



**The perceived value of a multi-sensory design approach on the
experience of consumers relating to the coffee shop phenomenon in
South Africa.**

By

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ABSTRACT

In order to give customers a better experience, this study aims to investigate and narrow down the effects of using a multi-sensory design approach in the interior of Starbucks coffee shops. This can then assist coffee shops in considering how to design a space to include more multi-sensory environments that affect the experience of the consumers. The results of this study have the potential to increase our understanding of the impact multi-sensory design has on coffee shop interiors.

By investigating the effects of using a multi-sensorial design approach when it comes to designing the interior spaces of a coffee shop, the interpretivism paradigm is used in this study to gain a thorough understanding of the experiences of the customers. The researcher plans to use a qualitative design approach because it is well known for studying human behaviour in daily life and involves ongoing research with consumers in order to understand how they interpret the environments of coffee shops. The researcher plans to use five coffee shop consumers as participants for this study, including men and women of all ages between 19 and 25.

The researcher will employ a non-probability sampling technique because it avoids using a random sample of population components. Given that the researcher wants to focus on a younger customer demographic, purposive sampling will be used. In-depth interviews or questionnaires with open-ended questions will be used to collect data for this study. A thematic analysis, also known as theming, will be used to interpret the collected data.

Key words: Multi-sensory, Consumer experience, User Centred Design (UCD), Indoor Environmental Quality (IEQ), Biophilic design, Sustainability.

DECLARATION

I hereby declare that the **dissertation** submitted for the **Honours in Interior Design** to The Independent Institute of Education (The IIE) is my own work and has not previously been submitted to another University or Higher Education Institution for a postgraduate qualification.

Date: 26/09/2022

Signature:

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CHAPTER ONE:

ORIENTATION OF THE STUDY

1.1. Introduction

In this chapter, the researcher will clearly explain the background of the research problem and go over its importance in coffee shop interior design. To help the reader understand the study, the researcher will define and summarize the topics of multi-sensory design and consumer experience. The relevant research questions and study objectives will also be listed to assist in directing the development of the research.

1.2. Contextualisation

Entertainment environments, specifically coffee shops, have begun to incorporate multi-sensory design elements into their interior spaces. People experience and react to space in a variety of ways, both subtle and obvious, consciously, and unconsciously. Multi-sensory design is used to acknowledge that and how people experience and react to space (Mueller and Marsh, 2021). Within this study I will cover the importance of a multi-sensory design approach being used in coffee shop spaces in South Africa and will use it to discover the value that it has on the consumers' experience.

I hope to uncover the full potential of a multi-sensory design approach and the significant impact it can have on customers' experiences in coffee shops through this research. Because previous research on multisensory design has been conducted, the goal of this proposed study is to further explain the question by breaking it down into its key theories. In order to obtain my research findings, the key theories will be explored and linked back to my study. In order to obtain more detailed findings to help solve the research question, the study will also include concepts, paradigms, research methods, data collection, and data analysis methods in relation to the specific study. After that, I'll go over the population and sampling method that will be used. After that, I'll go through the population and sampling method that will be used in this study in order to conduct research that will support and prove the theory as accurately as possible.

1.3. Rationale and Relevance

A research rationale is a justification that explains why you are conducting the particular study and why it is worthwhile to spend time investigating and solving the problem you have identified (Plooy-Cilliers, Davis & Bezuidenhout, 2014). The particular study is revolved around

the use of multi-sensory design in coffee shops. This specific topic was selected in the aim of improving the users' experiences in coffee shops in South Africa.

The purpose of this study is to determine how implementing a multi-sensory design approach in coffee shops will be more beneficial in adding value to the consumer's experience and how the utilisation of multi-sensory design in public buildings is relevant as it can promote a healthier and more sustainable way of living. The research is significant because it will contribute to the current body of knowledge by encouraging more accurate representation of the importance that multi-sensory design approaches have on a consumer's experience specifically in coffee shops in South Africa.

1.4. Problem Statement

Leedy and Ormrod (2013) explain that the problem should be stated in 'one or more grammatically complete sentences,' and it should be the sole focus of the entire research effort. The problem identified is that coffee shops in South Africa which lack the use of a multi-sensory design approach in the interior space has a negative impact on the consumers' experience. The aim of this project is to determine the use and value of a multi-sensory design approach in interior design with a focus on public spaces like coffee shops in South Africa, using a qualitative approach. In the proposed research I will be discussing why a multi-sensory design approach is vital when it comes to designing a space as it benefits the users' experience in coffee shops. This particular study is relevant because multi-sensory consists of multiple theories but the theories I have decided to focus more closely on will help give a better understanding of the problem.

1.5. Purpose Statement

The purpose of this study is to develop a better understanding of whether a multi-sensory design approach has any value on consumer's experience in coffee shops in South Africa. A primary research question and sub-questions have been generated using a deductive technique.

1.6. Research Questions

What value does a multi-sensory design approach have on the experience of consumers relating to the coffee shop phenomenon in South Africa?

The following sub-questions were derived from the main research question and in accordance with the research objectives:

- How can a multi-sensory design approach work with interior design to design a space of well-being?
- Why does the use of a multi-sensory design approach add value to a consumer's experience in a coffee shop?

1.7. Research Objectives

To establish a user experience framework for coffee shops in South Africa to emphasize the value that a multi-sensory design approach has on a consumers' experience.

The research objectives in line with the particular study also include:

- To describe how a multi-sensory design approach in a coffee shop can be implemented to maximize the full potential of a consumer's experience.
- To show the positive effects and value that a multi-sensory design approach will have on the user's experience in coffee shops.
- To determine why users will have a more positive experience in coffee shops that consists of a multi-sensory design approach.

In summary, the researcher wanted to investigate the advantages of using multi-sensory in interior design for coffee shops, both psychologically and for experience purposes within a space. An individual using a poorly designed space may experience stress and negative impacts on their general well-being. Effectively utilizing a space that is properly designed for the user's needs can have positive effects on a person, thereby enhancing the experience they had. A multi-sensorial design approach must be taken into account when designing the interior of a coffee shop because the researcher wants to focus on the overall experience consumers have in the space.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

In this research study, the aim is to explore and describe the impacts of a multi-sensorial design approach taken when it comes to designing the interior of a coffee shop space, through a methodological position of interpretivism. This paper seeks to review and analyze the published literature on multi-sensory design in interior environments, and its impact it has on the consumer's experience. The following parts of the paper will provide the reader with general insight of the lack of multi-sensory design problems in coffee shops, as well as the relationship between multi-sensory design and the consumer's experience throughout a coffee shop interior environment. These environments also have factors that may have an impact on the overall experience of a customer. The success of the customer experience is crucial to the interior design of coffee shops. When it comes to giving their customers a desirable and satisfying experience, coffee shop owners face a variety of difficulties. The purpose of this study's findings is to increase our understanding of how multi-sensory design influences coffee shop interior design. In turn, this can assist businesses in considering how to design coffee shop settings that influence and promote a more positive customer experience.

2.2. Theoretical Foundation

This section of my research provides an overview of the theoretical framework that is used to structure my proposed research. The proposed research will be conducted in a qualitative method which will later on become a hermeneutical framework. The information that will be discussed further in this section is the key theories identified within my research that will then be explored throughout the research providing detailed definitions and examples of the theories. This section will cover each theory in depth explaining what they are and the relevance they have towards my proposed research problem. Throughout each key term breakdown, I will be including various amounts of data that I have found through the use of credible sources, that will be related towards my research to help provide a better understanding of the research problem.

The key theories that have been identified within my research are; Multi-sensory design, Indoor Environmental Quality (IEQ), and Evidence Based Design (EBD).

The key theories mentioned above were abstracted from the research problem. They were identified within the topic of my research and complement each other when it comes to

collecting data from various sources and gathering the information to conduct my research. The reason behind each key theory working well together is because each theories core element is analysing the social environment and the experiences that a design space has on humans. Each of them is identified as a qualitative research theme that studies human experiences.

2.2.1. Multi-sensory Design

Multi-sensory design refers to creating experiences that involve all five senses rather than just one or two. Our approach to designing user interfaces that give information, receive information, and evoke actions from people who interact with a human-machine interface will be shaped by the 'multisensorial' design practise (Abhijith, 2018).

According to Hendrik and Schifferstein (2011), 'designers who intentionally try to create specific experiences for people, are more likely to succeed if they are aware of the messages conveyed by the different sensory channels and of their contribution to the overall experience.' This paper describes a multi-sensory design approach in a few steps, focusing mainly on the; target expression, sensory analysis, sensory exploration, user-interaction, and consumer experience. The most important design challenge would be to design a space, like a coffee shop, that will provide the end users with an intriguing, and rich experience.

2.2.2. Evidence-Based Design (EBD)

Evidence Based Design also known as EBD, analyses the design aspects that influence a building and its spaces. It is used to measure the physical and psychological effects that a built environment has on its users. It helps emphasize why a building should be placed and that it has beneficial meaning for its existence. Evidence-based design is a method of enhancing an existing design process by requiring practitioners to generate solutions in the built environment based on reliable research (Nemeth, 2014).

According to Nemeth (2014), 'using a research approach in practice contributes to a culture of professional inquiry, and increased understanding of evidence-based design concepts can add value to the unique professional knowledge base used in interior design professional practice.' This theory was identified within my research problem as evidence-based design focuses on the purpose of a built environment and that impact it has on society which is relevant to my research problem as I have focused specifically on multi-sensory design which the main focus is also to do with a built environment and human experience.

2.2.3. Indoor Environmental Quality

Indoor environmental quality, also known as IEQ, refers to the quality of a building's environment which impacts the health conditions of its occupants, whether it be mental or physical health. When we think about indoor pollution, we normally think of problems caused by inadequate ventilation systems, second hand smoke, and other contaminants in the air. Indoor Environmental Quality takes an in-depth, hard science look at the problems of indoor environmental pollution, covering all of the major indoor contaminants, including inorganic, organic, and biological pollutants (Godish, 2016).

With continuing on to the relevance that each theory has within the research problem, Indoor environmental quality is included amongst the other theories as this specific theory is just as relevant and the reason being is because its main focus is to identify the building's environment in relation to its contribution towards user experience.

2.3. Review Previous Literature

This section of my research provides an overview of what my entire proposed research entails. Within this literature review, possible themes within my design, research problems, purpose of research, gathered information from credible sources, and the insightful findings that are relevant to my proposed research will be explored and discussed in-depth. The information gathered from the credible sources are reviews on what is already known about my proposed research problem. I will be discussing further about the sources and analysing if they differ or agree in terms of the research findings in relation to mine.

This proposed study is focused on sensory marketing that appeals to the five senses of coffee shop customers ("sight," "smell," "sound," "taste," and "touch"). According to Jang and Lee (2019), 'the five senses are used to provide a sustainable growth model for the saturated coffee shop market. The study identified the relationships among coffee shops' sensory marketing factors, the 'PAD' emotions (pleasure, arousal, and dominance), flow, and behavioural intentions.' This information that I gathered from the article compliments my proposed design research as it identifies that multi-sensory design factors do have an impact on emotions which I am busy conducting within my research.

2.3.1. Research Problem

The aim of this project is to determine the use and value of a multi-sensory design approach in interior design with a focus on public spaces like coffee shops in South Africa, using a phenomenological qualitative approach. In the proposed research I will be discussing why a multi-sensory design approach is vital when it comes to designing a space as it benefits the

user's experience in coffee shops. Multi-sensory consists of multiple theories but the theories I have decided to focus more closely on will help give a better understanding of the problem. The research problem is mainly focused on the lack of multi-sensory design approaches being utilized in coffee shops in south Africa which is creating negative experiences for the coffee shop users.

2.3.2. Purpose of Research

The purpose of this study is to get a better understanding of whether a multi-sensory design approach has any value on consumer's experience in coffee shops in South Africa. By using this study, I want to identify the full potential of a multi-sensory design approach and the significant impact it can have on consumer's experience in coffee shops. Research has been done on multi-sensory design previously so the aim for this proposed research is to then explain the question further by breaking it down into its key theories. The purpose is also to contribute to existing studies in the aims of finding a final solution that consists of more accurate findings as the research would have taken place multiple times which would result in more accurate findings.

2.3.3. Key Theories

The key theories which were mentioned in the above sections play a vital role in the research process. The key theories that were identified within my research are; Multi-sensory design, Indoor Environmental Quality (IEQ), and Evidence Based Design (EBD). The key theories are used as a base for the proposed research to help provide a better understanding of what the study is researching and what is to be expected.

2.3.4. Research Findings

The articles that are mentioned below were proven to be extremely beneficial to the study because they provided the researcher with previously unknown information about my proposed research, allowing the researcher to gain a better understanding of my research and its significance. The subheadings below are design theories that have been identified in the proposed research and have been thoroughly examined and discussed in relation to my research.

2.3.5. Multi-sensory Design

According to Lucas and Romice (2010: 263), 'public spaces are an experience for all the senses, but all too often, academics and designers are interested in only the visual or aural aspects of place. These authors explain how their research puts these more open, subjective

theories of environmental perception into practice by embedding them in a set of inscriptive practices, allowing them to become part of the design process.'

