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Implications and importance of packaging within logistics.

Dissertation M6X01293

Supervised by Irina Neaga

Elliot Allsop

Appendix 1: Declaration

I, Elliot Allsop, declare that I am the sole author of this dissertation; that all references cited have been consulted; that I have conducted all work of which this is a record, and that the finished work lies within the prescribed word limits.

This has not been previously accepted as part of any other degree submission.

Appendix 2: FORM OF CONSENT

I, Elliot Allsop, hereby consent that my dissertation. Submitted in candidature for the BSC (HONS) Logistics and Supply Chain Management Degree if successful, may be made available for inter-library loan or photocopying (subject to the law of copyright) and that the title and abstract may be made available to outside organisations.

Abstract

The following dissertation studies the rather controversial area of sustainability, within packaging in the logistics industry. How packaging more than normally appears to be too much, in excess and to have several wasted layers most of which seem to be non-recyclable. Thus, ending up in landfill. The main influences of this being that plastic packaging among one of the most commonly used is very smart in its uses as well as being cheap and effective. However, even despite this the fact remains that there can sometimes be several layers of packaging which could have been avoided or conserved for other purposes instead of having just one corporate purpose. The first objective of this study was to understand the basics of the average consumer of which was to find out whether they thought most products were unnecessarily overpackaged? The next logical objective was to discover if there were more types of eco-packaging or sustainable types essentially. Lastly another objective was to identify whether if there were if any, other methods of recycling this wasteful packaging which were more effective than landfill fundamentally. Inevitably these three questions posed by the harmful overpackaging laid grounds for additional research tenacities.

To discover resolutions if any for these objectives, a related questionnaire was produced and distributed on social media as well as at Swansea University and Amazon fulfilment centre in Swansea also. The reason for this mainly is because there is a lot of packages within an Amazon warehouse and so associates will be rather familiar with overpackaging as well as the other elements that come with it such as sustainability, not to mention the large workforce there too which means volumes of responses. The reason for Swansea University is because there are large volumes of daily consumers passing through from various areas and so would essentially provide wider results. However, after conducting some statistical analysis on the questionnaire data it was viewed that consumers are not too concerned with the negative effects of packaging and are not prepared to pay more for more sustainable packaging.

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1 Introduction

The following documentation will overall aim to specifically evaluate packaging and try to identify more effective ways of recycling packaging. Whilst also comparing these packaging alternatives and their potential benefits and disadvantages. There will be an overview of the very controversial topic of packaging itself, in terms of how it all started back in 1950 when polystyrene “foam was available worldwide” Ohioline.osu.edu, (2019), which as most are familiar with is a very popular packaging attribute and would have been a significant discovery then, especially with its versatile uses. In addition to this majority of large expensive items such as laptops and televisions are packed using polystyrene foam. However, it is not widely recycled by the majority in the UK which (Metro.co.uk, 2019) briefs out and explains how and where it can be accepted. and what pushed for the evolution of what is now considered one of the most important factors when selling a product, likewise when Worldpack.eu, (2019) discusses the many reasons such as the image that it represents of your business.

However, as most readers will be aware packaging as great and useful as it is. Likewise, when (Unlimited Graphic Design Service, 2019) mentions great designed packaging can benefit “from better shipping to collectible storage”. The fact that it is forever being developed everyday means that it needs to be continually recycled (Packagingcorp.com, 2019), however not everyone who encounters packaging have not all have environmental ethics. Due to this, problem such as the plastic waste being dumped illegally into the sea exist (Leonard, 2019), hence why this sensitive topic has been chosen due the fact that drastic action needs to be engaged. In relation, the guardian that highlights the extra waste, encountered by customers whom purchase products online, especially at peak seasons such as Christmas the Guardian, (2019), this needs to be drastically eliminated. Not just at Christmas but however during all major seasonal events, because it should not be an excuse to produce extra wasteful packaging.

The document will also feature the current European union directives on the topic of packaging. This will show initially when members started taking responsible action to increase recycling efforts especially towards packaging, it will also how regularly restrictions were amended and made more stern to increase effectiveness, which can be seen here Ec.europa.eu, (2019).

1.1 Questions posed

Are majority of products unnecessarily overpackaged?

Most packages when they arrive in the post seem way overpackaged for the product types, additionally a lot of the packaging is not widely recyclable either. As Zero Waste Europe, (2019) highlights “the amount of material used to protect, contain and deliver goods needs to be reduced” on a drastic scale basically. And further states how targets have been set to ensure “55% of all plastic to be recycled... by 2030” as well as the plastic packaging to either be reusable or recyclable by the stated date too.

Are there more sustainable types of packaging?

There are so many different types of packaging however plastic seem to be the smartest as outlined in this healthcare report on advantageous polymer plastics King, (2019) which fundamentally depicts how packaging can be designed to have further, greater uses afterwards with little development. Which shows how the smarter and more sustainable packaging can be reused in other industries.

Are there more effective methods of recycling this wasteful packaging?

This questions more than none target the specific items being limited for recycling in certain areas in the UK, or even different systems in other countries that could work if integrated elsewhere such as the UK. Even using models to assess how users recycle Researchonline.ljmu.ac.uk, (2019) as well as manufacturers conforming to sustainable materials and especially the premise of reusable packaging which is very useful and environmentally friendly.

1.2 Aim of dissertation

The overall aim of this study will to essentially see if most of the general public/ consumers essentially have a sustainable mind-set according to the answers from the questionnaires. Despite the topic of this study being about overpackaging it does touch heavily on being sustainable as well as painting the right or deemed correct image in today's society, as it is becoming increasingly more directed towards. This can be clearly seen from the questions posed above as well as the types of questions within the survey.

1.3 Justification of Research

The development of packaging in the logistics industry has seen an increased volume on smarter types of packaging however this comes with great costs. These of which are the cost in development of the types of packaging as well as the costs to the planet essentially (the Guardian, 2019), in the way that producing, designing and discarding these packaging types pollutes the planet thus contributing to global warming and essentially decreases the sustainable mindset. Additionally, although manufacturers have now refined the packaging systems with producing and distribution, however they now need to master or at least refine the ways in which this packaging can be reused or sourced sustainably so that it can be recycled and hence the formation of this dissertation (Siegle, 2019). This is due to the fact that to most recent knowledge packaging in the logistics industry is having a detrimental effect on the environment for example the oceans are littered with various types of plastic and this needs to be eradicated before the problem is indefinite. In addition to this the research hopes to discover if consumers actually want to invest in eco-friendly packaging.

1.4 Hypothesis

The overall result of this dissertation will be to test the following two hypotheses about as well as associated issues concerned with packaging. Directly it will also discuss whether it is in favour of consumers for packaging to be modified differently with sustainability being the core principle rather than security and at an extra cost too if verifiable. The main influence on this area of study is due to noticing through shopping and even working in many different types of business, which portray millions of items which seem to be totally overpackaged, and of which some content is still unrecyclable. This is largely due to most business using lots of easy and simplistic plastic packaging types for lots of common products and majority of this has one use and is then discarded within landfill. Additionally, being sustainable is such a controversial topic lately that it will be quite interesting to see the results of the questionnaire responses. Also being sustainable is becoming a key part of everyday life (Activesustainability.com, 2019) as the planet needs to be preserved for future generations and is essentially everyone's responsibility although some do not take part and even reduce the positive mindset which further deduces the progress of others also. Whether consumers are at the gym, shopping, eating, driving etc. It is a key part of our lives and can only be developed further if we are passionate essentially and so poses the following hypotheses.

H₀ – Are customers prepared to pay more for increased sustainable packaging?

H₁ – Customers are not prepared to pay more for increased sustainable packaging?

