



A critical realist study on the role of food product date labels on household food waste.

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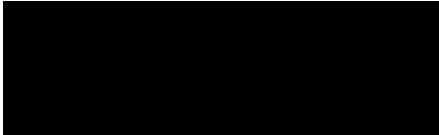


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List of Abbreviations and Acronyms

CSIR	Council for Scientific and Industrial Research
CGSO	The Consumer Goods and Services Ombud
FAO	Food and Agriculture Organization of the United Nations
SA	South Africa
UK	United Kingdom
USA	United States of America
UN	United Nations
WHO	World Health Organization
WWF	The Worldwide Fund for Nature

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Abstract

The Food and Agriculture Organization (FAO) of the United Nations found that globally one-third of food intended for human consumption is lost or wasted (FAO, 2011). Wasted and lost food costs consumers and the supply chain; it wastes crucial resources that are used to grow, process, distribute, and store food (Oxford, 2018). A big portion of the food wasted was found to still be edible and could have gone to those in need, it's a missed opportunity to feed the millions of food-insecure households (Närvänen, Mesiranta, Mattila, and Heikkinen, 2019). Products have various dates such as expiry dates, best-before dates, use-by dates, and sell-by dates which is confusing and causes uncertainty on whether or not the food is still safe to eat. However, we trust the food retailers and manufacturers to guide us in the right direction. As the gatekeepers to the food supply chain, the retail sector is a crucial influence in reducing food waste (Collart and Interis, 2018).

Reducing food waste through regulating date labels requires a thorough understanding of consumers' perceptions of these date labels as well as retailer's and manufacturer's best practices in this regard. This research report used a critical realist lens to assess consumers' perceptions, understanding, and behaviour relating to date labelling and its correlation to household food waste. It also evaluated Pick n Pay as a meaningful brand contributing towards curbing household food waste specifically looking at the retailer's date label practices within their stores and overall waste management behaviour. The research study took on a mixed-method approach to researching consumers and Pick n Pays behaviour concerning the implications of date label interpretations resulting in household food waste. The qualitative and quantitative data was assessed using a content analysis approach. The findings provided a complex reality that highlights the lack of knowledge and sustainability across demographics which needs to be examined to emancipate consumers to ensure food security in South Africa.

1. Introduction

Globally it is estimated that; 868 million people are undernourished and in South Africa (SA); 12 million people go to bed hungry every night and 28% of people are "at risk of hunger" (FAO, 2011). Yet, between 30% and 50% of all food produced is wasted and lost in various parts of the food supply chain (FAO, 2011). Socially, reducing food waste is to ensure its availability, especially for those in need (WWF, 2017). It is ethically unacceptable and unsustainable to waste food considering the hunger rates globally and in SA (WWF, 2017). Economically, food wasted results in wasted investments in paid resources such as salaries, product costs, and preparation of food. Environmentally, the impact can be seen from greenhouse gas emissions, water usage, and climate change (FAO, 2011).

One of the United Nations Sustainable Development Goals is to "ensure sustainable consumption and production patterns" as well as "halve per capita global food waste at retail and consumer levels by 2030" (United Nations, 2015). Household food waste in SA is estimated at R22 billion annually (Nahman, De Lange, Oelofse, and Godfrey, 2012). Therefore, it's important to assess consumers' attitudes and behaviours towards food waste management in the country.

1.1 Key Concepts

According to FAO (2011), 1.3 billion tonnes of food is wasted and lost annually. To understand the food waste management challenge, it's crucial to define the key terms used such as food waste, food loss, and date labels.

1.1.1 Food Waste and Loss

Food loss and food waste are terms used to identify food products that are meant for human consumption; however, it is lost, damaged, spoiled or destroyed (Giroto, Alibardi, and Cossu, 2015). The FAO (2011) states that food loss is the decrease in edible food throughout the supply chain specifically in production,

post-harvest, and processing phases within the food supply chain. Parfitt, Barthel, and Macnaughton (2010) describe food waste as food that is disposed of or destroyed at the end of the supply chain specifically in retail and by consumers. There are varying definitions for food waste and food loss, based on the context in which the terms are used. For consistency in this paper, food waste will be defined as any food products meant for human consumption and inedible parts of food that are sold at retailers (Garcia-Garcia, Woolley, Rahimifard, Colwill, White, and Needham, 2016).

1.1.2 Date Labels

Date labelling can be defined in terms of two main elements: open date labelling and closed (code) date labelling. Open date labelling such as sell by, best if used by, or best-before) refers to a suggestive system that allows retailers to assess the shelf life of the product concerning optimum quality for stock rotation purposes (Newsome, Balestrini, Baum, Corby, Fisher, Goodburn, Labuza, Prince, Thesmar, and Yiannas, 2014: 740).

Newsome et al (2014:746), describes closed (code) date labelling as the information that manufacturers place on products that have a long shelf life to manage product stock at the retail level for quality, recall, and product tracing purposes. Closed (code) dates may consist of letters, numbers, or symbols that may refer to the place of manufacture, time of manufacture, or product identity (Newsome et al., 2014:746). Closed date labelling aids in product identification and is useful for product recalls or tracing, particularly trace-backs because the production dates can be identified or obtained by the manufacturer (Newsome et al, 2014:746).

1.2 Rationale

The food waste challenge has been included in the Sustainable Development Goals by the United Nations (UN), it emphasises halving food waste at all stages of the food supply chain (United Nations, 2015). There have been numerous research

and literature predominantly focused on developed regions and their food waste challenges. There is a lack of research in developing countries specifically in South Africa (SA) on food waste causes, effects, and solutions. SA is a signatory of the UN Sustainable Development Goals to reduce food waste by 2030 (Nahman and De Lange, 2013). Thus, drastic action is required in the country to ensure that food waste is reduced especially at a consumption level. SA is faced with rising unemployment, inequality, and poverty rates therefore consumers can't afford to throw away food at the rate that they do (Nahman et al, 2013).

Consumer perceptions and knowledge of food product labels are not well researched in SA, the existing studies are exploratory and focus on various food waste challenges such as climate change, consumer discarding habits, landfills, and nutrition labels. Claasen, Van Der Hoeven, and Covic (2016) found in a study that they conducted that consumers generally were confused by food labels on the product and suggested that further research needs to be done.

Ever opened the refrigerator or pantry cupboard, checked the expiry date then threw the seemingly good food away? There are various products with expiry dates, best-before dates, use-by dates, and sell-by dates which can be confusing and causes uncertainty on whether or not the food is still safe to eat. However, we trust the food retailers and manufacturers to guide us in the right direction. As the gatekeepers to the food supply chain, the retail sector is a crucial influence in reducing food waste (Collart and Interis, 2018). Reducing food waste through regulating date labels requires a thorough understanding of consumers' perceptions of these date labels as well as retailer's and manufacturer's best practices in this regard.

The understanding of consumer perceptions of date labels and looking deeper into their actions within their context will aid in finding solutions to improve food waste in households. Through quantitative research methods conducted in Pick n Pay stores based in Gauteng, the study will be able to determine their date label practices and discarding of food. The qualitative research will be conducted

through various one-on-one interviews to understand the deeper motivators and drivers of consumers discarding behaviour as well as understating the context in which it takes place.

1.3 Problem Statement

The Consumer Goods and Services Ombud (CGSO) in SA stated that retailers are prohibited from selling foods that have reached their best-before date at full price and from donating these food products (Pitjeng, 2019). The date labels on food products can also result in food products being spoilt and consumers getting gravely ill (Pitjeng, 2019). The CGSO received numerous complaints arising from illness caused by expiration dates and consumers seeking compensation for their injuries and losses (Pitjeng, 2019).

Globally listeriosis has the highest hospitalization and mortality rates than any other foodborne illness and recent years there has been an increase of listeriosis outbreaks globally thus Evans and Redmond (2014) conducted a study which found that food safety factors associated with these outbreaks were a direct result from a lack of adherence to use-by dates and ineffective refrigerated storage of food products, specifically ready-to-eat products. These factors stem from a lack of knowledge by consumers on food safety practices and date labels (Evans, et al., 2014).

The World Health Organization (WHO) reported that SA had the largest outbreak of listeriosis that it had seen, with various strains of the foodborne illness recorded (WHO, 2018). The Listeriosis outbreaks could be prevented with the correct regulations in place within the entire food supply chain and further regulations of food expiration labels (WHO, 2018). SA's health minister stated that using the various date labels has confused consumers, retailers, and lawmakers globally which resulted in the United Nations (UN) ruling that sell-by dates be removed from products effective from July 2018 (Business Tech, 2018).

The issue of expiration date labels is a complex issue with multiple layers thus utilizing the critical realist approach to understand the multi-level relationships between human rights and social factors of discarding of food in a household (Easton, 2010). Approaching the research from a critical realist perspective, to gain knowledge, it is important to understand this reality and its characteristics, not only at the decision-making process of discarding food but also the context in which it takes place as this will vary across households and retailers (Easton, 2010).

The way food waste and date labels are interpreted is based on an understanding that may change over time. The relationships that exist between entities (consumers, retailers, lawmakers, and regulators) can often be characterized in terms of the relative power that these entities have (Bezuidenhout, et al, 2014:31). Currently, the power is sitting with the retailers and manufacturers as consumers are merely following the information, or lack thereof, provided to them. Thus, action needs to be taken to enable consumers to have power as an incorrect label or knowledge of what it means can lead to illness, and the consumer's ability to feed their family. By providing consumers with the knowledge allows for engagement with legislative bodies to hold the relevant entities accountable and confirms the constitutional right to access to safe food as well as provide retailers with the opportunity to donate surplus food to those who don't have access (Easton, 2010).

This research proposal aims to gain a deeper understanding of expiration date labels in consumption level food waste and how Pick n Pay utilizes date labels to ensure food safety and prevent food waste.

1.4 Research Goal

The study aims to find solutions to discarding food waste at a SA household consumption level by reviewing Pick n Pay retailer in SA practice of date labels on food products and consumers' understanding or perceptions of them to transform

food waste at a consumption level. This will be done by conducting pragmatic research that finds solutions through qualitative and quantitative research methods (Bezuidenhout, Davis, and Du Plooy-Cilliers, 2014: 78).

Pragmatic research has been chosen as it's closely associated with the critical realist perspective, which is the research paradigm utilized in this study. The layered nature of the reality of discarding food in households and the multilevel relationships between the various stakeholders involved require a pragmatic approach to understand driving behaviours from retailers as well as households (Haigh, Kemp, Bazeley, and Haigh, 2019).

1.5 Research Questions

Food is discarded at a household level is largely attributed to consumers' misinterpretation of date labels on the food products. Therefore, this research study would like to get a deeper understanding of this particular issue from a retailer and consumer perspective to develop behavioural change to reduce food waste.

The study is based on the following research questions:

- In what way do consumers' perceptions of the various date labels on food products impact food waste?
- How does Pick n Pay contribute as a meaningful brand towards food waste at a consumption level?

The above question is devolved into the following sub-questions which guides the research:

- What are the key factors in interpreting date labels and the impact of these interpretations?
- What effect does Pick n Pay have on household food waste and the formation of perceptions around food waste?
- Are consumers and retailers store staff consciously aware of the impact of food waste?
- If consumers and retailers store staff are aware of the impact of food waste, does it affect their food waste behaviour?

2. Literature Review

Pertinent literature on the topic of food waste management in SA will be reviewed, particularly in the retail sector to review practices and assess trends within date labelling practices. This research report relies on secondary data sources that are academically relevant and current. The study will also use organizational guides and global best practices in addition to the limited scientific research available in SA (Bezuidenhout et al, 2014: 45).

2.1 Global Food Supply Chain: Food Waste and Loss

FAO (2011), Van Gogh (2017), and Oelofse (2018) have estimated that globally 50% of all food produced for human consumption is wasted at various parts of the food supply value chain. FAO (2011), Van Gogh (2017) and Oelofse (2018) has provided evidence that in developed countries, food wastage and loss occurs at a consumer-level whereas in developing countries it is wasted in the post-harvest phase due to "financial, managerial and technical limitations in harvesting techniques, storage facilities, infrastructure, and packaging systems" (Nahman and De Lange, 2013). However, Food Engineering (2018) believes that confusing food labels, changing production lines and facility employee behaviour massively contributes to the food waste and loss in the food supply chain.