In agreement to the proposed research, when it comes to designing interior environments, the relevance of multisensory design research is currently underappreciated and undervalued (Nemeth, 2014). After analysing that specific thesis, I can confirm that our specific research definitely agrees with one another in terms of how the main objective of this study is to determine or demonstrate the importance of multi-sensory design in public spaces like coffee shops. The above research supports my research with the results of the exploration of the research which shows that, when it comes to influencing consumer experiences, multisensorial design elements have been proven to be very valuable (Nemeth, 2014).

Relating back to my proposed research I believe the information that I as the researcher found in this thesis agrees with my research in terms of multi-sensory design being important when it comes to having an impact on consumer's experience. This thesis compliments the research findings that Nemeth (2014), addresses as well. According to Shang Ly (2011), 'the thesis examined the simultaneous use of multiple atmospheric elements (e.g., lighting, scent, music, colour) in the context of coffee shops. It explores the effects of ambient and design elements from both a managerial and consumer perspective in a series of field interviews, a field study, and a lab experiment.' In relation to my proposed research, the information abstracted above from an article supports the methodology approach I chose to do my research in being qualitative by using interviews, field study and lab experiment which is a part of a qualitative method.

In continuation of that article, according to Shang Ly (2011) & Spence and Carvalho (2020), their research compliments another as they agree on how a comparison of field and lab studies suggests that consumer experiences change when human variables are considered. The field study reflects different perceptions compared to the lab experiment, and yielded higher means for arousal, environment quality, store image, sophistication, and sincerity.

After analysing even more research articles, I was able to identify that these authors agree with each other according to their research findings. Abdolmohamad Sagha, Seyyedamiri, Foroudi and Akbari (2022) & Spence and Carvalho (2020) explain that when confronted with sensory-rich experiential products (e.g., juice, coffee, hamburger, soda) with different sensory cues, consumers' emotions, willingness to purchase, and experience are influenced by affective primacy and sensory congruency in the presence of moderators such as colours, jingles, prices, and scent imagery.

2.3.6. Evidence-Based Design (EBD)

After analysing the main value of multi-sensory design in coffee shops, I then proceeded with my research onto the importance of evidence-based design and the contribution it has within my research problem. With these two articles agreeing in terms of their findings being similar, according to McIntosh and Jadavji (2017) & Hamilton (2020), 'we spend approximately 90% of our time within a built environment, whether it is in our homes, offices, schools, city parks, or public spaces. This bears significance, as we are equally shaped by both our genetic makeup as well as our environment, which brings into question of how we experience space, and in turn how these experiences impact our behaviour.' This paper aims to highlight that such information is critical to the advancement of evidence-based design by acknowledging the role of conscious awareness within space.

The research information mentioned above agrees with my proposed research in the terms of the built environment having an impact on a consumer's experience and well-being. McIntosh and Jadavji (2017) & Hamilton (2020) confirm that evidence-based design is important in user experience and how the space of a built environment can influence how someone experiences a space, and that is reason as to why evidence-based design is one of the theories that was identified within my research problem because that design approach is linked to and somewhat similar to my multi-sensory design approach I'm using to conduct this research on.

2.3.7. Indoor Environmental Quality

This design theme was purposely used to explore the impact of perception. Within this theme I analysed the quality of a space with regards to humidity, temperature, air pollution and odour. This design theme was specifically researched as it is very similar to the others and contributes to the over research findings.

According to Fang, Clausen and Fanger (1998) & Godish (2016), within their papers they specifically built a test system and conducted a series of experiments to investigate the effects of temperature and humidity on the perception of air quality and odour intensity, as well as the emission of pollutants from materials. According to Fang, Clausen and Fanger (1998: 80), 'The odour intensity of air did not change significantly with temperature and humidity; however, a strong and significant impact of temperature and humidity on the perception of air quality was found. The air was perceived as less acceptable with increasing temperature and humidity. This impact decreased with an increasing level of air pollution.'

So, to conclude the information discussed above, the increase in air pollution decreased the chances of a positive consumer experience within a space. Having a poor indoor environment quality has an impact on the consumer's experience within the coffee shop. So, to expand on the research findings that Aristizabal *et al.*, (2021), provided us with, is that indoor environmental quality is indeed an important theme within the proposed research, and it definitely does contribute to the overall experience of the consumers.

2.3.8. Review Summary

After addressing the importance of multisensorial design in coffee shops spaces with the use of credible sources I have now explored the limitations that might take place in my proposed research, so I am providing information taken from an article that differs from my proposed research but is still in relation to my research problem. Russo Spena, Caridà, Colurcio and Melia (2012) helped me identify that there are two major limitations: this study is exploratory, and it only looks at cocreation from the perspective of the company. Further research could broaden the unit of analysis from the firm to the customer's network, revealing more about the antecedents and implications of the interaction in a multisensory context.

After doing thorough research and identifying myself with the existing knowledge of this research I was able to confirm the purpose of my research and the importance it has. In this literature review I explored and discussed how many different aspects of the built environment influenced people's choice of what beverage to drink as well as what they thought about the experience. I discussed specifically about, the visual, auditory, olfactory, and tactile aspects of the environment and how they have all been shown to impact the experience of tasting and drinking coffee, and the overall experience of the space.

2.4. Conceptualisation

This section of my research provides an overview of the key terms, concepts, and variables that are relevant to the research. The concepts used in this research are formed from the key theories mentioned in the above section. The above theories; multi-sensory design, evidence-based design, and indoor environmental quality are what are used to identify the concepts. The identified concepts used in this research are, consumer experience, well-being, health conditions, and the five senses. Conceptualisation is the process of using previous knowledge to define the meaning of terms used in a study (e.g., definition using concepts and words). Prior research provides a foundation for achieving field-wide agreement on variable conceptualization (Allen, 2017).

According to Plooy-Cilliers *et al.* (2014: 87) in research, variables are any characteristics that can take on different values. There are two types of variables; dependent and independent. The underlying relationships between concepts is identified in terms of dependent and independent variables. The theory, evidence-based design takes part in forming the concept as the theory is identified as an independent variable and the terms; consumer experience, and well-being are dependent variables which depend on the theory to form the concept. The theory usually explains the interrelations between ranges of concepts and variables.

When it comes to data collecting there are different variables that will have an impact in the research process, these variables are what have an effect on the research findings. The independent variables that will impact the data collection are the; students (participants), age, coffee shop, temperature, and the five senses.

The key terms that are most important and descriptive in this proposed research are; well-being, health, quality, experience, senses, and multi-sensory. The reason being is that each key term, provides an in-depth understanding of what the proposed research is all about. The key terms help to identify the importance of the specific theories being used in relation to the research problem.

The key terms are based on research I gathered from credible sources that are in relation to my proposed research. 'Evidence-based design involves design work that is informed by data from a variety of sources. It is also a natural analogue to the evidence-based decision making of our clients. The process works especially well when it comes to designing for **the well-being** of the consumers and aiming to create higher-quality **experiences**' (Hamilton, 2020: 26).

These key terms mentioned above that are explained in relation to my relevant research are provided to help give a better understanding of the research content and will help provide a more descriptive understanding of what is covered in the literature review.

CHAPTER THREE: METHODOLOGY

3.1. Introduction

The purpose of this study is to examine the experience created in a physical coffee shop setting. This will depend on a variety of factors, including the way a space is designed, how effectively it is used, and even the lighting plan utilised. The purpose of this study's overview is to describe and demonstrate, from a qualitative standpoint, the effects of applying a multi-sensorial design approach to coffee shop interior design. The qualitative descriptive design is employed in studies that aim to comprehend how people behave in natural or everyday settings.

3.2. Paradigm/Tradition

The paradigm chosen is interpretivism. This paradigm is relevant to the study because the proposed research that is being conducted is focused around human experience and the impact that multi-sensory design has on an experience in social settings. Therefore, the proposed research will be conducted through a methodological position of interpretivism within a phenomenological qualitative research method. 'The notion of a paradigm is most often used in the natural sciences. In the social sciences, paradigms are more likely to be referred to as research traditions or worldview's (Plooy-Cilliers *et al.*, 2014: 19). There are three dominant research traditions; positivism, interpretivism, and critical realism. Each of them can be explored in terms of positions. My research is to be conducted in a methodological position of interpretivism. Interpretivism is the belief that social reality is in a constant state of flux and is influenced by how people internally experience reality (Plooy-Cilliers *et al.*, 2014).

By using an interpretivism approach it allows for my research to focus mainly on how humans, which are also identified as the consumers that will be studied, and how they go about interpreting a public space, specifically coffee shops in South Africa. The aim of this proposed research is to analyse consumers in a social setting that involves a multi-sensory design approach and see the impact it will have on the consumer's experience. 'Interpretivism refers to epistemologies, or theories about how we can gain knowledge of the world, which loosely rely on interpreting or understanding the meanings that humans attach to their actions' (O'Reilly, 2009).

3.3. Research Approach

The proposed research will be conducted through a methodological position of interpretivism which is a phenomenological approach of qualitative methodology. The aim of this project is to determine the use and value of a multi-sensory design approach in interior design with a focus on public spaces like coffee shops in South Africa, using a phenomenological qualitative approach. The purpose of conducting the proposed research using a phenomenological approach is because a phenomenon, or phenomena (plural), is anything that can be experienced or observed in the world (Plooy-Cilliers *et al.*, 2014). The methodological position 'Methodology' is a problem-solving guideline. It includes the research methods that are deemed most appropriate for collecting and analysing data in order to generate knowledge about the phenomenon being studied, though it is not synonymous with methods. This method usually refers to research that is qualitative, quantitative, or mixed-methods (Plooy-Cilliers *et al.*, 2014). The purpose of this particular research approach will be used to focus on the study of consciousness and direct experience objects to help conduct the research successfully. This method best suited the particular research as I will conduct in-depth interviews which allow the researcher to analyse the emotions expressed by the participants in order to collect quality data.

Throughout this particular study I will be working deductively. Deductive theorising entails working backwards from broad assumptions to more specific ones. Top-down theorising is a term used to describe it (Plooy-Cilliers *et al.*, 2014). The researcher will progress from studying broad and general aspects of a theory to applying it to a specific topic or observation. Deductive theorising allows an existing theory to be tested through a research study. Before conducting a study, deductive research constructs a theory (Plooy-Cilliers *et al.*, 2014). The theory that has been constructed within this study is, that a multi-sensory design approach adds value to a consumer's experience in coffee shops in South Africa. Thus, the deductive theorising can be used as within the study, questions will be asked in in-depth interviews in the aims of gathering data to support the constructed theory.

The proposed research will be conducted with a cross-sectional design approach. The reason being is that a cross-sectional design is used to collect data from people at that specific time, it is used to collect fresh data from new people which is vital when it comes to collecting data for my proposed research. A cross-sectional interview is used to get a broad picture of a phenomenon at a specific point in time. As a result, you only need to collect information from your respondents once. There are no repeats in this type of research method (Plooy-Cilliers *et al.*, 2014). For example, I would create a set of ethical questions then address participants in hopes of them allowing me as the researcher to conduct an interview with them which will

then allow me to collect the data immediately after the respondents have completed it. This is the first and last time the researcher will ask the participants for information.

3.4. Population

The total group of people or entities [social artefacts] from whom information is required is referred to as a population (Plooy-Cilliers *et al.*, 2014). The population of this study did involve all that was important to the researcher and to the particular study. Whereas the target population is everything that lays within the population parameters (Plooy-Cilliers *et al.*, 2014). Thus, the target population would therefore be the students who would be identified as the consumers with whom utilise the interior spaces of coffee shops in South Africa, and the coffee shop spaces in general that have used a multi-sensory design approach within their interior space. 'The accessible population refers only to the section of the population that we can actually include in our study.' (Plooy-Cilliers *et al.*, 2014). Which therefore means that the accessible population for this particular study would be the university students who would be identified as the consumers, who use coffee shop spaces on the regular, and then lastly Starbucks coffee shop in Menlyn mall. Those two are considered as the accessible population because they are elements that are used and take place within the study.

The population that was used to conduct my research was the use of a minimum of five university students who fell within the age group of nineteen to twenty-five years of age, who utilise coffee shop spaces in South Africa, specifically Starbucks located in Menlyn mall. They were required to answer a set of questions that the researcher had set out, within an interview that was recorded by myself as the researcher. The selected participants in the interview would respond to questions based on the value of a multi-sensory design approach being used in a coffee shop in South Africa. After I had identified the population needed for my study, I then moved on to choose the best sampling method that was required to gather data.

3.5. Sampling

Once the population had been identified I then needed to determine which sampling method would be best suited for my research. According to Plooy-Cilliers *et al.* (2014: 134) 'Sampling is when a group of people, objects, or items are taken from a larger population for measurement.' The most appropriate sampling method that I have identified is the use of a non-probability method. The reason being is because the participants had to be specifically chosen for the study's convenience, there was no equal opportunity for selection, which is why a non-probability sampling method was used.

With the use of a non-probability sampling method, I then needed to address the participants in order to get the sampling information. Five participants were needed for the sample size in order to move forward with the proposed research. They had to meet the following requirements, which were that; they had to be between the ages of nineteen and twenty-five years of age, they had to be a student at a university, any gender was acceptable, and they had to occasionally visit coffee shops, specifically Starbucks in Menlyn mall.