2 Methodology

To be able to investigate the questions posed in this dissertation as well as identifying whether the hypothesis will be accepted once the data is analysed. A simplistic questionnaire has been produced consisting of ten questions, these, mainly entailing of closed questions to provide a quick and interesting experience to respondents. Permission was agreed before being undertaken and to remain confidential no personal details have been taken, the data will remain anonymous and will be used ethically to test the three questions entailed above as well as the hypotheses.

Chapter one- Introduction to Packaging

This chapter consists of an insight into the rather large and fundamental issues associated with packaging especially within the logistics industry where it heavily critiqued to meet forever changing standards in order to remain somewhat ethical and meet requirements.

Chapter two- Review of Literature

The literature review will contain literature of previously published authors work relevant to the topic of overpackaging as well as other elements associated such as being sustainable throughout everyday actions. Within this literature it will demonstrate understanding of the controversial topic: sustainability. As well as its limitations and drawbacks which may question why it is not always adhered to.

Chapter three- Methodology

This is where the chosen methodology is explained and justified as to why this route was chosen in line with the type of research carried out. Here the questionnaire will be explained as well as why it was opted best to perform a rather generic questionnaire as oppose to interviews for example.

Chapter four- Data Analysis

Within this chapter the data gathered from the primary research will undergo a variety of tests which will help give a greater picture of the data and result in answering which hypothesis has been accepted at current time as well as rejecting the other.

Chapter five- Conclusion

This is where the overall findings will be documented as well justifying maybe as to why these results were discovered and produced. It will also state whether all objectives were met including the hypotheses within this dissertation and outline as to why they were not met as a result of limitation maybe down to faults with the data collection perhaps or other associated elements such as time management etc. Additionally, adjustments for future projects could be outlined here too in order to refine future results.

3 Review of Literature

3.1 Introduction to the packaging crisis

This document is primarily focused on the increasing need for more sustainable packaging due to there being so much waste material currently being generated from said activity. This can be seen in the following article which puts the blame on supermarkets who are a big contender Laville and Taylor, (2019). Additionally, this also poses the question is enough being done? Especially in terms of recycling, this is extremely highlighted when (Leonard, 2019) states that “our plastic pollution crisis is too big for recycling to fix” which heightens the sound of the problem due to it being a daily talked about issue. There are more sustainable ways to prevent this unnecessary waste simply by using cleaner sourced or produced materials with zero or relatively low carbon footprint. However, lets reflect on how far packaging has been developed, before discovering effective methods of recycling.

3.2 Early days of packaging

It is fair to say packaging has been totally revolutionized when compared to how it started from just a simple paper type bag, to all the different variety we have available today. This specific review will only be going back as far as 1867 where the “first paper bags were produced from wood pulp” according to (Ohioline.osu.edu, 2019) which began the development for packaging if you like. Since consumer always have needs to be met and so there are always better methods of delivering goods and ensuring they arrive in perfect condition as they left, which is one of packaging main core competence. These greater needs have led packaging to be the very successful item it is today and a rather profitable business if you like, however today it needs to be more ethically sourced as well as being greatly sustainable, hence why the Guardian article urges for more sustainability at the source of the problem (Leonard, 2019).

In addition to the discover of paper bags which eventually was commercialised in Bristol in 1844 (Binson.co.uk, 2019), some may say that we got caught up on the greatness and usefulness that we forgot about the sustainable aspect when we discovered plastic bags in the 1960s by a company called Celloplast (UN Environment, 2019). Likewise, in another Guardian article (Judge-Brown, 2019), it states sustainability is “a journey, not a destination”. Essentially on this journey we can learn about the ins and outs of becoming more sustainable by the day. However, today paper bags are the least of sustainable packaging’s concerns and likewise with plastic bags slowly but surely being faded out or charged for to entice consumers to opt for more environmentally friendly alternatives.

3.3 Global Warming Effect

Packaging along with other daily elements has impacted global warming, this is illuminated by Williams et al, (2017) when her article mentions that “has given rise to environmental concerns” and rightly states that it has been a political view point “for decades” indicating that it should be addressed promptly or rather controversially now. Williams also justifies the need for some packaging as its sole purpose is to protect and conserve items such as food by mentioning “it is necessary to protect food during storage and transport”, this clarifies not all packaging is extremely damaging as it does have a rather useful purpose logically.

Whether it be the gathering of the raw materials to produce the packaging, producing the packaging or the non-recycling of the package itself, it all adds up and is forever impacting the environment and thus global warming. Which idealistically indicates the need to potentially move away from plastic as a packaging material or increase the amount of recyclable packaging, like in this article by Produce Packaging, (2019) which strives to make environmentally friendly packaging for items such as fruit and other foods. Therefore, over packaging is questioned as essentially if it doesn't benefit at all, stop it. Another effect of over packaging which targets customer is extra cost and this is conveyed by the Less Waste organisation whom clear up on other aspects of unnecessary packaging too Less waste.org.uk, (2019). They also touch upon the difficulties of recycling the non-recyclable packaging material which is also deemed unnecessary.

3.4 Limitations of Sustainable packaging

Not all products can have sustainable packaging or at least not currently anyhow, items highlighted by the Guardian include “toothpaste tubes and chip bags” etc aren’t currently recycled The Guardian, (2019). But this could be something to work towards making somewhat sustainable or lowering the carbon footprint involved within producing these items. For example, reducing the amount of tertiary packaging needed to ship these items, little by little it all helps.

It may seem rather obvious one main cause of all this wasteful packaging is the costs associated with being a more eco- friendly contributor, as its much more cost effective to go down the cheaper route if it means more profit rather than a more respective corporate image Smallbusiness.chron.com, (2019). Within this article it outlines many of the reasons why there is so much waste packaging and as previously mentioned the reasons are ascribed with cost. Which dictates the two questions for a company: Do we want more money? Or Do we care about our corporate image? Essentially this is what it speaks when a company is not friendly with the environment especially throughout its work practices and its suppliers. By being environmentally friendly throughout business practices it will offer itself as an incentive towards shareholders and so the business will gain more interest and investment if providing shares. Likewise, as this Smart Business Online article points out Smart Business Magazine, (2019).

3.5 Six Functions of Packaging

Despite the rapid and dramatic requirement for change within the packaging industry there are typically six limitations which interfere with the rate at which most of packaging can be reused or recycled. These limitations are present due to the fact of the six simplistic functions of packaging which are Apportionment, Unitization, communication, convenience, protection and containment. These functions require different types of volumes of packaging for their specific purposes Pålsson, (2018). Pålsson also usefully highlights other factors that will also determine how sophisticated or the volume of packaging that will be used based on the nature of the product as well as the end location for the product. So, whilst essentially jumping on the sustainable packaging trend there are a lot more elements to think about that are associated with the product. Tis-gdv.de, (2019) further backs this up when mentioning relevant elements such as “Packaging must also reliably withstand many forces” these being those faced when handled and transported. Further evidencing that over packaging may not be an intended purpose for some, it is however there as a failsafe to ensure the product is not damaged.

3.6 Interrelated levels of packaging

To most it may not be known, but there are predominantly three types or levels of packaging if you like. It is not as simple as placing the product in a box or an envelope and off you go as these products need to be handled suitably and transported, packaging has more than just one primary function which Tis-gdv.de, (2019) highlights rather simply. So, this is where packaging must be thought about to make the shippers job as easy as possible and reduce any risks that are posed. The levels of packaging are as follows and are described below on their purpose:

Primary: Also known or associated as consumer or retail packaging as it is specifically designed for the consumer and they usually take it home.

Secondary: Is rather simple, it houses all the primary packaging so effectively is a second layer of protection when being transported.

Tertiary: This again is another protective barrier essentially and houses several secondary packages.

