

**THE IMPACT OF NATIONAL FOODS SOUTH AFRICA ON FOOD WASTE
MANAGEMENT**

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ABSTRACT

The paper sought to determine the effectiveness of National Foods South Africa on food waste management. The paper was premised on the underlying assumption that there is a challenge of food waste management that is affecting organisations and the economy, thus the need to understand the increased importance of managing food waste in the contemporary environment. The study utilised the qualitative research approach where the perceptions, attitudes and experiences of participants were utilised to have an informed understanding on the research problem. Through purposive sampling where key informants were selected, the study utilised semi-structured interviews with the aim of digging deep and getting informed responses. From thematic analysis as the data analysis method, the study identified food handling challenges, infrastructural challenges and technological challenges as the challenges faced by National Foods South Africa on food waste management. The study also discovered that consumers are an important base in food waste management as consumers are the end products in the food waste management supply chain. Therefore, consumers need to effectively understand their role in food waste management, and National Foods South Africa needs to come up with methods such as advertising and awareness campaigns to ensure that consumers have effective knowledge and take part in food waste management. The study also identified that both the management and employees at National Foods South Africa have a role to play in enhancing food waste management, and this can be achieved through training and development of employees as well as management concerning itself with the adoption of technological advancements for improved food waste management. The recommendations from the study therefore include improvement in infrastructure and investment in improving consumer attitudes on food waste management as methods that can be utilised to further enhance food waste management at National Foods South Africa.

Table of Contents

PLAGIARISM DECLARATION	i
ABSTRACT	ii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Introduction.....	1
1.2 Problem Statement.....	1
1.3 Anticipated contributions of the study	3
1.4 Research goal and questions	4
1.4.1 Research Goal	4
1.4.2 Research Objectives.....	4
1.4.3 Research Questions.....	5
CHAPTER TWO: LITERATURE REVIEW.....	6
2.1. Introduction.....	6
2.2 The Economic Theory to Food Waste Management.....	6
2.3 Food Waste Management	6
2.4 Food waste management in food processing.....	9
2.5 Background to attitude of South African consumers in respect to food waste management	11
2.6 Conclusion	12
CHAPTER THREE: RESEARCH METHODOLOGY	12
3.1 Research paradigm.....	13
3.1.1 Interpretivism	13
3.2 Research method	15
3.2.1 Quantitative Approach.....	15
3.2.2 Mixed Methodologies	16
3.2.3 Qualitative Approach	16
3.3 Data Collection.....	17
3.4 Target Population and Sampling.....	18
3.4.1 Target Population	18
3.4.2 Sampling	19
3.5 Feasibility of the Study.....	20
3.6 Ethical Considerations	21
3.6.1 Protection of Respondents against harm.....	21
3.6.2 Ensuring Confidentiality	21

3.6.3 Ensuring that Informed Consent.....	21
3.6.4 Ensuring that Permission to conduct the research was given	21
3.7 Trustworthiness of the Study	22
3.7.1 Credibility.....	22
3.7.2 Dependability.....	22
3.7.3 Transferability	22
3.7.4 Conformability.....	22
3.8 Limitations of the Study	23
3.9 Conclusion	23
CHAPTER FOUR: ANALYSIS OF DATA AND FINDINGS.....	23
4.1 Introduction.....	23
4.2 Demographic Details	24
4.2.1 Age of Participants	24
4.2.2 Gender of Participants.....	24
4.2.3 Participant's Work Experience.....	25
4.2.4 Position of Participants.....	26
4.3 Presentation and Analysis of Findings.....	26
4.3.1 Challenges faced by National Foods South Africa on Food Waste Management.....	27
4.3.2 Role of consumers in food waste management	28
4.3.3 Interventions that can be put forward for National Foods South Africa to be effective in food waste management.....	30
4.4 Conclusion	31
CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS	31
5.1 Introduction.....	31
5.2 Conclusions from the study	32
5.3 Recommendations.....	33
5.3.1 Improvement in infrastructure	33
5.3.2 Investment in improving consumer attitudes on food waste management	33
5.4 Areas for Future Research	33
REFERENCES.....	33
APPENDICES.....	37
Appendix A: Interview Guide	37
Appendix B: Honours RESE, RESM and RMET Ethics Checklist.....	39

Appendix C: Consent Form	41
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CHAPTER ONE: INTRODUCTION

1.1 Introduction

The focus of the paper is to determine the effectiveness of National Foods South Africa on food waste management. The paper is derived from the conventional challenge of food waste management and the increase in the importance of managing food in the contemporary environment. According to Babar and Mirgani (2014), food waste management relates to activities and initiatives that seek to avoid, reduce or recycle food waste through food production and consumption. In conformity, Lipinski (2013) understands food waste as the food that is derived from plants and animals for human consumption but end up not being consumed by people. Some schools of thought use the term food loss and waste interchangeably but in fact, these terms refer to losses at different stages of the food supply chain. For instance, Bloom (2011) defines food loss and waste management as the process in ensuring that the food supply chain is managed so that losses of food cannot occur. According to FAO (2011), the food supply chain is composed of a number of stages that food travels through from agricultural production and harvest to reaching the consumer.

Over the years, food has been lost either at consumption or production phase, and there are staggering quantities of food lost that could have been utilised for other developmental processes. There has been comprehensive research on the process of food loss and how this can be mitigated to ensure that food waste management is achieved. The study therefore utilises National Foods South Africa which is an organisation that is in food processing, which plays a critical part in food waste management (National Foods South Africa, 2020). This study focuses on a brief description of important elements within the project which are the literature review, research methodology, findings from the study and conclusions and recommendations.

1.2 Problem Statement

Food waste management has increasingly become important and organisations in food processing such as National Foods are critical in this stead. It is estimated that each year, about 10 million tons of food go to waste and this means that almost 10 million tons of food produced annually is wasted (Anon, 2017). Furthermore, food loss and wastage is seen in the early stages of the supply chain

where 50% is lost during the post-harvest phase, 24% lost during processing and packaging, 20% during distribution and retail, and 5% is lost at consumer levels (Anon, 2017). In the processing industry, food loss and waste are caused by the lack of adequate handling of and storage facilities for fresh products such as fruits, vegetables, meat and fish, in which 19% of fruit and vegetable loss occurs during this processing. Accordingly, Kinoja (2013) argues that food loss in the processing of food is due to the fact that some of the food processed require particular cool temperatures especially after catch, slaughter or harvesting, and there are challenges within the processing industries to ensure that this is achieved. According to FAO (2017), food lost in developing countries amounted to 35% of food loss, and these are staggering numbers in the goals of food waste management. This is confirmed by National Foods South Africa (2019) that noted that it was facing challenges in food processing leading to large amounts of food lost and wasted in food processing.

Food loss and wastage have a wide and diverse impact on the development of emerging economies such as South Africa. This is because a large proportion of the population (18% of South Africa) are reported to be facing food shortages. Food loss and waste represent losses for actors along food supply chain including end consumers (Adegbola, 2011). Furthermore, food loss and waste exhaust the natural resources like water labour and land. According to National Foods South Africa (2019), food loss has contributed negatively towards addressing sustainable development goals of the country as it led to poverty and even loss of employment. National Foods over the past decade has recorded increasing numbers of food waste and loss in its processing capabilities, which has impacted the organisation in meeting its goals and objectives. The percentage of food lost in food processing at National Foods South Africa is a high number in response to the need for the country in meeting its sustainability goals (Kinoja, 2013).

National Foods South Africa has therefore realised the importance of food waste and management. There have been efforts such as the introduction and investing in technologies that allow proper and adequate handling, as well as storage of fresh produce and grain as part of food waste management (Lipinski, 2013). Furthermore, the organisation has invested in infrastructural development through building storage facilities in storing food that needs to be processed, which is a major platform that ensures that there is a reduction in spoiling food products.

However, these efforts have faced challenges due to lack of resources that are required to build such improved warehouses (FAO, 2017). In addition, there are challenges in the lack of expertise and knowledge in handling food waste management. It is also noted that food waste management has persisted even in the midst of technological developments, thus showing challenges in using technologies for food waste management (Anon, 2017).