In relation to my study, the recruitment method took place within the university, on the Vega Pretoria campus. The researcher then spoke with any accessible participants and asked them a series of opening questions, including;

- Are you a student who is currently studying?
- What is your current age?
- Do you utilise coffee shops often enough in order to be able to partake in this interview? (For example, at least 3 times a month)
- Do you give consent in order to be able to participate in this interview and to contribute to the proposed study?
- If answered yes to the above question, would you prefer your research contribution to be anonymous?

Purposive sampling was a particular non-probability sampling method that was implemented for my proposed research. 'Purposive sampling, also known as judgemental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their own judgment when choosing members of the population to participate in their surveys' (Plooy-Cilliers, *et al.*, 2014).

I then used a set of questions that were asked during in-depth interviews as part of the purposive sampling method. The method was used to develop a set of insightful questions that the researcher would use in an interview with students who occasionally visit coffee shops in the hopes that they would be able to participate. The set of questions developed that were based on the use of a multi-sensory design approach in coffee shops and the value it adds to a consumer's experience in public spaces were asked during the in-depth interviews.

3.6. Data Collection Method

Only one method of collecting data was used in this study, and it was done in accordance with the proposed content analysis. The researcher had to use a collection to compile reliable data that could support the objectives in order to reach a conclusion that addressed the research question. In-depth interviews with open-ended questions were used as the data collection

method in this qualitative study. The form of data collection which took place within my proposed study was textual data as the data was collected through in-depth interviews, which required participants to answer a series of questions. The data collection method that was used is done through a phenomenological, qualitative data collection method with the use of in-depth interviews.

The collection of data was conducted with the use of the specific research instrument chosen in accordance with my research content, which was the use of in-depth interviews. The data collected was done by interviewing a minimum of five university students, who qualified with accordance to the specific requirements, which then took place on the university campus. The in-depth interviews consisted of the researcher asking the participants a series of questions (refer to appendix A), that had been set in relation to the research question about multi-sensory design in coffee shops. The in-depth interviews were then audio recorded, with consent given (refer to appendix B), by the participants, for data collecting purposes, then transcribed in depth to help analyse the key data needed to proceed with the research.

The questions that were set and asked in the in-depth interviews were based on the utilisation of a multi-sensory design approach in coffee shops and the value it adds to a consumer's experience in public spaces. The reason being that the interview questions were set based on multi-sensory design is to help support the research question as this study is mainly focused on proving the importance a multi-sensory design approach has on consumers in coffee shops when implemented in the design of the space. The data collection method that the researcher utilised has relevance to the research question as in-depth interviews allowed for the researcher to analyse the behaviour of the participants which then provided more value to the data collected because not only are their responses collected and analysed but their behaviour as well.

'Qualitative research can be described as a research strategy that emphasizes words rather than numbers in the collection and analysis of data. Interpretivist researchers aim to study reality subjectively and, as a result, they use methods that are sensitive to the context and that will help them to gain an in-depth understanding' (Plooy-Cilliers, *et al.*, 2014).

The main reason for the chosen data collection method was to help the researcher identify the phenomenon of the design problem and theory. The researcher was able to collect the required data needed for the proposed research by approaching students who utilise coffee shops in south Africa and interviewed the participants as well as recorded their responses. The importance of using in-depth interviews was because they were used to collect qualitative data especially when it comes to a phenomenological approach, as in-depth interviews allow

for the researcher to get emotional data as well, as they are able to identify the emotions of the participants while they answer the questions in the interview.

3.7. Data Analysis Method

De Vos, Strydom, Fouché and Delport (2011: 397), describe qualitative data analysis as 'the process of bringing order, structure and meaning to the mass of data.' According to Graue (2016: 8), 'qualitative data analysis is a process of the description, classification and interconnection of phenomena with the researcher's concepts.' When analysing qualitative data Graue (2016) believes that the researcher deals with meanings rather than just numbers. Different types of sources, such as observation, unstructured interviews, group interviews, gathering of documentary materials, and others, can be used to conduct qualitative research.

According to Schutt (2016: 11-12), 'there are four key steps most qualitative data analysis approaches have in common: Data collection, data reduction, data displays and conclusion drawing/verification.' The following paragraph will highlight the steps that will be followed by the researcher to analyse the data once it is collected. The collection method used in this study will be in-depth interviews, meaning the participants' responses will be audio recorded and then transcribed, which then the researcher will take notes, on what is being typed out. An important step in a research study is comprehending and making sense of the information gathered from the respondents. Schutt (2016) mentions that data is collected through observation or interviewing. The quantity can be overwhelming, so it must be recorded. The data can then be reduced down to manageable portions while still needing to be meaningful. The data can be organised, prepared, and made useable for the analysis by categorising or coding it.

A thematic analysis will be used as the method of data interpretation in this qualitative study. The term "thematic analysis" refers to the process of grouping or identifying recurring themes among the various responses provided by participants in order to present the results in a constructive and insightful way. The reason for a thematic analysis will be used by means of an in-depth interview which will contain a list of questions to fully understand the participant's understanding and interpretation of multi-sensory design in coffee shops and the value it adds to the experience. This will be done through an in person, in-depth interview where the participant will answer a set of questions based on the proposed research about the value of multi-sensory design being utilised in coffee shops.

As seen below (Figure 1), is an image that explains the steps required to conduct a data analysis. The reason for this chosen diagram is because the phases identified in the image

would be used in relation to the research questions and gathered data with accordance to the specific research method. Braun and Clarke (2006) set out a six-step approach that would be carried out to analyse any data collected in a thematic manner.

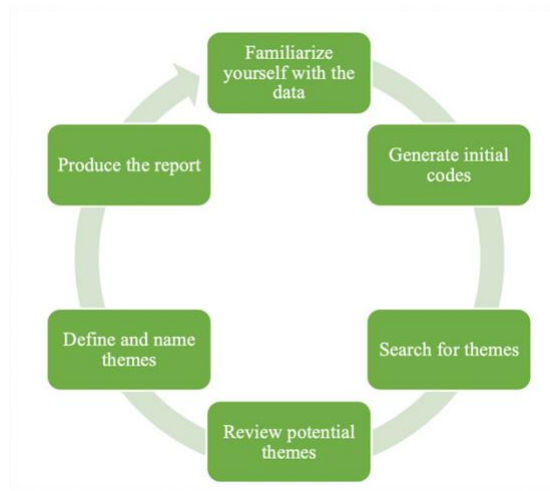


Figure 1: *The continuous cycle of Thematic Analysis* (Braun and Clarke, 2006).

The framework that the data collecting, and analysing will take place in, is a historical–hermeneutic (or hermeneutic–phenomenological) framework. Hermeneutic–phenomenological sciences are practical, and their aim is in-depth understanding of a phenomenon, that is why it is best suited for the proposed research. This type of science is related to interpretivism (Plooy-Cilliers, *et al.*, 2014).

CHAPTER FOUR:

FINDINGS AND INTERPRETATION OF FINDINGS

4.1. Introduction

The analysis, presentation, and description of the study's findings will be provided in this chapter. According to the research procedures outlined in the previous chapter, the data was gathered, and the analyses presented in this chapter. The goal of this study is to determine the impact of multi-sensory design in coffee shop interiors as well as other elements that might contribute to a positive customer experience. A series of questions were posed to the participants regarding their individual experiences in the Menlyn mall's Starbucks coffee shop as well as their perceptions of the interior designed space. A brief summary of the data analysis and study findings introduces the chapter, followed by an interpretation and discussion of the data the researcher gathered.

4.2. Study Findings

The data could be presented as findings, further interpreted, explained in context, and then used to address the primary research question, objective, and problem in order to synthesise the research into a coherent direction moving forward for multi-sensory design in coffee shops after they had been gathered. To visually present the key data, the most significant aspects of the research findings have been organised into tables, pie charts, and a word cloud.

Regarding the implementation of multi-sensory design in coffee shop interiors, the researcher's main research question was, "What value does a multi-sensory design approach have on the experience of consumers relating to the coffee shop phenomenon in South Africa?". In order to do so the researcher conducted in-depth interviews which required the participants to answer a set of questions, in which the participants had to respond to the ten open-ended questions (refer to appendix A), or as stated below in the table.

Table 1: Participant's Interview Results.

Participant's Interview Results

Questions	Participant's answers				
	Participant one	Participant two	Participant three	Participant four	Participant five
1. In your own opinion please describe the environment of the Starbucks coffee shop in Menlyn mall.	- Big and spacious. - Good quality. - Dark, loud, and noisy.	- Spacious environment. - Different seating options. - Not too bright.	- Busy environment. - Uneasy feeling. - Rushed.	- Dark and dull. - Gloomy kind of an unwelcome-ing space.	- It's conducive. - Really nice to work in. - Makes me focus. - Quite open.
2. When you walk into the Starbucks coffee shop in Menlyn mall are you satisfied with the interior environment? If answered yes or no, please explain why?	- Yes. - Customers are loyal. - Same design in every store. - Gives a familiar feeling.	- Yes. - Only negative is lighting is too dim. - Ver positive experience.	- Definitely. - Beautiful Starbucks. - Designed well.	- No. - Could have used brand identity. - Attention isn't drawn to the space.	- I don't specifically notice the interior. - Easy to access.
3. In a few words could you describe the personality of the Starbucks coffee shop in Menlyn?	- Modern. - Coffee vibes. - Inviting. - Familiar and comforting.	- Sophis-ticated - Quirky. - Relaxing.	- Neutral. - Raw. - Industrial.	- Quietish. - Relaxing area. - Laid back.	- Business ready. - Very adaptable.
4. When in the Starbucks coffee shop in Menlyn is your attention drawn to certain elements? If yes, please list which elements you have noticed.	- Yes. - The coffee bar. - Coffee bar is well lit up.	- Yes. - Lovely long seating bench. - Coffee bar. - High ceiling.	- The entrance. - Wooden façade draws you in.	- Definitely. - The storefront with walls and seating outside. - Wooden kind of effect. - Back feature wall.	- Display screens. - Items display. - Coffees and flasks.

5. As a consumer in your own words can you please explain what kind of experience you seem to have when using the Starbucks coffee shop in Menlyn mall?	- Overall good experience. - Finding the store is not fun. - Positive, nice vibe.	- Very good experience. - Staff is very friendly. - It's relaxing and comfortable.	- Not a very pleasant experience. - Feel uneasy and anxious. - Negative experience.	- Not a bad experience. - Positive. - Chilled and fun.	- Super pleasant experience. - Positive environment. - Super friendly.
6. If you could make changes to the Starbucks coffee shop in Menlyn mall, what would you change and why?	- Relocate the shop closer to the entrance. - Add in room dividers for private spaces.	- The lighting for working. - The temperature, it's too cold.	- Relocate the shop to the outside of the mall. - Too dark. - Roof is too low. - Wayfinding	- How dark it is. - Should be stimulating. - Inviting for students to come work and chill.	- More seating. - More plug points. - Isolated booths.
7. In your own words please explain if you agree or disagree with the statement mentioned below. Please explain why you agree or disagree with the given statement. "Multi-sensory design elements like; noise, scent, site, and touch, play an important role when it comes to creating a positive experience in coffee shops for its consumers."					
Participant One:	I agree. The noise level affects the way of working in the space.				
Participant Two:	I absolutely agree. Noise is distracting, the building is appealing, and the touch of the couch fabric is comforting.				
Participant Three:	I agree.				
Participant Four:	I agree. It's nice to look around and see an aesthetic environment.				
Participant Five:	I agree. It makes me want to work more. If it is multi-sensory designed, I'm more likely to stay longer.				
8. Do you agree or disagree that multi-sensory design elements can have an impact on the duration of your stay, the mood you experience, and the choice of beverage /food ordered within the coffee shop?					
Participant One:	I agree.				
Participant Two:	I agree.				
Participant Three:	I agree.				
Participant Four:	I agree.				
Participant Five:	I agree.				

Table 2: Approximately the amount of time a consumer would spend in Starbucks in Menlyn mall for each visit.

Approximately the amount of time a consumer would spend in Starbucks in Menlyn mall for each visit

Starbucks consumer	Time spent in the coffee shop
Participant one	Average amount
Participant two	Average amount
Participant three	Shortest amount
Participant four	Not too long
Participant five	Decent amount

Table 3: Approximately how often a consumer would go to Starbucks in Menlyn mall.

Approximately how often a consumer would go to Starbucks in Menlyn mall

Starbucks consumer	How often the coffee shop is visited
Participant one	Once every couple of months.
Participant two	Once a month.
Participant three	Once every few months.
Participant four	Once a month.
Participant five	Twice a month.