Transport packaging: Here we have the bulk package which is designed to be easy to transport whilst remaining in contact when it arrives to the end user. In simplistic terms makes transport and distribution more efficient whilst being handled with very minimal damage.

(Pålsson, 2018.)

3.7 Summary

It may be seen above as to why sustainable packaging is not so simple and that is why there is always news about the great need for more sustainability EnvironmentalScience.org, (2019) in the world especially within the logistics sector. Due to how much waste as a country we produce, hence for the need for increased recycling rates and capped refuse bags being taken, to maybe change everyone's mindsets towards sustainability and away from the current policies we have which have a detrimental impact on society and the environment in terms of global warming essentially (Emeraldinsight.com, 2019), including their purchasing decisions from potentially unsustainable suppliers and move towards innovative more environmentally friendly businesses.

3.8 Packaging waste statistics

Table 4. Packaging waste and recycling / recovery, split by material, UK 2016

	Packaging waste arising (thousand tonnes)	Total recovered / recycled (thousand tonnes)	Achieved recovery / recycling rate (%)	EU target recovery / recycling rate (%)
Metal	736	506	68.7%	50.0%
of which: Aluminium	177	90	50.8%	z
of which: Steel	559	416	74.4%	z
Paper and cardboard	4,749	3,892	81.9%	60.0%
Glass	2,399	1,609	67.1%	60.0%
Plastic	2,260	1,015	44.9%	22.5%
Wood	1,310	405	30.9%	15.0%
Other materials	23	0	0.0%	z
Total (for recycling)	11,476	7,427	64.7%	55.0%
Energy from Waste	z	767	6.7%	z
Total (for recycling and recovery)	11,476	8,194	71.4%	60.0%

Source: Defra Statistics

Figure 1

Source: Fisher, (2018)

As it can be seen above in figure 1 there is rather useful information documented from the UK government website about the UK'S recycling of packaging. There has been a great rise in the effort of recycling used packaging when compared to previous years, however this needs to be increased even more if the commission wants to reach their 50% target by 2020 Smith and Bolton, (2018). When compared to the targets set out by the European union for packaging recovery and recycling rate. However, these figures can be noted that these figures need to become greater to maximize the UK's recycling efficiency Defra, (2009).

As PRAG states in 2009 only "40/45% of the 4.7 million tonnes of consumer goods packaging was recycled" which is relatively lower than expected and some individuals would at minimum want this at 50% surely just to feel a little satisfaction towards achieving packaging targets. This is due to there still being call outs for more ways of becoming sustainable in addition to maximizing recycling or reusing rates

The reason for the concept of producing reusable packaging as it does tend to be a cheaper process than re-melting materials down and producing other products when recycling. This is highlighted thoroughly in this article from the Guardian by Lucy Siegle, which she states “recycling should be the last option” to which it may seem that packaging has more uses than just to protect the product until it reaches its intended end user. Siegle, (2019).

3.9 EU Directives on Packaging

EU directives are targets set out by the European Union members once agreed upon Ec.europa.eu, (2019) and act as targets, for which all existing member countries must abide by and work towards to achieve this goal by a specified review date, especially as a group on becoming more sustainable in the way tasks are done daily. The current packaging and waste directive are (EU) 2015/720 and it amends the previous directive and focuses on the reduction of consuming light plastic bags, these are very nearly being phased out to entice shoppers to purchase the more renewable alternatives or having to pay for light plastic bags Schulz, (2019). Following Schulz, the guardian further backs up the effectiveness of these directives as a noticeably change in consumer habits sees a reduction in purchasing plastic bags Smithers, (2019) further benefitting the environment in little steps.

3.9i 1980’S

These measures were initially introduced in 1980’s. Which goes to show how long ago this has been a recognised problem along with other pollutive elements too. Additionally, it also heightens the seriousness of the problem and emphasises the need for it to be addressed. Likewise, how it is highlighted and described within this article, which mentions how retailers are becoming more pressurised by having to think about the sustainability of the packaging too Vella, (2019). Vella also describes how the shift to becoming more

sustainable as a “long, hard journey” which is rather accurate since the world's waste problems cannot be rectified overnight. However, the greater corporations that catch on the “green” mindset the more effective sustainability will become.

These directives can also be transposed into laws within the UK in a changing Europe, (2019). Each directive will come with a deadline which the target needs to be achieved by and then reviewed. Individual countries can achieve this directive however they see it fit to be done. The main aim for becoming more sustainable in terms of the packaging industry is to reduce or at least have minimal effect on the environment as it is becoming an increasing concern daily Eur-lex.europa.eu, (2019).

3.9ii Conclusion of Literature

As it can be clearly viewed from the introduction in this document. It is blindingly obvious to see the detrimental effect packaging has on the environment and how it contributes to global warming Williams, H., Wikstrom, F. and Lofgren, M. (2017), especially within the logistics industry as it is relatively a large contributor to the fire if you like, this is noticeable when considering the different interrelated levels of packaging as well as the simplistic functions of packaging of whom require specialised packaging for sensitive items Pålsson, (2018.) It is especially damaging when considering the amount of natural resources needed and that are used when producing as well as storing and transporting these packaging materials. Hence one of the questions posed: **Are there more effective methods of recycling?** This is because if the UK could ramp up its recycling efforts especially in terms of packaging then there would typically be less on the packaging industry to produce so much.

Although it could be argued there are some efforts into targeting the packaging industry with specific directives from the European Commission Ec.europa.eu, (2019). However, is there enough recycling going on if the UK are continuously amending these directives, some would answer no. The other question that still seems to remain relevant is: **Are there more sustainable types of packaging?** As this is the only other alternative to eradicating how much packaging waste ends up in landfill. The question: **are products overpackaged?** Is

held to a lot of criticism due to the fact some products are rather sensitive and require these levels of packaging, and resorting back to the evidence that As Zero Waste Europe, (2019) presents and also states that this extra packaging material “needs to be reduced” However most manufacturers will argue that it is required to protect products when sometimes this is not the case. So, this will undoubtedly be the never-ending justification for unnecessary overpackaging. So overall these are the rather controversial questions in which this investigation hopes to provide some summarisation to.

4 Methodology

The original literature review posed the objective of discovering whether the element of overpackaging was known and if so, were there more effective ways in which the packaging could be recycled or if there were more sustainable types of materials for packaging. Further increasing product sustainability especially from a consumer perspective as well as ethically from an ideal business perspective. The methodology chapter will enlighten readers by the ways of which philosophies are deemed appropriate for this research type. It includes what approach has been taken whether it be qualitative or quantitative or even some of both. Also, which research methods were taken whether it be questionnaires, interviews, group discussions etc. Lastly it will analyse how the research carried out was of ethical and legal proceedings in forms such as requesting permission before carrying out the research approach. When interpreting the term “methodology”, it is often deemed as the process of “collecting information and data for the purpose of making decisions” (BusinessDictionary.com, 2019). Which will then be analysed in order to answer questions or just give an increased enlightenment of a specific topic area. In order to easily illustrate what type of research will entail within this dissertation, the research onion will be referred to as shown below in figure one.

