers and limit their quantity of waste food. The lack of awareness on

food waste management in fast food restaurants such as McDonald's is doing a disservice to its consumers as it is not educating them on the food waste phenomenon and enables them to contribute to food waste generation. By McDonald's promoting their food waste management policies and goals to the public it also spreads awareness and shows McDonald's consumers that the brand is a holistic and meaningful brand.

Majority of the respondents of the questionnaire expressed that they believe there is a lack of awareness among consumers on the seriousness of food waste with 36 respondents (94.7%) agreeing that there is a lack of awareness and 2 respondents (5.3%) disagreeing. This is shown in figure 7.

5.2 Theme 2 – Food waste generated by consumers

Food is wasted and lost all along the food supply chain but a great deal is wasted by consumers due to lack of awareness on the topic. Approximately 931 million tonnes of food was wasted worldwide in 2019, 61% occurred in households, 26% in food services and 13% in retail (Chinie et al., 2021:3).

One question posed to participants in the questionnaire asked if they usually remove any garnish from their McDonald's meals. This question was asked as food waste goes further than just disposing of a leftover meal but also includes tomatoes, pickles and lettuce (garnish). Consumers might not realise by ordering a meal and removing the garnish themselves they are contributing to food waste. A follow-up question was asked to participants asking "If answered yes to the previous question, what usually happens to this removed garnish?" with majority of respondents stating that they usually dispose of the garnish themselves by either putting it on one side of the meal box and disposing it altogether. This can be seen in some of the quoted responses below:

"I put it aside temporarily and once I have completed eating my full meal I dispose of it with the packaging of the meal, normally in the burger box." – Anonymous respondent

"I would simply dispose it/throw it away. Therefore, I would be wasting it, as it could be used in a better way." – Anonymous respondent

This question was included to investigate whether consumers contributed to food waste by disposing of the garnish off their meal. For this question only 18 respondents (47.4%) expressed that they removed garnish off of their meal while 20 respondents (52.6%) explained that they do not remove anything.

A small percentage of participants (7.9%) expressed that if they were unable to finish a restaurant meal that they would just dispose of it with the majority of respondents saying that they would either keep the leftovers to eat at a later stage (39.5%) or give it away to someone else (44.7%). This can be seen in figure 6. This shows that respondents' initial thoughts in dealing with leftovers is not to just dispose of it but to rather give it away to someone else or to keep it and consume it at a later time. In turn this shows that participants usually have two preferred alternatives to just wasting restaurant meals.

Respondents' lack of awareness and knowledge has contributed to their food wasting behaviours. This can be seen in the answers to the final question of the questionnaire which asks respondents what they generally do when they are unhappy with the quality of their ordered meal with 57.9% of respondents saying they send it back, 23.7% saying they keep it then give it away, 10.5% saying they throw it away and 7.8% saying they just eat it anyway. With more than half of respondents saying that they send their food back if they are not satisfied with the quality, this indirectly adds to food waste as the restaurant will not be able to serve this meal to a future customer and therefore would need to dispose of it. Restaurants throw out around 85% of unused food which is made up of uneaten plate food and food that has not been sold (Garrido, 2020).

There is a link between themes 1 and 2 as lack of awareness and knowledge increases the likeliness of food wasting behaviour of consumers. This point has also been raised by Chinie et al. (2021:10) where they state that people who have come across awareness campaigns regarding food waste had the tendency to reduce food waste while people who are not familiar with food waste awareness campaigns had more of a tendency to not take any action in reducing food waste. Chinie et al. (2021:13) explains that awareness campaigns promoting the reduction of food waste could have a positive impact on consumers' initiatives in limiting their contribution to the amount of food waste. This is further backed up by Boyle, in saying that a lack of awareness about the

effect of food waste is leading young adults. Aged 18 to 24, to waste more food than any other food group (Boyle, 2018). The research study conducted by Chenie et al. has shown that there is a significant association between individuals' familiarity with awareness campaigns and their choice to take action in preventing food waste (Chenie et al., 2021:13).