Accordingly, FAO (2011) highlighted that there is need to ensure that food loss and waste is reduced in the food system as this has direct impact on enhancing agricultural sustainability, water management, land and resource management which are in direct influence towards food sustainability within the global economy. In other words, food waste management ensures that natural resources are reserved, human health issues are promoted as well as the maintenance of valuable energy, organic matter, nutrients and water contained. This paper therefore focuses on the impact of National Foods South Africa on food waste management.

1.3 Anticipated contributions of the study

The study will ensure that there is thorough understanding of food waste management in the developing world. Much of the studies in this regard focused more on the developed world and was not significant in trying to determine the challenges that the developing world is facing on achieving sustainable development amidst food waste management. The study therefore defines food waste management and its properties in respect to the developing world.

Furthermore, the study will contribute towards understanding food waste management in the processing phase. The discourse of food waste management focuses mostly on the initial stages of food waste management, and this has created a myth that food is only wasted in the production phase. However, with reference to National Foods South Africa, the study is significant for it will focus on food waste management in the processing stages (National Foods South Africa, 2020).

The recommendations from the study will contribute towards understanding food waste management in the processing stages. Methods, mechanisms, initiatives, technologies and other aspects used in food processing to mitigate food waste management will be discussed in relation to National Foods South Africa. This will

ensure that there is food waste management within this stage and an improvement in food security within the country.

1.4 Research goal and questions

1.4.1 Research Goal

The aim of the study is to determine the impact of National Foods South Africa in food waste management through use of qualitative research methods in order to come up with recommendations on how National Foods South Africa can be effective in food waste management with reference to the results found . As postulated by FAO (2017), there is an increased percentage on loss of food and waste in the processing of food, thus there is a need to determine the importance of mitigating food waste in the processing stage.

Furthermore, Kitinoja (2013) notes that previous studies have focused on food waste management after looking at food waste in the initial stages of food production, but no studies have comprehensively focused on food loss and waste in the processing phase. This study therefore seeks to understand food loss and waste management in the processing phase and come up with interventions on how to mitigate this panacea to sustainable development.

It is also the aim of the study to detail consumer behaviour in respect to food loss. As postulated by Cloke (2013), studying consumer behaviour is necessary when understanding food waste management, as roughly 5% of food loss and waste is through consumers. The attitude and behaviour of consumers therefore needs to be comprehended so that there is a clear and structured path towards food waste management.

1.4.2 Research Objectives

The study therefore seeks to achieve the following objectives:

- To identify the challenges faced by National Foods South Africa in food waste management
- To determine the role consumers play in food waste management
- To proffer interventions that can be put forward for National Foods South Africa to be effective in food waste management

1.4.3 Research Questions

The study seeks to address the following research questions:

- What are the challenges faced by National Foods South Africa in food waste management?
- What role do consumers play in food waste management?
- What interventions can be put forward for National Foods South Africa to be effective in food waste management?

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

The literature review serves as an important aspect within research studies for it presents scholarly work, their views as well as their findings towards understanding the research problem. In addition, the literature review presents the gaps in literature that the existing study seeks to fill. In addition, it is the role of the literature review to focus on the synthesis of information pertaining to the research objectives through the presentation of the relationship between research variables. Based on the importance of the literature review, both the theoretical and empirical literature review will be presented. This section is therefore purposefully structured to detail the discourse of food waste management, particularly in the food processing industry and the attitude of South African consumers in respect to food waste management. Furthermore, the economic theory to food waste management is also presented.

2.2 The Economic Theory to Food Waste Management

The economic theory to food waste management posits that economies are left worse off when food is lost or wasted, and this impacts the sustainability goals of nations (Blackwell, 2020). The theory is premised on the assertion that reduction in food loss and waste does not only increase the availability of food on the national and global levels, but also reduces the resources that are needed to produce food while the end goal is to improve the world food situation. In addition, the economic theory to food waste management also asserts that the reduction in food loss and waste leads to positive climate effects (Blackwell, 2020). In other words, the theory can be summarised to detail that in order to assess all the environmental benefits of food waste management initiatives, there is a need to consider not only the fact that food waste treatment is reduced, but that food processing and other upstream steps of the life circle are avoided too. The economic theory was utilised so as to analyse the impacts of food loss reductions on the supply side and food waste reductions on the demand side.

2.3 Food Waste Management

Food waste management has become a key initiative, referring to all the activities related to avoiding, reducing or recycling waste management throughout the production and consumption chain (Blackwell, 2020). An effective understanding

of food waste management requires one to understand what food loss and waste is. According to Lipinski (2013), food loss and waste consist of the total edible parts of plants and animals (food) that are produced and harvested for consumption by humans, but in the end are not consumed by humans. According to FAO (2011), the food supply chain is composed of a number of stages that food travels through from agricultural production and harvest to reaching the consumer. These stages include the following:

- Agricultural production (harvest)
- Post-harvest handling and storage
- Processing (slaughter, production of food items such as bread, wheat etc)
- Distribution (markets and retailers)
- Consumption

Within the developing countries, South Africa included, majority of food waste is most common in the production and processing stages before the food reaches the consumers (FAO, 2011). Be that as it may, Cloke (2016) opines that food loss and waste comes from consumers. Figure 2.1 below displays various causes of food loss and waste throughout the food supply chain.

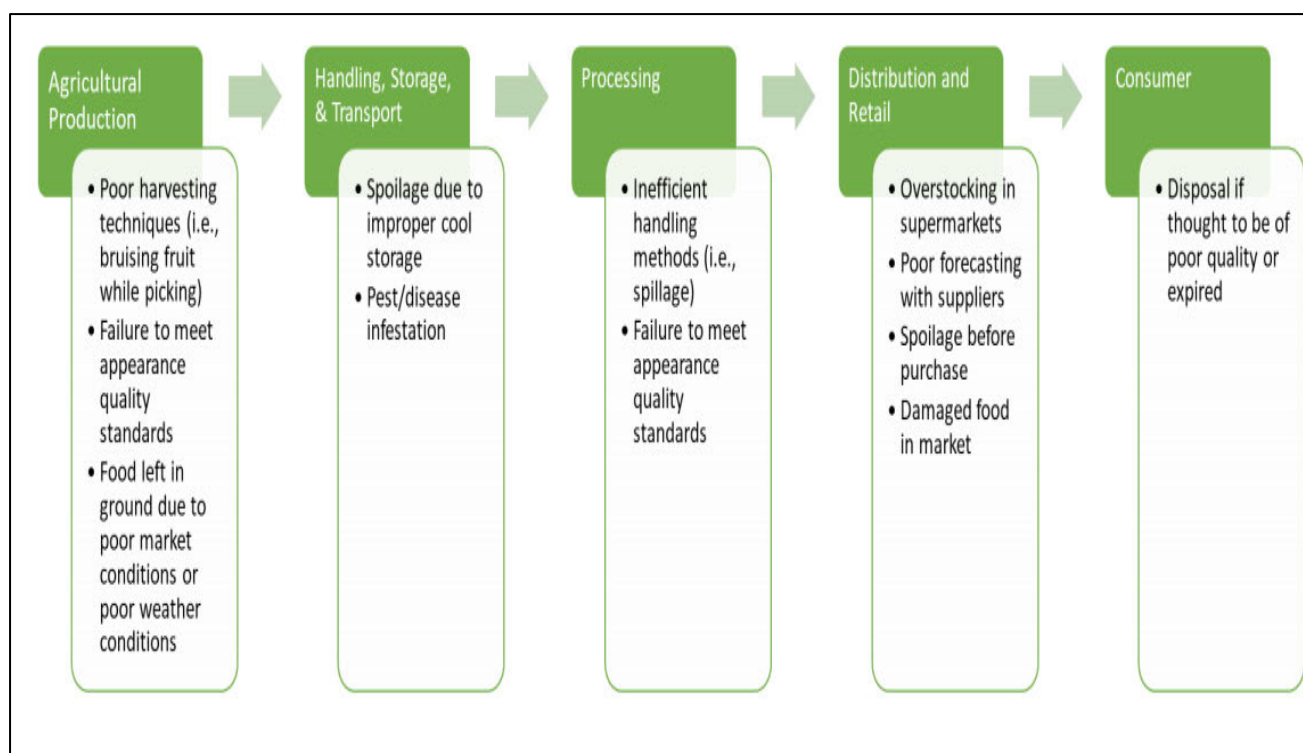


Figure 2.1: Causes of Food loss and waste in the food supply chain (Bloom, 2011)

Food loss and waste present challenges towards achieving sustainable development goals of reducing poverty and hunger. However, there has been the introduction of the concept of food waste management which presents an opportunity for sustainable development. Food waste management refers to all the activities related to avoiding, reducing or recycling waste management throughout the production and consumption chain (Bloom, 2011). Food waste management can be achieved through the reduction of food that is being lost or wasted. This has the opportunity of ensuring that food availability and access can be improved even without intensifying efforts on food production, increasing the amount of land used for agriculture and even increasing efforts of applying chemicals such as fertilisers to plants (Babar & Mirgani, 2014). Food waste management efforts also helps in the reduction of food prices for consumers, and in the process, food accessibility can be enhanced.