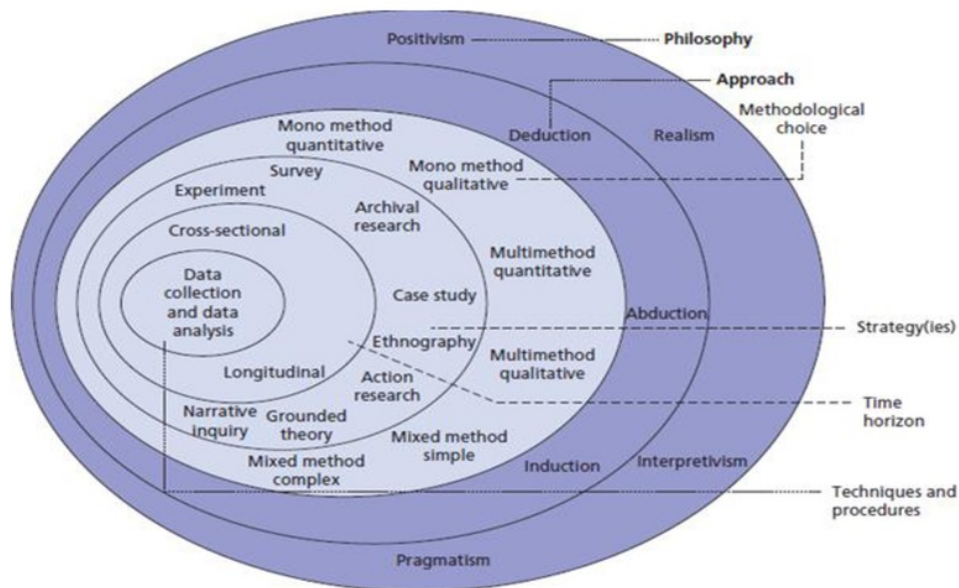


Figure 1

Source: (Research-Methodology, 2019)

4.1 Procedures taken within Methodology

So firstly, the aim of the methodology is to identify research paradigms which will in turn appropriately support the research conducted including the methods applied to throughout the research process. Additionally, according to Salma Patel, (2019) there are a number of stages within a research project and this will tend to vary dependent upon the researcher themselves and their desired or chosen method. It is also stated that whichever research philosophy is adopted contains assumptions about the way in one may view the world. This in turn will support the strategy taken to research as well as applied methods too. So, the research philosophy entails the “source, nature and development of knowledge” (Research-Methodology, 2019). It is also understood that the research philosophy in basic terms is credence about the steps in collecting, analysing and using data. So overall it is very important that the researcher understands the ontological and epistemological elements of the study as they enable the researcher to determine theory and chosen methods. Below in figure 2 shows the steps that were taken in the research process.

According to Guba (1990), research paradigms can be characterised through their:

- ontology – What is reality?
- epistemology – How do you know something?
- methodology – How do you go about finding it out?

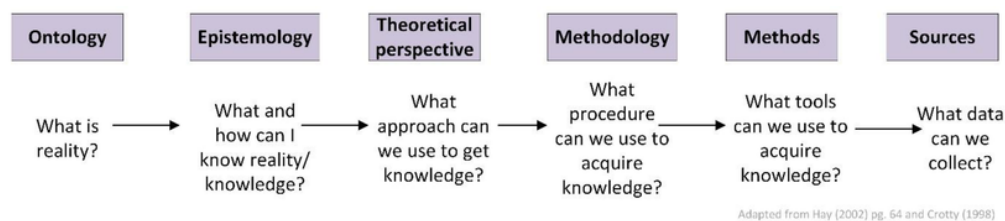


Figure 2

Source: (Salma Patel, 2019)

4.2 Ontology, Epistemology and Axiology

According to (Salma Patel, 2019) “the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed” (Kuhn, 1962).

These research paradigms can be classified as:

Ontology: What is the fundamental definition of reality?

Epistemology: What evidence does one have for knowing about something?

Methodology: What processes can be used in order to go about finding out a specific topic or subject?

Axiology: The study of value, or also known as the theory of value as it studies the philosophical goodness of value.

(Saunders, Lewis and Thornhill, 2019)

4.3 Why is research philosophy important?

The reason for these research paradigms being so important are because educative research is regularly explored and associated with understanding social wonders which are educative to nature. Whether this be formalized or even extemporaneously happening to “social, cultural or psychological processes which can be deemed as education” (Lia Aston, 2019).

Also, your ontology and epistemology create an all-inclusive view of how knowledge is interpreted, additionally how we see each other in relation to this discovered information. As well as the methods we use to identify it. In addition to this having great knowledge of philosophical paradigms will greatly improve the quality of one’s research and add to the ingenuity of the credible researcher as (Salma Patel, 2019) points out.

4.3i Ontology

According to the E-book; Research methods for business students (Chap 4), ontology typically relates to “the assumptions about the nature of reality” (Saunders, Lewis and Thornhill, 2019). Even despite how far detached from ones envisioned research project. Additionally, the researcher’s ontological assumptions inevitably outline the process in which the research is viewed and carried out upon objects. These can vary from organisations to individuals or even events. Overall the ontology then depicts how the researcher views the world within its management and business practices as well as influencing how one’s research is carried out throughout the project. The history of ontology has been one that has been fundamental as well as disputed greatly by many upon what there is as well as one’s concepts such as essence, identities, property and objects etc. According to Encyclopaedia Britannica, (2019), there are two groups within an ontological dispute of which are “realists...philosophers whom affirm the existence of some category of object” and the “antirealists” who believe against that of the realists. It is also state that due to these differences it is common to see ontological disputes within history. To generalise it, a philosopher who supports the idea of many objects has a richer ontology than that of one who does not deem to believe in many objects and so is very sparse.

4.3ii Epistemology

In opposition to ontology (Saunders, Lewis and Thornhill, 2019), epistemology however follows a different principle of which it is concerned with the assumptions about knowledge instead of reality. Additionally, this knowledge needs to be legitimate and has validity. It is also focused on how we can communicate knowledge with others, and this is the big difference which makes epistemology deemed more obvious and has clarity rather than being rather intangible like ontology due to the assumptions being focused on reality. Many business managers implement a variety of epistemologies within their research due to the fact that there are a larger range of suitable epistemologies which boast greater methodologies. Within business and management there are also many different types of knowledge

whether it be numerical, visual or text. This includes narratives and stories or even facts etc which can also be deemed as legitimate within epistemology. Due to this wide variety of valid epistemologies it allows business and management managers to be open to a wider choice of methods in comparison to other academic philosophies. However, the researcher will need to be aware of such implications especially when adopting different epistemology approaches in line with their chosen research methods.

4.3iii Axiology

The axiology philosophy within the research process is more associated with the values as well as their ethicality. In basic terms it shows how as researchers we deem our own values as well as ethically view our participants values and opinions. The reason for this is because depicting your own values throughout your research process will show how credible the research process is overall. Additionally, Heron (1996) once remarked that “our values are the guiding reason for all human action”. He also later adds that researchers show their axiological skills when they present their values, by basing judgements upon them when depicting what research will take place and the method entailed when doing so. In addition to this focusing on one topic more than others will portray that this topic is considered to have greater importance than others overall. Understandably the research philosophy that one adopts will indicate your personal values and equally how you may go about data collection. For example, one researcher may choose to interview participants to gain and collect data which although is generally a longer process in oppose to others. However, this will portray as a researcher that you value personal interaction with your respondents and allows one to emphasis to gain an accurate understanding. Especially when compared to if the researcher decided to conduct an anonymous questionnaire. Depicting once personal value when researching is also very convenient to do because it allows the researcher to justify why specific steps and procedures have been taken, all ethically of course unless justified.

4.4 Research Philosophies

The research philosophy is a belief about the way in which data about a phenomenon should be gathered, analysed and used according to Research-Methodology, (2019) will mirror the authors crucial assumptions, and these will act as a base for the adopted research strategy. In wider terms there are many branches within research philosophy which are ascertain to many disciplines. There are also four main research philosophies within studies which are:

Pragmatism: According to Research-Methodology, (2019) pragmatism research philosophies accept concepts only to be relevant if they support the actions. They are also aware that there are many ways of understanding the world and performing their research. Additionally, pragmatists also accept that no single viewpoint will ever result in an entire picture and there will inevitably by multiple realities. Furthermore, if the research does not suggest decidedly that a positivist or interpretivist philosophy is adopted (Saunders, Lewis and Thornhill, 2019), this will prove the pragmatist's view which is perfectly possible to work with differences in your epistemology, ontology. In turn this also proves that mixed methods can be possible; both qualitative and quantitative are foreseeable as well as appropriate too.