The Multi-sensory Design Principles which had the most impact on consumers in the coffee shop

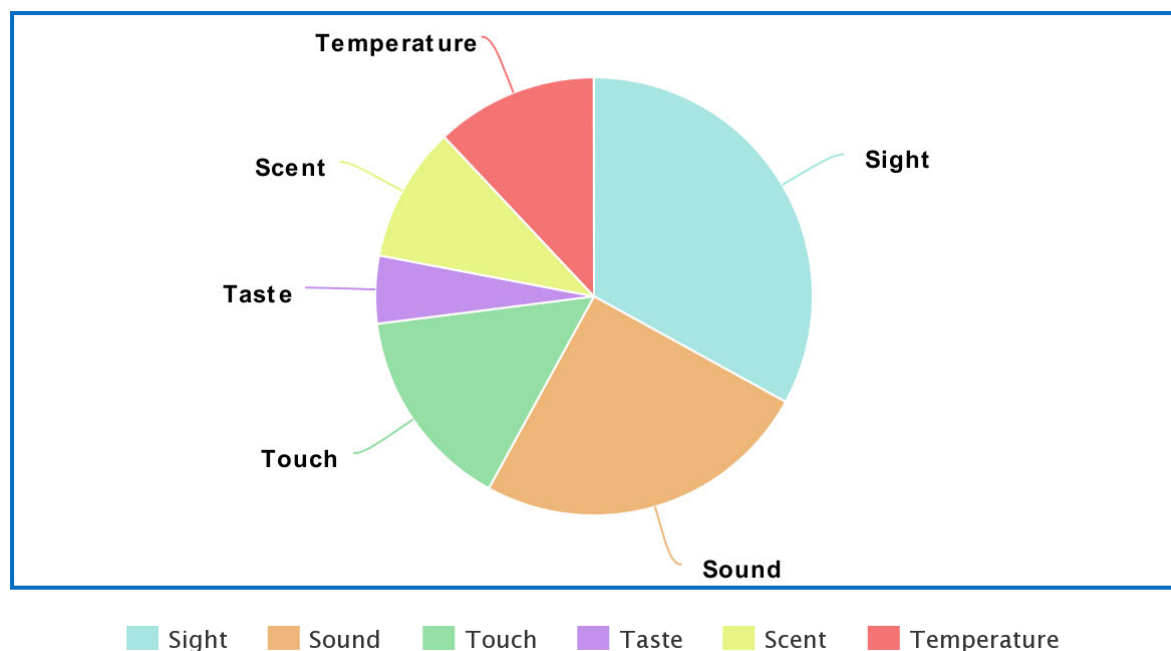


Figure 2: The Multi-sensory Design Principles which had the most impact on consumers in the coffee shop.

The weighting of consumers which who were satisfied with the Starbucks interior environment

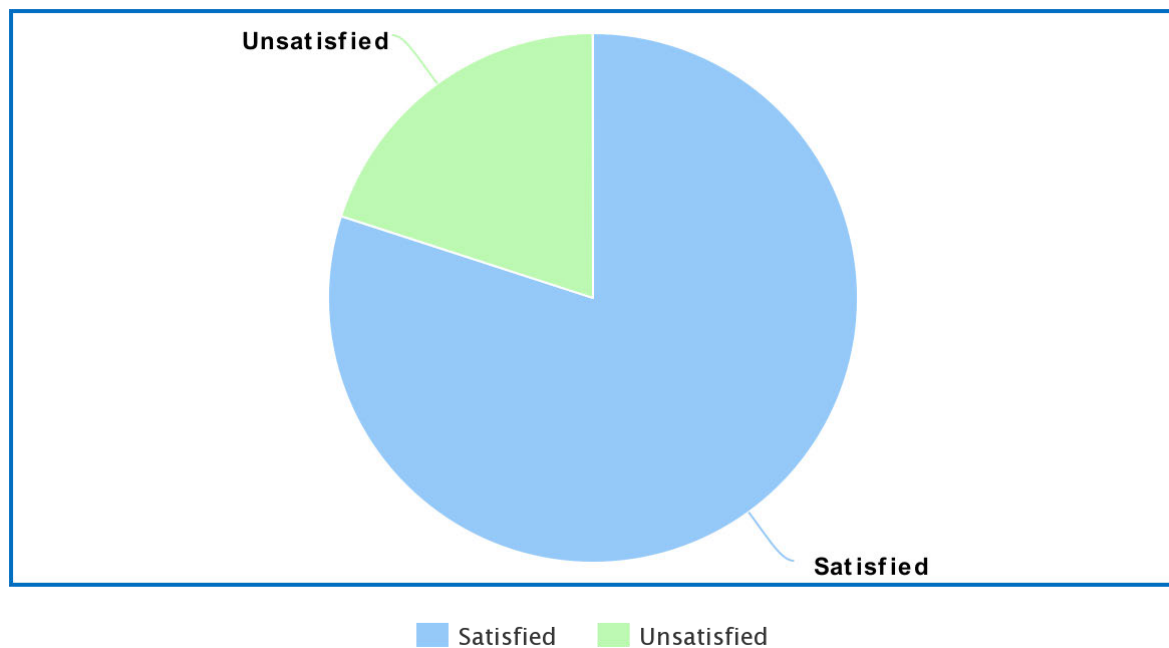


Figure 3: The weighting of consumers which whom were satisfied with the Starbucks interior environment.

The weighting of key words describing the interior environment of Starbucks



Figure 4: The weighting of key words describing the interior environment of Starbucks.

4.3. Interpretation of Findings

In the context of the research problem, which was that coffee shops are more likely to create an environment where their consumers have negative experiences, if they don't implement multi-sensory design principles in their interior spaces.

According to previous research the most important contribution that this proposed study has, is to identify the value that having multi-sensory design approaches being utilised in coffee shops in south Africa and the benefits it could have on the consumers' experiences in the spaces. The phenomenon that is to be identified will help provide a deeper meaning behind the importance that using a multi-sensory design approach in a coffee shop has and the value that it adds to a consumer's experience. The phenomenon that will be identified from this proposed research is that the reason for a multi-sensory design approach being used in a coffee shop space is because when using a phenomenological approach to analyse the consumers the research will provide an understanding on how a multi-sensory design approach can add value to the experience as it is designed to enable people to enjoy a wide range of experiences like; therapy, learning, stimulation, relaxation, and fun.

Entertainment environments, specifically coffee shops, have begun to incorporate multi-sensory design elements into their interior spaces. People experience and react to space in a variety of ways, both subtle and obvious, consciously, and unconsciously. Multi-sensory design is used to acknowledge that and how people experience and react to space (Mueller and Marsh, 2021). Within this study the researcher discovered the importance of a multi-sensory design approach being used in coffee shop spaces in South Africa and it was used it to discover the value that it has on the consumers' experience.

According to the literature findings in the paragraph above Meuller and Marsh's literature clearly supports the importance of the proposed research with relation to the research question and it provides this research with a clearer understanding of how vital it is to implement multi-sensory design in your coffee shop interiors as people react to space in a variety of ways which can also be supported with the data findings as the findings gathered from the in-depth interviews clearly tell us that elements like light, temperature, scent, taste, and noise have an impact on a consumer's mood, duration of stay, and overall experience.

In context to the key theories that were abstracted and identified from the research problem within the proposed research, which are; Multi-sensory design, Indoor Environmental Quality (IEQ), and Evidence Based Design (EBD), they did prove to be slightly beneficial towards the proposed research but didn't have as much of an impact as anticipated with regards to the findings. Although multiple parts of the data findings relate to the mentioned theories, they

were not specifically identified within those theories but merely link as some of the data results form part of those specific design theories. The identified key theories proved to be less helpful in terms of answering the primary research question but were partially beneficial.

The form of data collected was textual data, this type of data was collected through the use of in-depth interviews with a minimum of five participants who willingly participated. In the in-depth interviews the participants were required to answer a set of ten open-ended questions in order for the researcher to gather the necessary data. During the interviews not only was the spoken information collected as data but the behaviours of the participants as well, as their behaviour towards their experiences in coffee shops contributed to the data collection process and helped the research further understand the findings presented.

The collected data was then presented in the forms of tables, textual bar graphs, and a simplified word cloud. The data presented above contains all the information that was collected throughout the interview process and then coded in order to present a clearer understanding of what was found out in relation to the research question. Table 1 consists of eight out of the ten open ended questions that were asked I the interviews with coded, simplified answers that were given by the participants. The table form of presentation of the specific data was chosen as it was the clearest way to present the data to researcher to gather an answer to the research problem.

Table 2 and 3, are then smaller tables which present the remaining two open ended questions. Those tables were formulated separately as they were both in relation to time spent in and at the Starbucks coffee shop in Menlyn mall. The data presented in those two tables clearly present the amount of time utilised in the chosen space to help provide a clear understanding of how often the space is utilised which is in relation to the research question because if the coffee shop interior created a positive experience for its consumers their duration and visit time should be much higher. In context to table 2 and 3, although the consumers expressed that they mostly had a positive experience within the Starbucks in Menlyn mall, their amount of time spent in there or the amount they visit was actually effected more by the location of the coffee shop instead of the coffee shop's environment which is good with regards to the research as their experiences support the importance of multi-sensory design which was being questioned in this proposed research.

4.4. Findings in Context

According to the transcribed interviews and analysed data, a consumer's experience that takes place within Starbucks in Menlyn mall seems to be impacted by the way that the interior

environment has been designed. The analysed data helps to clearly identify that a multi-sensory design approach is vital to take when designing a coffee shop interior as it does in fact have an impact on the consumer's mood, duration of their stay, the decision making of what they purchase, and their overall coffee shop experience.

In context to the previous research and the paradigm the research was chosen to be conducted in, the findings have provided enough data to support the choice of using an interpretivism paradigm as interpretivism is focused around human experience and the research findings help identify the importance of human experience and the contribution it had to the study as it clearly supports the hypothesis that a multi-sensory design approach is vital to take when designing a coffee shop interior.

With regards to the participant's interview results (table 1), there were multiple key words that were identified and abstracted from the transcribed interviews. After analysing the data into findings and coding the interviews the researcher was able to clearly identify specific key words that are used to describe the importance of the research and type of elements that are noticeable within a coffee shop experience. The key words were then presented in a word cloud form (figure 4), which then allowed for the research to clearly show which key words were used most often to describe the interior space and consumer experience. The word cloud is presenting the weighting of each key word, as seen that the larger key words were mentioned more often compared to the smaller key words. By analysing the word cloud you can get a simple understanding of what is expected from this research paper.

According to Hendrik and Schifferstein (2011), 'designers who intentionally try to create specific experiences for people, are more likely to succeed if they are aware of the messages conveyed by the different sensory channels and of their contribution to the overall experience.' With literature researched in previous papers, this paper describes a multi-sensory design approach in a few steps, focusing mainly on the; target expression, sensory analysis, sensory exploration, user-interaction, and consumer experience. The most important design challenge would be to design a space, like a coffee shop, that will provide the end users with an intriguing, and rich experience.

This proposed study is focused on sensory marketing that appeals to the five senses of coffee shop customers ("sight," "smell," "sound," "taste," and "touch"). According to Jang and Lee (2019), 'the five senses are used to provide a sustainable growth model for the saturated coffee shop market. The study identified the relationships among coffee shops' sensory marketing factors, the 'PAD' emotions (pleasure, arousal, and dominance), flow, and behavioural intentions.' This information that I gathered from the article compliments my

proposed design research as it identifies that multi-sensory design factors do have an impact on emotions which I have conducted within my research.

Our approach to designing user interfaces that give information, receive information, and evoke actions from people who interact with a human-machine interface will be shaped by the 'multisensorial' design practise (Abhijith, 2018). With regards to the previous literature, my design research question has been solved in a positive way. My research findings have supported the research title to be correct with relation the importance multi-sensory design has on a consumer's experience in a coffee shop, specifically the Starbucks in Menlyn mall.

4.5. Research Question, Problem, Objectives/Hypotheses Addressed

The primary research question formulated was: What value does a multi-sensory design approach have on the experience of consumers relating to the coffee shop phenomenon in South Africa?

Throughout the proposed research that has been conducted, it has been made clear and apparent that coffee shops in South Africa, which whom have designed their interior spaces with a multi-sensory design approach are more likely to have consumers support their store more often as they most probably have positive experiences within the coffee shop space with multi-sensory design principles providing a more luxury experience, resulting in happier consumers which can lead to loyal customers. According to the findings and the experiences that the participants described within the Starbucks coffee shop in Menlyn mall, the research question has been answered in a positive way with relation to my previous research. The findings above helped identify the importance of multi-sensory design in a coffee shop interior and the impact it has on a consumer.

Sub-questions

The following sub-questions were derived from the main research question and in accordance with the research objectives:

- How can a multi-sensory design approach work with interior design to design a space of well-being?
- Why does the use of a multi-sensory design approach add value to a consumer's experience in a coffee shop?

The population, sampling, and findings used in the proposed study were discussed in detail in this data analysis and findings report, which also provided the researcher with an overview

and interpretation of the research findings as well as formulated conclusions. The primary question, as well as the sub-questions have been answered and addressed as the recommendations resulting from the findings aim to enhance multi-sensory design principles throughout the interior environment of coffee shops, in South Africa, while also enhancing customers' experiences.

The primary research hypothesis formulated was: To establish a user experience framework for coffee shops in South Africa to emphasize the value that a multi-sensory design approach has on a consumers' experience.