Reducing food loss and waste through food waste management in all parts of the food system is a critical part in reducing the environmental impact of agriculture, by reducing the total amount of water, land and other resources needed to feed the global community (FAO, 2011). In other words, food waste management

ensures that natural resources are reserved, human health issues are promoted as well as the maintenance of valuable energy, organic matter, nutrients and water contained.

2.4 Food waste management in food processing

The focus of the study is on food waste management within National Foods South Africa which is more concerned with the food processing in the food supply chain system. According to Babar and Mirgani (2014), the food industry produces large volumes of waste in the processing of food, including solids and liquids. These wastes are a challenge to pollution problems and represent a loss of valuable biomass and nutrients.

Food loss and waste especially in developing countries is seen through the processing of food where there is inadequate handling and failure to meet the required packaging demands. According to FAO (2011), there is a lack of adequate handling of and storage facilities for fresh products such as fruits, vegetables, meat and fish in which 19% of fruit and vegetables' loss occurs during processing. Kitinoja (2013) further postulates that these items require particular cool temperatures especially after catch, slaughter or harvesting and there are challenges within the processing industries to ensure that this is achieved. There is therefore a need for the introduction and investing in technologies that allow proper and adequate handling, as well as storage of fresh produce and grain in developing countries as a greater part of food waste management.

Food processing companies require the need to ensure proper handling of fresh fruits and vegetables after harvest and during the transportation stages since these items can easily be blemished and thus unmarketable (Adegbola, 2011). Bags and sacks are often used in developing countries in transporting produce but these have been seen to provide little protection. One option that can be used is therefore through the use of plastic crates which ensure more protection in the handling of produce. These are economically friendly as they are re-usable and can use minimum labour due to manageable size and presence of handles (Kitinoja, 2013). In a study conducted in Sri Lanka, it was discovered that plastic crates reduced vegetable losses by weight from 30% to 5% as compared to the other previous strategies that were being used (Fernando, 2006). Organisations in the food processing industry therefore have to utilise these methods so as to avoid food loss and waste.

Infrastructural development is also one method that can be used by food processing companies in bid to ensure food waste management. Increasing infrastructure, especially building storage facilities in storing food that need to be processed, is a major platform that ensures there is reduction in spoiling food products (Lipinski, 2013). In South Africa for instance, where there is massive load shedding due to a lack of maintenance and neglect over the preceding twelve years, resulting in an unpredictable and an unreliable system, food processing companies can invest in other forms of energy to ensure that food can be stored and handled. This will ensure that no food losses can occur in the process (Murray, 2020). Organisations can also utilise the vast technological advancements that are coming in to make sure that effective food processing can be ensured in bid to manage food waste.

In addition to utilising technological advancements and infrastructural development, general awareness is also another method that can be utilised in food processing in the food supply chain system. In other words, there is a need for an increase in educational awareness, availability of the products as well as the materials available to build them. As postulated by FAO (2014), this outreach should be done through extension agencies, government programmes and initiatives, as well as partnerships with donor agencies. There should be training and development programmes to ensure that food waste management is understood and its impact from farmers to organisations and the latter have an increasingly important role to play in order to ensure that the former are equipped to be effective in this platform.

The relationship between food processing organisations and retail institutions such as supermarkets is often leading to food loss and waste, and there is a need to re-look these contractual obligations in food waste management. According to Cloke (2013), food processors who are in contracted to supply food products to major supermarkets are often forced due to limited market options, into contractual obligations in which retailers benefit the most. Food processors are asked to accept lower and lower processes for food in order to meet consumer demands and expectations (FAO, 2011). In addition, most contractors see food processors incurring large amounts of food waste at their own expense rather than on the supermarkets. In South Africa for instance, most food manufacturers only

have a few clients and this gives the supermarkets a disproportionate high power in all contractual agreements (Murray, 2020)

In bid to ensure waste management in this stead, there is a necessity for supermarkets to assume some part of the responsibility for food loss and waste. There is a need for policies and instruments that protect food manufacturers from fleeting contracts by retailers where a set number of foodstuffs is agreed upon and paid for before the day of delivery (Stuart, 2009). This will ensure that supermarkets are more aware of demand and in the process, limiting food loss. This is because the food loss will now be at the cost of the wholesaler rather than the supermarket. In addition, FAO (2011) opines that food manufacturers and processors should pull resources together to meet the changing contract demands. In addition, Gille (2013) argues that consumer pressure could also help influence retailers to change packaging restrictions so that if food products are no longer wanted in one market, they can easily be resold to another. The fact still remains that retailers have to accept some of the financial risks that are associated with wasted and unsold food, perhaps this can drive them to manage their orders and food supply better, in bid to manage food waste.

2.5 Background to attitude of South African consumers in respect to food waste management

In as much as a large percentage of food is wasted in the food supply chain system, consumers play a massive role in food waste and loss. The way in which consumers interact with food from the supermarket or the restaurant to home, has a great impact and influence on how and why food is wasted. In a study conducted on food waste and loss in South Africa by Chakoa and Shackleton (2017), it was discovered that more households wasted prepared food (27%) than unprepared food (15%) and drinks (8%). This means that there is a need to adjust how consumers interact with food in the retail environment whilst also ensuring that there is education for consumers about food safety and food waste.

One way of influencing the behaviour of consumers to manage food waste is through packaging and merchandising (Quested, 2011). Changes in packaging include the use of user friendly designs which allow the removal of all food stuffs, packaging which reflect a healthy portion size and packaging which ensures that food is kept fresh all the time. FAO (2011) identifies that influencing the perception of consumers based on food waste management can be achieved through labelling

the packages to provide clear data labels, guidance on freezing and include recipes for left overs. This ensures that consumers make more informed and educated decisions on keeping or wasting food.

In addition, retail chains can also be involved in providing tips to consumers to lower food waste. There have been claims that there is a need for retailers in South Africa to start print tips for improving food storage and increasing shelf life of produce directly onto their reusable plastic bags (Chakoa & Shackleton, 2017). There is also a need to ensure that there is adequate advertising to encourage consumers to buy the right amount of food rather than being lured with promotions such as buy 2 and get 1 free. Organisations can therefore come up with price reductions to encourage more sustainable consumption of food items.

2.6 Conclusion

This section focused on the literature review pertinent towards understanding food waste management. This section was therefore purposefully structured to detail the discourse of food waste management. It was discovered that food waste management has become a key initiative, referring to all the activities related to avoiding, reducing or recycling waste management throughout the production and consumption chain. Furthermore, the literature discussed food waste management in the food processing sector where it discovered that food loss and waste especially in developing countries, is seen through the processing of food where there is inadequate handling and failure to meet the required packaging demands. Another contributing factor to food loss is the lack of infrastructure and the challenges in utilising technological advancements. The literature therefore noted the need for South African consumers to play an active part in food waste management as large volumes of food are also wasted within the consuming stage.

CHAPTER THREE: RESEARCH METHODOLOGY

The focus of this chapter is to present the research methodology and design that was utilised in the study to effectively understand the research problem. The methodology is important because it gives structure towards the data collection,

analysis and interpretations of the results effective in reaching the goals and objectives of the research.