Positivism: Within this philosophy it is perceived that there is a single reality, which can be measured and understood. Which means quantitative methods are more than likely to be adopted here to measure. Also noted that the topic area would not need be studied and that observations can be made repetitive. "This often involves manipulation of reality with variations in only a single independent variable so as to identify regularities in, and to form relationships between, some of the constituent elements of the social world" (Robert, 2019). Predictions could be determined by the previously observed and explained realities and their inter-relationships.

Interpretivism: The philosophy associated with interpretivism has no single reality and so is created by individuals within groups. Therefore, interpretation of reality occurs. This enables the fundamental meaning of event and activities to be identified. This philosophy is usually frequent with qualitative methods such as observation, interviews, case studies etc. in order to obtain many realities (Salma Patel, 2019).

Realism: According to Informationphilosopher.com, (2019), realism is the "view that a reality of material objects and of possible abstract concepts exist in an external world independently of our minds." We *determine* physical objects via perceptions. To be certain, we *formulate* our

ideas about these objects and their details. Philosophies of how they are organised and how they interrelate actively with everyone. However, we cannot subjectively create the ordinary world. We test our philosophies with experimentation. This makes our facts of an autonomous world scientific.

Subjectivism: According to (Apollo, 2019) subjectivism “holds that truth, in effect resides only in the mind” e.g. a specific statement announced could clarify as true for one individual. However, for another it could be deemed false and this can be due to an individual’s psychological adoptions. Also, according to Apollo, 2019 “truth amounts to whatever one believes” and knowledge is not existent to some extent within reality but can be clarified as an experience of such within one person’s mind.

4.5 Different philosophies and Research Paradigms

Paradigm	Ontology <i>What is reality?</i>	Epistemology <i>How can I know reality?</i>	Theoretical Perspective <i>Which approach do you use to know something?</i>	Methodology <i>How do you go about finding out?</i>	Method <i>What techniques do you use to find out?</i>
Positivism	There is a single reality or truth (more realist).	Reality can be measured and hence the focus is on reliable and valid tools to obtain that.	Positivism Post-positivism	Experimental research Survey research	Usually quantitative, could include: Sampling Measurement and scaling Statistical analysis Questionnaire Focus group Interview
Constructivist / Interpretive	There is no single reality or truth. Reality is created by individuals in groups (less realist).	Therefore, reality needs to be interpreted. It is used to discover the underlying meaning of events and activities.	Interpretivism (reality needs to be interpreted) • Phenomenology • Symbolic interactionism • Hermeneutics Critical Inquiry Feminism	Ethnography Grounded Theory Phenomenological research Heuristic inquiry Action Research Discourse Analysis Feminist Standpoint research etc	Usually qualitative, could include: Qualitative interview Observation Participant Non participant Case study Life history Narrative Theme identification etc
Pragmatism	Reality is constantly renegotiated, debated, interpreted in light of its usefulness in new unpredictable situations.	The best method is one that solves problems. Finding out is the means, change is the underlying aim.	Deweyan pragmatism <i>Research through design</i>	Mixed methods Design-based research Action research	Combination of any of the above and more, such as data mining expert review, usability testing, physical prototype
Subjectivism	Reality is what we perceive to be real	All knowledge is purely a matter of perspective.	Postmodernism Structuralism Post-structuralism	Discourse theory Archaeology Genealogy Deconstruction etc.	Autoethnography Semiotics Literary analysis Pastiche Intertextuality etc.
Critical	Realities are socially constructed entities that are under constant internal influence.	Reality and knowledge is both socially constructed and influenced by power relations from within society	Marxism Queer theory feminism	critical discourse analysis, critical ethnography action research ideology critique	Ideological review Civil actions open-ended interviews, focus groups, open-ended questionnaires, open-ended observations, and journals.

Figure 3

Source: (Saunders, Lewis and Thornhill, 2019)

As you can see above there is quite a clear snapshot of the different research philosophies versus the paradigms faced or adopted when research is being carried out. As well as an analysis of each when two interconnects.

4.6 Dissertation Philosophy

Within this documentation it would be justified to say that the pragmatists research philosophy has been adopted as is deemed most appropriate (Research-Methodology, 2019). This is because there are various ways in which the research question can be interpreted by many as there is no single point of view and many minds with different opinionated interpretations especially when regarding the very controversial topic of sustainability and in this particular perspective of how much packaging should actually deemed necessary to be produced and used by manufacturers and also which types are less detrimental to the planet (Ohioline.osu.edu, 2019). Also, pragmatic approach (Dictionary.cambridge.org, 2019) has been adopted as it will enable ideas to be produced or summarised from the current data trends as well as customer behaviour related from these results rather than adopting current or past theories which would suit in an idealist mindset however due to too many factors would not be suitable. Additionally, this particular philosophy considers that qualitative and quantitative research approaches are taken. Which are both highly useful in collection of data for this particular topic. This thesis also entails some elements of axiology due to the fact that respondents' values and opinions are valued as well as kept confidential to everyone and so the whole process remains anonymous which will enable this dissertation to see what the general overview is based on packaging and so remains very ethical too.

4.7 2nd Onion layer Deductive or Inductive

The next layer of the research onion is of which approach the researcher will take upon collecting data to analyse, there are two scopes to emerge from and these are classified as deductive or inductive research approach within the second layer of the research onion (Research-Methodology, 2019). The particular approach taken within this dissertation is deductive as the document focuses on exploring new ways to mitigate overpackaging as a whole. However, it sometimes cannot be helped that an inductive research approach can also be adopted to, especially when secondary data may be used to back up possible themes made or discovered based on data when carrying out the primary research and then analysis at a later stage (Deborahgabriel.com, 2019). However, it is also stated that the researcher must start initially with an open mind with no predetermined concepts as this will hopefully generate a new concept once the data has been reviewed. Once data analysis has commenced the researcher can truly justify which discipline approach their research falls under whether it be deductive or inductive.

4.7i Deductive

Generally, a deductive approach to research methods will have a theme of stating a hypothesis of what the researcher idealistically wants to find out as well as eventually testing the theory later on. Deductive approaches are most often associated with quantitative research and are greatly casual in terms of existing data. However, Deborahgabriel.com, (2019) also states that there are no rules that binds deductive logic to quantitative research and likewise inductive to qualitative, these are just generic trends noticed some might say.

4.7ii Inductive

In opposition to a deductive research approach, inductive methods consist of identifying new ideologies from the data and is generally from new generations that have emerged. These usually start off with research questions which will enable the researcher to narrow the area of study down once some research has been conducted. An inductive approach

primarily focuses on exploring new data and theories and is regularly associated with qualitative research.

4.7iii Summary

The data collection and analysis should have a lot of importance due the fact that it needs to be widely examined in order to identify new trends. This technique is best used with projects which entail topics that have not been lengthily explored. Another crucial factor to consider when deciding between deductive or inductive is the actual purpose of the research, in addition to this which research techniques will have the greatest impact on testing the hypothesis in question and possibly providing some form of answer.

4.8 Survey

Within the third layer of the Research onion (Saunders), it is concerned with the gathering of data whether this be by quantitative or qualitative means. However, in this case following the pragmatic philosophy approach this particular will be focused on using quantitative data. When deciding which research method to undertake this study it was deemed that a survey would be most fitting. This is because using surveys allows the researcher to identify new trends within the population selected and these trends will be in fact opinions or views of those who participated within a specific population (Macmillanihe.com, 2019). However, when using surveys, users should also consider the benefits and limitations of using surveys beforehand.