Objectives

The research objectives in line with the particular study also include:

- To describe how a multi-sensory design approach in a coffee shop can be implemented to maximize the full potential of a consumer's experience.
- To show the positive effects and value that a multi-sensory design approach will have on the user's experience in coffee shops.
- To determine why users will have a more positive experience in coffee shops that consists of a multi-sensory design approach.

This main hypothesis as well as the objectives, is to be achieved through the development of implementing a multi-sensory design approach in coffee shop interiors to allow for the most positive experience to be created for its consumers. This hypothesis can also be achieved by emphasizing the multi-sensory design elements throughout the coffee shop interior space by ensuring that the lighting is set to a correct brightness (sight), the furniture is designed to be ergonomically and with decent quality materials, for example the couch fabric (touch), the music is set to a decent volume allowing the consumers to hear it but not so that they have to shout over it (sound), the ventilation is designed to create the correct temperature within the space making sure it is not too cold or hot (temperature), the coffee beans are roasted but equally ventilated to create a faint scent of coffee throughout the interior (scent), and that the food and beverages sold within the shop are made to a good standard and that the choice of cuisine contributes to the style of the shop design (taste).

After thoroughly analysing the collected and coded data from the five in-depth interviews, the researcher can confidently present the research title with support that multi-sensory design in Starbucks coffee shop in Menlyn mall does play a vital role when it comes to creating a positive consumer experience for the coffee shop's customers. The research findings provided the researcher, and this proposed research paper with a positive outcome as the title was proven to be correct.

CHAPTER FIVE:

FINDINGS, RECOMMENDATIONS, AND CONCLUSION

5.1. Introduction

This chapter summarizes the results, discusses the study's limitations and conclusions, and offers advice for researchers and designers. In order to give customers a better experience, the study's goal was to investigate and describe the effects of using multi-sensory design in coffee shop interior design. Additionally, this can encourage businesses to think about designing coffee shop environments that improve the consumer experience.

5.2. Validity, Reliability and/or Trustworthiness

Although some qualitative researchers continue to use the terms '**reliability**' and '**validity**' the methods they use to determine reliability and validity differ from those used in quantitative studies. In qualitative studies, there is a trend toward using different terminology to indicate validity and reliability. In qualitative research, the overarching term for validity and reliability is 'trustworthiness,' which is further divided into credibility, transferability, dependability, and confirmability (Plooy-Cilliers, *et al.*, 2014).

To improve the rigour and trustworthiness of qualitative research, specific practise methods are used in the sampling and data collection processes. A clear rationale for sampling design decisions, determination of data saturation, ethics in research design, and member checking are some of the specific methods used to increase the trustworthiness and rigour.

Plooy-Cilliers *et al.* (2014) explains that the accuracy with which the researcher interpreted the data provided by the participants is referred to as **credibility**. When the researcher spends a significant amount of time with the participants in order to better understand them and gain insight into their lives, the researcher's credibility rises. It can also be increased by using triangulation, which involves collecting data using more than one research method (for example, in-depth interviews combined with focus groups). Furthermore, credibility is enhanced when your findings are credible in the eyes of the participants.

According to Plooy-Cilliers *et al.* (2014: 259) 'dependability refers to the quality of the process of integration that takes place between the data collection method, data analysis and the theory generated from the data.'

The term '**confirmability**' refers to how strongly the data obtained backs up the researcher's conclusions and interpretations. It shows how well the conclusions are drawn from the data. In order for others to scrutinise the research design, the researcher must have adequately described the research method. Others who examine the data must arrive at the same conclusions as the researcher (Plooy-Cilliers, *et al.*, 2014).

As mentioned in the above information, when it comes to qualitative research reliability is identified as trustworthiness. According to Eldridge (2014: 341) 'reliability is defined as the consistency or repeatability of test results. Other descriptors used to indicate reliability include "consistency," "repeatability," "objectivity," "dependability," and "precision." Accuracy is a function of reliability: The better the reliability, the more accurate the results. Conversely, the poorer the reliability, the more inaccurate are the results, which increases the chance of making an incorrect decision. Furthermore, accuracy is affected by the sensitivity and specificity of the test.'

Sensitivity refers to how frequently a test measures a "true" positive result, whereas specificity refers to the test's ability to determine "true" negative results. The higher a test's sensitivity and specificity, the more accurate the results will be. Later in this chapter, the concepts of sensitivity and specificity are discussed in greater depth (Eldridge, 2014).

The degree to which the results are accurate is referred to as validity. The degree of relationship between the test and its objective, or whether the test reflects what was reported to be tested, is known as relevance (Eldridge, 2014).

Interclass or intraclass reliability are the two types of reliability that can be described globally. Interclass reliability is defined as the consistency of two or fewer variables or trials, whereas intraclass reliability is defined as the consistency of more than two variables or trials (Eldridge, 2014).

The researcher's capacity to report accurately and comprehensively on elements outside his or her control (limitations) as well as factors that affected the study's focus and scope is critical to the study's reliability and validity (delimitations) (Plooy-Cilliers, *et al.*, 2014).

In order for the proposed research to be considered as trustworthy research, the researcher needs to consider consulting with multiple credible sources, interview more than the required sample size to allow for valid results, to make sure to not be biased, and lastly to ensure that the literature answers and the literature review are to be measured against each other, to identify patterns within the literature.

5.3. Anticipated Contribution

The most important contribution that this proposed study has, is to identify the value that having multi-sensory design approaches being utilised in coffee shops in south Africa and the benefits it could have on the consumers' experiences in the spaces. The phenomenon that is to be identified will help provided a deeper meaning behind the importance that using a multi-sensory design approach in a coffee shop has and the value that it adds to a consumer's experience. The phenomenon that will be identified from this proposed research is that the reason for a multi-sensory design approach being used in a coffee shop space is because when using a phenomenological approach to analyse the consumers the research will provide an understanding on how a multi-sensory design approach can add value to the experience as it is designed to enable people to enjoy a wide range of experiences like; therapy, learning, stimulation, relaxation, and fun.

5.4. Ethical Considerations

According to Plooy-Cilliers *et al.* (2014: 263) 'ethics provide us with guidelines in terms of what can be considered acceptable and unacceptable behaviour. It refers to methods, procedures or perspectives that tell us how to act and how to analyse complex problems and issues.' Your ethics are the moral or professional code of conduct that governs your attitudes and actions. This applies to life in general in the sense that being a person of integrity who can be trusted to follow certain principles is essential (Plooy-Cilliers, *et al.*, 2014).

For the proposed data collection, the questions asked within the in-depth interviews will be known by the researcher but can be listed anonymous in the proposed research. The in-depth interviews will be conducted with the use of students within the age group of nineteen to twenty-five years of age. They are purposely selected and will be required to answer the set questions in order to collect more accurate findings.

The ethical principles that need to be followed and will take place in my proposed study are;

1. Seeking permission from the relevant authority
2. Informed consent
3. Confidentiality and Anonymity
4. Freedom to withdraw or participate
5. Avoid unethical questions
6. Respect for human dignity
7. Appropriate methodology
8. Avoiding plagiarism
9. Avoiding falsification

10. Avoiding biasedness

(Plooy-Cilliers, *et al.*, 2014).

The ethical considerations mentioned above were identified in relation to my proposed research. This study contains a list of ethical considerations that need to be taken into consideration in order to conduct ethical research. I as the researcher need to make sure that the participants, I address are made aware that they will be anonymous, that they have given their consent to participate, that they are aware they can withdraw from participating at any given point in time, that the researcher will not ask unethical questions, and that they are aware of the type of research they are participating in.

For the research to achieve the most accurate results I as the researcher need to make sure that there will only be appropriate methodology used throughout the research, that falsification is avoided at all times, that any form of plagiarism is not used, and that there is no form of biasedness of any kind.

5.5. Limitations

Any potential problems you anticipate while conducting your research are referred to as limitations. Anything that could jeopardise the study's validity can be considered a limitation (Plooy-Cilliers, *et al.*, 2014).

The scope of the proposed research is to identify the perceived value of a multi-sensory design approach on the experience of consumers relating to the coffee shop phenomenon in South Africa. The limitations that the proposed qualitative research approach might face is possibly; lack of sample sizes as there might be an issue accessing participants, potential biasness in answers as I as the researcher might have already decided on an outcome for the research problem, and potentially poor questions from researcher.

Limitations in your research study can be defined as constraints or limits that are beyond your control, such as time, financial resources, information access, and so on. For example, if you have three months to complete your research project, there is a limit to the amount of data you can collect in that time (Plooy-Cilliers, *et al.*, 2014).

5.6. Conclusion

This chapter presents a summary and interpretation of the research findings, developed conclusions, and discussed the research design and methods used in this study. The recommendations resulting from the findings aim to enhance the multi-sensory experience in

a coffee shop's interior space while also giving customers a satisfying and seamless experience. The discussed information also included descriptions of the study's limitations and relevance.

In conclusion, the researcher's findings suggest that improving the overall experience that customers seem to have as well as using effective interior design strategies like multi-sensory design within a coffee shop space have a significant impact on the consumer's overall experience. By ignoring these factors, interior designers and coffee shop owners risk giving customers a bad experience and shortening their time spent there. To minimize this, it is important to consider the suggestions made by the respondents when designing the space with a multi-sensorial design approach in order to ensure a positive experience for the customers. These include accurate lighting, proper acoustics, well-designed interior with decent furnishings, and delightful smells and tastes. Multi-sensory design can enhance the experience one has in coffee shop interior settings by seamlessly creating an inviting environment for consumers throughout the space. The results of this study could very well motivate interior designers and coffee shop owners to give more consideration to how patrons can effectively utilize the interior spaces of coffee shops to have a pleasant and memorable experience.

LIST OF REFERENCES

Abdolmohamad Sagha, M., Seyyedamiri, N., Foroudi, P. and Akbari, M. 2022. The One Thing You Need to Change Is Emotions: The Effect of Multi-Sensory Marketing on Consumer Behavior. *Sustainability*, [online] 14(4), p.2334. Available at: <https://www.mdpi.com/2071-1050/14/4/2334> [Accessed 03 April 2022].

Abhijith, H. 2018. *What is multisensorial design and why is it important now*. [online] Medium. Available at: <https://medium.com/codewave/what-is-multisensorial-design-and-why-is-it-important-now-8eecebe47af97> [Accessed 1 May 2022].

Allen, M. 2017. Variables, Conceptualization. *The SAGE Encyclopedia of Communication Research Methods*.

Aristizabal, S., Byun, K., Porter, P., Clements, N., Campanella, C., Li, L., Mullan, A., Ly, S., Senerat, A., Nenadic, I., Browning, W., Loftness, V. and Bauer, B. 2021. Biophilic office design: Exploring the impact of a multisensory approach on human well-being. *Journal of Environmental Psychology*, [online] 77, p.101682. Available at: <https://www.sciencedirect.com/science/article/pii/S0272494421001353#!> [Accessed 03 April 2022].

Braun, V. and Clarke, V. 2006. *The continuous cycle of Thematic Analysis*. [image] Available at: <https://www.maxqda.com/blogpost/thematic-analysis-with-maxqda-step-by-step-guide> [Accessed 16 August 2022].

De Vos, A., Strydom, H., Fouché, C. and Delport, C. 2011. Research at grass roots. *Research Matters*, 10(4), p.232.

De Vos, A., Strydom, H., Fouché, C. and Delport, C. 2011. Research at grass roots. *Research Matters*, 10(4), p.397.

Eldridge, J. 2014. Reliability, Validity, and Trustworthiness. *Reliability, Validity, and Trustworthiness*, [online] Available at: http://samples.jbpub.com/9781284079654/9781284108958_CH12_Pass03.pdf [Accessed 16 June 2022].

Eldridge, J. 2014. Reliability, Validity, and Trustworthiness. *Reliability, Validity, and Trustworthiness*, [online] pp.341. Available at: http://samples.jbpub.com/9781284079654/9781284108958_CH12_Pass03.pdf [Accessed 16 June 2022].

Eldridge, J. 2014. Reliability, Validity, and Trustworthiness. *Reliability, Validity, and Trustworthiness*, [online] pp.341-346. Available at: http://samples.jbpub.com/9781284079654/9781284108958_CH12_Pass03.pdf [Accessed 16 June 2022].

Fang, L., Clausen, G. and Fanger, P. 1998. Impact of Temperature and Humidity on the Perception of Indoor Air Quality. *Indoor Air*, [online] Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1600-0668.1998.t01-2-00003.x> [Accessed 5 May 2022].

Fang, L., Clausen, G. and Fanger, P. 1998. Impact of Temperature and Humidity on the Perception of Indoor Air Quality. *Indoor Air*, [online] 8(2), pp.80. Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1600-0668.1998.t01-2-00003.x> [Accessed 5 May 2022].

Godish, T. 2016. Indoor Environmental Quality. [online] Available at: <https://www.taylorfrancis.com/books/mono/10.1201/9781420056747/indoor-environmental-quality-thad-godish> [Accessed 2 May 2022].

Graue, C. 2016. QUALITATIVE DATA ANALYSIS. *International Journal of Sales, Retailing and Marketing*, [online] 4(9), pp. 8. Available at: <<https://www.circleinternational.co.uk/wp-content/uploads/2021/01/IJSRM4-9.pdf#page=57>> [Accessed 15 August 2022].