The below figure by Lipinski, Hanson, Waite, Searchinger, Lomax, and Kitinoja, (2013) illustrates the contrast in which food is lost throughout the food supply chain stage per region. This supports the theory that developing and developed country's food waste occurs at different stages of the food supply chain.

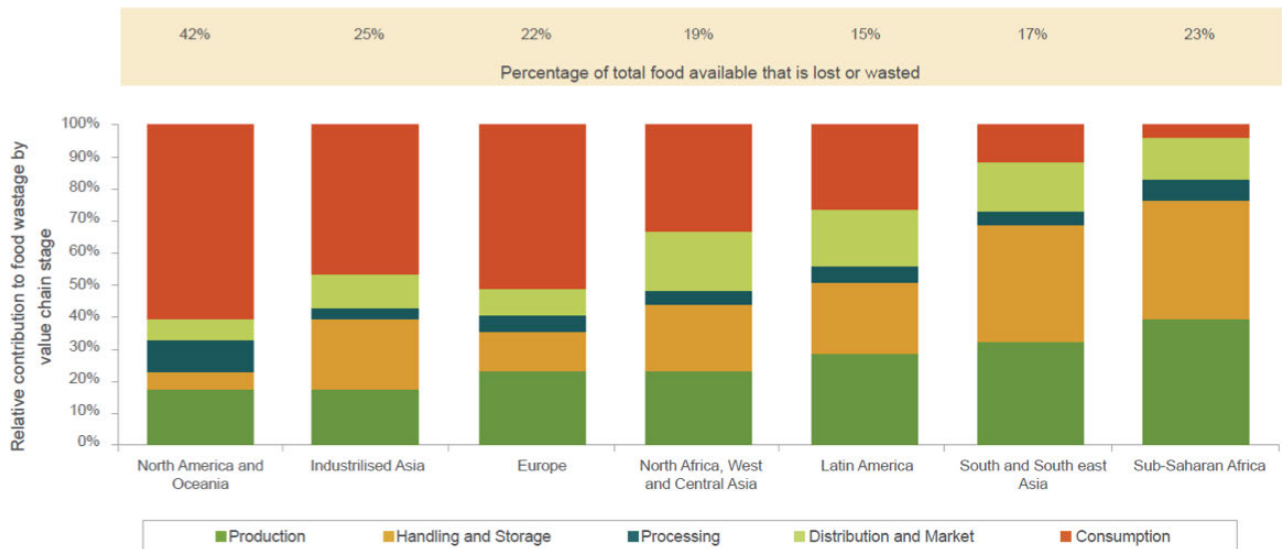


Figure 1. Food loss by region and stage of the supply chain (Lipinski et al, 2003)

2.2 South African Food Supply Chain: Food Waste and Loss

There is a lack of knowledge in SA or empirical studies conducted to assess, understand, and quantify the food waste. Nahman et al (2013) attempted to quantify the household food waste in the country by identifying trends in the disposal behaviour. This study found that the costs of household food waste could be estimated at R21.7 billion annually (Oelofse, 2018). The Council for Scientific and Industrial Research (CSIR) has quantified the financial loss of food and waste in the country at R61.5 billion (Oelofse, 2018). A study in the Western Cape which outlined 14 different categories of waste, found that food waste attributes to 12.5% of household waste collected by the municipality in Cape Town (Gibb Engineering and Science, 2009).

2.3 South Africans Attitudes and Behaviours: Food Waste

We need to understand the drivers and influencers of food waste behaviour within South African households to assess the household food waste challenge. The literature will review studies conducted in different communities across the country to identify key trends and patterns in behaviour and attitudes across demographics.

Ramukhwatho et al (2014) surveyed consumers in the township of Mamelodi to evaluate their food waste behaviour. The results from the study indicate that 58% of households threw away pap, rice, and bread as they either prepared too much, it was spoilt or expired (Ramukhwatho et al, 2014). A study was conducted in Richards bay, Dundee, and Harrismith which showed that the main reason people disposed of food was that it had expired, or it had gone rotten or mouldy (Chakona and Shackleton, 2017). These two studies indicate that expiry dates are a cause for disposing of food which highlights the need to assess the impact date labels of food waste.

A study conducted in Kimberley by Conje, Van Der Merwe, and Muller, (2018), was the first one that reviewed how people felt about their food waste habits. Figure 2 illustrates the responses on how people felt when disposing of food which highlights that people are aware that this behaviour is problematic, and the study suggests that a lack of ideas or knowledge on how to reduce their waste can result in negative attitudes towards recycling and reusing methods (Conje et al, 2018).



Figure 2. Consumer feelings towards waste (Cronje et al, 2018)

Based on all three studies reviewed, despite the demographic and financial circumstances of the respondents, South African behaviours are similar and the motivators for wasting food are the same.

2.4 Food Waste Legislation

Countries around the world are tackling the food waste challenge by reviewing their food supply chains by setting targets, implementing new policies, and creating campaigns centred around reducing food waste and loss. Governments can enforce change and ensure sectors operate within a minimum standard which will be a massive win in fighting the food waste battle (Lemos, 2019).

South Korea successfully implemented policies that not only reduce food waste but drive behavioural change. Households in the country are now fined based on their food waste (Närvänen, Mesiranta, Mattila, and Heikkinen, 2020). The policy saw a decrease in the volume of waste by 10% compared to four years prior (Närvänen et al, 2020). France was the first country to implement a policy that prohibited supermarkets and retailers from disposing of edible food and if they do not comply, they face heavy penalties (Lemos, 2019).

The South African government is a signatory to the United Nations Sustainable Development Goals to reduce food waste by 2030 however there is little to no legislation in the country (Nahman et al, 2013). The country has legislation that covers general waste management but no legislation exclusively for food waste management. The lack of legislation in South Africa surrounding food waste management means that retailers are left to develop and implement their policies. Retailers and supermarkets are in a critical position to influence the required changes to reduce the countries' unsustainable food waste challenge. These supermarkets have direct links with farmers, processors, and have the power to influence every aspect of the food supply chain (Farming Portal, 2020).

2.5 Retailers Contribution to Food Waste

The South African retail sector is extremely diverse as it comprises of formal and informal traders such as supermarkets chains, markets, spaza shops, and informal traders selling on the streets (Western Cape Government, 2016). The WWF (2017)

reported that 54% of all retail sales are from food purchases and retail chains account for 70% of the total retail market.

Consumers have certain expectations and purchasing behaviour that influences retailers which can impact their contributions towards food waste. If food is not aesthetically pleasing or isn't presented the way consumers are accustomed to retailers know it is less likely to be purchased (WWF, 2017). This results in rejections of food produce by retailers to their suppliers and in return leads to food waste (WWF, 2017). The results of a survey conducted by the WWF (2017) of the packaged-food, retail, and hospitality sectors, reported that 63% of respondents adopt packaging technologies to reduce food waste and 27% stated they guide consumers on to interpret date labels however there was little empirical data provided by the respondents.

2.6 Date Labels

Date labelling terminology and application vary widely and, according to Newsome, Balestrini, Baum, Corby, Fisher, Goodburn, Labuza, Prince, Thesmar, and Yiannas (2014), this might be the reason for consumers' misunderstanding and misinterpretation. Newsome et al (2014) stated that the problem is further exacerbated by the fact that the application of these date labels is hardly ever done consistently within a specific company and differs between companies, which confuses consumers even more. It is therefore suggested that there may be room to reduce unnecessary household food waste by clarifying the meaning of these dates and changing how they are used, displayed, and interpreted.

In this literature review, only three main terms used for date labelling will be reviewed, namely, use by date, best-before date, and sell-by date as these are mostly used by South African retailers. Department of Basic Education (2014) has stated the terminology for "Best-Before" or "Best-Before End" refers to the date that signifies the end of the period under any stated storage conditions during which the product will remain fully marketable and will retain any specific qualities

for which tacit or express claims have been made. However, beyond this date, the food may still be perfectly satisfactory quality (Newsome et al, 2014). While still safe to eat and often perfectly fine after the Best-Before date, quality can deteriorate (Newsome et al, 2014).

Nobody wants to serve their family rotten or expired food products and with the rising cost of food, nobody can afford to throw away food. A study conducted in the United Kingdom and the United States of America estimated that 20 percent of food wasted in households is the result of confusing expiry date labels (Harvard Law Today, 2013). Even though South Africa (SA) is a developing country with different causes for food waste, the Council for Scientific and Industrial Research (CSIR) has found that SA households' food waste behaviour is similar to those of developed countries (Oelofse, 2018). According to Oelofse (2018), household food waste in SA is mostly attributed to sell-by and expiry dates as well as food products discarded due to their appearance.

2.7 Meaningful and Healthy Brand: Pick n Pay

Havas (2017) found that 77% of the brands globally could cease to exist and consumers would not notice or be impacted by this. Cook, Erwin, Carmody, and Enslin (2010) stated several brands are contributing towards building a sustainable future by integrating the "well-being of people, animals, and the planet into the design of their organizations". To assess if a brand is meaningful and healthy, Cook et al (2010) proposed seven healthy brand indicators. Pick n Pay will be evaluated using these criteria to determine if its business practices are meaningful and healthy, specifically in its food waste management practices.

2.7.1 Brands' Meaningful Purpose

Cook et al (2010) states that any healthy brand should have a well-defined purpose and the brand's purpose should clearly state its reason to exist as people don't buy products or services, they buy brands. Pick n Pay's purpose is evident

in its brand mission, values, and fundamental principles. Their purpose is to make a positive contribution to communities and consumers' lives, they put the customer first and abide by their core values. This can be seen in their sustainable efforts which will be discussed below (Pick n Pay, 2020).

2.7.2 Brands Purpose in Action

Cook et al (2010), states that "a healthy brand fulfils its purpose across its entire value chain and through all of its stakeholder relationships." The retailer has continuously invested in its commitment to sustainability and launched People n Planet (Pick n Pay, 2020). The initiative is about partnering with its stakeholders to "reduce the negative impact we might have on the environment have increased the positive impact we have on everyday life we touch" (Pick n Pay, 2020). Appendix 1 provides a detailed view of the performance highlights of People n Planet in all sectors of the retailers' business as well as engagement with all its stakeholders (Sustainable Living Report, 2019).

2.7.3 The Brand as a Communicator

A healthy brand understands how to connect with external and internal stakeholders, respect engagement in all communication aspects, and ensure its communication is meaningful and original across all touchpoints (Cook et al, 2010). Pick n Pay is building long-term sustainable value that is dependent on open and constructive engagement with all its stakeholders. The brand shows an understanding of how critical engaging, authentic, and coherent communication is in their value chain (Sustainable Living Report, 2019). Figure 3 outlines their communication across all their stakeholders and is a clear indicator that they

understand the importance of engaging, coherent, and authentic communication (Pick n Pay Investor, 2020).

Customers	We are accountable to those we serve. Our customers are at the heart of our strategy and we engage to respond to their changing needs, strengthen our offer and drive sales.	+
Communities	Our success depends on the well-being of the communities we serve. We engage with them to provide meaningful support and create opportunities for sustainable economic growth that benefits all.	+
Employees	We are committed to building a winning team. We engage with our staff to communicate strategy and responsibilities, identify needs, recognise and reward good performance and hold each team member accountable for their contribution to the success of the Group.	+
Franchisees	Our 719 franchise stores are an integral part of the Group, and the success of the franchise model depends on the success of our franchise partners. We engage to find mutually beneficial and sustainable growth opportunities, build our scale and extend our reach.	+
Suppliers	We are supported by a broad network of suppliers and service providers. We engage to source high-quality products at the best price and ensure food safety, sustainable and ethical business practices, innovation and consistent on-shelf availability.	+
Shareholders	We engage with the investment community to provide a comprehensive, consistent and well understood investment case. This ensures that our shareholders can make informed investment decisions and that our share trades at a fair value.	+

Figure 3. Engaging with our stakeholders (Pick n Pay Investor, 2020)

2.7.4 The Brand Adding Value

According to Cook et al (2010), a healthy brand doesn't harm the environment, society, and animals. It adds value by meeting the needs and wants of its stakeholders (Cook et al, 2010). Pick n Pay has created its sustainability model which aims at creating diversity and efficiency within its supply chain through; waste reduction, energy conservation, encouraging healthier products and corporate accountability, transparency, and care (Sustainable Living Report, 2019). The brand has also created a Code of Ethical Conduct which all its contractors and secondary suppliers must comply with (Sustainable Living Report, 2019).