5.3 Theme 3 –Food waste management methods implemented by consumer households

Some of the main causes of food waste amongst consumers would include offering the family ample and more than enough food, the lack of awareness and information, the desire to minimise inconveniences, refusing to buy food that does not look ideal anymore and buying more food than is needed and not eating it in time (Chinie et al., 2021:2). There needs to be more holistic approaches undertaken by consumer to reduce the quantity of food waste.

Some questions were included in the online questionnaire that aimed to examine what food waste management practices consumers use within their households and what improvements they would like to make to these practices. Another question posed to respondents was what suggestions they would want to see implemented within fast food restaurants such as McDonald's. There were three recurring answers that respondents kept bring up which included food donation systems, proper proportioning and consistency and creating a compost garden or composting leftover food scraps.

The respondents suggesting that McDonald's should have a food donation campaign or food drive introduced to deal with the leftover food and uneaten food that has not been sold during the day. Many respondents stated that they would like McDonald's to donate all leftover food to either homeless individuals within the community, overnight shelters for the homeless and children's homes. Food Donations provides McDonald's with the opportunity to broaden their current charities which includes the Ronald McDonald House Charity, the Ronald McDonald Care Mobile, etc. (McDonald's, 2022). Donating food to underprivileged communities would also benefit the brand as it allows restaurants to benefit from tax-saving incentives. Donating food also allows the brand to gain marketing benefits. McDonald's could also donate surplus food to

donor companies and this will also grant them tax reductions as an incentive (Bierma et al., 2019:20).

Another suggestion provided by respondents was fast food restaurants providing proper proportioning referring to the food meals. Respondents have said that there is a lack of consistency with McDonald's proportioning and one respondent provided an example of what they are referring to when talking about proper proportioning saying "Weighing a specific amount of fries based on size instead of scooping fries into different boxes. Another example would be weighing off a certain amount of garnish before putting it on burgers". Portion control refers to the procedure that defines the quantity needed for a meal and serving it to customers. The biggest advantage of portion control is the reduction in food waste as the overserving of food leads to wastage and ultimately higher food costs (Gyaan, 2017).

Creating a compost garden was also brought forward as a suggestion for the brand to implement to reduce the quantity of food waste of McDonald's but with the brand already sending their leftover food for composting, anaerobic digestion and rendering (McDonald's, 2022).

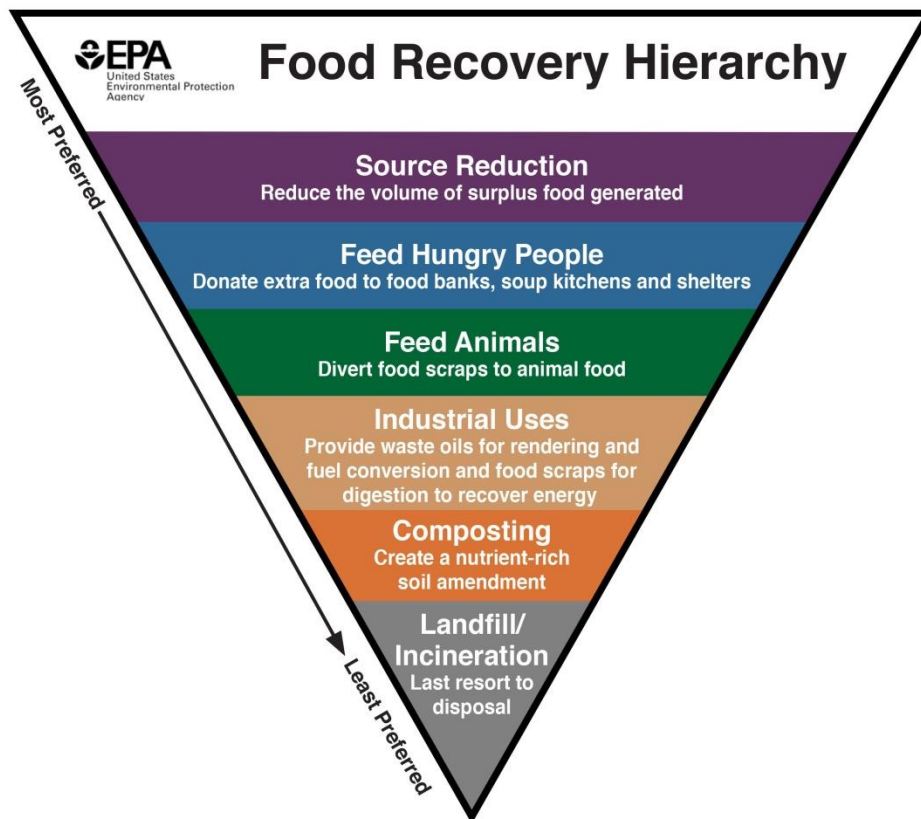
Two pivotal questions posed to participants was asking what are their households currently doing to reduce the quantity of wasted food and what improvements they could do to lessen their contribution to food waste. Respondents' answers were almost identical to what their suggestions to fast food restaurants, with the major answers being increasing food donations and starting a compost garden. There were some respondents that explained that their household does not do much to reduce food waste but aimed to improve on it moving forward.