Hamilton, D. K. 2020. Evidence-Based Practice: Four Levels Revisited. *HERD: Health Environments Research & Design Journal*, [online] Available at: <https://www.researchgate.net/profile/D-Hamilton-3/publication/265004428_Four_Levels_of_Evidence-Based_Practice/links/59cbc40baca272bb050c5afe/Four-Levels-of-Evidence-Based-Practice.pdf> [Accessed 3 May 2022].

Hamilton, D. K. 2020. Evidence-Based Practice: Four Levels Revisited. *HERD: Health Environments Research & Design Journal*, [online] 13(3), pp.26-29. Available at: <https://www.researchgate.net/profile/D-Hamilton-3/publication/265004428_Four_Levels_of_Evidence-Based_Practice/links/59cbc40baca272bb050c5afe/Four-Levels-of-Evidence-Based-Practice.pdf> [Accessed 3 May 2022].

Hendrik, N. and Schifferstein, J. 2011. Multi-sensory design. *Proceedings of the Second Conference on Creativity and Innovation in Design - DESIRE '11*, [online] Available at: <<https://dl.acm.org/doi/abs/10.1145/2079216.2079270>> [Accessed 1 May 2022].

Jang, H. and Lee, S. 2019. Applying Effective Sensory Marketing to Sustainable Coffee Shop Business Management. *Sustainability*, [online] 11(22), p.6430. Available at: <https://www.mdpi.com/2071-1050/11/22/6430> [Accessed 01 April 2022].

Leedy, P. D. and Ormrod, J. E. 2014. Practical research: Planning and design. In: F. D. Plooy-Cilliers, C. Davis & R. Bezuidenhout, eds. *Research Matters*. Cape Town: Juta, p. 67.

Lucas, R. and Romice, O. 2010. Assessing the Multi-Sensory Qualities of Urban Space: A methodological approach and notational system for recording and designing the multi-sensory experience of urban space. *Psychology*, [online] 1(2), pp.263-276. Available at: <https://www.tandfonline.com/doi/abs/10.1174/217119710791175678> [Accessed 03 April 2022].

McIntosh, A. and Jadavji, N. 2017. Application of Neuroscience Principles for Evidence-based Design in Architectural Education. [online] Available at: <<https://www.jyi.org/2017-september/2017/9/2/application-of-neuroscience-principles-for-evidence-based-design-in-architectural-education>> [Accessed 5 May 2022].

Mueller, K. and Marsh, M. 2021. *Multisensory Design: The Empathy-Based Approach To Workplace Wellness*. [Online] Available at: <https://www.workdesign.com/2017/04/multisensory-design-empathy-based-approach-workplace-wellness/> [Accessed 01 May 2022].

Nemeth, C. 2014. Evidence Based Design: Exploring Research, Education, and Application in Interior Design. [online] Available at: <<https://prism.ucalgary.ca/handle/11023/1342>> [Accessed 1 May 2022].

O'Reilly, K. 2009. *Interpretivism*. [Online] Available at: <https://methods.sagepub.com/book/key-concepts-in-ethnography/n21.xml> [Accessed 02 May 2022].

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R. M. 2014. *Research Matters*. First ed. Claremont(Cape Town): Juta Legal and Academic Publishers.

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R. M. 2014. *Research Matters*. In: *Research Matters*. s.l.:Juta, pp. 19.

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R. M. 2014. *Research Matters*. In: *Research Matters*. s.l.:Juta, pp. 87.

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R. M. 2014. *Research Matters*. In: *Research Matters*. s.l.:Juta, pp. 134.

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R. M. 2014. *Research Matters*. In: *Research Matters*. s.l.:Juta, pp. 259.

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R. M. 2014. Research Matters. In: *Research Matters*. s.l.:Juta, pp. 263,264.

Russo Spena, T., Caridà, A., Colurcio, M. and Melia, M. 2012. Store experience and co-creation: the case of temporary shop. *International Journal of Retail & Distribution Management*, [online] 40(1), pp.21-40. Available at: <<https://www.emerald.com/insight/content/doi/10.1108/09590551211193586/full/html>> [Accessed 3 May 2022].

Schutt, C. 2016. QUALITATIVE DATA ANALYSIS. *International Journal of Sales, Retailing and Marketing*, [online] Available at: <<https://www.circleinternational.co.uk/wp-content/uploads/2021/01/IJSRM4-9.pdf#page=57>> [Accessed 15 August 2022].

Schutt, C. 2016. QUALITATIVE DATA ANALYSIS. *International Journal of Sales, Retailing and Marketing*, [online] 4(9), pp.11, 12. Available at: <<https://www.circleinternational.co.uk/wp-content/uploads/2021/01/IJSRM4-9.pdf#page=57>> [Accessed 15 August 2022].

Shang Ly, L. 2011. A Multi-Method Exploration on Coffee Shop Atmospherics. *A Multi-Method Exploration on Coffee Shop Atmospherics*, [online] Available at: <https://spectrum.library.concordia.ca/id/eprint/7523/1/Ly_MSc_S2011.pdf> [Accessed 3 May 2022].

Spence, C. and Carvalho, F. 2020. The coffee drinking experience: Product extrinsic (atmospheric) influences on taste and choice. *Food Quality and Preference*, [online] 80, p.103802. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0950329319304240> [Accessed 01 April 2022].

APPENDICES AND ANNEXURES

Annexure E (b) – Research Consent Form (IIE007)



ANNEXURE E (b) – RESEARCH CONSENT FORM (IIE007)

The research consent form is to be completed by applicants who are conducting research for the purpose of studying towards a degree at either The IIE or another higher education institution. This form is to be completed by candidates who either already obtained ethics clearance from the registered institution or requires a gatekeeper's letter from The IIE for ethical clearance approval to consent on the use of The IIE students, staff sites or artefacts for the specific research project. The IIE subscribes to the Belmont Report as guideline for ethical research practice. The Belmont report highlights the following three principles respect for persons, beneficence, and justice as critical when considering ethical clearance or consent. Carefully consider your request from an ethics perspective before you submit. The IIE's Ethics Committee has the right to withhold any research that is not in alignment with the institutional policies and best practices of ethical research.

1. Candidates that are not affiliated to The IIE.

Applicants are required to submit the following documentation:

- Annexure E (b) – Research Consent Form (IIE007)
- Proposal of the study that served at the registered institutions ethics committee.
- Data collection instrument (for example: questionnaire, or interview Schedule).
- Copy of the consent form to be shared with participants.
- The ethics clearance certificate from the institution where you are registered for your studies. Should the institutions ethics committee require a gatekeepers letter from The IIE as part of the ethics application at the registered institution it should be noted as such on the below application.

Submit all documents to research@iie.ac.za

2. Candidates affiliated to The IIE.

Applicants are required to submit the following documentation:

- Annexure E (b) – Research Consent Form (IIE007)
- Proposal of the study that served at the registered institutions ethics committee.
- Data collection instrument (for example: questionnaire, or interview Schedule).
- Copy of the consent form to be shared with participants.
- The ethics clearance certificate from the institution where you are registered for your studies. Should the institutions ethics committee require a gatekeepers letter from The IIE as part of the ethics application at the registered institution it should be noted as such on the below application.

if you are a staff member of The IIE, kindly share your documentation with the respective brand research manager.

The purpose of this request for research consent is to obtain:	
Gatekeeper's Letter	
Research Consent	

About the researcher															
Title	Prof		Dr		Ms	X	Mrs		Mr						
First name(s)			Tyla												
Last name			Braun												
Student number			[REDACTED]												
SA ID number			0	0	1	1	1	3	0	1	6	2	0	8	1
Passport number (if applicable)															
Home address							Postal address								
[REDACTED]							Tick if same as home address								X
Code:			[REDACTED]			Code:			[REDACTED]						
Telephone number			/			Cell phone number			[REDACTED]						
Email			[REDACTED]												

About the researcher's affiliations										
Institutional affiliation										
Institution enrolled at		Vega Design Institution								
Qualification name		Honours in Interior Design								
Discipline of study		Interior Design								
About the supervisor or promoter										
Lead or Main Supervisor/ Promoter										
Title	Prof	X	Dr		Ms		Mrs		Mr	
First and last names		John Daniel Eksteen								
Email address		[REDACTED]								
Co-supervisor / promoter										
Title	Prof	X	Dr		Ms		Mrs		Mr	
First and last names		Riaan Hollenbach								
Email address		[REDACTED]								

About the methodology			
Indicate by ticking the appropriate block and answering the relevant sections.			
Questionnaire	Interviews	Observations	
Existing	Structured	Number of observations	
Own	Semi-structured	Note what will be observed	
Open-ended	Number of interviews	5	
Number of respondents	Focus group or workshop		
The questionnaire will be a list of questions asking the respondent detailed questions in relation to multi-sensory design in order to get a better understanding as to how multi-sensory design effects the user's experience within a coffee shop space.	Participants per focus group		
	Number of focus groups		
	Own set of questions based on multi-sensory design in coffee shops.		
List of the student or staff groups, sites or artefacts under study	/		
Average time participants or respondents will be involved in research activities	10 minutes of the participants time will be used.		

About the ethics considerations for the research						
Aspects considered for ethics consideration.	Informed consent	x	Anonymity	x	Confidentiality	x
	Committed to give feedback on the study		Voluntary participation		Vulnerable group involved	
	Elaborate on vulnerable groups		Other (specify):			
Additional Documentation to be submitted for Consent to be considered.	Research Proposal					
	Ethics clearance certificate or letter from institution who approved the research/ study or request for a gatekeeper's letter to be supplied for ethical clearance process by registered institution.					
	Data collection Instrument(s): interview schedule or questionnaire					x
	Participant or respondent consent form that includes information sheet for participants or respondents					x
	Audio-visual consent form (if applicable):					x
Proposed submission date of the Ethics Clearance Certificate to The IIE.	Completion of the below fields is only required for candidates who requires a gatekeeper's letter as part of the institutional research ethics application process.					

Conditions for conducting research on or about students, staff, sites or artefacts of The Independent Institute of Education	
1.	A copy of the final paper must be submitted electronically to The IIE's Dean for Research and Postgraduate Studies at research@iie.ac.za as well as the Brand Research Manager no later than 30 days post finalisation.
2.	The researcher(s) is not permitted to either refer to The IIE or any of its educational brands or to the name, logo, brand or any other identifiers of The IIE or any of its educational brands in any way, including, but not limited to, in questionnaires, surveys, interviews, proposal or research reports/articles. The IIE or educational brand in question must be referred to in a generic manner, for example, 'A private higher education institution/provider'.
3.	The researcher(s) will need to obtain informed consent in writing from all of the participants in the sample if the study is not anonymous.
4.	If the Learning Management System (LMS) of The IIE is used, the researcher(s) is not permitted to refer to it by name. Learn needs to be referred to in a generic manner, for example "the Learning Management System of a private higher education institution/provider."
5.	A copy of this letter must be forwarded to the relevant person(s) at the brand or The IIE that would be involved in the study.
6.	Research must be conducted in such a way that the normal programme and operations of the site/offices is not interrupted.
7.	The campus head of a site must be consulted about an appropriate time when the researcher(s) may carry out the research at the site.
8.	The researcher(s) may only use this data for these research purposes and in no other way.
9.	Should the researcher(s) wish to publish this research or in any way make the results public, for example by publishing the results on a social media platform, this IIE's Ethics Committee will need to approve a request to this end first.
10.	No names or identifying information of participants may be used within the research and the research must be voluntary.
11.	Photographs of human subjects may only be taken if relevant to the research and informed consent from the participants or respondents was obtained, and, even with informed consent, the photographs may not be published.
12.	The researcher is responsible for supplying and utilising their own research resources, such as stationery, photocopies, transport, and telephones and should not depend on the goodwill of the institutions or the offices visited for supplying such resources.
13.	If any of The IIE reports or policies are used as part of the research, all identifying information needs to be removed.

14. Please make it clear that the information will not be used punitively in any way and participants may in no way be counselled or advised based on this.
15. The reference number of the permission letter, if permission is granted, must appear, in one format or another, on all research documentation distributed amongst IIE staff or students.

Declaration by the researcher (student)

1. I declare that all statements made by myself in this application are true and accurate; and
2. I accept the conditions associated with the granting of approval to conduct research and undertake to abide by them.

	30/07/2022
Signature of the researcher (student)	Date

Declaration by the supervisor/promoter

I declare that

1. the above student is enrolled at the institution to which the undersigned is attached;
2. and that the research proposal and or study has been approved by the Ethics Committee of the institution at which the student is registered; or request a gatekeepers letter as part of the institution's Research Ethics Clearance application process.
3. and that the questionnaires/structured interviews/tests meet the criteria of:
 - Educational accountability;
 - Proper research design;
 - Sensitivity towards participants;
 - Correct content and terminology;
 - Acceptable grammar; and
 - Absence of non-essential/superfluous items.