2.7.5 Sustainable Relationships

Sustainability is not a single concept but is a holistic concept embedded in the organization's value chain, practices, and brand. A healthy and meaningful brand should meet the needs of its current stakeholders without compromising future generations (Cook et al, 2010).

In 2015 Pick n Pay launched their 'War on Waste' campaign, it aims to reduce energy use, food waste to landfill by 20% and donate food to organizations that are addressing the food waste challenge (Sustainable Living Report, 2019). Through their partnership with FoodBank SA, it has provided 11 million meals a year to those in need (Sustainable Living Report, 2019). In 2019 the retailer recycled a total of 17 100 tonnes of store waste which accounted for 50% of the store generated waste (IOL, 2019). Pick n Pay also joined a recently launched global initiative called 10X20X30 backed by the world's biggest food retailers and manufacturers to reduce in-store food waste (IOL, 2019).

Based on the above, all the initiatives and drive towards sustainability in all aspects of its business, Pick n Pay has shown its commitment by ensuring it contributes positively to the environment and society. The retailer has recognized the food waste challenge and has committed to reduce its waste and help communities reduce household waste.

3. Research Paradigm

The research paradigm can be defined as the researcher's worldview. The worldview is perceived as a collective opinion which "informs the meaning or interpretation of research data" (Kivunja and Kuyini, 2017: 26). It can be the lens through which the researcher observes the methodological elements of their research project to determine the research methods that will be used and how the data will be analysed (Bezuidenhout et al, 2014: 31).

3.1 Critical Realism

Critical realism recognises that knowledge is not permanent and is constantly changing with the particular theory that is being implemented for conveying the explanatory accounts (Bezuidenhout et al, 2014: 31). The nature of knowledge is dependent on the people involved in the research, their opinions, and their understanding (Bezuidenhout et al, 2014: 31).

This research report seeks to identify and evaluate the philosophical assumptions that underpin the implications of date labels on household food waste management problem within South Africa. To achieve this, it will use critical realism as its research lens. From a critical realist perspective, the primary objective of the research is not to predict, interpret, or explain societal issues but rather to change it and emancipate society from perceived assumptions as well as societal structures (Bezuidenhout et al, 2014:23). Based on the literature review, there is a reality that exists about food waste in our society however it has been shaped by culture, politics, race, gender, and religious factors that engages with each other to form our society. These factors haven't been taken into consideration in previous research.

Critical realism encourages mixed methodologies that would be required in this paper as a collaborative approach is needed to engage with subjects in formulating questions, collecting data, and data analysis (Bezuidenhout et al, 2014). Utilizing

qualitative and quantitative research methods to gain a deeper understanding of the various societal factors driving behaviours that are contributing to the household food waste crisis.

The following will present a broad understanding of different philosophical paradigms and a justification of the chosen philosophical lens for this research. Understanding of reality (ontology), the nature of knowledge (epistemology), and the techniques used to conduct research (methodology) define the standpoint of this paradigm (Sorrell, 2018). Ontology is the conceptual understanding of reality which informs what one chooses to research (Bezuidenhout et al, 2014: 31). The methodology is how one goes about the research, the tools, and techniques used in research (Bezuidenhout et al, 2014: 31).

3.1.1 Ontology

Ontology refers to the nature of reality. Our conceptual understanding of reality informs us about what we are going to research and what we believe we know about it. As a researcher, it is important to understand how we see reality and how this influences the way we collect data. Figure 4 summarises the main three ontological assumptions.

Ontology	Assumptions
Objectivism	Tangible, single reality Objectivity of reality Reality is divisible and fragmentable
Subjectivism	Multiple realities Subjectivity of reality Socially constructed reality
Pragmatism	Reality is the effect of ideas Reality can be changed through interventions Focus on outcomes

Figure 4. Ontology Table

An objective ontology sees the social world as the natural world, made up of law-like, universal patterns that can be used to explain or predict behaviour (Kivunja and Kuyini, 2017: 30). These law-like assumptions and generalisability are perceived as good research and data are treated as the gathering of facts (Kivunja and Kuyini, 2017: 30). An implication of ontology is that it is important to understand a phenomenon from multiple perspectives by capturing different views and experiences (Bezuidenhout et al, 2014: 31). Thus, it is closely linked to interpretivist or constructivist studies where phenomenology, ethnography and more analytical approaches are common (Bezuidenhout et al, 2014: 31). However, this process of discovery is often very time consuming, uncertain and the analysis process can be challenging and complex (Bezuidenhout et al, 2014: 31). Ontology tends to be closely linked to problem solving and mixed methods approaches (Bezuidenhout et al, 2014: 31).

3.1.2 Epistemology

The nature of knowledge is dependent on the people involved in the phenomena under investigation, their opinions and their understanding. Epistemology is the aspect of philosophy focusing on how knowledge is acquired and what we can know about it (Bezuidenhout et al, 2014: 31)

3.1.3 Axiology

Axiology refers to the aims of the research and can be closely associated with the researcher's values and goals (Bezuidenhout et al, 2014: 31). Critical realist research has aims to explain and emancipate (Bezuidenhout et al, 2014: 31). Emancipation can be achieved in the following ways; by shedding light onto something new or different and it can be by offering an alternative that has not been thought about before (Bezuidenhout et al, 2014: 31).

4. Research Methodology

The research methodology determines how the study of a particular phenomenon has been approached (Sileyew, 2019). This section will describe the research approach used, the methods for data collection and analysis, and how the research will be designed to answer the research question and objectives.

There is no ready-made template for how to conduct a critical realist study. The process of formulating questions and deciding what other evidence to collect from documents and observations was not structured around a pre-determined protocol but evolved with the understanding of the research topic and project. The objective was not only to determine how household food waste takes place based on date labels had taken place but also why it had taken place. The search was not for one converging story or chain of events, but one converging explanation based on multiple sources of evidence. Interviews were loosely structured around the core question of how things happened and why, but often deviated from the script by going deeper into some specific parts or events of the projects that the participant had been particularly involved in.

4.1 Research Strategy

A research strategy is a step-by-step plan of action that provides direction to enable the researcher to conduct research systematically and on schedule to produce quality results and detailed reporting (Dinnen, 2014). This research report will use an inductive approach to research, this reasoning approach will help arrange data to form an argument (Bezuidenhout et al, 2014:127). Inductive reasoning entails a researcher collecting data that is relevant to the topic of interest (DeCarlo, 2019). Once a substantial amount of data has been collected, the researcher will then look for patterns in the data, working to develop a theory that could explain those patterns (Bezuidenhout et al, 2014:127). Thus, when researchers take an inductive approach, they start with a set of observations and then they move from those particular experiences to a more general set of

propositions about those experiences (DeCarlo, 2019). The inductive approach is relevant for a critical realist perspective as it takes a mixed method when researching to get greater context and personal experiences.

4.2 Research Design

The research design is intended to provide an appropriate framework for a study (Sileyew, 2019). A significant decision in the research design process is the choice made regarding a research approach, as it determines how relevant information for a study will be obtained. This study employed a mixed-methods approach. Primary data will be collected from semi-structured interviews and a digital survey.

Qualitative and quantitative research methods will be used to identify consumers' understanding of what these labels mean and how they are leading consumers to discard food products (Easton, 2010). Quantitative research methods will be used to establish general behaviour and date labelling practices in Pick n Pay retailers. The outcome of these research methods will help determine patterns of behaviour and add the body of knowledge in SA on the state as well as perceptions of date labelling. This would be the first step in trying to reduce food waste at the consumption level.

4.2.1 Qualitative: Interviews

Qualitative research is expressed verbally and is used to understand concepts, thoughts or experiences (Hammarberg, Kirkman, and de Lacey, 2016). This type of research enables you to gather in-depth insights on topics that are not well understood (Hammarberg et al, 2016). Qualitative semi-structured interviews are intended to obtain interpretations and descriptions that are rich and elaborate responses from participants (Bezuidenhout et al, 2014: 174). Semi-structured interviews are based on a list of questions, they ensure that specific topics are covered while simultaneously being flexible in that the sequence of questions is variable and queries can be added or omitted depending on the course of the

interview and the issues addressed (Sileyew, 2019). This research has employed semi-structured questions because they are the most appropriate to give space for the participant to express their experiences and their views as per the critical realist lens of the research.

The advantage of using interviews as a method is that it allows respondents to raise issues that the interviewer may not have expected (Hammarberg et al, 2016). It permits the researcher to seek new insights, ask questions, and assess phenomena from different perspectives (Hammarberg, et al, 2016). Semi-structured interviews will be done with participants either on a face-to-face basis or via a digital video call at Pick n Pay retailers, researchers workplace, or home this is due to the global COVID-19 pandemic which has limited movement and interaction with people. All interviews will be recorded and transcribed.

4.2.2 Quantitative: Online Survey

Quantitative research is expressed in numerical data and graphs, this type of research can be used to establish generalizable facts about a topic across a wider population (Bezuidenhout et al, 2014: 148). Each respondent is requested to reply to an identical list of questions mixed so that biasness was prevented. This survey will comprise of a structured questionnaire which will collect primary responses regarding consumers' household food waste practices, perception of date labels as well as possible reasons for this wastage.

A cross-sectional survey was developed to establish a holistic view of the household food waste challenge concerning date labels (Bezuidenhout et al, 2014: 149). The survey will have close-ended questions, true or false questions to test knowledge, and a five-item Likert scale. The survey will be distributed via a link on social media, email, and Whatsapp. Responses will be summed up to produce a score for the measures (Bezuidenhout et al, 2014: 149).

4.3 Sampling Plan

Shared characteristics, social elements, and sizes are considered as parameters of a population that can be used to create a sample for a study (Bezuidenhout et al, 2014: 133). This study will use a non-probability method to select a sample from the population as it is nearly impossible to collect data from the entire population (Bezuidenhout et al, 2014: 133). In this instance convenience sampling will be used which is a method that relies on data collection from population members who are conveniently available to participate in the study (Saunders, Thornhill, and Bristow, 2019; 128 – 171). This sampling method involves getting participants wherever you can find them and typically wherever is convenient (Saunders et al, 2019; 128 – 171). In convenience sampling no inclusion criteria are identified before the selection of subjects, all subjects are invited to participate (Saunders et al, 2019; 128 – 171). This method will be used due to the global pandemic and the nationwide lockdown in SA, the time constraints of the research proposal submission, and the financial implications.

The researcher will visit two Pick n Pay stores in the north of Johannesburg as it is the closest to her workplace and home to interview the store managers. The researcher will share the digital survey across social media platforms, community forums, WhatsApp groups, and encourage respondents to share across their platforms to gain 40 responses. The focus is to get more people to respond to get a deeper understanding of the research problem. No other limitations or requisites were set out regarding demographics, in other words, all willing individuals were welcome to partake irrespective of their gender or population group.

4.4 Data Collection Instrument

A key reason for collecting data, be it through quantitative or qualitative methods is to; ensure that the integrity of the research question is indeed maintained, reduce the likelihood of errors and the correct use of appropriate data collection of methods reduces the likelihood of errors consistent with the results (Formplus, 2020).

4.4.1 Qualitative: Interviews

The main purpose of the consumer interviews is to gain more depth and detail regarding consumers' knowledge of date labelling and subsequent household food wastage. The purpose of the interviews of Pick n Pay store managers is to determine to Pick n Pay's best practices in regards to the food label and their contributions as a meaningful brand to household food waste.

- Place: The interviews with consumers took place in a neutral environment to encourage open and honest communication between the participants most likely via video call due to the National Lockdown. The interviews with the Pick n Pay representatives will take place during their working hours thus it will take place at their store.
- Questions: The questions were formulated beforehand to guide the focus of the discussion.
- Interview Time: Spaces between the questions were allowed to record a respondent
- Acknowledgment: A final thank you statement was sent out to acknowledge the time the interviewees spent on the interviews.
- Date and Time: discussions will be planned in such a way that they suit all parties involved in terms of date, time, and place.

See Appendix B and C for the interview schedule

4.4.2 Quantitative: Online Survey

A digital survey will be created using an online platform called Survey Monkey to ensure it is easy to share as well as capture all respondents effectively and efficiently. The online platform easily stores and captures correlate responses into graphs and statistical data instantly upon receiving each response. This limits any human error through computerised capturing. The questionnaire will be available

in English as this is the language the researcher is fluent in and the most popular language used and understood by Gauteng residents.