Benefits:

- They can be designed and produced rather quickly and simply.
- Relatively simple to follow and answer.
- Easy to hand out or share via the internet.
- Can be anonymous.
- Relatively cheap to do.
- Wide variety of data analysis packages to assess data collected.
- Can collect large volumes of data from large sample sizes.

Disadvantages:

- Some respondents can lack motivation to complete survey correctly.
- Can have weak number of responses.
- If some questions are too drafted or confusing it may cause inaccuracies.
- Some respondent may respond to questions in the trend that they feel is correct.
- Each respondent will interpret the questions differently, so they need to be very clear.

As it can be clearly seen that the research methodology is nearly finalized based on Saunders research onion (Research-Methodology, 2019). So now we look at the final layers which depicts what method of research collection can take place and the most suitable for this research type would be a simple questionnaire. In addition to this the mono- method approach was chosen due to the nature of this documents and that being a quantitative mono-method which when looking shows a survey as the most appropriate. The last but one section within the research onion is associated with the time allocated to the data collection. There being two options, this research will focus on a cross-sectional approach which will be a snapshot in time. This was chosen as this is what the research follows best and was essentially collected within a few days.

4.9 Pilot survey

As some may know it is really crucial that the questionnaire produced undergoes testing. This is commonly known as a pilot survey (Explorable.com, 2019). This is because it gives an insight to how participants view your questionnaire when it is launched officially. So, it's kind of needs to be very engaging and rather efficient too. R and Hundley, (2001) make a great statement as to why it's rather important and necessary to test questionnaires by saying that "it might give advance warning about where the main project could fail" and also adds how "where research protocols may not be followed...or instruments are inappropriate

or confusing". So, it can now greatly be understood as to why this step should always be undertaken when using surveys as a data collection method.

To test the survey, I chose five random subjects within the local fulfilment centre to undertake the test, this was because they would have great understanding of the subject area and it allowed me to ensure all content was understood and completed rather quickly. This also allowed me to test the efficiency of the survey too (Explorable.com, 2019). The aim of this study was to identify any questions which may have posed a risk to my overall results or which took longer to comprehend and answer than others. This was to prevent users speeding through the survey unnecessarily when being confused or daunted by specific questions. The pilot survey was tested on the 25th of March and was rather successful and only indicated the following issues.

Identification questions: Majority of the respondents questioned whether there should have been some identification questions so that specific respondents could be contacted if any errors occurred or missing information. Additionally, another suggested having a male/female question. Although these suggestions were great, the intentions of this questionnaire were to be very simple anyhow to avoid misunderstanding questions as well as being fully confidential and anonymous.

Simplicity of questions: Three of the testers regarded some questions as having too much complicated vocabulary and that if it was to be a quick survey that using much more simplistic words would it greatly. So, in agreement the questions are now much more simply worded and greatly understood. As this will make the experience more efficient and interesting too as users will know what the questions are asking.

Colour of Survey: Although what seemed a rather funny or unusual suggestion, it did make sense. In order to make the survey more appealing and engaging add some colour as this will open the participants eyes more and potentially increase the rates of completion. So, reflecting back on the pilot survey, it was a rather fundamental tool to use and contributed to the final survey greatly as well as more than likely increasing respondents. Especially when done at random as it allows the testers to provide some crucial feedback which portray issues the researcher may not have realised

4.9i Final questionnaire

The final questionnaire comprised of a mixture of mostly closed questions and a couple of opinionated open-style questions. Overall there were ten questions to complete which when tested would only take a maximum of four minutes. The main aim of this questionnaire was to gain an insight of the packaging world and consumes views upon it. Whether they were aware of the ever-increasing crisis, what would they suggest mitigating it or if they knew other methods of mitigation that already existed. Overall the final few questions were to understand if consumers were sold by the aesthetics of packaging as well as if they would pay a little more to have products in more eco-friendly types of packaging rather than the common single use plastics. There were no changes to the final questionnaire due to the pilot survey going really well, and all feedback being slightly amended within the final version. Not all questions were the same format, this was to entice the respondent o answer all questions as well as some questions needing different format such as drop-downs, tick boxes and so on. The location of the questionnaire was placed within a local university as well as an amazon fulfilment centre and these would be full of consumers and like-minded individuals who would have been readily aware of the complications of overpackaging. Additionally, these locations contained volumes of people and were readily accessible to the researcher which made it a rather suitable to target for responses.

5 Data Analysis approx. 3500

Within this section of the dissertation normally the primary data collected via the final questionnaire would normally be tested via SPSS (statistical package for social sciences) and result in statistical analysis or another likewise suitable software package. However, due to a lack of time which is always a regular constraint as no project will ever go smoothly and boundaries are always faced and due to limited access to the survey software it has rendered this outcome undoable. Instead the data will be analysed question by question and presented as graphs and the outcomes of the questions will also be backed up with a few recent case studies of which are rather interesting and explain the trends in answers received from the participants. Along with benefits and disadvantages of each. These case studies will either back the results gained or oppose it with recent research.

Q1

So, the first question which is a great topic to start off with and that is to gain understanding of the participants awareness of the topic, this also helps when questioning the honesty of some answers compared to some as they may stand out or be individual. So simply put we start off with asking if these potential consumers are aware of the packaging crisis; by that we mean how vastly uncontrollable it has become to some extent and also how pollutive majority of it is due to mismanagement and also that of material which is not highly recyclable. Below in figure 6 shows the responses.

ANSWER CHOICES	RESPONSES
Yes	86.36%
No	13.64%
TOTAL	88

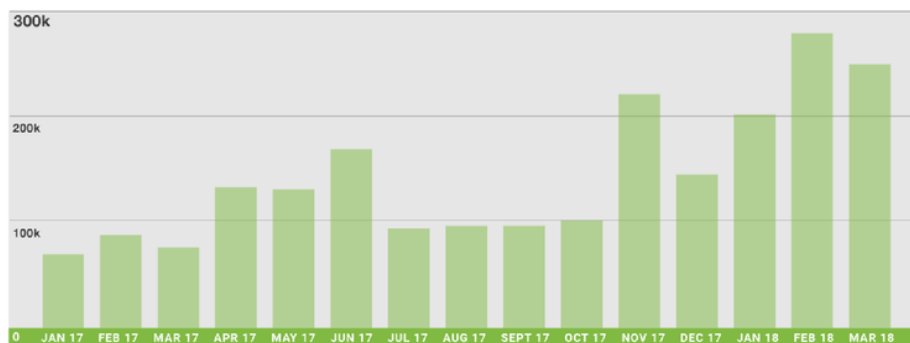
Figure 6

Source: SurveyMonkey.com

So, as it can be seen although there is a great majority of whom are aware of how detrimentally packaging is affecting our planet and wildlife. There are the minority who are not aware of how a simple purchase of a product can innocently on their behalf pollute the planet essentially behind closed doors some might add. As Dave Hall, (2019) establishes in the Guardian article there is somewhat a “throwaway culture” and inevitably this is what has caused the packaging problem to spread worldwide via the ocean due to a lot of dumping and improper disposal or even recycling which makes consumers more aware of the underlying problem.

In addition to this the article also highlights a common contender for the packaging waste and that being single use food plastics, this conveniently turned out to be a regular occurring answer which features within question 8 as being one element of packaging that needs an insight.

In addition to this the Brandwatch.com also highlights how plastic as a main contender of packaging has been highly critiqued especially online (Brand watch, 2019). With users being more aware of the associate problem and showing admirable consideration of its detrimental effects if not recycled or reused efficiently. This can be seen below in figure 8 regarding the increase of tweets which include cause of concern for plastic in which further backs up that more consumers are being well addressed in the fact that plastic packaging is not good for the environment.