Signature of the supervisor/promoter	Date

CONSENT FORM

Explanatory information sheet and consent form for participants
To whom it may concern, My name is TYLA BRAUN and I am a student at VEGA, PRETORIA. I am currently conducting research under the supervision of (JOHN DANIEL EKSTEEN) about THE VALUE THAT A MULTI-SENSORY DESIGN APPROACH HAS ON A CONSUMER'S EXPERIENCE IN COFFEE SHOPS IN SOUTH AFRICA. I hope that this research will enhance our understanding of MULTI-SENSORY DESIGN. I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please complete and sign the consent form below.
What will I be doing if I participate in your study?
I would like to invite you to participate in this research because I am gathering specific data from students in order to help prove if multi-sensory design has an impact on a consumer's experience in a coffee shop. If you decide to participate in this research, I would like to interview you, and as a participant you will be required to answer a set of questions provided verbally by the researcher. You will be required to verbally respond to the questions asked and will be recorded in order to document the findings. You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular interview questions.
Are there any risks/ or discomforts involved in participating in this study?
Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study. You might, however, indirectly find that it is helpful to talk about your experience/s that take place within a coffee shop, specifically Starbucks Menlyn in order for the researcher to understand the importance of multi-sensory design. If you find at any stage that you are not comfortable with the line of questioning, you may withdraw or refrain from participating.
Do I have to participate in the study?
• Your inclusion in this study is completely voluntary; • If you do not wish to participate in this study, you have every right not to do so; • Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision.
Will my identity be protected?
I promise to protect your identity. I will not use your name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify you. I would like to ask your permission to record the interviews, but only my supervisor, I and possibly a professional transcriber (who will sign a confidentiality agreement) will have access to these recordings. Nobody else, including anybody at VEGA, PRETORIA, will have access

to your interview information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to you.

What will happen to the information that participants provide?

Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my **HONOURS IN INTERIOR DESIGN**. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

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

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

My contact details are as follows:

TYLA BRAUN

[REDACTED]

[REDACTED]

The contact details of my supervisor are as follows:

JOHN DANIEL EKSTEEN

[REDACTED]

Participant or respondent consent

I, _____, agree to participate in the research conducted by **TYLA BRAUN** about **THE VALUE THAT A MULTI-SENSORY DESIGN APPROACH HAS ON A CONSUMER'S EXPERIENCE IN COFFEE SHOPS IN SOUTH AFRICA**.

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

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

Signature

Date

CONSENT FORM FOR AUDIO OR VIDEO RECORDING

Consent form for participants	
I, _____, agree to allow TYLA BRAUN to audio record my interviews as part of the research about THE VALUE THAT A MULTI-SENSORY DESIGN APPROACH HAS ON A CONSUMER'S EXPERIENCE IN COFFEE SHOPS IN SOUTH AFRICA. This research has been explained to me and I understand what participation in this research will involve. I understand that: • My confidentiality will be ensured. My name and personal details will be kept private; • The recordings will be stored in a password-protected file on the researcher's computer; and • Only the researcher, the researcher's supervisor and possibly a transcriber (who will sign a confidentiality agreement) will have access to these recordings.	
Signature	Date



Vega Ethics checklist: RESE8419/p/w

Student Details												
Title	Prof	☐	Dr	☐	Ms	☒	Mrs	☐	Mr	☐	Mx	☐
First name(s)	Tyla											
Last name(s)	Braun											
Title of study	Interior Design											
Qualification	Honours in Interior Design											

Supervisor Details												
Title	Prof	☒	Dr	☐	Ms	☐	Mrs	☐	Mr	☐	Mx	☐
First and last names	John Daniel Eksteen											

Co-supervisor Details (if applicable)												
Title	Prof	☒	Dr	☐	Ms	☐	Mrs	☐	Mr	☐	Mx	☐
First and last names	Riaan Hollenbach											

Explaining your research process						
Philosophical paradigm	Positivism	☐	Interpretivism	☒	Constructivism	☐
	Realism	☐	Objectivism	☐	Pragmatism	☐
	Functionalist	☐	Subjectivism	☐	Humanist	☐
	Other:					
Research design:	Interview	☒	Questionnaire (self administered)	☐	Focus group	☐
	Ethnography/ Observation	☐	Artefact analysis/website/ social media analysis	☐	Action Research	☐
	Case Study	☐	Design Research (Practice based)	☐		☐
	Other (if so, state)	☐	Click or tap here to enter text.			
Brief explanation of the population and number of participants/items	Population is students who utilise coffee shops, they must be between 19 to 25 years of age and there will be 5 participants.					
Target group sampling methods/artefact (No under 18's or vulnerable groups allowed)	Purposive	☒	Random	☐	Snowball	☐
	Convenient	☐	Stratified	☐	Census	...
	Explain selection process		The participants will be selected according to their age and on how often they visit coffee shops.			

Ethics		
Documentation submitted with proposal	Gatekeeper's letter (institutional consent)	☐
	Completed Annexure E if you conduct research on IIE sites/students/staff	☒
	Instrument(s) (interview schedule or questionnaire)	☒
	Participant or respondent consent form	☒
	Audio-visual consent form (if applicable)	☒

Campus ethics committee recommendation	
Proposal has been reviewed by the supervisor and necessary ethics considerations have been included. ☐ Accepted as is and provide letter ☐ Accepted with provisions: Nature of provision: e.g. Instrument is not sufficient / included and need to be signed off by the supervisor ☐ Major issues: Student should not continue with fieldwork. Actions to be taken: Click or tap here to enter text.	
Supervisor signature	
	Click or tap to enter a date.
Co-supervisor/Campus ethics panel member signature	
	Click or tap to enter a date.



Date

Student name: Tyla Braun

Student number: [REDACTED]

Campus: Pretoria

Re: Approval of RESE8419/RMET8429 Proposal and Ethics Clearance

HONOURS/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 name: John Daniel Eksteen

Signature:

Campus Postgraduate Coordinator (CPC) name: Courtney Jade de Villiers

Signature:

INTERVIEW QUESTIONS

Listed below are the questions that will be asked and recorded within an interview. The recordings taken during the interviews will then be transcribed.

1. In your own opinion please describe the environment of the Starbucks coffee shop in Menlyn mall.
2. When you walk into the Starbucks coffee shop in Menlyn mall are you satisfied with the interior environment? If answered yes or no, please explain why?
3. In a few words could you describe the personality of the Starbucks coffee shop in Menlyn?
4. When in the Starbucks coffee shop in Menlyn is your attention drawn to certain elements? If yes, please list which elements you have noticed.
5. On average how long do you usually spend in a coffee shop, specifically the Starbucks in Menlyn mall?
6. As a consumer in your own words can you please explain what kind of experience you seem to have when using the Starbucks coffee shop in Menlyn mall?
7. Based on your previous experience(s), how often do you find yourself going to the Starbucks in Menlyn mall?
8. If you could make changes to the Starbucks coffee shop in Menlyn mall, what would you change and why?
9. In your own words please explain if you agree or disagree with the statement mentioned below. Please explain why you agree or disagree with the given statement.
“Multi-sensory design elements like; noise, scent, site, and touch, play an important role when it comes to creating a positive experience in coffee shops for its consumers.”
10. Do you agree or disagree that multi-sensory design elements can have an impact on the duration of your stay, the mood you experience, and the choice of beverage/food ordered within the coffee shop?

CONCEPT DOCUMENT

<u>Project details</u>		
Name: Tyla Braun	Student Number: [REDACTED]	
Supervisor: JD Eksteen	Date: 05 September 2022	Version: 5

<u>Proposed title</u>	
Title	The perceived value of a multi-sensory design approach on the experience of consumers relating to the coffee shop phenomenon in South Africa.

<u>Research details</u>	
Problem statement	According to Leedy and Ormrod (2013), “the problem should be stated in ‘one or more grammatically complete sentences’, and should represent the single goal of the total research effort”. The aim of this project is to determine the use and value of a multi-sensory design approach in interior design with a focus on public spaces like coffee shops in South Africa, using a qualitative approach. In the proposed research I will be discussing why a multi-sensory design approach is vital when it comes to designing a space as it benefits the user’s experience in coffee shops. Multi-sensory consists of multiple theories but the theories I have decided to focus more closely on will help give a better understanding of the problem.
Purpose statement	The purpose of this study is to get a better understanding of whether a multi-sensory design approach has any value on consumer’s experience in coffee shops in South Africa. By using this study, I want to identify the full potential of a multi-sensory design approach and the significant impact it can have on consumer’s experience in coffee shops. Research has been done on multi-sensory design previously so the aim for this proposed research is to then explain the question further by breaking it down into its key theories.
Research question/s	- What value does a multi-sensory design approach have on the experience of consumers relating to the coffee shop phenomenon in South Africa? Secondary research questions: - How can a multi-sensory design approach work with interior design to design a space of well-being? - Why does the use of a multi-sensory design approach add value to a consumer’s experience in a coffee shop?
Hypotheses / Objectives	To describe how a multi-sensory design approach in a coffee shop can be implemented to maximise the full potential of a consumer’s experience. To show the positive effects and value that a multi-sensory design approach will have on the user’s experience in coffee shops. To determine why users will have a more positive experience in coffee shops that consists of a multi-sensory design approach.

Research rationale	“A research rationale is a justification; it details why you are doing your particular research and why it is worth spending time investigating and finding solutions for the problem you have identified” (Plooy-Cilliers, et al., 2014). The purpose of this study is to determine how implementing a multi-sensory design approach in coffee shops will be more beneficial in adding value to the consumer’s experience and how the utilisation of multi-sensory design in public buildings is relevant as it can promote a healthier and more sustainable way of living.
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<u>Literature overview</u>						
Key theories	The key theories that will be used in this research paper are multi-sensory design, Biophilia, and Indoor Environmental Quality. These key theories will work well together with multi-sensory design as Evidence Based Design analyses the design aspects that influence a building and its spaces. It is used to measure the physical and psychological effects that a built environment has on its users. It helps emphasize why a building should be placed and that it has beneficial meaning for its existence.					
Seminal authors / sources	- Carla J Thompson - Keith V. Nesbitt - E. A. Gaffan - N. T Martin - Sheryl Boyle					
Literature review themes	<u>Theme 1</u> Indoor Environmental Quality	<u>Theme 2</u> Biophilic Design	<u>Theme 3</u> Evidence Based Design	<u>Theme 4</u> Multi-sensory Design	<u>Theme 5</u> Sustainable Design	<u>Theme 6</u>
Sources	Source 1: Dai, T. and Zheng, X. - Understanding how multi-sensory spatial experience influences atmosphere, affective city image and behavioural intention. Source 2: Aristizabal, S. Byun, K. Porter, P. Clements, N. Campanella, C. Li, L. Mullan, A. Ly, S. Senerat, A. Nenadic, I. Browning, W. Loftness, V. and Bauer, B. - Biophilic office design: Exploring the impact of a multisensory approach on human well-being. Source 3: Abdolmohamad Sagha, M. Seyyedamiri, N. Foroudi, P. and Akbari, M. - The One Thing You Need to Change Is Emotions: The Effect of Multi-Sensory Marketing on Consumer Behavior. Source 4: Rupini, R. and Nandagopal, R. - A Study on the Influence of Senses and the Effectiveness of Sensory Branding. Source 5: Kim, J. and Kim, J. - Fixation Differences in Spatial Visual Perception During Multi-sensory Stimulation. Additional sources 6. Schifferstein, H. and Desmet, P. - Multi sensory Design. 7. Lucas, R. and Romice, O. - Assessing the Multi-Sensory Qualities of Urban Space: A methodological approach and notational system for recording and designing the multi-sensory experience of urban space.					

	8. Lancel, K., Maat, H. and Brazier, F. - Designing disruption for social touch, in public spaces of merging realities: a multi-sensory model. 9. Abdelaal, M. and Soebarto, V. – History Matters: The origins of biophilic design of innovative learning spaces in traditional architecture. 10. Helme Falk, M. and Hultén, B. 2017. Multi-sensory congruent cues in designing retail store atmosphere: Effects on shoppers' emotions and purchase behavior. 11. Castillo-Villar, F. and Villasante-Arellano, A. - Applying the multisensory sculpture technique to explore the role of brand usage on multisensory brand experiences. 12. Motoki, K., Takahashi, A. and Spence, C. - Tasting atmospherics: Taste associations with colour parameters of coffee shop interiors. 13. Jang, H. and Lee, S. - Applying Effective Sensory Marketing to Sustainable Coffee Shop Business Management. 14. Maziriri, E., Rukuni, T. and Chuchu, T. - Factors influencing food consumption satisfaction and purchase decisions of restaurant consumers. 15. Spence, C. and Carvalho, F. - The coffee drinking experience: Product extrinsic (atmospheric) influences on taste and choice. 16. Spence, C. and Youssef, J. - Synaesthesia: The multisensory dining experience. 17. Ziegler, U. - Multi-Sensory Design as a Health Resource: Customizable, Individualized, and Stress-Regulating Spaces.
Key concepts	Concept 1: Multi-sensory design approach Concept 2: Well-being Concept 3: Consumer experience Concept 4: Evidence Based Design

<u>Provisional research approach</u>				
Paradigm	<u>Paradigm</u> The research conducted will be done through Interpretivism.	<u>Epistemology</u> The research conducted will be done through Interpretivism.	<u>Ontology</u> I will be conducting my research where my ontological approach is constructivism.	<u>Axiology</u> The value that is to be researched is Human experience.
Approach / design	The proposed research will be conducted through a methodological position of interpretivism which is done within a phenomenological approach of qualitative methodology. The aim of this project is to determine the use and value of a multi-sensory design approach in interior design with a focus on public spaces like coffee shops in South Africa, using a qualitative approach. The proposed research will be conducted with a cross-sectional design approach. The reason being is that a cross-sectional design is used to collect data from people at that specific time, it is used to collect fresh data from new people which is vital when it comes to collecting data for my proposed research.			