A significant amount of respondents provided the answer of donating food to the less fortunate and giving away leftovers to those in need as methods they are currently implementing to combat food waste. This interestingly is the same suggestion respondents had for fast food restaurants in dealing with their wastage. With the number of persons experiencing hunger at a staggering 6.8 million in South Africa, households should opt to donate leftovers or uneaten food instead of disposing of it (StatsSA, 2019).

Composting was a popular answer that participants said they do at home and would aim to implement as an improvement to reduce food waste. Composting refers to the natural process of recycling organic matter which includes food scraps, leaves, vegetable scraps and turning this matter into fertiliser for plants and soil. Composting breaks down food and other biodegradable products in a way that doesn't let off methane which would usually occur when organic matter is put into landfills (Webster, 2019). Composting returns food waste back to the environment and it serves as a useful method to wasting food. One respondent provided what waste they use for their compost: "We use the scraps for my compost bin, when making anything with eggs I rinse the egg shells and crush them for my plants and I save chicken bones and grind them into bone meal for my plants" – Anonymous respondent.

It is interesting to see that the answers provided by respondents to the questions of what their current food waste management practices are and the improvements that could be made were related to the food waste hierarchy. The food waste hierarchy model provides actions that businesses and organisations can implement to prevent wasted food. Each level of the model looks at different management strategies for food waste (Food Recovery Hierarchy, 2021). The main food waste management strategies used by consumer households was food donations and composting which make up the second and fourth level of the food waste hierarchy model respectively. Landfill and the disposal of food makes up the last level of the model as it is the last resort.

Figure 9: Food waste recovery hierarchy (obtained from the United States Environmental Protection Agency)



6.0 Research Questions and Objectives Addressed

The purpose of conducting this research study was to investigate and understand the consumer thoughts and perceptions of food waste management. With the limited amount of literature on the topic of food waste management context this research study aimed to focus on the consumer perspective of food waste and to identify the holistic management practices undertaken by consumers.

This section of the study examines how the results have answered the research questions and how the research objectives were reached.

6.1 Primary Question

Do the McDonald's consumer perceptions of food waste management align with the food waste management policies of the brand?

From the findings gathered it can be said that the consumer perceptions of food waste management does not align with the food waste management policies of McDonald's yet but it is on its way to improving. Many respondents explained that their household does not do much in reducing the quantity of food waste but it can be deduced that this is due to the lack of awareness surrounding food waste management. McDonald's has many policies in place to reduce their food wastage and have set out goals to further reduce their contribution to food waste. Although South African consumers have mentioned the practices of food donations and composting as management methods, a great deal of respondents said they are currently not implementing any effective management practices. However a positive from this is that consumers have identified specific improvements, namely start composting and giving away leftovers more often, which can be undertaken to mitigate food waste. Also this may hold true based on the findings and sample, it may not be applicable for the entire South African McDonald's consumer market.