See Appendix A for the Survey

4.5 Research Reliability and Validity

Reliability and validity within a research study refer to the accuracy, meaningfulness, and credibility of the study (Bezuidenhout et al, 2014: 256). A research study is only valid when the conclusions are meaningful and can be drawn from the data that is obtained (Bezuidenhout et al, 2014: 256). There are four traditional forms of validity to look: content validity, face validity, criterion validity, and construct validity.

4.5.1 Content Validity

According to Bezuidenhout et al (2014:257), content validity refers to a measure in place to ensure the data provides a representative sample of all content or elements of the phenomenon being measured. It is a means of measurement and represents all possible questions needed to study the problem at hand. In this study, the digital survey and interviews represent the questions and themes needed to study the problem at hand and misinterpretation of date labelling as a reason for food waste in households. To ensure content validity in all main concepts and their significant dimensions, indicators will be carefully identified to guarantee accurate representation in this study.

4.5.2 Face Validity

Face validity establishes the link between the questions and objectives, it can be summarised that face validity does not refer to what an instrument measures but rather to what it appears to measure (Bezuidenhout et al, 2014: 256). When a

test does not appear to be measuring what it is supposed to, it is said to have low face validity (Bezuidenhout et al, 2014: 256). To ensure face validity, all of the main concepts in the data collection instruments will be structured not only to measure the attributes under consideration accurately but also to be well designed and appear relevant to the research objectives.

4.5.3 Criterion Validity

Criterion validity assesses if the data collected and results will be able to predict future behaviour or if another researcher did a similar study would they come to the same conclusions (Bezuidenhout et al, 2014: 256). For this study, prompts were given and questions asked relating to consumers' date labelling knowledge. The answers will comparatively be interpreted to gain insight into consumers' knowledge of date labelling and to identify how knowledge could contribute to household food waste practices in Gauteng.

4.5.4 Construct Validity

Construct validity examines whether test performance corresponds to other variables and does it measure what it is supposed to (Bezuidenhout et al, 2014: 256). In this study construct validity will be ensured through a well-structured literature review that specified the relevant concepts and ensure the results from the data collection is relevant.

4.5.5 Reliability of the Study

According to Bezuidenhout et al (2014: 254), reliability is "whether the same set of results would be produced if the research was conducted by a different researcher at a different time using the same method and instruments". Thus the results need to be consistent and credible.

The reliability of the study will be ensured by the following;

- Increasing the sample size (the higher the sample size the best chance of the study being representative)
- Ensuring all questions are clear and unambiguous
- Standardising interview condition to prevent any unintentional bias or errors occurring
- Maintaining consistent measurements when assessing the results from the data collection

The researcher will also ensure reliability and trustworthiness by reducing possible sources of error during data collection by recording all interviews and ensuring the survey is digital to avoid human error. A cover letter will be attached to all data collection instruments to the purpose of the survey, the researcher's affiliation, and that confidentiality and anonymity were guaranteed to ensure the credibility of the research. The questions will be formulated in such a way that they were easy to interpret and understand.

5. Data Analysis

Content analysis is considered to be one of the most important research methods in the social sciences and is defined as a “technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (Krippendorff, 2004:18). In reaction to critiques that dismissed the originally largely quantitative method as overly simplistic reductions of data, researchers developed a qualitative content analysis approach that adheres to the systematic nature of the original technique but avoids unnecessary quantifications (Mayring, 2004).

The content analysis aims to achieve a summarised portrayal of a phenomenon by closely examining and distilling considerable amounts of text into relevant contextual categories. Content analysis is therefore defined as “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsiu-Fang and Shannon, 2005). This is why this data analysis method will be used in this research report because it focuses on contextualizing data and this is crucial when using a critical realist perspective.

5.1 Presentation of Results

This research study used a mixed-method approach such as qualitative and quantitative research methods and therefore will generate multiple sets of data. All data collected will be electronically captured and coded, the presentation of the data in the research proposal will be in a more comprehensible format, such as graphs and frequency tables. The research will then identify patterns, trends, and relationships that exist amongst a large number of variables and can be used for either exploratory or confirmatory purposes. While transcribing the responses from the interviews, the researcher has to be careful to maintain the integrity of the responses by not changing the wording as well as language use or grammar.

6. Discussion of Results

This section of the research report summarises the findings from the qualitative and quantitative data collection which aims at providing answers to the research questions.

6.1 Pick n Pay Food Waste and Date Labels

The following findings and discussions with the Pick n Pay Store Manager and Department Manager set out to answer the following research question, how does Pick n Pay contribute as a meaningful brand towards food waste at a consumption level?

The inclusion of Pick n Pay store managers is crucial as they are the gatekeepers for the stores and are on the “ground” daily therefore they will be able to provide deeper insight into the food waste and interpretations of date labels. The interview was semi-structured to allow for information and questions that the researcher didn’t plan for. The interview started by discussing the definitions of the use-by, best-by and sell-by dates, the store staff seemed quite knowledgeable regarding the date labelling terms and what they reference;

"OK, the difference between the Use by and sell-by date, the use by date is the date that that product is you need to consume it within that date and then the sell-by date is set in stone."

The researcher proceeded to find out how the date labels are determined and the manager provided an example for fresh produce. His response indicated that there is an understanding of the process of date labelling and a standard approach to date labelling.

"OK, firstly, I'll see it varies according to the fruits and veggies. Yeah, you get the soft food, you get the hard food. So the prices actually determined pertaining to how long does one last outside the fridge and a category that's been looking at them from there is how long does it last in the fridge? Yes. So for the most of the hard food, maximum of 14 days for the soft fruit. It's less than, let me just say, less than three days"

The findings from the discussion also highlighted that consumers don't observe dates intentionally if they do it because they see the date on the packaging is the date they are purchasing and would rather purchase a product with a date further away.

"Well, the truth is, over seven percent of our sales customers. Yeah, they don't look at the use-by date or the sell-by date. Yeah. Yeah. They just pick it up. Yes, they do. That's what I've seen. Because you get customers who come in and told you, okay, the use by date is today. So I don't want it. OK, yes."

To determine if the store staff are aware of food waste initiatives and what they do to curb food wastage the manager couldn't provide any specific information on any initiatives by Pick n Pay. From this result, it is clear that the initiatives discussed in the Pick n Pay sustainability report (Pick n Pay, 2019) are either not communicated with the store staff or they do not recall any of these food waste campaigns and initiatives. This leads one to assume that based on this the store staff isn't consciously aware of food waste implications and it doesn't impact them in any way as they just do what is required in the job description.

"Well, I cannot talk about on behalf of. I can be just on this. Yeah, but well, we as a store. The thing is we're a franchise. Oh yes. Yes. So all the different franchises do things well. We do things differently. We might do one or two. I mean, yes, basically we do have something that we have to follow. Yes. From

the beginning of this year. But will you know if ever we can go. It's not my are. Yeah"

The interview also revealed that once food product reaches its use-by date it gets disposed of and there aren't many options on what they can do with the food to avoid it ending up in a landfill. However, the Pick n Pay representative acknowledged that to avoid food waste that essentially results in lost sales, it all comes down to the ordering of the products and produce in the store. If the orders are done timeously and the current amount of quantities are ordered this will result in less food wastage.

"Well, we have to throw it away. That's the thing. So it all depends on me. How do I know that you need to order stuff that, you know will go we'll go back and then date. It has to go out. You're not supposed to leave it. I mean, you put it back on the shelf."

"And then we do have companies that come in and they just take the old food to the landfill."

From the results, it is clear that staff are trained quarterly on hygiene and food safety however the training doesn't include any direct specifics on food waste and the implications thereof.

"These are training that I mean, everybody in the store goes through OK. Yes, we're are taught on the hygiene and food safety. I think it's three times in the year."

The information in the literature review above stated that food products that are on the shelf and need to be sold by that day should be discounted however the interview results revealed that there isn't a Pick n Pay policy enforcing this and its

discretionary in each store as they are all franchises. This store in particular chooses not to do that as it encourages department managers to order more than what they need as they can sell more at a cheaper price and have increased sales. This store representative chooses not to discount which is a common practice amongst many retailers because they prefer quality over quantity.

"Yes. And it's not going to be the same money I'm very much concerned with when it comes to quality. We as a store, OK, because, you know, if you're aiming at five star. Yeah. And then you getting all the customers coming back with a quality product, then. Yeah. You know, you'll never get there."

"So it's just about quality control."

6.2 Online Survey Results

The online survey demographic results indicated that the respondents were mostly female, predominantly between the age of 25 to 34 years old and most respondents were from the coloured and white population group.

Which population group do you belong to?

Answered: 31 Skipped: 0

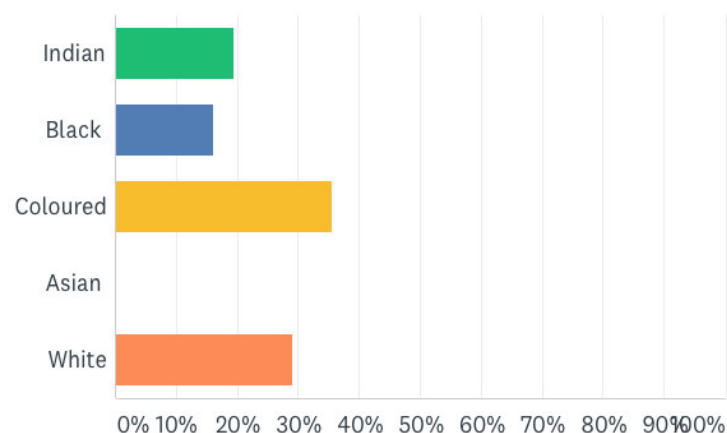


Figure 5. Population Graph

Which age bracket do you fall under?

Answered: 31 Skipped: 0

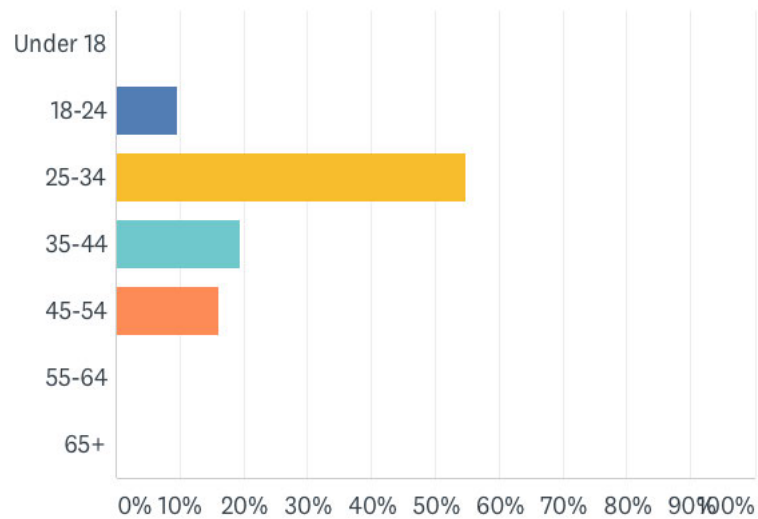


Figure 6. Age Bracket

What is your gender?

Answered: 31 Skipped: 0

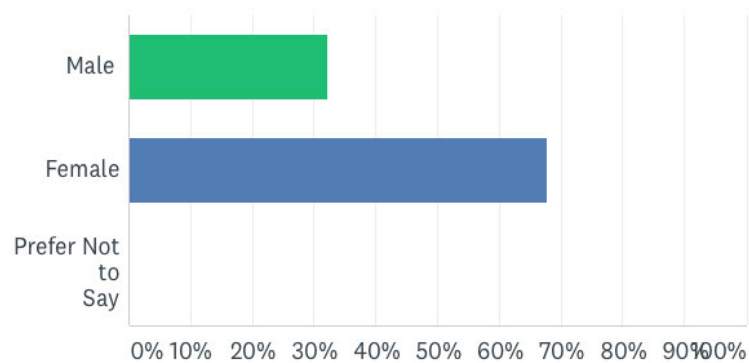


Figure 7. Gender

The results demonstrate two things, firstly it shows that people understand the use-by date means it's the last date one can consume a food product before it's considered unsafe to the consumer. Secondly, they also are aware of what the best-before date refers to.