Provisional research plan

Population	"A population is defined as, the total group of people or entities [social artefacts] from whom information is required" (Plooy-Cilliers, et al., 2014). The population needed to conduct my research would be to choose a minimum of five university students within the age group of 19 to 25, who utilise coffee shop spaces. They will be required to fill out a questionnaire that is based on the experience created by the value of a multi-sensory design approach being utilised in a coffee shop. The questionnaire will be answered verbally in an organized interview which was then audio recorded and transcribed in order to gather the necessary data. After identifying the required population needed for my research I then proceed to identify the best sampling method necessary to collect data. The target population will therefore be the students who would be identified as the consumers with whom utilise the interior spaces of coffee shops in South Africa, and the coffee shop spaces in general that have used a multi-sensory design approach within their interior space. Which therefore means that the accessible population for this particular study will be the university students who would be identified as the consumers, who use coffee shop spaces on the regular, and then lastly Starbucks coffee shop in Menlyn mall.
Sampling	Once the population has been identified I then need to determine which sampling method will be most suited for my research. "Sampling is when a group of people, objects, or items are taken from a larger population for measurement" (Plooy-Cilliers, et al., 2014). The most appropriate sampling method that I have identified is the use of a non-probability method. The reason for a non-probability sampling method being used is because the participants won't have an equal opportunity to be selected as they will need to be specifically chosen for convenience of the study. A specific non-probability sampling method that will be used for my proposed research is a purposive sampling method. "Purposive sampling, also known as judgmental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their own judgment when choosing members of the population to participate in their surveys" (Plooy-Cilliers, et al., 2014). Within the purposive sampling method, I would then be utilising the use of interviews. My method would be to create a set of questions relating to my study that I could then go around interviewing students who utilise coffee shop spaces regularly. The interview questions will be based on the utilisation of a multi-sensory design approach in coffee shops and the value it adds to a consumer's experience in public spaces. With the use of a non-probability sampling method, I then need to address the participants in order to get the sampling information. The sample size that will be required to continue conducting the proposed research forward would be a group of five participants that would need to participate, and their requirements would need to be that they are between the ages of nineteen to twenty-five years of age, they are studying at a university, any gender is acceptable, and they utilise coffee shops regularly, specifically Starbucks in Menlyn mall.

Data collection method(s)	The data collection method that will be utilised is a qualitative data collection method for a qualitative phenomenological research approach. This will be conducted through the use of interviews. The interview questions will be based on the utilisation of a multi-sensory design approach in coffee shops and the value it adds to a consumer's experience in public spaces. To collect data for my research I gave the chosen population a set of ten questions relating to my research question and then they were required to answer the questions as best as possible while the researcher audio recorded the interview and transcribed all the collected data. "Qualitative research can be described as a research strategy that emphasizes words rather than numbers in the collection and analysis of data. Interpretivist researchers aim to study reality subjectively and, as a result, they use methods that are sensitive to the context and that will help them to gain an in-depth understanding" (Plooy-Cilliers, 2014).
Data analysis method(s)	De Vos, Strydom, Fouché and Delport (2011:397) describe qualitative data analysis as 'the process of bringing order, structure and meaning to the mass of data'. The data analysis methods that I will be conducting for the proposed research is the use of ethnography and content analysis method. The reason for ethnography and content analysis will be used by means of an in-depth interview to fully understand the participant's understanding and interpretation of multi-sensory design in coffee shops and the value it adds to the experience. This will be done through in person interviews. This method was not completed with the use of an electronic google forum, instead live interviews were conducted, and voice recorded for data gathering.

Ethical considerations and limitations

Ethics	"Ethics provide us with guidelines in terms of what can be considered acceptable and unacceptable behaviour. It refers to methods, procedures or perspectives that tell us how to act and how to analyse complex problems and issues" (Plooy-Cilliers, et al., 2014). For the proposed data collection, the questionnaire will be answered anonymously, and the students within the age group of 20 to 25 years of age will be questioned for more accurate findings. The ethical principles that need to be followed and will take place in my proposed study are; • Seeking permission from the relevant authority • Informed consent • Confidentiality and Anonymity • Freedom to withdraw or participate • Avoid unethical questions • Respect for human dignity • Appropriate methodology • Avoiding plagiarism • Avoiding falsification • Providing feedback (Plooy-Cilliers, 2014).
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Limitations	“Limitations are any potential problems you foresee for conducting your study. Anything that can possibly threaten the validity of your study can be considered a limitation” (Plooy-Cilliers, et al., 2014). The scope of the proposed research is to identify the perceived value of a multi-sensory design approach on the experience of consumers relating to the coffee shop phenomenon in South Africa. The limitations that the proposed qualitative research approach might face is possibly; lack of sample sizes, potential biasness in answers, self-selection bias, and potentially poor questions from researcher.
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Referencing

Abdelaal, M. and Soebarto, V. 2018. HISTORY MATTERS: THE ORIGINS OF BIOPHILIC DESIGN OF INNOVATIVE LEARNING SPACES IN TRADITIONAL ARCHITECTURE. *International Journal of Architectural Research: ArchNet-IJAR*, [online] 12(3), p.108. Available at: <https://digital.library.adelaide.edu.au/dspace/handle/2440/119410> [Accessed 03 April 2022].

Abdolmohamad Sagha, M., Seyyedamiri, N., Foroudi, P. and Akbari, M. 2022. The One Thing You Need to Change Is Emotions: The Effect of Multi-Sensory Marketing on Consumer Behavior. *Sustainability*, [online] 14(4), p.2334. Available at: <https://www.mdpi.com/2071-1050/14/4/2334> [Accessed 03 April 2022].

Aristizabal, S., Byun, K., Porter, P., Clements, N., Campanella, C., Li, L., Mullan, A., Ly, S., Senerat, A., Nenadic, I., Browning, W., Loftness, V. and Bauer, B. 2021. Biophilic office design: Exploring the impact of a multisensory approach on human well-being. *Journal of Environmental Psychology*, [online] 77, p.101682. Available at: <https://www.sciencedirect.com/science/article/pii/S0272494421001353#!> [Accessed 03 April 2022].

Castillo-Villar, F. and Villasante-Arellano, A. 2020. Applying the multisensory sculpture technique to explore the role of brand usage on multisensory brand experiences. *Journal of Retailing and Consumer Services*, [online] 57, p.102185. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S096969891931567X> [Accessed 03 April 2022].

Dai, T. and Zheng, X. 2021. Understanding how multi-sensory spatial experience influences atmosphere, affective city image and behavioural intention. *Environmental Impact Assessment Review*, [online] 89, p.106595. Available at: <https://www.sciencedirect.com/science/article/pii/S0195925521000457> [Accessed 03 April 2022].

De Vos, A., Strydom, H., Fouché, C. and Delport, C. 2011. Research at grass roots. *Research Matters*, 10(4), p.232.

Helmefalk, M. and Hultén, B. 2017. Multi-sensory congruent cues in designing retail store atmosphere: Effects on shoppers' emotions and purchase behavior. *Journal of Retailing and Consumer Services*, [online] 38, pp.1-11. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0969698916305483> [Accessed 03 April 2022].

Jang, H. and Lee, S. 2019. Applying Effective Sensory Marketing to Sustainable Coffee Shop Business Management. *Sustainability*, [online] 11(22), p.6430. Available at: <https://www.mdpi.com/2071-1050/11/22/6430> [Accessed 01 April 2022].

Kim, J. and Kim, J. 2020. Fixation Differences in Spatial Visual Perception During Multi-sensory Stimulation. *Frontiers in Psychology*, [online] 11. Available at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.00132/full> [Accessed 03 April 2022].

Lancel, K., Maat, H. and Brazier, F. 2020. Designing disruption for social touch, in public spaces of merging realities: a multi-sensory model. *International Journal of Arts and Technology*, [online] 12(1), p.18. Available at: <https://www.inderscienceonline.com/doi/abs/10.1504/IJART.2020.107691> [Accessed 03 April 2022].

Leedy, P. D. and Ormrod, J. E. 2014. Practical research: Planning and design. In: F. D. Plooy-Cilliers, C. Davis & R. Bezuidenhout, eds. *Research Matters*. Cape Town: Juta, p. 67.

Lucas, R. and Romice, O. 2010. Assessing the Multi-Sensory Qualities of Urban Space: A methodological approach and notational system for recording and designing the multi-sensory experience of urban space. *Psychology*, [online] 1(2), pp.263-276. Available at: <https://www.tandfonline.com/doi/abs/10.1174/217119710791175678> [Accessed 03 April 2022].

Maziriri, E., Rukuni, T. and Chuchu, T. 2021. Factors influencing food consumption satisfaction and purchase decisions of restaurant consumers. *Cogent Business & Management*, [online] 8(1).

Available at: <https://www.tandfonline.com/doi/full/10.1080/23311975.2021.1968731> [Accessed 01 April 2022].

Motoki, K., Takahashi, A. and Spence, C. 2021. Tasting atmospherics: Taste associations with colour parameters of coffee shop interiors. *Food Quality and Preference*, [online] 94, p.104315. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0950329321001981> [Accessed 03 April 2022].

Plooy-Cilliers, F. d. 2014. *Research Matters*. First ed. Claremont(Cape Town): Juta Legal and Academic Publishers.

Plooy-Cilliers, F. D., Davis, C. and Bezuidenhout, R.-M. 2014. Research Matters. In: *Research Matters*. s.l.:Juta, pp. 263,264.

Rupini, R. and Nandagopal, R. 2015. A Study on the Influence of Senses and the Effectiveness of Sensory Branding. *Journal of Psychiatry*, [online] 18(2). Available at: http://file:///Users/tylabraun/Downloads/A_Study_on_the_Influence_of_Senses_and_the_Effecti.pdf [Accessed 03 April 2022].

Schifferstein, H. and Desmet, P. 2008. Multi sensory Design. *The Design Journal*, [online] 11(2), pp.137-158. Available at: <https://dl.acm.org/doi/abs/10.1145/2079216.2079270> [Accessed 03 April 2022].

Spence, C. and Carvalho, F. 2020. The coffee drinking experience: Product extrinsic (atmospheric) influences on taste and choice. *Food Quality and Preference*, [online] 80, p.103802. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0950329319304240> [Accessed 01 April 2022].

Spence, C. and Youssef, J. 2019. Synaesthesia: The multisensory dining experience. *International Journal of Gastronomy and Food Science*, [online] 18, p.100179. Available at: https://books.google.co.za/books?hl=en&lr=&id=-5gCBAAAQBAJ&oi=fnd&pg=PT12&dq=multi%E2%80%91sensory+user+experience+in+coffee+shops+in+south+afrika&ots=8k7cBC9xT6&sig=GTd5rvOqqo2dAKIzCy_IsqJZcRU&redir_esc=y#v=onepage&q&f=false [Accessed 01 April 2022].

Ziegler, U. 2015. Multi-Sensory Design as a Health Resource: Customizable, Individualized, and Stress-Regulating Spaces. *Design Issues*, [online] 31(1), pp.53-62. Available at: <https://direct.mit.edu/desi/article-abstract/31/1/53/69168/Multi-Sensory-Design-as-a-Health-Resource> [Accessed 02 April 2022].

Appendix 3 – Originality Report

SafeAssign Originality Report

Research • Research Project

Tyla Braun

Total Score: ● High risk 100 %

Submission UUID: 44827fb8-2a45-5766-0053-4148cf98e952

Total Number of Re...	Highest Match	Average Match	Submitted on	Average Word Count
1	100 %	100 %	24/11/22	20,954
	Final Research dissertati...		13:47 GMT+2	Highest: Final Research d...

● Attachment 1 100 %

Word Count: 20,954
Final Research dissertation. Braun [REDACTED] df

Institutional database (15)

97 %

① My paper	② My paper	① My paper
① My paper	② Student paper	⑦ Student paper
② Student paper	① Student paper	③ Student paper
④ Student paper	⑨ Student paper	① Student paper
③ Student paper	② Student paper	① Student paper
② Student paper	④ Student paper	⑤ Student paper
⑤		② Student paper
		②

Internet (10)

3 %

⑧ lie	① lie	⑤ lie
⑦ diplomarbeiten24	⑨ epdf	⑥ lie
① epdf	① lie	① science
④	①	③ dokumen
		①
		⑥

Top sources (3)

① My paper	② My paper	① My paper
		⑦

Excluded sources (0)

① The perceived value of a multi-sensory design approach on the experience of consumers relating to the coffee shop phenomenon in South Africa.

By

Tyla Braun

① Research Proposal (RESE8419) submitted in the fulfilment of the