6.2 Sub-questions

1. What food waste management practices do consumer households currently implement?
2. Is there a lack of food waste management awareness in South Africa among consumers?

From the answers provided by respondents the currently food waste management practices implemented by households include that of food donations and giving away uneaten leftovers as well as using wasted food in compost gardens. In answering the second question, it can be said that there is a lack of awareness of food waste management amongst consumers in South Africa. This is evident as many respondents called for an fast food restaurants such as McDonald's to create awareness on the topic and include it more in campaigns and advertising. A question within the questionnaire also asked participants if they believe there is a lack of awareness between consumers on food waste with 94.7% of respondents providing saying yes and only 5.3% saying no.

7.1 Trustworthiness

The purpose of qualitative research is not to find out causal relationships or generalise results to a large population – instead qualitative researchers aim to provide an in-depth understanding of a phenomenon (du Plooy-Cilliers et al., 2014:253). Trustworthiness can be broken down into credibility, transferability, dependability and confirmability.

Credibility refers to the accuracy of the researcher in interpreting the data collected from participants of the research. Credibility is increased when the findings are believable from participants' perspective (du Plooy-Cilliers et al., 2014:258). Credibility will be upheld within this research study as the data will be interpreted and analysed thoroughly. The data collected will also be sourced from 30-40 participants to ensure data saturation is reached and to ensure recurring themes are identified (du Plooy-Cilliers et al., 2014:137).

Transferability is concerned with the ability of the findings to be applied to a similar situation and producing similar results. Transferability is seen as the degree to which the analysis and results can be applied beyond the proposed research study (du Plooy-Cilliers et al., 2014:259). To ensure transferability the population, sample and selected brand has been clearly identified which enables the findings to be applied to a similar situation and generate similar results.

Dependability is concerned with the quality of process of integration between the data collection method, data analysis and theory generated from the data. Dependability refers to the reliability and consistency of the research findings and the way in which the research procedures are documented to enable someone outside the research to follow it (Moon et al., 2016:17). To ensure dependability of the research, the research design and implementation will be documented by the researcher – this includes the methodology, methods and details of the data collection (Moon et al., 2016:17).

Confirmability refers to how well the collected data support the findings and interpretation of the researcher. Others assessing the data must come to similar conclusions as the researcher (du Plooy-Cilliers et al., 2014:259). To achieve confirmability the researcher must show that the results are linked to the conclusions in a way that can be followed (Moon et al., 2016:17). For this research study a detailed methodological description will enable readers to determine confirmability by showing the way in which the results link to the conclusions.

7.2 Feasibility of the research

The proposed research study is feasible as it has not been conducted before amongst the current existing literatures on the topic of food waste management. The authors Matinise (2019) who conducted their research study on *Understanding waste management practices in the commercial food sector* explained in their recommendations that conducting a research study assessing the food waste management through the perspective of a consumer would provide a different viewpoint of the phenomenon (Matinise, 2019:107). Conducting research centred on understanding the consumer perspective of food waste management would provide a unique perspective to consider when examining the phenomenon. This research study is also feasible as it could highlight overlooked factors that exist within Cape Town, South Africa such as the limited awareness surrounding the food waste management.

7.3 Ethical Considerations

Ethics plays an important role within research as it is seen as the professional code of conduct that sets a standard for behaviour (du Plooy-Cilliers et al., 2014:263). To ensure that this research study was ethically sound specific ethical principles were followed which include respect for persons, Beneficence and justice (The Belmont report: ethical principles and guidelines for the protection of human subjects of research, 1978:1).