Tweets about plastic waste are growing

Tweets between 1 January 2017 - 31 March 2018

Figure 7

Source: BrandWatch.com

Q2

This looks at customers views on the layers of packaging which conceal a product are often deemed unnecessary. Again, the responses were in favour of being excessive, however some disagreed and may have thought of it as extra protection and necessary to ensure the product does not become damaged as can be seen in Figure 8. Unfortunately, the reason why was not questioned and could focus as an improvement point as well as enable an explanation.

ANSWER CHOICES	RESPONSES	
▼ Yes	79.55%	70
▼ No	20.45%	18
TOTAL		88

Figure 8

Source: SurveyMonkey.com

(Klbdkosher.org, 2019) further evidence some of the potential reasons why eighteen of the candidates deemed many layers of packaging normal and not excessive, this is not a wrong answer either due top the fact that some products are really sensitive which Klbdkosher.org, (2019) does portray as well as the fact that packaging does sell products in today's society; if its slick and sophisticated your on to a winner rather than a plain basic box.

Q3

This question was whether consumers found that there were many packaging types that could not be fully recycled. To which most of the sample replied by stating yes and the most common answer was associated with single use plastics used for food as it is not recyclable and quickly fills up the bin.

ANSWER CHOICES	RESPONSES	
▼ Yes	75.86%	66
▼ No	24.14%	21
TOTAL		87

Figure 9

Source: SurveyMonkey.com

Within this case study, WHICH the consumer group identified that “29% of supermarket packaging” was not recyclable and although this is not an astronomical percentage (Which? News, 2019). It will still have an impact on the pollution and the planet as every little bit adds up and this is not a positive sum, due to the volumes of purchasing that take place every minute of every day.

Q4

Although it is rather easy and convenient to do not everyone does it appears! That is recycle packaging properly as the results show in figure 10 below. At least the majority of the sample selected yes, there is however the minority which are essentially further adding to the plastic pollution problem that we see today.

ANSWER CHOICES	RESPONSES	
▼ Yes	85.06%	74
▼ No	14.94%	13
TOTAL		87

Figure 10

Source: SurvyeMonkey.com

The simplistic reason for this is laid out by Packaging Digest (2019). Whom highlight that it is because of the sophisticated system now in place as there are so many different types of plastics to be recycled for example and other can't be. So, some consumers feel it as an easier and less hassling option to recycle and throw it in the bin. In addition to the lousy individuals whom decide to throw it in the bin anyway. So, what is needed is manufacturers to start labelling products which can be fully or partly recycled, and this will majorly benefit the recycling system and enable everyone or at least force it to become standard practice as well as second nature (Consumers are confused about recycling, 2019 and Digest, 2019).

Q5

Very surprisingly to the responses of this question there were more respondents stating that they would pay extra if necessary, for products which were more sustainable by removing the packaging, which could potentially make them cheaper or more costly. These can be seen below in figure 11 and also supported by the case study on Edie.net.

ANSWER CHOICES	RESPONSES	
▼ Yes	79.55%	70
▼ No	20.45%	18
TOTAL		88

Figure 11

Source: SurveyMonkey.com

Rather surprisingly there are a number of cases which host the same target and that is to obtain more sustainable packaging for highly consumed products. As the Edie newsroom quote that “55% of the UK population believe that all plastic bottles should contain 50% recyclable content rather than 15%”. This is great news and shows that there are a lot of like-minded consumers out there who do care for the planet and the future generations to come, not to mention the health of others everyday and want to minimize the effect the worlds daily consumption of products has on the environment.

Q6

Rather expectedly there were not many responses that knew of other schemes which incentivised recycling of packaging. With just a quarter of the sample answering yes and the most common process being Tesco's Clubcard points for recycling cans and plastic bottles which can be found here (Green, news and read, 2019) which shows that there is maybe not enough out there being done or that there is, and it is not widely advertised as such to benefit its maximum potential.

ANSWER CHOICES	RESPONSES	
▼ Yes	25.00%	22
▼ No	75.00%	66
TOTAL		88

[Comments](#) (13)

Figure 12

Source: SurveyMonkey.com

Another study showed that Tesco's again offer instore recycling bins and incentivise users with points which can be transferred to money off their next purchases which are outlined on their website for items such as batteries too (Tesco plc.com, 2019). As well as trialling the recycling of soft plastics such as food packaging which if it takes off will be a major breakthrough and could reduce much more plastic entering the ocean as these types of plastic often end up at landfill (Resource Magazine, 2019). This case study also backs up question seven (Fig 12) which was to see the increase in recyclability of single use plastics such as food packaging, in which just under 95% of respondents answered yes logically.

Q7

ANSWER CHOICES	RESPONSES	
▼ Yes	94.32%	83
▼ No	5.68%	5

Figure 12

Source: SurveyMonkey.com

Q8

ANSWER CHOICES	RESPONSES	
▼ Yes	17.05%	15
▼ No	82.95%	73
TOTAL		88

[Comments \(10\)](#)

Figure 13

Source: SurveyMonkey.com

This question gave a rather different outlook than previously thought out as packaging is normally understood to sell a product rather well and serves as one of its important functions. However, within this sample majority of responses answered no that packaging does not influence their purchasing decisions. Which is rather contradicting especially when compared to this case (Packhelp, 2019). As it was known to be a rather contributing factor which aided the sale of a product but within the sample above it seems no the case for the majority. To identify why if this study was taken any further it may be a beneficial idea to implement age and gender questions to distinguish any trends for example younger people opting for more sophisticated packaging rather in opposition to the older generations whom opted for simplistic and basic packaging.

Q9 &10

ANSWER CHOICES	RESPONSES	
▼ Yes	80.46%	70
▼ No	19.54%	17

Figure 14

Source: SurveyMonkey.com

Rather respectful percentage of yes answers for the question; would you pay extra for more sustainable packaging? Which does show that during this sample survey that most consumers are compassionate about the environment and are aware of how their purchasing habits affect pollution and the environment as a whole. In addition, over 50% of respondents agreed that they would be prepared to pay a little extra for more sustainable packaging as a whole in question ten. This is further backed up by an article from Edie's newsroom which states that "7,000 consumers across seven European markets are garnering their views on plastic packaging" (edie.net, 2019) which again from an environmentalist's perspective is awesome. However, some ill argue that is really inadequate when taking into considering this is from a span of seven European markets. But from an optimistic view it's a start of a revolution if you like which can only grow larger.

6 Conclusion

The null hypothesis which was tested in this dissertation was;

H_0 – Are customers prepared to pay more for increased sustainable packaging?

Primary research was conducted via a questionnaire which was launched on the 27th of March 2019 and ended on the 20th of May 2019. The location of this launch was at Swansea university and at the local Amazon fulfilment centre (break times). 88 random consumers participated whom shop regularly and were aware of packaging issues hence one of the locations being a fulfilment centre. The objective of the research was to gather data on consumers opinions related to packaging and when purchasing products. After conducting the research analysis there were a few trends identified within the data, and to eliminate the bias of data and no stereo typing, questions such as gender and age were left out and keeps participants anonymous too when analysing.

6.1 Consumer purchasing behaviour

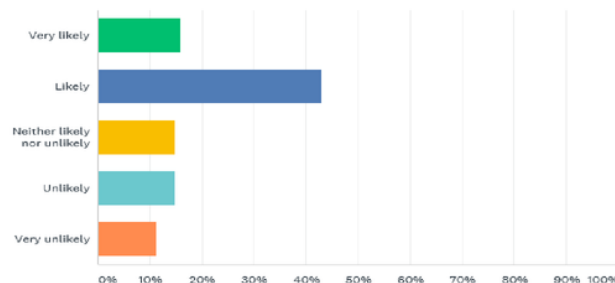
The review of literature does contain a gap of somewhat perception regarding packaging especially on the consumer's behalf. As let's face the businesses know exactly what their packaging is doing to the environment, however they would rather face the repercussions of tragic process later after the profit has been made some may say. Additionally, others like the guardian (Leonard, 2019) highlights that the packaging problem is way too vast to resurrect now in fact the much increased adoption of plastics have heavily contributed to this as a whole as well as some of their single uses. This is backed up by a statement which heavily depict the forever growing problem: "Every minute, every single day, the equivalent of a truckload of plastics enters our oceans". Which is a massive cause for concern and has been for many years and this also paves the way of necessity to wake up and fix the crisis with a long-term suitable solution.