	A USE-BY DATE TELLS THE CONSUMER THE LAST DATE RECOMMENDED FOR SAFE CONSUMPTION	A BEST-BEFORE DATE TELLS THE STORE HOW LONG THE DATE CAN BE EXTENDED ON THE SHELF FROM THAT DATE	THE PURPOSE OF A BEST-BEFORE DATE IS TO TELL THE STORE HOW LONG THE PRODUCT CAN BE ON SHELF	USE-BY DATE IS EVALUATED BY CONSUMERS TO DETERMINE THE QUALITY OF THE PRODUCT
True	83.87% 26	25.81% 8	48.39% 15	22.58% 7
False	15.38% 4	46.15% 12	15.38% 4	61.54% 16

Figure 8. Date label meanings

The online results demonstrated that more than 60% of respondents waste food because it appeared rotten and/or of poor quality. The other main contributing factor is that the food products have reached their best-before date. This result indicates that the expiry dates play a critical role in contributing to food waste.

Reflecting on your households' general food wastage, please indicate which of the following statements/reasons have contributed towards wastage.(You may select more than one answer)

ANSWER CHOICES	RESPONSES
We discard food because it appeared to be poor quality, off and/or rotten	61.29% 19
We discard food because the product best-before date has been reached or passed	51.61% 16
We discard food because the product use-by date has been reached or passed	38.71% 12
We discard food because we buy more than what was needed	22.58% 7
We discard food because we bought promotion deals and didn't consume it all	16.13% 5
We discard food because we buy food that is too close to the sell-by date	6.45% 2

Figure 9. Household food waste contributions

The results also indicated that consumers aren't as worried as they should be about the impact of food waste even though most consumers said that they are somewhat familiar with the impact of food waste. This is rather concerning and awareness campaigns need to be driven as this could be a result of a lack of education and information surrounding implications of food waste.

How familiar are you with the impact of food waste?

Answered: 31 Skipped: 0

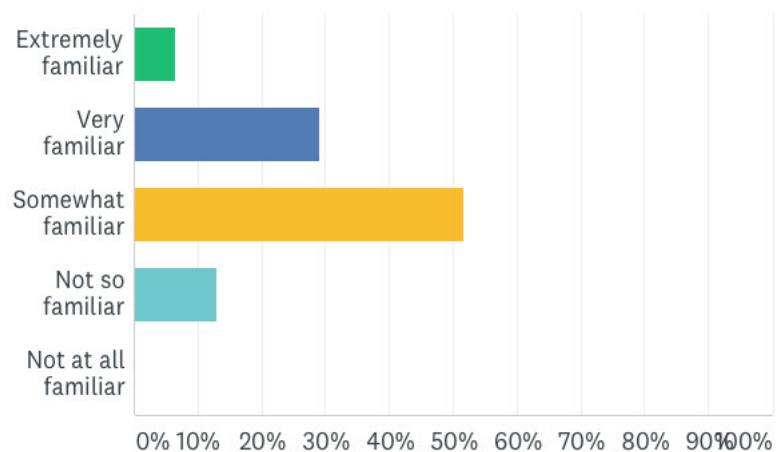


Figure 10. Impact of Food Waste

How worried are you about the impact of food waste?

Answered: 31 Skipped: 0

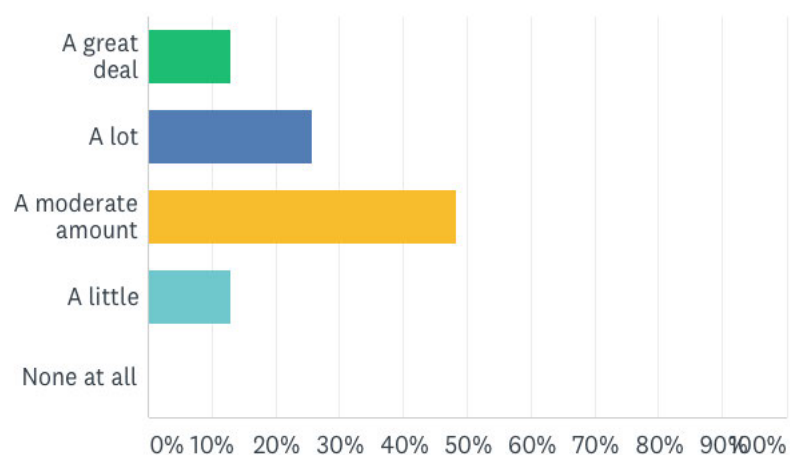


Figure 11. Level of concern for the impact of household food waste

6.3 Semi-Structured Interviews

The interviews aimed to get more context into consumers' household behaviour and how date labels impact their behaviour. The interview findings and results were very similar to the results of the online survey. The results from the online indicated that people are aware that throwing away food is morally wrong however there is a lack of awareness of the implications food waste has on the environment and the alarming hunger statistics in the SA (WWF,2017).

"I know that throwing food away is wrong because of the poverty in our country but I don't really know what else to do with the food if it goes off."

The results from the interview also highlight that people are aware of the date labels on the products and they adhere to it because they are concerned with their health or getting sick. There isn't an awareness that food can still be consumed after its best-before date (Newsome et al, 2014:746). Consumers stick to the dates on the products previously.

"The food can look and smell fine but I won't risk it, I just throw it away"

In regards to the date labels consumers, the interview showed that consumers found a striking amount of diversity in interpretation of the meaning of these labels, suggesting a need to standardize labelling and better educate consumers. The labels most commonly perceived as indicators of food quality were best if used by, and best by and which were perceived as indicators of quality by both best if used-by and best-by were also relatively unlikely to be misperceived as food safety labels. The majority of consumers were not sure of the sell-by label and there was confusion if it refereed to the store or when it should be consumed by as it wasn't constantly on all labels.

6.4 Summary of results

The results were gathered by implementing both quantitative and qualitative data collection techniques, this implied an exploratory mixed methods research design. The results were presented according to the objectives of the study obtained.

6.4.1 Consumers Household Food Waste

The research focused on consumers' household waste practices, date labelling as a pertinent reason for wastage, consumers' knowledge of date labelling, as well as possible avenues and suggestions that could be implemented to mitigate consumers' misinterpretation of date labelling, and thus curb food waste.

The research sample consisted of 33 participants in total who were recruited across Gauteng for the research. The majority of the sample was female (67% of respondents) which isn't a problem as in SA the main decision-makers regarding household groceries are still mostly women (Nahman et al, 2013). The findings from the quantitative data revealed that 71% of the respondents neither agree or disagree that they are well-informed about what the sell-by date means. Whereas the respondents felt well informed on what the best-before and use-by dates mean.

Date labelling is usually used as a source of information about the product. This is where consumers' knowledge has an important role regarding information searching and processing (Newsome et al, 2014:747). During qualitative and quantitative data results, the date labelling was identified as one of the top contributors to household food waste practices with more than 50% of respondents indicating that the best-before date label is the reason food is discarded. Date labelling was the top reason for household food was across the various demographic categories, and no significant differences were found. Consumers' knowledge on date labelling was measured in all data collection instruments. Most consumers seemed. To understand the best-by and use-by

dates however the sell-by date seemed to confuse as to what it refers to and left room for misinterpretation.

These findings are supported by Gunders (2012), who found that multiple dates, inconsistent usage, and lack of education around date labels cause consumers to discard food unnecessarily. A recent study in the UK indicated that 20-25% of household food waste was due to consumers interpreting date labelling information incorrectly. Research that was published in the USA indicates that 71% of consumers misunderstand the terms use-by and best-before (Newsome et al, 2014). This research report found similar results found in the studies conducted in the UK and the USA.

In order to gain valuable insight, the research furthermore also explored possible suggestions to curb household food wastage. The respondents were asked to propose suggestions on what they could do and the findings revealed that poor planning, date labels being hard to read and understand, promotions, and food packaging were identified as the main causes of household food wastage in households. Date labelling was identified as one of the top three reasons, thus confirming the proposal that consumers' knowledge of date labelling does contribute to household waste practices. Consumers suggested that creating a list, planning meals better within their household, knowing how to reuse and repurpose leftovers could help reduce their household waste.

Consumers were also asked what provides a barrier that limits their household from curbing their weekly household food waste. Most consumers said that knowledge on how to prevent food waste, what to do with their food waste, and lack of knowledge on overall waste management contributes to these households from curbing their food waste. Consumers also stated that a "lack of awareness" and a "lack of accountability" contributed towards their household food waste as it doesn't bother them too much for them to implement any behavioural changes within their households. Consumers also stated that they don't know or have suitable methods for food waste disposal.

6.4.2 Pick n Pay Food Waste Behaviour

Based on the research identified in the literature review on Pick n Pay as a meaningful brand contributing towards reducing in-store waste, entering the store to discuss the store's initiatives, one expected to hear about many food reduction methods (Sustainable Living Report, 2019). The Pick n Pay store representatives weren't able to specify any exact campaigns or initiatives that they undertake to encourage the reduction of food waste.

The South African health minister mentioned whilst speaking at the National Health Laboratory Service in 2018 that the sell-by date will be abolished as they have acknowledged that the various date labels have caused increased confusion with consumers. The United Nations' food standards body implemented new definitions for date labels to make it easier for consumers to understand, these definitions excluded sell-by dates (Business Tech, 2018). Although the sell-by date was meant to be removed off food products walking in the Pick n Pay store numerous products which still have the sell-by date on them even though it is no longer relevant.



Figure 13. Sell-by dates

A common practice amongst retailers is to discount products that are near or are on their best-before date to drive sales of the food products to avoid discarding it however the pick n pay representative stated this is not something they do in their store as they value product quality and won't discount these products as it encourages store managers to order more to discount it once it reaches this date. According to Jackson (2020), in SA the sale of non-perishable food past its best before date should be discounted and it is not illegal. Furthermore, food sold beyond its best before the date that is not discounted, and consumers aren't made aware of this should report the retailer. Thus not seeing any discounted food products as a result of their best before date leaves one to wonder if they are following this rule or their store is good at ordering the correct quantity to reduce the instances of this from occurring.

7. Conclusions and Recommendations

This section presents the conclusion of the research, the limitations of the study are discussed as well as recommendations for future research are made. Research methodology and procedures are also discussed and reviewed.

7.1 Ethical Considerations

Ethical behaviour is critical in any research that is conducted and must be maintained throughout the research process. Ethics is the foundation of research and it needs to be adhered too to ensure research is credible and trustworthy (Bezuidenhout et al, 2014: 272). False results or claims can cause serve impact and there is a responsibility to always act with integrity (Bezuidenhout et al, 2014: 272).

The following was done to ensure and protect the researcher and the respondents who participated in the study. The purpose of the study was explained thoroughly to the respondents who decide to participate in the study (verbally and written), their participation is completely voluntary and this was reiterated to them throughout the data collection. The participants were allowed to withdraw from the study at any time and could withdraw any information if they felt uncomfortable.

The consent form was firstly approved by the Ethics Committee of Vega Bordeaux and before the respondents completed or answered any data collection instrument, there was a consent form ensuring that an ethical code of practice is followed and they were aware of the purpose of the research as well as confirming their confidentiality. The confidentiality of each respondent was preserved as no names and personal details as required. The researcher ensured no results of the data was changed or amended in any way. All secondary data sources used

throughout the research proposal have been credited and acknowledged to ensure that none of these views are reflected as the researcher's views.

Ethical clearance to conduct the research can be found in Appendix E.

7.2 Limitations and Trustworthiness

According to Bezuidenhout et al (2014: 275), limitations of the study refers to any elements out of the researcher's control such as time and financial constraints. Throughout the study, the researcher ensured that the study obtained accurate data reliably and ethically. However, the study has been restricted by certain limitations. The researcher is employed full-time during this research project, which exerted pressure in terms of the time required to complete the research. The global pandemic of COVID-19 has greatly affected SA and the researcher also fell ill during the research project which slowed down the research project.

The generalizability of the results will be limited as convenience sampling was used to collect the data based on accessibility, the problem is that convenient sample is not necessarily representative of the population that it is drawn from. The population in SA is extremely complex, and to understand the various cultural and contextual factors in understanding household food waste challenge on date labelling requires a much larger sample, which was financially and logistically not achievable for this study. The research attempted to include respondents from various backgrounds which is why there are demographic questions in the survey to display a broad context perspective.

The research topic can be personal as it questions people's behaviour within their household and to ensure consumers feel comfortable answering questions honestly the researcher decided on one-on-one interviews rather than focus groups where people might be reluctant to answer honestly or their answer might be swayed to be similar to the rest of the group. This was timeous however the

researcher factored in rather getting a few honest answers than doing a quick focus group with answers that might not be as reliable.