3.1 Research paradigm

Walliman (2006) opines that the two traditions that are mainly associated with epistemology are positivism and interpretivism. To Burke (2007), paradigms can be understood as the forms of background knowledge which are an orientation of theory or research. This is confirmed by Neuman (2014) who opines that paradigms are an entire system of thinking and they consist of accepted forms of theories and methods which researchers often tend to follow as they give the research any kind of structure. Some scholars such as Burke (2007) opine that there are actually three types of paradigms in research which are utilised to observe, measure and understand social reality. These are positivism, interpretivism and critical theory, but scholars such as Neuman (2014) observe that positivism and interpretivism are the two main paradigms which are the basis of social sciences as well as the two main epistemological positions. The study utilised the interpretivist paradigm.

3.1.1 Interpretivism

The study proposed the interpretivist paradigm which is based on the desire and need to understand a research phenomenon and draws conclusions influenced by values and interpretations (Neuman, 2014). This paradigm utilises the qualitative approach mainly due to potentially biased and subjective conclusions that are drawn. Interpretivism emphasises on meaningful social action, socially constructed meaning and value relativism. This paradigm aims to unearth interpretations and meaning since it supports the inductive reasoning approach to research, where engaging with people to understand the nature of the world is seen as the best course of action (Walliman, 2006). This approach makes provision for the context of the research at the time that data is collated and analysed as it does not only look at data in a vacuum. It is therefore the most appropriate approach in research that deals with people and culture, thus relevant in relation to the study on the impact on National Foods in food waste management.

To Walliman (2006), the main characteristics of this approach are:

- Meaningful social action – the goal of the interpretive social researcher is to develop an understanding of social life and discover how people construct meaning in natural settings
- Social action is the action to which people attach subjective meaning; an activity with purpose or intent
- For every meaningful social action interpretivists believe there is a purpose
- They do not just look at the external or observable behaviour of people

This approach is used due to a number of advantages. Firstly, the arguments under this paradigm are that the social world is largely what people perceive it to be. This means that understanding the phenomenon is based on the perceptions of people who are experiencing the phenomenon and, in this regard, food waste management from the perspective of National Foods South Africa will be obtained.

In addition, the interpretivist approach focuses on the understanding of the research problem in a comprehensive and holistic way through considering the 'why, how or what' based on their interaction with the phenomenon (Creswell, 2014). This approach is therefore associated with the qualitative approach to enquiry where there is the interpretation of the research phenomenon through the interactions or behaviour of the participants. This gives insight towards the perceptions, attitudes and experiences of participants towards understanding food waste management.

Furthermore, this approach was proposed because of its characteristic of developing an understanding of social life and discovering how people construct meaning in natural settings (Walliman, 2006). In this perspective, this approach is relevant as it ensures that there is collection of information from the stakeholders that have a deep understanding on the matter under concern. This approach also ensures that the perceptions, attitudes and experiences of people in relation to the research phenomenon is taken into consideration for careful and detailed understanding of the matter under concern.

However, Labaree (2017) cautions that this paradigm to research is focused more on the subjective knowledge or knowledge that is gained from the participant and not through any scientific knowledge. This means that there is subjectivity and

bias on the interpretation of the findings from the study which is not ideal in research studies. This is confirmed by Creswell (2014) who opines that interpretivism has a subjective nature which gives great room for bias on the part of the researcher. Furthermore, this approach utilises a small sample which at times can lead to unreliable information since it is only part of the large population.

3.2 Research method

Within research studies, a research methodology is an important element since it outlines and puts into perspective the processes and structures aimed at addressing the research questions and problem of the study (Mouton, 2003). This is confirmed by Kumar (2014) who opines that a research methodology is a blueprint of the study focusing on the plans and frameworks that the study will refer to in trying to address the research problem. Leedy and Omrod (2013) are of the view that a research methodology is the systematic theoretical analysis of the body of methods and principles associated with gaining knowledge relevant towards achieving the goals and objectives of the study. Howell (2014) therefore notes that the research methodology within the study does not offer solutions in relation to the study, but offers the theoretical underpinning for understanding which method or set methods or so called 'best practices' can be applied by the researcher in a specific context. This section therefore focuses on the methodology that was utilised in the study.

There are commonly three research approaches used in research studies (Creswell, 2014). The following is a brief discussion of the quantitative and mixed methodologies as approaches to research, as well as a detailed explanation and the reason why the study utilises the qualitative approach.

3.2.1 Quantitative Approach

The quantitative approach to enquiry is based on the need to capture data through the use of mathematical and statistical measurements which are argued to lead to the achievement of objective and unambiguous results (Leedy and Ormrod, 2014). This approach utilises methods of data collection such as questionnaires,

experiments and surveys in which the researcher is not involved in the process to achieve objective results (Flick, 2016).

3.2.2 Mixed Methodologies

Mixed methodologies are derived from the critical realism paradigm which argues that both the qualitative and quantitative approaches have weaknesses and that these weaknesses can be addressed through utilising both methods to enquiry (Flick, 2016). This approach to enquiry is therefore premised on collecting data through both interviews and questionnaires for instance, to gather data that is objective but also explaining the participant's views and perceptions towards the research problem (Babbie, 2010).

3.2.3 Qualitative Approach

The study adopts the qualitative approach to enquiry. Neuman (2014) opines that the qualitative approach is primarily exploratory in nature and is used to understand the pertinent and underlying factors, reasons, experiences, opinions and motivations of the research problem. This is confirmed by Creswell (2014) who argues that the qualitative approach to enquiry is designed to capture the opinions and perceptions of the target population's range of behaviour and the perceptions that drive this kind of behaviour with reference to the research problem. In addition, Flick (2016) argues that this approach to enquiry utilises hypothetical frameworks that classifies approaches into positivist, linguistic and interpretivist approaches based on the underlying assumptions on the nature and text of data, the influence of the researcher on the interpretation of the texts, as well as the validity checks used to justify text interpretations. The qualitative approach to enquiry is therefore based on the use of in-depth studies on a small sample of participants to guide and support the construction of hypotheses. Neuman (2014) is of the view that the results of this approach are descriptive and inductive rather than being predictive and deductive. Table 3.1 below presents the advantages and disadvantages of this approach to enquiry.

Advantages of Qualitative Research	Disadvantages of Qualitative Research
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• Rich, in-depth information is possible (e.g. participants can elaborate on what they mean) • Perceptions of participants themselves can be considered (the human factor) • Appropriate for situations in which detailed understanding is required • Events can be seen in their proper context/more holistically	• Not always generalizable due to the small sample sizes and the subjective nature of the research • Conclusions need to be carefully hedged. • Accusations of unreliability are common (different results may be achieved on a different day/with different people)
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Table 3.1: Advantages and Disadvantages of Qualitative Approach (Source: Flick, 2016)

The qualitative approach is used in the study due to numerous reasons. Firstly, this approach is rich in in-depth data and it ensures that the revealing of certain natures and conditions, settings, processes and relationships is present (Babbie, 2010). This means that this approach will deal with the nature, situations and relationships underpinning food waste management at National Foods South Africa. In addition, this approach is utilized in the study because perceptions of participants are considered as they will help gain deep insights about food waste management at National Foods South Africa and also discover the problems pertaining to the research problem (Flick, 2016). The qualitative approach is also utilized for it allows the verification of the findings through ensuring trustworthiness of the results. The small sample size utilized in the approach will also ensure that there is gathering of deep insights towards food waste management at National Foods South Africa as a small number can be studied and interrogated to have informed meaning and understanding on the matter under study (Kumar, 2014).

3.3 Data Collection

Data collection is the process of collecting data to understand the research problem (Creswell, 2014). Data can be collected through primary methods where the researcher gathers data in its raw nature from participants of the study, and through secondary data collection where information can be gathered from published sources (Nueman, 2014). The study collected data in its primary form through the use of semi-structured interviews.

Leedy and Omrod (2013) are of the view that semi-structured interviews are a process where the researcher comes up with questions that will be used in the interaction process with participants in respect to the research problem. Semi-structured interview guide the process of interaction between the researcher and participants, as it gives the researcher the avenue to further probe and understand the matter under investigation, effectively (Flick, 2016). This becomes an advantage of this approach as it allows probing, where the researcher can ask participants to have a deeper understanding on the matter under study. In addition, the advantage of the semi-structured interview guide is that it is flexible as questions can be asked, re-asked and the discussion can elicit deeper meaning towards addressing the research problem. Kumar (2014) argues that this research instrument is sort of a purposeful conversation between the researcher and the participants where there is a need to get more and deep insight on the research problem.