6.1i Findings

There are many findings which can be gathered just from the raw data collected on its own and that is essentially that majority of consumers are not willing to pay extra for more sustainable packaging, although from the data it can be seen that in this case most answer likely and very likely which is a rather unsuspected outcome (fig 4 below). They are also highly aware of the packaging crisis (fig 5 below). Which is really no shock and also show that “money talks”. Let’s be honest who in their right mind would pay extra for a product if it meant that it came in fully recyclable packaging. In addition to this though it will be too late before everyone comprehends how vast of a situation this actually has become and forever growing too. However, majority of the participants also stated they would like to see more packaging types widely recyclable, which poses some good news to an environmentalist as it does indicate that there is some concern for the environment no matter how little it may be. Furthermore, as to no surprise it was also noted that many do not ensure they fully recycle all of their eligible recyclable packaging material. This just adds to the shock as well as disbelief when relating back to the plastic article by the guardian (Leonard, 2019) and shows a horrendous and disastrous end to the planet if consumers and like-minded businesses have no consideration for the planet and future life too.

Essentially would you be prepared to pay more, for more sustainable types of packaging?

Answered: 88 Skipped: 0



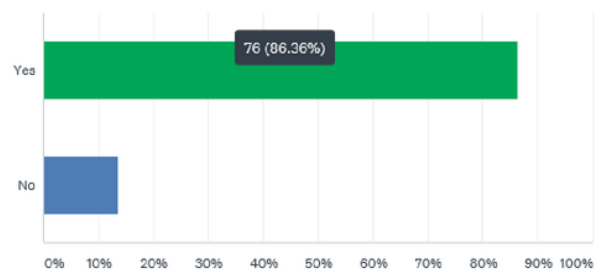
ANSWER CHOICES	RESPONSES
Very likely	15.91% 14
Likely	43.18% 38
Neither likely nor unlikely	14.77% 13
Unlikely	14.77% 13
Very unlikely	11.36% 10
TOTAL	88

Figure 4

Source: SurveyMonkey.com

Are you aware of how damaging packaging can be?

Answered: 88 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	86.36%	76
No	13.64%	12
TOTAL		88

Figure 5

Source: SurveyMonkey.com

6.1i Limitations

As with every aspect of life there are limitations, some voidable and others not so much and it depends who you know which can lighten these limitations as such. However due to being an undergraduate it should be expected that the research within this study can only go so far and be credible (Libguides.usc.edu, 2019). Also, other problems experienced include: volume of responses, access to logical target audiences for example fulfilment centres workforce. Being taken seriously by professionals due to the fact that as a researcher and producing this study takes a lot of passion and so going about the data collection really needs to be planned out and thought through thoroughly. Additionally, time was a constraint as this was only a snapshot of a few weeks, maybe if the time period for gathering data was extended other suitable locations with logical target audiences could have been targeted, with permission granted of course to collect data and so this would comply with data protection. Also, by doing so it would open up a lot of area for vigorous testing and comparison of different areas potentially. Time is vital and never seems to be enough, so as a researcher one needs to be as efficient as possible and also reflect this. Also, with participants perceptions of the questionnaires it may be thought that it would take too long as so may be a factor as to why many more responses were not collected. So, these questionnaires should be as simple as possible whilst obtaining the required data too.

6.2 Concerning Statistics

One of the main problems that is associated with this problem is consumers not having any passion or concern if you like for the environment and continue to pollute it in many ways and once of which is not fully recycling packaging and everyone is guilty of it. Let's just throw it in the next bin, right? Or is it the fact that this problem does not seem to affect us just yet literally, well it is affecting us, but some are not aware of this and it affects us in more ways than one. However, until our lives really depend on it then the problem will never be solved and by then it will be too late experts might suggest. The same article also states that "to date, only 9% of that packaging waste has been recycled" which is rather gut-wrenching and shows how manufacturers as well as consumers have neglected the items that we take for granted every day and continue to pollute our planet unnecessarily. In addition to this who takes the brunt of this? The ocean of course, the mind-set adopted seems to be; "yes, it is colossal we will just dump it there we won't see it again". However, it is very harmful to aquatic life and eventually every problem has a circular movement and so ends back on our plate. A staggering "12.7 tons of plastic" ends up in the oceans every year, just think what if everyone recycled just that extra piece of packaging or even greater purchased from that eco-friendly business instead of that slightly cheaper mass-producing company.

6.3 Recommendations

There are logically some limitations to the analysis of this data and so does not fully portray everyone's opinions and views on packaging. Additionally, if this study was to be taken further for even more statistical testing then it would actually be useful to request ages, gender and if participants were actually interested in the topic area. This is because it was be even more identifiable to highlight whom of the specific factors were popular with specific outcomes in the data. In addition to this it would also be highly recommended that the study in addition to the factors above also be held over or more dedicated in terms of volume of responses. Or even choose multiple locations with justification to increase the participants. Collecting the data over an increased period would definitely allow for higher number of respondents and also give the researcher less pressure essentially in regarding data collection. During this study it was also opted not to include questions such as gender and age due to committing to non-stereotyping data analysis and also reduces the bias in opinion related results.

6.4 Improving/ developing the Study

It was also stated that the questionnaires were distributed via an online source, if repeated the data collection may have a more increased impact if physical copies of the questionnaire are distributed too, as this will logically add to the number of responses in addition to the online participants. This will also add to the research as it will increase the target audience if you like due to the fact that some although not all of the older generations may not be satisfied using a computer but would happily complete a paper form. To some this may seem an unlikely idea, however if it gains a few more responses then inevitably it will be worth the time and little money to do. Additionally, another great move would be actually conduct this within much larger business and focus on the employees that work there and potentially segment the responses by role type, this way a great in-depth understanding could be collected, and the results may be more passionate as well as the volume of participants. However, gaining access to such areas and requiring the permission are drawbacks of entering into such a study as well as other data implications such as data protection, so there would need to be a lot of permission granted and this all takes time. So

ideally if all planned accordingly it could prove to be rather efficient and boast desired or predicted results if the business mind-set towards packaging is adopted correctly as well as sustained.

6.5 Summary

Overall the null hypothesis of this study was not accepted, this is due to the fact that when asked in question nine and ten, it is very clear to understand that the participants overall would not be prepared to pay extra for more sustainable types of packaging and thus the never-ending mind-set with wasteful packaging some might add, although some did state that they would be willing to pay more this was only the minority and a larger sample size would boast greater and more accurate perspectives.

H0 – Are customers prepared to pay more for increased sustainable packaging?

Despite this somewhat inefficient answer, in some respects it is understandable as products cost enough in today's society so adding more just for businesses to add more sustainable types of packaging may be considered scandalous, in the fact that consumers would at some point be paying back the cost of the manufacturers turning towards sustainable packaging materials, not that this is extremely bad thing from a business perspective. However, these businesses should already be making a change if they wish to continue their daily productions and sustain this for future growth. Some may add that the null hypothesis could be rejected if there were a world epidemic occurring then the mind-sets of consumers as well as the businesses would change in order to combat the problem, however one already exists, and this is known to many as global warming and packaging does have a lot of contribution to this during the design, production and waste of this rather useful product.

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