The online survey was done through a digital survey platform and even though it was shared with the researcher's Facebook, Instagram and WhatsApp contacts the survey only has 31 respondents. The researcher hoped the survey would minimum get between 40 to 50 responses however this was not achieved. The researcher visited a prominent Pick n Pay outlet in the north of Gauteng and when the researcher visited another Pick n Pay retailer the store was not comfortable with answering the questions and conducting the interview as they did not want to get the brand and store into trouble as they weren't sure of legal implications of speaking for the research. This made it difficult for the researcher to determine multiple points of view from various Pick n pay stores as they are owned by different franchisees'.

The semi-structured interview was conducted with two people that the researcher was able to sit down with and talk through their household food waste behaviour. The researcher found this difficult and time consuming to get participants due to the COVID-19 pandemic globally and SA increasing rates. The researcher also lives with high risk and vulnerable individual therefore the researcher had to be extremely cautious when going out and speaking to participants for the research report.

Taking into consideration the limitations of the study, the research can still be considered trustworthy as all participants were informed of research objectives and informed of their responses would be kept confidential and aggregated for research purposes. The researcher also ensured all data was captured correctly and kept personal biases out of the research collection and data analysis.

Semi-structured interviews were recorded using an iPhone and captured through the use of transcription software to avoid manual capturing errors. The online survey automatically captured and recorded answers then displayed the answers in an aggregated format that in no way can be edited or tampered with. The

presentation of the survey results was in easy to understand graph formats which displayed responses and statistically calculated them into percentage formats. The survey had open text fields therefore the researcher grouped the responses that were the same or similar in meaning to evaluate the responses and gain insights from them.

7.2.1 Delimitations of the study

The results of the study could be generalized to households with a mid-high income in South Africa who shop at supermarkets and retailers in South Africa. The study will not focus on all reasons for household food waste but purely perceptions of date labels and discarding of food as a result.

7.3 Recommendations

It is recommended that consumers' knowledge be further investigated in future research and applied in a variety of research fields, such as clothing, hospitality, sustainability, psychology, marketing, and retail industry to gain a deeper understanding of how consumers generally respond to marketing, labels and retailer interactions as insights from different industries can be insightful and useful to improve date labelling interpretations. This research only used relevant sections from qualitative and quantitative research results however future research could make use of the other sections relating to food wastage results that might be necessary to contribute to their studies.

Further research could attempt to explore date labelling regulations and guidelines in the South African context to be able to propose a standardised guideline for manufacturers and retailers when determining the dates on food labels (specifically on fresh produce, bread, pap and other grains that were revealed to be the food discarded the most in the country (Ramukhwatho et al, 2014). The suggestions could be used to implement new regulatory requirements for date labelling to prevent household food waste. It is also recommended that a food

waste management policy regarding the issue of date labelling is compiled, implemented, and monitored across retailers.

The policy could be used in various industries for both retailers and the government regarding the need for informing and educating consumers. Based on the research findings, their needs to be legislation and policies implemented as retailers currently act upon their discretion based on their needs. Although previous research done in South Africa has provided figures on the amount/quantity of wastage (10.2 million tonnes per year), further research can be done to provide evidence of the amount of food that is prematurely discarded or wasted linked to date labelling, to encourage the SA government to act and regulate the date labels.

While household food wastage practices are explored in this research further research needs to be done on what action can be taken with food that will be discarded from retailers to feed the hungry in the country as the country's poverty and hunger rates are highlighted earlier in the research report is alarming. This way it can be addressed in a meaningful and practical manner. It is recommended that future research look at South Africa's food security and how to assist those in need, instead of curbing food that will go to waste unnecessarily.

Suggestions can be given to consumers on how to determine (using their judgment and the knowledge available) if food products are still safe for consumption or not, which could mitigate future food wastage. These suggestions could be explored and investigated in future research that could aid consumer education and knowledge dimensions on the safe consumption of fresh produce, for example, when a banana turns brown on the outside it looks unappealing to the consumer – however, it is still safe for consumption. So, instead of discarding the product prematurely, it could still be consumed. This could also help fill the gap of knowledge that consumers admitted too in the qualitative and quantitative research results.

Furthermore, it is also recommended that the cost of food that is discarded be calculated to educate consumers on the amount of money that they waste by discarding food that is still safe for consumption. Moreover, further research on food waste management practices needs to be addressed at every stage in the supply chain to address the issue of food wastage across all food categories in South Africa as recent studies also emphasise the notable lack of information regarding general waste management in households.

Many stated that they are ignorant and aren't aware of the broader implications of their food waste behaviour therefore further research needs to be done on how to effectively educate South Africans to ensure food security of the country. Suggestions could be to look at implementing overall waste management strategies within households to encourage recycling and reusing. Future research could also look at how to address the stigmas of food products that don't look as aesthetically pleasing but still perfectly good to eat and encourage consumers to be more cognizant of what they put in their trash. There is a bigger job to be done to address and effectively change behaviour within South Africa to emancipate and empower the people to prevent the current waste practices. It seemingly comes down to a lack of action from the government and a lack of knowledge by the citizens of the country.

7.4 Implications of the Findings

SA as a country is complex with multiple topics that are politically a priority in which resources will be allocated too however the government needs to prioritise sustainability. Consumers must be educated in terms of their household food waste behaviour as well as the usage and interpretation of date labelling. Although consumers occasionally review the information available, based on the research findings they do not have the reference point of knowledge available to interpret and apply the information when it comes to date labelling. Thus it's critical to identify the importance of the role that consumers' knowledge has during purchasing, consumption, and wastage points. If consumers are not properly educated, do not possess the necessary knowledge regarding the implication of

their household food wastage practices and date labelling usage and interpretation, they will not be able to make informed decisions concerning food consumption, and will not be able to contribute to sustainable practices that could mitigate unnecessary food wastage.

7.4.1 Implication for retailers

According to the Department of Environmental Affairs (DEA, 2010), it is important to encourage a focus on factors such as food retailers, who determine the public's discipline and desire regarding the commitment to more sustainable practices. Amending retail practices about date labelling such as extending the shelf life of products and educating consumers could contribute to sustainable wastage practices.

Retailers need to acknowledge their crucial role in food waste behaviour and practices and need to employ sustainable practices within their retail environment to educate staff and encourage educating consumers on date labelling information. Furthermore, retailers need to set the tone and contribute to food security as they are in an important role within the food waste ecosystem in the country. Retailers should identify the dates on labels so that consumers can easily interpret the information. If consumers struggle to read or interpret the dates on labels, they may easily get confused or misinterpret the label information provided to them.

7.4.2 Implications for government

The government has committed to the UN that it is working on sustainable goals however this commitment needs to be solidified into policies and legislation that be monitored and regulated. Without government intervention then little will be actioned, based on the government intervention discussed in the literature review which saw a decrease in household waste in South Korea then the necessary behaviour changes will never take place. The government can drive awareness campaigns, date labelling practices, and policies, and the education of consumers

on behaviour changes to mitigate household food waste. If food waste is not reduced, it will harm our environmental and economic resources (Lipinski et al, 2013). This will result in further implications as the future growth of South Africa is highly dependent on natural resources, which should be conserved (Lipinski et al, 2013).

7.5 Conclusion

The framework of critical realism shaped how this research was approached, including the kind of questions asked in interviews and how data were analysed to produce plausible explanations. The assumptions and recommendations made based on the research findings are complex and come from the premise that individuals are social beings who act based on previous experiences and prior social interactions (Sorrell, 2018).

The researcher is confident that all the research questions were attended to and addressed satisfactorily. It was possible to make relevant conclusions based on the data that were generated in terms of all the questions and goals that were set. Adopting a critical realist perspective to view, examine, and explain implications of date labelling on household food waste behaviour also allows a particular vision into the different levels of reality. Through critical realism, it is possible to conclude that the literature on household food waste behaviour is lacking within SA, especially addressing the clarification of date labels and retailers' role in the confusion amongst consumers. Traditional content analysis was used to find the themes around the norms, rules, resources, motivations, beliefs, and interaction, and reasoning that were employed to find credible explanations and theoretical underpinnings.

It is believed that the findings presented in this study add to the body of literature about household food waste and date labels impact on discarding of food but more importantly, it adds to the role and influence of consumers' knowledge in terms of date labelling. The study also highlighted Pick n Pay as a crucial retailer acting as

a meaningful brand and how it's contributing towards reducing food waste by assessing their date label practices.

The research findings that date labelling presented that date labels should not solely be viewed as one of the main problem areas contributing to household food waste, but should rather be reviewed as a great opportunity in terms of consumer activation. It is believed that through assistance from the government and retail, consumers could be educated regarding the proper interpretation of date labelling, which could not only empower them but could also start a positive wave in terms of alleviating household food waste.

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Appendix A

Consumer Online Survey

Household Food Waste

Dear respondent:

The purpose of this study is to gain insight into the on-going problem of food wastage in South Africa. The study is particularly interested in consumers' current food consumption and waste management practices as well as date labeling of food products' impact on food waste.

Participants in this study will be asked to answer a number of questions regarding their own food consumption and waste management practices and policies.

All answers will be recorded for further use by the researcher only. Respondents are welcome to refrain from answering any questions that they view to be the cause of any discomfort or infringement of their privacy.

Refusal to participate or withdrawal of consent, or discontinued participation in the study will not result in any penalty. Please note that your participation is voluntary and does in no way release the researcher or involved institutions from their legal and professional responsibilities.

All information will be treated as highly confidential and the identity of respondents need not be disclosed and will remain anonymous. The results of this study will be presented in an aggregated format. Your decision to respond to the questions posed will be interpreted as confirmation that you have agreed to participate.

Thank you for taking the time to share your perspectives and views in this regard.

OK

Q1

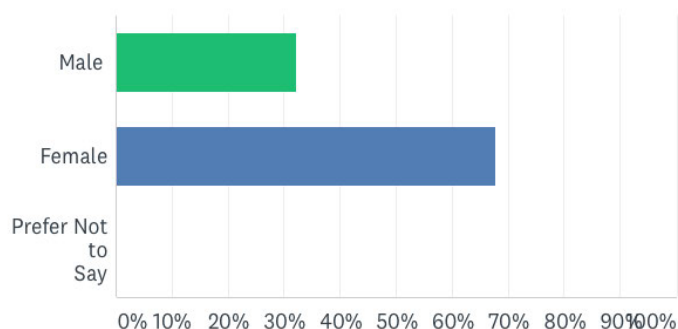


Customize

Save as ▼

What is your gender?

Answered: 31 Skipped: 0



ANSWER CHOICES	RESPONSES
▼ Male	32.26% 10
▼ Female	67.74% 21
▼ Prefer Not to Say	0.00% 0
TOTAL	31

Q2

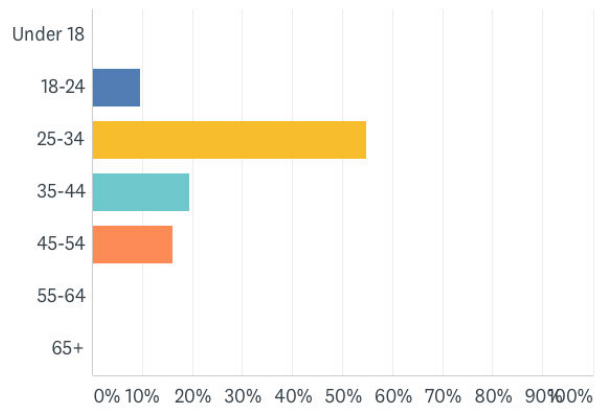


Customize

Save as ▼

Which age bracket do you fall under?

Answered: 31 Skipped: 0



ANSWER CHOICES ▼	RESPONSES ▼	
▼ Under 18	0.00%	0
▼ 18-24	9.68%	3
▼ 25-34	54.84%	17
▼ 35-44	19.35%	6
▼ 45-54	16.13%	5
▼ 55-64	0.00%	0
▼ 65+	0.00%	0
TOTAL		31

Q3

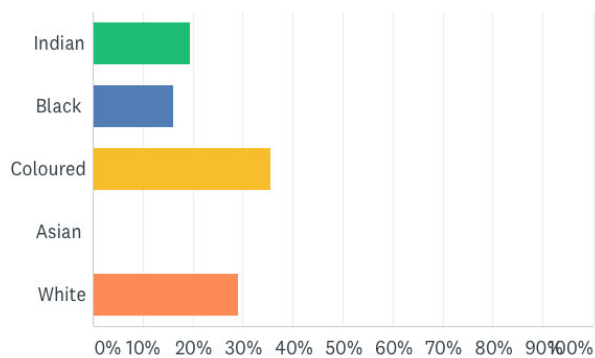


Customize

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Which population group do you belong to?