To protect participants the following measures will be put into place:

- Confidentiality and anonymity of the participants will be upheld throughout the research.
- To keep private information provided secure.
- Informed consent will be ensured before conducting any research – detailed form will be signed and agreed upon prior to participation.
- Proper language or behaviour will be used to avoid any harm.
- Contact details of the researcher will be provided if any participant feels as if they would no longer be part of the proposed research – ensuring participants are comfortable.

7.4 Anticipated contributions of the study

The proposed research study is necessary as it is looking at the phenomenon of food waste management from the perspective of consumers and aims to understand the perceptions consumers have on this phenomenon. This study has also selected McDonald's consumers specifically for this research study who live in Cape Town, South Africa. In conducting the literature review, it was deduced that there existed a gap within the literature on the topic of food waste management in South Africa. Many existing literatures on food waste management was either not conducted from the perspective of consumers or it was not conducted within the context of South Africa.

The findings of this research study will be beneficial to the McDonald's brand as it will provide the brand with opportunities to run awareness campaigns within South Africa on food waste management ensuring that their consumers are

aware of the phenomenon that exists. This will also increase the brand as a holistic and meaningful brand as it will show that the brand is not just concerned with maximising profits but also ensuring they are an environmentally sustainable brand that puts their consumers' health first. The results of this research assignment could also assist the McDonald's brand in growing its' customer loyalty base as it would increase the notion that the brand is a meaningful brand that is socially conscious, environmentally sustainable and meaningful. The McDonald's brand could use their awareness campaign as a marketing strategy to simultaneously increase sales while creating awareness for food waste management.

The research will also provide an understanding on the consumer perceptions and thoughts on food waste management and in turn create awareness for the current phenomenon that exists globally. This study will also identify the current approaches that consumers have undertaken to mitigate food waste within their own households and share these approaches with the public. The research study will also gain an understanding on the relationship that exists between consumer thoughts on food waste management and the new policies put into place by McDonald's.

7.5 Limitations

A limitation of the study would be conducting a similar study but using a positivist, quantitative research design to make a generalisation for a larger population of the McDonald's consumer base. The same research study could be conducted but instead of using open-ended questionnaires, the researcher could use in-depth interviews as their research instrument or use a triangulation of both in-depth interviews in conjunction with open-ended questionnaires (du Plooy-Cilliers et al., 2014:258). Using both questionnaires and interviews would create two different sources of qualitative data for the research. The research design could also be done using a critical realism design using a mixed-methods approach to answer a different research question that falls within the same scope of study. Conducting a similar research could be undertaken but expanding the number of participants of the study to collect more findings and data for the questions.

Conclusion

From the above information it can be concluded that food waste management is a significant problem in South Africa with green practices starting to take place in fast food restaurants such as McDonald's. There have also been a number of policies put in place to combat the problem of food waste generation. The current gap that exists in literature is concerned with consumer perceptions and perspectives on the phenomenon of food waste management. The proposed research study aims to fill in this existing gap within research. The research design will be an interpretivist, qualitative design as this design is seen as the best in achieving the set out goals. The above research study further explains that its sample and targeted participants, it aims to conduct research ethically and has highlighted the ethical principles it aims to follow and highlights the measures the researcher has put into place to protect participants. From the research study conducted it can be said that there exists a lack of awareness of the food waste phenomenon as well as the management practices amongst South African consumers. From the above research and findings it can be concluded that South African consumers' perceptions of food waste management does not align with the food waste policies and goals of McDonald's. However, the data collected does suggest that with an increase in awareness alongside the identified strategy improvements consumer management practices could progress over time. This claim can be made for the sample used in this study but however cannot be made for the entire South African McDonald's consumer market.

Annexure 1: Link to survey

Link to the online questionnaire used to conduct data collection:

https://docs.google.com/forms/d/e/1FAIpQLSfyDHu5waEd3e4LyDArOeHc2-whMMWXV91hokRyCnrng7zfVA/viewform?usp=sf_link

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