In respect to the use of the semi-structured interview guide, the study ensured that all ethical considerations were adhered to, such as ensuring informed consent is obtained from the participants and that no harm comes to participants. Furthermore, anonymity and confidentiality of the participants was also ensured within the interview process.

3.4 Target Population and Sampling

This section focuses on target population and sampling techniques utilised in the study.

3.4.1 Target Population

Creswell (2014) defines the target population as the elements, units, people or groups of people that the study seeks to study and make generalisations on. In addition, Babbie (2010) argues that the target population is a group of individuals or persons that have the same traits and characteristics that need to be studied

and tabulated. The target population of the study is the management and employees at National Foods South Africa headquarters, specifically those involved in food processing.

3.4.2 Sampling

Sampling is the process of selecting participants from the target population to be included in the study (Neuman, 2014). In other words, a sample is a representative of the target population and has to consider the traits, demographics and common characteristics of the target population apart from numbers. Sampling makes the study feasible and ensures that accurate data collection is ensured (Babbie, 2020). There are basically two types of sampling as presented in figure 3.1 below.

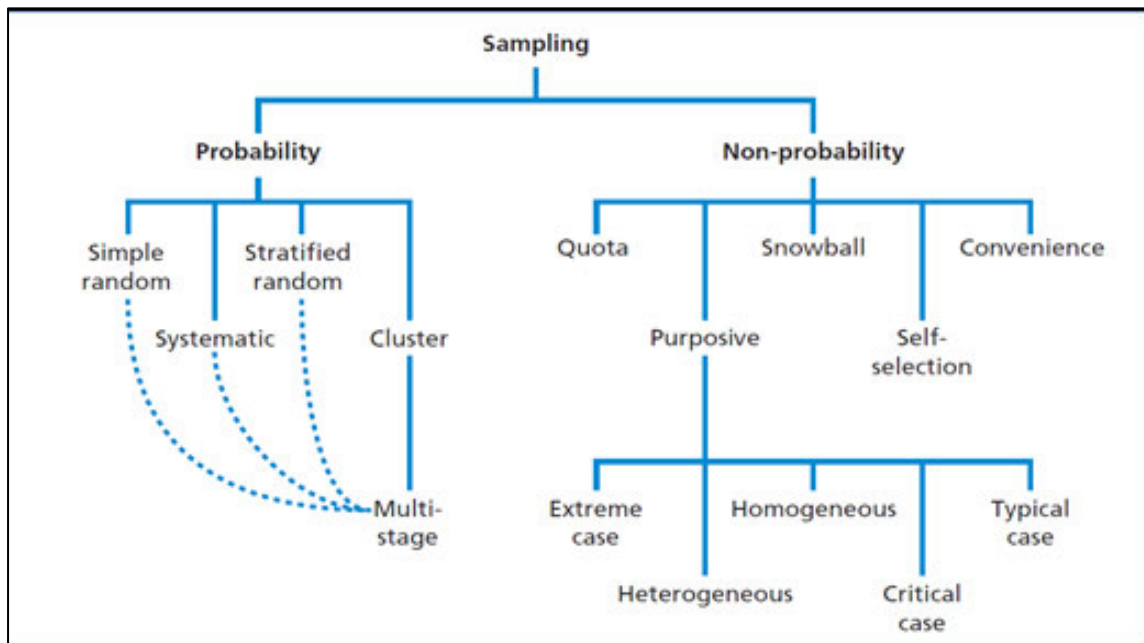


Figure 3.1: Sampling Methods (Source: Creswell, 2014)

According to figure 2 above, sampling can be classified into probability and non-probability sampling. The probability technique is premised on the need to ensure that each and every unit has an equal chance of being part of the sample (Leedy and Ormrod, 2014). Probability sampling is more useful in quantitative studies, and examples of such an approach include cluster sampling, stratified sampling, simple random sampling and systematic sampling.

The non-probability sampling technique was utilised in the study. Creswell (2014) defines this approach as the selection of individuals to be part of the study based on their importance and relevance towards giving meaningful and insightful findings. Babbie (2010) argues that the researcher is active and involved in the selection process and that participants do not have an equal chance of making it into the sample. The various examples of a non-probability sampling technique include snowball sampling, judgmental sampling, quota sampling and convenience sampling.

Purposive/judgmental sampling was selected for this particular study. Creswell (2014) argues that this technique is premised on the selection of participants that are in direct contact with the research problem, and their perception and experience with the research phenomena lead to an informed understanding on the matter. Within this regard, the study selected 5 managers and 5 employees who have an understanding of food waste management at National Foods South Africa.

The study utilised a sample size of 10 participants. Kumar (2014) defines a sample size as the actual number of participants to be selected in the study and it is argued that in qualitative studies, a sample size of 10 participants is ideally enough to structure an understanding of the research problem or even reach data saturation. This is the reason why a sample of 10 participants within National Foods South Africa was utilised.

3.5 Feasibility of the Study

Creswell (2014) defines feasibility of the study as the analysis that takes into consideration the relevant factors (social, economic, political and technological) to ascertain the likelihood that the project will be completed successfully. The feasibility of the study was ensured through taking into account the economic factors such as resources that will be utilised in the study. The study also took into consideration the social factors such as identification of the sample and administration of interviews in a stipulated time to achieve the goals and objectives of the study. The study took place within National Foods South Africa HQ and it will be conducted in a period of less than six months. The costs of the study were drafted based on printing, travelling, data collection and analyses of data.

3.6 Ethical Considerations

Saunders, Lewis and Thornhill (2016) define ethical issues in research as those principles and elements that are used to ensure the protection and promotion of the rights of research participants. Leedy and Ormond (2015) indicates that most ethical issues in research fall into one of four categories namely protection from harm, informed consent and right to privacy and honesty as well as permission to conduct the research.

3.6.1 Protection of Respondents against harm

Protection against harm ensures that the respondents are protected against harm that can come in any way, (Saunders et al., 2016). The researcher, therefore, protected respondents against harm by allowing the respondents to withdraw at any time and by ensuring that the research was conducted in a secure venue.

3.6.2 Ensuring Confidentiality

Kumar (2014) posits that ensuring confidentiality within research ensures that the respondents remain anonymous. The study, therefore, ensured that that all responses are kept in a safe place and only the researcher has access. Anonymity was also ensured through keeping the identities of the participants' private by using participant code names and by making sure that when requested to produce signed consent forms, that the participants' names will be concealed.

3.6.3 Ensuring that Informed Consent

Informed consent ensures that the participants have given a go-ahead within the research (Kumar, 2014). Informed consent was gathered when the researcher informed participants through the informed consent form on the reasons of conducting the research. Furthermore, participants were given a consent form that describes the nature of the research as well as the nature of the required participation. Participants were requested to sign the consent form to indicate their approval.

3.6.4 Ensuring that Permission to conduct the research was given

Permission to conduct research is vital in enhancing that the study is trustworthy. The study, therefore, gathered permission from National Foods South Africa to conduct the study as this is also a requirement by the IIE's ethics compliance process.

3.7 Trustworthiness of the Study

Equated to reliability and validity in quantitative research, trustworthiness of the study detail the principles and elements that are used to ensure the degree of confidence in the data that has been gathered from the study (Howell, 2014). This aspect in research seeks to ensure that the findings gathered from the study and as reported are a true reflection of what was indeed discovered from the research process. The following precepts will therefore be utilised to ensure the trustworthiness of the study.

3.7.1 Credibility

Kumar (2014) argues that credibility of the study is the extent to which the research recorded on the full essence of the study. Credibility of the study seeks to ensure that the study identified what it needed to and that the information from the source was correctly identified and described within the research process. The study ensured credibility through reflectivity where the researcher ensured that the findings have been recorded and all forms of bias did not limit the selection of the sample.