Answered: 31 Skipped: 0



ANSWER CHOICES ▼	RESPONSES ▼	
▼ Indian	19.35%	6
▼ Black	16.13%	5
▼ Coloured	35.48%	11
▼ Asian	0.00%	0
▼ White	29.03%	9
TOTAL		31

Q4

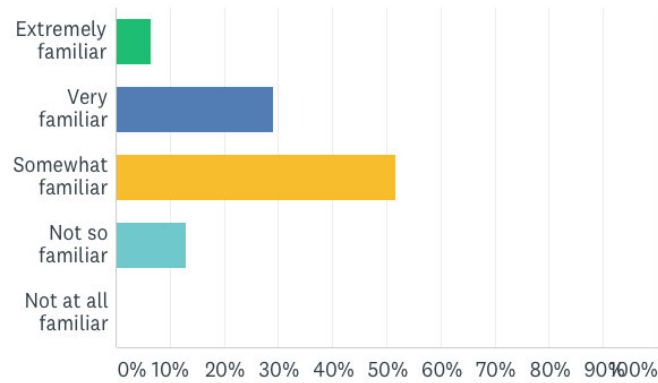


Customize

Save as ▼

How familiar are you with the impact of food waste?

Answered: 31 Skipped: 0



ANSWER CHOICES ▼	RESPONSES ▼	
▼ Extremely familiar	6.45%	2
▼ Very familiar	29.03%	9
▼ Somewhat familiar	51.61%	16
▼ Not so familiar	12.90%	4
▼ Not at all familiar	0.00%	0
TOTAL		31

Q5

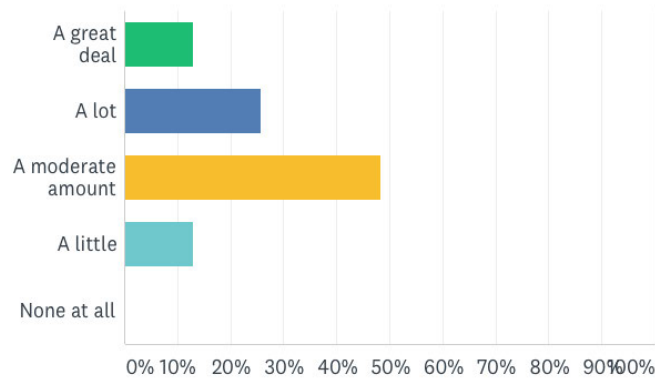


Customize

Save as ▼

How worried are you about the impact of food waste?

Answered: 31 Skipped: 0



ANSWER CHOICES ▼	RESPONSES ▼	
▼ A great deal	12.90%	4
▼ A lot	25.81%	8
▼ A moderate amount	48.39%	15
▼ A little	12.90%	4
▼ None at all	0.00%	0
TOTAL		31

Q6



Save as ▼

Please provide a barrier that limits your household in curbing/addressing your weekly food waste

Answered: 31 Skipped: 0

RESPONSES (31)

WORD CLOUD

TAGS (0)



Sentiments: OFF

**PAID FEATURE**

Text Analysis lets you search and tag comments and see word clouds of frequent words and phrases. To get this feature, upgrade to a paid plan.

**UPGRADE**[Learn more »](#)

Apply to selected ▼

Filter by tag ▼



Search responses

Showing 31 responses

8/26/2020 8:21 PM

[View respondent's answers](#)[Add tags ▼](#)

Lack of awareness

8/26/2020 8:15 PM

[View respondent's answers](#)[Add tags ▼](#)

We only buy food for the week ie we plan the weeks meals and buy accordingly. Where there are left overs we eat for lunch or if the food has expired sooner than expected we turn the waste into compost.

8/26/2020 8:10 PM

[View respondent's answers](#)[Add tags ▼](#)

Suitable methods for waste disposal

8/26/2020 8:04 PM

[View respondent's answers](#)[Add tags ▼](#)

Q7

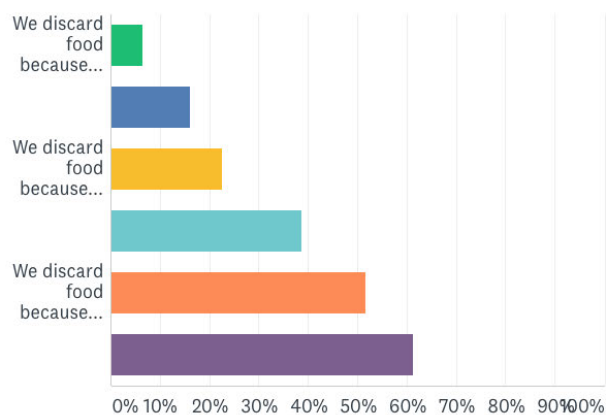


Customize

Save as ▼

Reflecting on your households' general food wastage, please indicate which of the following statements/reasons have contributed towards wastage.(You may select more than one answer)

Answered: 31 Skipped: 0



ANSWER CHOICES ▼	RESPONSES ▼	
▼ We discard food because we buy food that is too close to the sell-by date	6.45%	2
▼ We discard food because we bought promotion deals and didn't consume it all	16.13%	5
▼ We discard food because we buy more than what was needed	22.58%	7
▼ We discard food because the product use-by date has been reached or passed	38.71%	12
▼ We discard food because the product best-before date has been reached or passed	51.61%	16
▼ We discard food because it appeared to be poor quality, off and/or rotten	61.29%	19
Total Respondents: 31		

Q8

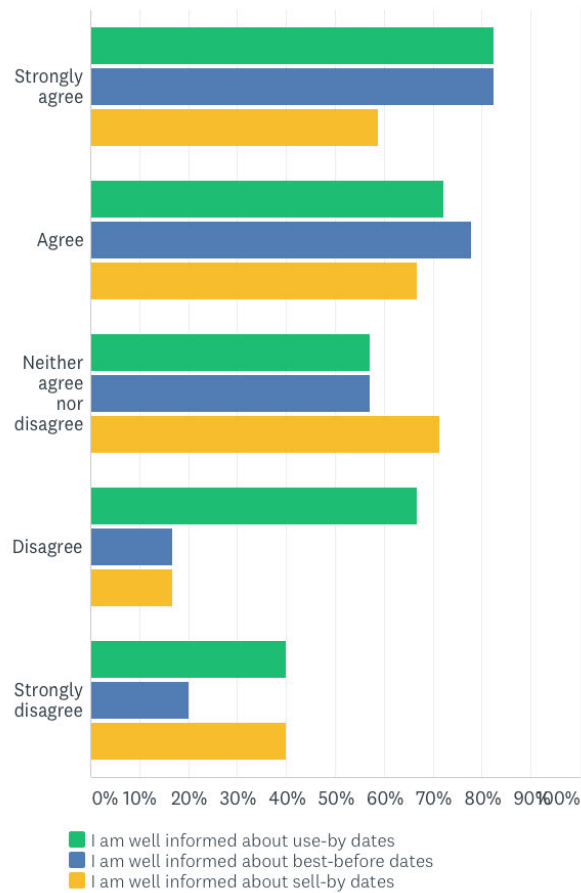


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Save as ▼

Please indicate how you agree with the following statements

Answered: 31 Skipped: 0



▼	I AM WELL INFORMED ABOUT USE-BY DATES ▼	I AM WELL INFORMED ABOUT BEST-BEFORE DATES ▼	I AM WELL INFORMED ABOUT SELL-BY DATES ▼	TOTAL RESPONDENTS ▼
▼ Strongly agree	82.35% 14	82.35% 14	58.82% 10	17
▼ Agree	72.22% 13	77.78% 14	66.67% 12	18
▼ Neither agree nor disagree	57.14% 4	57.14% 4	71.43% 5	7
▼ Disagree	66.67% 4	16.67% 1	16.67% 1	6
▼ Strongly disagree	40.00% 2	20.00% 1	40.00% 2	5

Q9

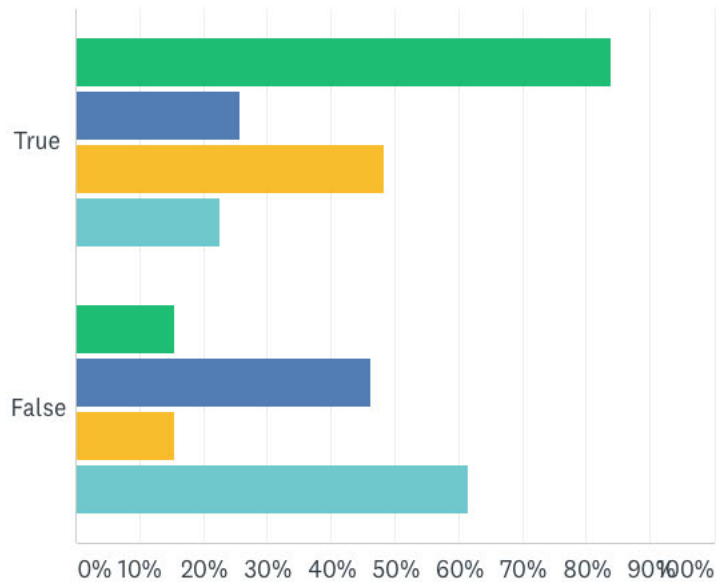


Customize

Save as ▼

Please indicate if the following statements in your view are true or false

Answered: 31 Skipped: 0



- A use-by date tells the consumer the last date recommended
- A best-before date tells the store how long the date can be extended on the shelf
- The purpose of a best-before date is to tell the store how long the product can be on shelf
- Use-by date is evaluated by consumers to determine the quality of the product

	A USE-BY DATE TELLS THE CONSUMER THE LAST DATE RECOMMENDED FOR SAFE CONSUMPTION ▼	A BEST-BEFORE DATE TELLS THE STORE HOW LONG THE DATE CAN BE EXTENDED ON THE SHELF FROM THAT DATE ▼	THE PURPOSE OF A BEST-BEFORE DATE IS TO TELL THE STORE HOW LONG THE PRODUCT CAN BE ON SHELF ▼	USE-BY DATE IS EVALUATED BY CONSUMERS TO DETERMINE THE QUALITY OF THE PRODUCT ▼	TOTAL RESPONDENTS ▼
▼ True	83.87% 26	25.81% 8	48.39% 15	22.58% 7	31
▼ False	15.38% 4	46.15% 12	15.38% 4	61.54% 16	26

Q10



Save as ▼

Please provide at least one suggestion that might encourage or enable your household to address your current weekly food wastage.

Answered: 31 Skipped: 0

RESPONSES (31)**WORD CLOUD****TAGS (0)**

Sentiments: OFF

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Search responses

Showing 31 responses



Stop buying so much fruit at once

8/26/2020 9:56 PM

[View respondent's answers](#)[Add tags ▼](#)

Consume products before the expiry date.

8/26/2020 9:40 PM

[View respondent's answers](#)[Add tags ▼](#)

There are hungry people who could use the food we waste.

8/26/2020 9:35 PM

[View respondent's answers](#)[Add tags ▼](#)

Buy only what you need

8/26/2020 9:06 PM

[View respondent's answers](#)[Add tags ▼](#)

Appendix B

CONSUMER INTERVIEWS

Informed Consent Form

Dear respondent:

The purpose of this study is to gain insight into the on-going problem of food wastage in South Africa. The study is particularly interested in both consumers' and retailers' current food consumption and waste management practices as well as date labelling of food products impact on food waste.

Through this research project we would like to identify problem areas and to subsequently provide guidelines so that both retailers and consumers would know how they could become involved in supporting this worthy cause.

Participants in this study will be asked to answer a number of questions regarding their own food consumption and waste management practices and policies.

All answers will be recorded for further use by the researcher only. Respondents are welcome to refrain from answering any questions that they view to be the cause of any discomfort or infringement of their privacy.

Refusal to participate or withdrawal of consent, or discontinued participation in the study will not result in any penalty. Please note that your participation is voluntary and does in no way release the researcher or involved institutions from their legal and professional responsibilities.

All information will be treated as highly confidential and the identity of respondents need not to be disclosed and will remain anonymous. The results of this study will be presented in aggregated format. Your decision to respond to the questions posed will be interpreted as confirmation that you have agreed to participate.