3.7.2 Dependability

Dependability can be understood as the extent to which the procedures utilised in the study are documented and allow an independent and objective analyses of the research (Leedy and Ormrod, 2014). Dependability was ensured through the process of ensuring full disclosure of the entire research process where aspects such as ethical issues, limitations from the study and the position of the researcher within the research were communicated.

3.7.3 Transferability

Transferability can be understood as the process where the results gathered from the study can be applied to future research and be useful in these future studies (Flick, 2016). Transferability was therefore ensured through a critical discussion of the research process, data collection methods used and the data analysis tools used.

3.7.4 Conformability

As stipulated by Kumar (2014), conformability detail on the ability of others to corroborate and confirm the findings of the research study. To ensure this aspect,

the study will ensure that member checking is utilised where the researcher will check the responses of the participants to establish meanings.

3.8 Limitations of the Study

Limitations of the study refer to the principles in the research methodology and design and other various components of the research process that impact negatively towards data interpretation and discussion (Creswell, 2014). The first limitation of the study is that of the sample which is essential to generalise findings on the discourse of food waste management at National Foods South Africa, but not ideal to generalise findings on the entire discourse of food waste management in the processing industry. In addition, the limitations of a small sample size have an effect on the trustworthiness of the findings from the study. This can therefore be mitigated by ensuring that the sample selected led to data saturation.

Another limitation of the study is the depth of information on food waste management in the processing sector. The discourse of food waste management has been detailed but there is lack of in-depth information to structure a comparable literature review. This can therefore be enhanced through utilising literature from different case studies in different countries.

3.9 Conclusion

This section focused on the methodology pertinent towards the collection, analysis and discussion of findings in respect to the research at hand. This section therefore focused on research paradigms, research approach, data collection, sampling and data analysis. This chapter also focused on the presentation of ethical issues adhered in the research, elements of the trustworthiness of the study and limitations of the study.

CHAPTER FOUR: ANALYSIS OF DATA AND FINDINGS

4.1 Introduction

This section focuses on the findings and analysis gathered from the study on the impact of National Foods South Africa on food waste management. This section is purposefully structured to focus on the demographic details of the participants so as to understand the nature and characteristics of the sample. After that, the study will present and analyse the findings from the study through the use of thematic data analysis technique.

4.2 Demographic Details

Flick (2016) opines that demographic details are critical in research studies as they focus on the characteristics and traits of the participant and how they reflect on the target population. The study therefore captured the age, gender, highest qualification and work experience of the participants.

The study achieved a response rate of 80% since 8 interviews were consented to and 2 interviews were not consented to. A response rate of 80% is ideal enough in qualitative studies to have an understanding of the research problem.

4.2.1 Age of Participants

The age of participants is important to capture in the demographic details as it presents the age representativeness of the sample and how age plays a factor in understanding the research problem.

Table 4.1: Age of Participants

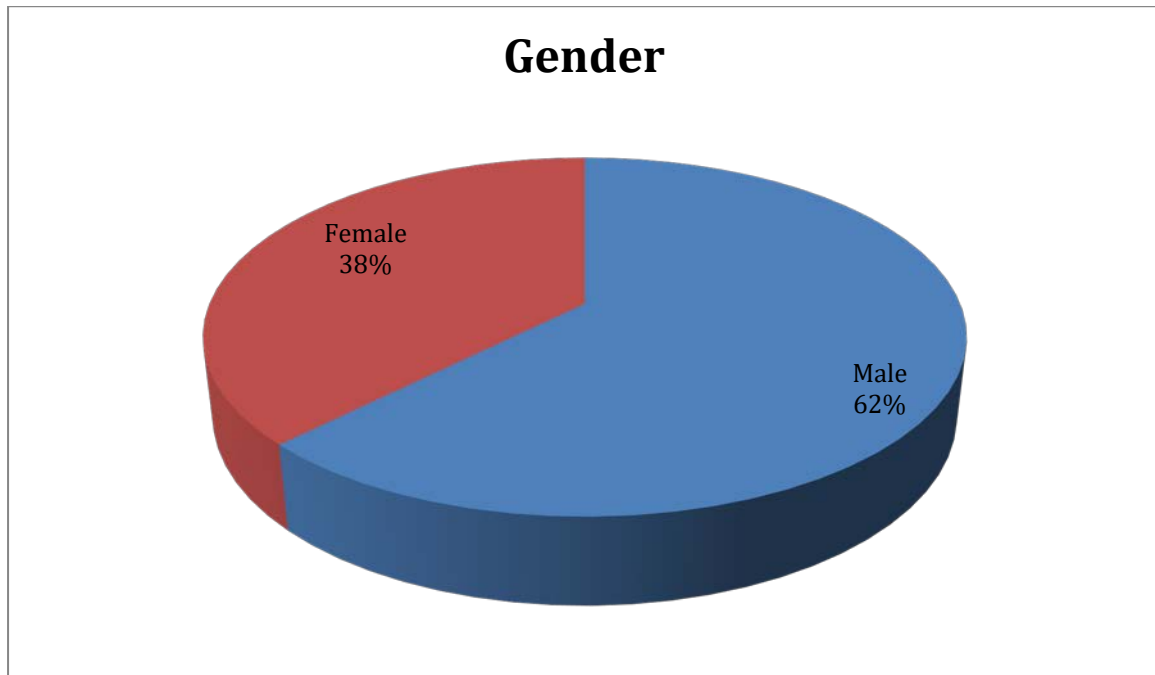
Age	Frequency	Percentage
Below 30 years	2	25%
Between 31-40 years	3	37.5%
41 years and over	3	37.5%
Total	8	100 %

On the age of the participants, the study discovered that 25% participants were below the age of 30 years, 37.5% participants were aged between 31 – 40 years and the other 37.5% participants were aged above 41 years. This means that the sample was representative of the various age groups at the organisation.

4.2.2 Gender of Participants

The study also captured the gender of participants which we were able to identify during the interviews. Gender is vital to represent the gender composition of the target population as well as the understanding of the participants on the research problem from different gender streams.

Figure 4.1: Participant's Gender



The study discovered that 62% participants were male whereas the other 38% participants were females. This means that both males and females are represented within the organisation even though males are more represented.

4.2.3 Participant's Work Experience

The study also captured the work experience of participants which is ideal as it contributes to better understanding of the research problem.

Work Experience	Frequency	Percentage
5 years and below	2	25%
5 – 10 years	4	50%
10 years and above	2	25%
Total	8	100 %

Table 4.2: Work Experience of Participants

It was discovered that 25% of the participants had the work experience of less than 5 years, 50% participants had the work experience between 5 – 10 years while 25% participants had the work experience of more than 10 years. This means that the sample represented employees and managers who had different work experiences thus relevant towards understanding the research problem. Also, it represents largely, employees who have tenure and thus more experience/understanding of the issues posed before them

4.2.4 Position of Participants

The position of participants within the workplace also offers an understanding on the perceptions and experiences of participants towards the research phenomenon under study (Creswell, 2014).

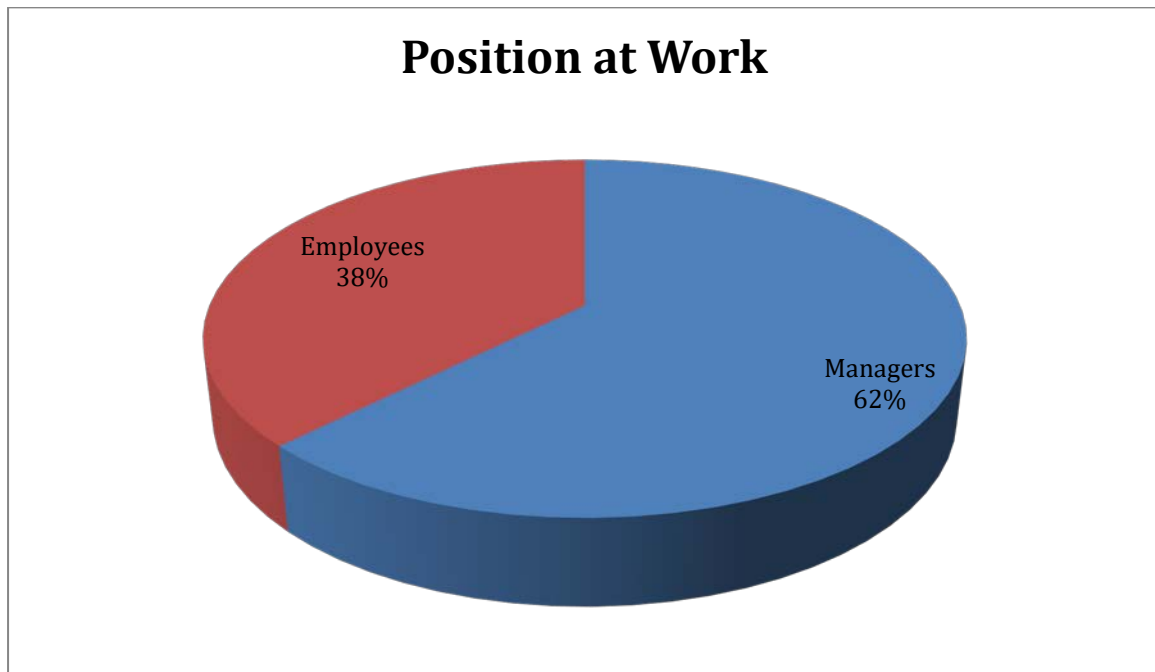


Figure 4.2: Participant's Position at Work

In addition, the study also discovered that 62% of the respondents were from the management and various levels whereas 38% of the participants were employees. This means that the study captured both the views and perceptions of employees and management towards the research problem.

4.3 Presentation and Analysis of Findings

Qualitative data analysis can be understood as the rationale of making sense of the collected information. This aspect therefore ensures that data is presented in

a structured and coherent way that helps understand the research problem. The study utilised a thematic analysis as a method of data analysis and interpretation. In this regard, the interview guide was structured on the basis of the research objectives in which the objective was the main theme. Sub-themes gathered and coded from the research were thus presented as part of the theme. Through following ethical considerations, the study structured respondents according to codes as Participant 1 to Participant 8.

4.3.1 Challenges faced by National Foods South Africa on Food Waste Management

The first objective of the study sought to determine the challenges faced by National Foods South Africa in food waste management. In trying to achieve this objective, the study sought to determine food handling, infrastructural and technological challenges faced at National Foods South Africa

4.3.1.1 Food Handling Challenges

The study discovered that there are food handling challenges faced at National Foods South Africa impacting on food waste management. According to Participant 1:

The organisation is facing challenges in coming up with proper food handling and packaging practices.

This was confirmed by Participant 4 who argued that:

The organisation has improper food handling and storage facilities that are impacting on food waste management.

According to FAO (2011), there is a lack of adequate handling of and storage facilities for fresh products such as fruits, vegetables, meat and fish in which 19% of fruit and vegetables' loss occurs during processing. In this perspective, food handling is a challenge to food waste management at National Foods South Africa.

4.3.1.2 Infrastructural challenges

The study also discovered that the organisation is facing infrastructural challenges that are impacting on food waste management. As postulated by Participant 3:

National Foods has no adequate storage facilities and transport facilities and the lack of this vital infrastructure is impacting negatively towards food waste management.

This was confirmed by Participant 6 who opined that:

The organisation is still using out-dated infrastructure and this is impacting on food waste management.

FAO (2011) argues that food processing companies require the need to ensure proper handling of fresh fruits and vegetables after harvest and during the transportation stages since these items can easily be blemished and thus unmarketable. However, National Foods is lacks proper infrastructure, which challenges food waste management.

4.3.1.3 Technological Challenges

Food waste management can be achieved through the use of technological advancements but National Foods is still lacking in this practice. According to Participant 2:

The organisation does not have the technological advancement required in food handling and storage thus food waste in processing of food.

In addition, Participant 8 also noted that:

National Foods is not trending with times as it has not adopted food waste management technologies.

FAO (2014) argues that food processing companies need to be aware of technological advancements so that they become effective in food waste management. Therefore, lack of adapting to technological advancements are challenging on food waste management at National Foods.

4.3.2 Role of consumers in food waste management

The study in a bid to understand food waste management at National Foods also sought to determine on the role that consumers play in food waste management. In trying to achieve this objective, the study sought to determine the role that consumers play, whether consumers understand the role they play in food waste management and the role of National Foods South Africa in ensuring that consumers understand on their roles and responsibilities in food waste management.

4.3.2.1 Role of consumers in food waste management

The study discovered that consumers have an active role in food waste management. According to Participant 1:

Consumers are an important base in food waste management as they are the end products in the food waste management supply chain.

This means that consumers have to be conscious on their role on food waste management. In a study conducted on food waste and loss in South Africa by Chakoa and Shackleton (2017), it was discovered that more households wasted prepared food (27%) than unprepared food (15%) and drinks (8%). This means that consumers have an active role in food waste management.

4.3.2.2 Consumers and understanding their Role in food waste management

The study identified that consumers in most cases do not understand the role they play in food waste management. Participant 2 argued that:

In most cases, consumers do not have an understanding on their roles and responsibilities in food waste management. This is because consumers in most cases believe that the food that they buy is at their privy and they can dispose it any way they want.

There is need therefore for efforts and measures to ensure that there is an adjustment on how consumers interact with food in the retail environment whilst also ensuring that there is the education of consumers about food safety and food waste (Quested, 2011).

4.3.2.3 The role of National Foods South Africa in ensuring that consumers understand on their roles and responsibilities in food waste management

National Foods South Africa has taken active steps to ensure that consumers understand that they play a critical role in food waste management. According to Participant 5:

The packaging and merchandising of goods produced by National Foods have information on the importance of food waste management.

This is confirmed by Participant 7 who noted that:

The packaging of food products by National Foods have manuals of instructions depicting on the importance of food waste management.

FAO (2011) identifies that influencing the perception of consumers based on food waste management can be achieved through labelling the packages to provide clear data labels, guidance on freezing and include recipes for left overs. Therefore, packaging is a method utilised by National Foods South Africa in influencing consumers on their roles on food waste management.

4.3.3 Interventions that can be put forward for National Foods South Africa to be effective in food waste management

The other objective of the study was to come up with interventions that can be proffered for National Foods South Africa to be effective in food waste management. In trying to meet this objective, the study therefore sought to come up with measures that management and employees at National Foods South Africa can implement for effective food waste management.

4.3.3.1 Role of management at National Foods South Africa for effective in food waste management

The study discovered that the management has an increased role to play in enhancing food waste management. According to Participant 2:

The management has to ensure that there is the proper channelling of resources to ensure infrastructure and technological development for effective food waste management.

Furthermore, Participant 4 also noted that:

The management has to train and develop employees for them to understand the importance of food waste management.

Participant 8 also noted that:

It is the role and responsibility of the management to ensure that methods and practices for influencing consumers to understand food waste management are put in place.

Accordingly, FAO (2014) notes that management within organisation have to understand their roles and responsibilities for effective food waste management. Therefore, the management at National Foods South Africa have an increasing role to play in food waste management.

4.3.3.2 Role of Employees for effective food waste management at National Foods South Africa

The study also discovered that employees have an effective role to play towards food waste management. According to Participant 1:

This is because employees are the fore-front of driving the process of food waste management through handling and processing of food.

This means that employees have to be aware of their increasing role they are playing in food waste management and handle food with care.

The 4th Participant also noted that:

Employees have to take training and development initiatives about food waste management with extreme importance.

This means that for the organisation to achieve a comprehensive food waste management programme, employees have to take part within the initiative.

4.4 Conclusion

This section focused on the presentation of findings and discussions pertaining to the research at hand. This section presented and discussed the demographic details ideal towards understanding the research problem. Furthermore, a discussion was conducted in respect to the challenges faced by National Foods South Africa in food waste management, the role consumers play in food waste management and interventions that can be put forward for National Foods South Africa to be effective in food waste management

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The focus of this section is the presentation of conclusions and recommendations on the research problem. This sections presents on the conclusions from the study

integrating conclusions from both the literature review and primary study and then focuses on the recommendations from the study. Areas for future research are also presented in this section

5.2 Conclusions from the study

Food loss and waste are terms that can be used interchangeably but in fact, these terms refer to losses at different stages of the food supply chain. Food waste management therefore can be understood as all the activities related to avoiding, reducing or recycling waste management throughout the production and consumption chain (Lipinski, 2013). Food waste management therefore is important since it ensures that natural resources are reserved, human health issues are promoted as well as the maintenance of valuable energy, organic matter, nutrients and water contained.