Thank you for taking the time to share your perspectives and views in this regard.

SEMI STRUCTURED INTERVIEW PROMPTS

Date Specific

1. What does use by date on food products indicate?
2. What does best by date on food products indicate?
3. What is the purpose of a sell by date?
4. What is the purpose of a best by date?
5. Why do you use/evaluate use by date on fresh produce?
6. Does price promotions motivate you to purchase regardless of the date label or not? Why/Reason?
7. Do you notice the use-by or sell-by date upon or prior to purchasing? Why/Reason

Behaviour Specific

1. Are you aware of your household food waste? Why/Reason
2. What motivates you to avoid food waste? Tell us your thoughts.
3. Do you do anything in your home to curb food waste?
4. Are you aware of the impact of food waste? Why/Reason
5. What would encourage or motivate you to curb food waste in your household Why/Reason

Thank you very much for sharing your views.

Appendix C

PICK N PAY INTERVIEWS

Informed Consent Form

Dear respondent:

The purpose of this study is to gain insight into the on-going problem of food wastage in South Africa. The study is particularly interested in both consumers' and retailers' current food consumption and waste management practices as well as date labelling of food products impact on food waste.

Through this research project we would like to identify problem areas and to subsequently provide guidelines so that both retailers and consumers would know how they could become involved in supporting this worthy cause.

Participants in this study will be asked to answer a number of questions regarding Pick n Pays food waste waste management practices and policies, date labelling practices and contribution to household food waste.

All answers will be recorded for further use by the researcher only. Respondents are welcome to refrain from answering any questions that they view to be the cause of any discomfort or infringement of their privacy.

Refusal to participate or withdrawal of consent, or discontinued participation in the study will not result in any penalty. Please note that your participation is voluntary and does in no way release the researcher or involved institutions from their legal and professional responsibilities.

All information will be treated as highly confidential and the identity of respondents need not to be disclosed and will remain anonymous. The results of this study will be presented in aggregated format. Your decision to respond to the questions posed will be interpreted as confirmation that you have agreed to participate.

Thank you for taking the time to share your perspectives and views in this regard.

SEMI STRUCTURED INTERVIEW PROMPTS

1. What does use by date on food products indicate?
2. What does best by date on food products indicate?
3. What is the purpose of a sell by date?
4. What is the purpose of a best by date?
5. How does Pick n Pay use/evaluate use by date on fresh produce?
6. Does Pick n Pay have any campaigns, tactics, ~~etc~~ to curb household food waste
7. Are staff trained on how to apply/understand use-by and sell-by dates?

Thank you very much for sharing your views.

Appendix D

Transcript with Pick n Pay Representative

Researcher (Kirstie Weber): So, yeah, I'm doing a study on household food waste and the impact of data labels have on people throwing away food. So I wanted to get an understanding from your guys perspective, because at the moment there's a lot of different date labels on products. I mean, we walk into a store and you see so many different date labels. How do you guys go to determining the product, especially on fresh produce? How do you guys determine the dates such as use-by dates of expiry dates? And what's your understanding of what it all means?

Pick n Pay Representative: OK, firstly, I'll see it varies according to the fruits and veggies. Yeah, you get the soft food, you get the hard food. So the prices actually determined pertaining to how long does one last outside the fridge and a category that's been looking at them from there is how long does it last in the fridge? Yes. So for the most of the hard food, the last four let limitlessly maximum of 14 days for dinner for the soft fruit. It's less than, let me just say, less than three days, OK? Yes. So hard fruits would be like oranges or I mean, the hard, hard veggies I'm talking about.

Pick n Pay Representative: But let me say onions, potatoes sitting outside of the fridge, they have a longer shelf life.

Pick n Pay Representative: And for the soft items I'm talking of, let me just mostly fruit and vegetables here, for example, baby marrow.

Researcher (Kirstie Weber): Yeah, ok I see

Researcher (Kirstie Weber): I wanted to know do people ever come and ask you, so what is the difference between the date labelling on the products? Such as the best-by dates for example, or do you think people have a general understanding in the store?

Pick n Pay Representative: Well, the truth is, over seven percent of our sales customers. Yeah, they don't look at the use-by date or the sell-by date. Yeah. Yeah. They just pick it up. Yes, they do. That's what I've seen. Because you get customers who come in and told you, okay, the use by date is today. So I don't want it. OK, yes.

Researcher (Kirstie Weber): And then from there that is all I have seen a few of those. Yeah. So most of the customers don't know. Oh they're just picking up. So the us- by date, that's the date that you guys can keep it on yourself for?Yes?

Pick n Pay Representative: You do get some some stuff that like I'm in for the microwave. Yeah. Predications.

Pick n Pay Representative: That's the community you use like date. OK, yes. Then these are these are use-by date and these are sold by date. So, on that one particular product or because these are always the same.

Researcher (Kirstie Weber): OK, yes. So, you are saying that the use-by and best-by date is the same you can buy it tomorrow and you must use it tomorrow. OK. Yes.

Researcher (Kirstie Weber): And then when they have the best before dates a yes. What is the best. If it's used by a best before date. You just wait. Let's see.

Pick n Pay Representative: Oops, sorry, I'm reversing no. OK, OK. You get a sell by date and use by date. So, these two will be the same. OK, on the microwaveable stuff. Yes. Yes. OK.

Researcher (Kirstie Weber): And then you do get some items that because I thought when I went to the Woolies, they've got a use-by and then they've got the best before dates. Yes. Yes. So then I was like, what's the difference?

Pick n Pay Representative: OK, the difference between the Use by and sell by date, the use by date is the date that that product is you need to consume it within that date and then the sell by date is basically set in stone.

Pick n Pay Representative: So we as a store, we should have sold this product by this date after the date. We're not allowed to sell it. To sell it. Yes, OK.

Pick n Pay Representative: So that's sort of how you use it.

Researcher (Kirstie Weber): So how do you guys determine the dates on the products that all the manufacturers need from the manufacturer? Yes. And like, for example, when people take the first three fresh products today and weight it, when they get it. do you guys stick on the sticker with dates? because or how do they know on the date the product will be best used by if its fresh?

Pick n Pay Representative: Yes. Our machine does have the date that determines the sell by date and use-by date.

Researcher (Kirstie Weber): Yeah, OK, I just determined that based on the day to day life, they'll put it to me, for example, and then it will just automatically determine who gets a tomato is the trade should be used on a particular day that automatically calculates that instead.

Researcher (Kirstie Weber): And then everybody goes do with the food once it gets to the sell by date and you have to remove it from the shelf. What do you guys do with all of that food?

Researcher (Kirstie Weber): Well, we have to throw it away. That's the thing. So it all depends on me. How do I know that you need to order stuff that, you know will go we'll go back and then date. It has to go out. You're not supposed to leave it. I mean, you put it back on the shelf. Yeah. I mean, are you guys allowed to donate the food to, you know, when I deliver donations as well. But these are highly perishable stuff, so it goes very quickly. Yes. Yes. I mean, you take it out today, you try and send it to the next person the next day and it's already done. So there's nothing that you can do. Yeah, yeah, yeah. OK, I see.

Researcher (Kirstie Weber): And then I also understand. So does the staff, go through training to understand the date labels and food waste?

Researcher (Kirstie Weber): These are training that I mean, everybody in the store goes through OK. Yes, we're are taught on the hygiene and food safety. I think it's three times in the year.

Researcher (Kirstie Weber): And then does the store have any you can initiatives that they do to sort of donate food or curb household food waste or food waste in general?

Researcher (Kirstie Weber): Well, I cannot talk about on behalf of. I can be just on this. Yeah, but well, we as a store. The thing is we're a franchise. Oh yes. Yes. So all the different franchises do things well. We do things differently. We might do one or two. I mean, yes, basically we do have something that we have to follow. Yes. From the beginning of this year. But will you know if ever we can go. It's not my are. Yeah.

Researcher (Kirstie Weber): How long have you been here?.

Pick n Pay Representative: This building is new. Yeah. But I've been working here before so I've been working in this center for eleven years.

Researcher (Kirstie Weber): OK, yeah, and then anything else that you pick up from customers on what they are, anything relating to date labels besides the one you told me, just the ones that we've it's today's date. They don't want it. Do you guys discount those ones?

Pick n Pay Representative: No. No. Well, I just told you. But you'll never find that with us.

Researcher (Kirstie Weber): OK, see if it's if it goes off today, you don't know. So why don't you guys at the stores, is it not like a centralized policy that you have to do you know, it all depends on the store?

Pick n Pay Representative: OK, if it's working for you as a store, then it's good. It just actually encourages people to order more than what they need.

Researcher (Kirstie Weber): Oh, I see what you mean. Because they can sell more. Yes.

Pick n Pay Representative: And then the other problem is in doing that, you are putting your quality in customers at risk.

Researcher (Kirstie Weber): I see what you mean, because now you are offering instead of buying one that will go tomorrow, are you offering them one to buy today? Use Today?

Pick n Pay Representative: Yes. And it's not going to be the same money I'm very much concerned with when it comes to quality. We as a store, OK, because, you know, if you're aiming at five star. Yeah. And then you getting all the customers coming back with a quality product, then. Yeah. You know, you'll never get there. Yeah I know. OK, I see.

Pick n Pay Representative: So it's just about quality control. It's about quality control. OK, ye

Pick n Pay Representative: And then we do have companies that come in and they just take the old food to the landfill.

Researcher (Kirstie Weber): Yeah. Yeah. OK, no worries.

Researcher (Kirstie Weber): And then the recycling packets. So those plastic bags that you say that you guys bought, there's, you know, the blue ones that they say they're recyclable and then those brown bags, do they encourage customers to use those brown bags, but they have to pay for them now?

Pick n Pay Representative: Yes, I mean as a fruit and veg. Yeah. I actually have put the bags here see let me show you so people can use these and not the plastic

Pick n Pay Representative: And then encourages people

Pick n Pay Representative: So that's all I have to decide, and I'm not sure how they do it by the front yard. Yeah, but for my section, this is what I do. This is what I encourage customers.

Pick n Pay Representative: And yes, we do have plastics needs to because you do get some customers who don't want to buy those civil liberties too much more. That R7.50 will keep it for long. Yes, yes, yes. Yes, definitely. So it's just about price. It's about price.

Researcher (Kirstie Weber): It's interesting to speak to you and to learn about all of this.

Pick n Pay Representative: I hope you know that I was helpful

Researcher (Kirstie Weber): Definitely. Definitely very helpful. Thank you so much. Thank you for taking the time to speak to me.

This speech-to-text was created by www.amberscript.com

Appendix E

Ethical Clearance from Vega



18 August 2020

Student name: Kirstie Ashley Weber

[REDACTED]

Campus: Vega Bordeaux

Re: Approval of Postgraduate Diploma in Brand Context Management Proposal and Ethics Clearance

PGDIP ETHICAL CLEARANCE LETTER

Your research proposal and the ethical implications of your proposed research topic were reviewed by your supervisor and the campus research panel, a subcommittee of The Independent Institute of Education's Research and Postgraduate Studies Committee.

Your research proposal posed no significant ethical concerns and your supporting documents and instruments are in order to proceed. We hereby provide you with permission to proceed with your research.

In the event of you deciding to change your research methodology in any way, kindly consult your supervisor to ensure all ethical considerations are adhered to and pose no risk to any participant or party involved. A revised ethical clearance letter will be issued.

We wish you all the best with your research!

GENERAL CONDITIONS TO BE FULFILLED IN RELATION TO RESEARCH

Permission is granted to proceed with the above study subject to the conditions listed below being met and may be withdrawn should any of these conditions be flouted.

Please note: The panel has not considered the merits, accuracy or ethical soundness of the research. The only merits examined are the use of The IIE as a sample.

Permission is granted subject to the following conditions:

1. The researcher(s) will need to obtain informed consent in writing from all of the participants in his/ her sample if the study is not anonymous.
2. The researcher(s) may only use the data collected for research purposes and in no other way.
3. Photographs of human subjects may only be taken if relevant to the research, informed consent was obtained, and even with informed consent, the photographs may not be published on any online platforms.
4. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
5. No names or identifying information of participants may be used within the research and the research must be voluntary.
6. Please make it clear that the information will not be used punitively in any way and participants may in no way be counselled/advised based on this.

Supervisor: Mrs Mbali Rametse



Campus Postgraduate Coordinator (CPC): Dr Tish Taylor