The focus of the study is on food waste management within National Foods South Africa which is more concerned with the food processing in the food supply chain system. Food loss and waste especially in developing countries is seen through the processing of food where there is inadequate handling and failure to meet the required packaging demands. This means that the major challenge to food waste management is through lack of food handling. There are also challenges in infrastructure and the use of technological developments in food processing. These are impacting on food waste management especially in the food processing industry (FAO, 2014).

Consumers play a critical role in food waste management. In a study conducted on food waste and loss in South Africa by Chakoa and Shackleton (2017), it was discovered that more households wasted prepared food (27%) than unprepared food (15%) and drinks (8%). This means that there is a need to adjust how consumers interact with food in the retail environment whilst also ensuring that there is the education of consumers about food safety and food waste. One way of influencing the behaviour of consumers to manage food waste is through packaging and merchandising. In addition, retail chains can also be involved in providing tips to consumers to lower food waste. There have been claims that there is need for retailers in South Africa to start print tips for improving food storage and increasing shelf life of produce directly onto their reusable plastic bags (Chakoa & Shackleton, 2017). Advertising is also a mechanism that can be used to influence the role of consumers in food waste management

5.3 Recommendations

The following are recommendations from the study

5.3.1 Improvement in infrastructure

Food waste management at National Foods South Africa can be enhanced through improvements in infrastructure. This is because National Foods South Africa is facing challenges in the lack of effective infrastructure in order to handle all food processes. There is therefore a need to come up with effective infrastructure such as effective rooms to handle perishable goods so that they cannot be lost in production. Improvement in infrastructure also ensures that the organisation handles food properly.

5.3.2 Investment in improving consumer attitudes on food waste management

The organisation also needs to invest towards changing the attitude and behaviour of consumers on food waste management. This is because large proportions of food are wasted by consumers who are not conscious of the importance of food waste management. This means that National Foods have to invest in advertising so as to change the behaviour of consumers on food waste. Furthermore, the organisation has to change its packaging and printing so as to detail on the importance of food waste management.

5.4 Areas for Future Research

The following are potential areas for future research

- Conducting a quantitative study on all branches of National Foods South Africa so as to effectively understand food waste management
- Conducting a study targeting the roles and responsibilities of consumers towards food waste management and coming up with methods to ensure the improvement of consumers in this regard

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APPENDICES

Appendix A: Interview Guide

SECTION A: CHALLENGES FACED BY NATIONAL FOODS SOUTH AFRICA IN FOOD WASTE MANAGEMENT

1. What are the food handling challenges faced at National Foods South Africa?
2. What are the infrastructural challenges faced at National Foods South Africa?

3. What are the technological challenges faced at National Foods South Africa?
4. Any other challenges faced at National Foods South Africa impacting on food waste management?

SECTION B: ROLE OF CONSUMERS IN FOOD WASTE MANAGEMENT

1. What is the role that consumers play in food waste management?
2. Do consumers effectively understand on their role in food waste management?
3. What is National Foods South Africa doing in ensuring that consumers understand on their role in food waste management?

SECTION C: INTERVENTIONS THAT CAN BE PUT FORWARD FOR NATIONAL FOODS SOUTH AFRICA TO BE EFFECTIVE IN FOOD WASTE MANAGEMENT

1. What can management do to ensure that National Foods South Africa is effective in food waste management?
2. What can employee do to ensure food waste management at National Foods South Africa?
3. Any other recommendations in relation to food waste management at National Foods South Africa?

SECTION D: DEMOGRAPHIC DETAILS

1. How old are you?

Age	Tick
Below 30 years	
Between 30-40 years	
Above 40 years	

2. What is your gender?

Gender	Tick
Male	
Female	

3. How long have you worked at National Foods South Africa?

Work Experience	Tick
Below 5 years	

Between 5-10 years	
Above 10 years	

4. What is your position at work?

Position at Work	Tick
Upper-Management	
Middle-Management	
Lower-Management	
Employee	

Appendix B: Honours RESE, RESM and RMET Ethics Checklist



HONOURS RESE, RESM and RMET ETHICS CHECKLIST

Dear student

Please complete this checklist and include this in your proposals as an appendix:

Student name: Bonolo Motshabi

Title of the research:

	Yes	No	Comment: Supervisor/ Navigator/Lecturer
Are you using human subjects in your research?	X		
I intend to use human subjects - I understand that I will not conduct research with human subjects under the age of 18 and other vulnerable groups. - I understand I can only proceed once I receive an ethical clearance letter.			
Interviews/ Focus groups An example of the <i>written consent form</i> I intend to use is attached.	X		
I will record the interview/focus groups and the sample of the letter where I ask for permission to do so is attached.	X		
I plan to use an interview schedule: The example of my research instrument is attached.	X		
I plan to use a questionnaire: The example of my research instrument is attached.		X	
I plan to use a gate-keepers letter: The example of my letter is attached.	X		
I plan to do research on an IIE site/with IIE students/staff/artefacts and I filled in the application for permission to do so. The application is attached. I		X	

understand I can only proceed once I receive IIE Approval for this.			
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Signed: student.....Bonolo Motshabi.....

Appendix C: Consent Form



CONSENT FORM TEMPLATE

Explanatory information sheet and consent form for participants

To whom it may concern,

My name is Bonolo Motshabi and I am a student at [INSERT THE IIE BRAND'S NAME]. I am currently conducting research under the supervision of (insert supervisor's name) about The impact of National Foods South Africa on food waste management. The aim of the study is to determine the challenges faced by National Foods South Africa in food waste management, understand the role consumers play in food waste management and interventions can be put forward for National Foods South Africa to be effective in food waste management. The study is expected to contribute towards the effectiveness of food waste management at National Foods South Africa.

I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please complete and sign the consent form below.

What will I be doing if I participate in your study?

I would like to invite you to participate in this research because you have an informed position on the research under study. If you decide to participate in this research, I would like to ask questions concerning the research under study (attached on the interview guide)

You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular interview questions.

Are there any risks/ or discomforts involved in participating in this study?

Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study.
--

Do I have to participate in the study?

- | |
|--|
| <ul style="list-style-type: none">• Your inclusion in this study is completely voluntary;• If you do not wish to participate in this study, you have every right not to do so;• Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision. |
|--|

Will my identity be protected?

I promise to protect your identity. I will not use your name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify you. I would like to ask your permission to record the interviews, but only my supervisor, I and possibly a professional transcriber (who will sign a confidentiality agreement) will have access to these recordings. Nobody else, including anybody at [INSERT THE IIE BRAND'S NAME], will have access to your interview information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to you.

What will happen to the information that participants provide?

Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my [INSERT NAME OF THE IIE QUALIFICATION]. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

Please feel free to contact me or my supervisor should you have any questions or concerns about this research, or if there is anything you need to know before you decide whether or not to participate.

You should not agree to participate unless you are completely comfortable with the procedures followed.

My contact details are as follows:

[INSERT NAME]

[INSERT TELEPHONE NUMBER]

[INSERT E-MAIL ADDRESS]

The contact details of my supervisor are as follows:

[INSERT NAME OF SUPERVISOR]

[INSERT TELEPHONE NUMBER OF SUPERVISOR]

[INSERT E-MAIL ADDRESS OF SUPERVISOR]

Consent form for participants

I, _____, agree to participate in the research conducted by Bonolo Motshabi on the impact of National Foods South Africa on Food Waste Management

This research has been explained to me and I understand what participation in this research will involve. I understand that:

- I agree to be interviewed for this research.
- My confidentiality will be ensured. My name and personal details will be kept private.
- My participation in this research is voluntary and I have the right to withdraw from the research at any time. There will be no repercussions should I choose to withdraw from the research.
- I may choose not to answer any of the questions that are asked during the research interview.
- I may be quoted directly when the research is published, but my identity will be protected.

Signature	Date