Sustainability in Interior Design

by

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Abstract

This research explores the evolving relationship between sustainability and interior design, placing particular emphasis on how textiles influence environmentally responsible practices in the UK. It responds to the growing demand for deeper integration of sustainability into design processes by examining how professionals navigate the often complex choices involved in selecting sustainable materials, especially fabrics.

Through a combination of critical literature review with thematic analysis of interviews conducted with UK-based interior designers, the research looks closely at both internal motivations and external pressures. These include designers' own values, expectations from clients, existing regulatory structures, and market-driven constraints. The findings highlight a growing commitment among designers to environmental responsibility, tempered by persistent challenges such as limited access to reliable information, greenwashing, inconsistent certification standards, and cost-related constraints What stands out is that sustainability is not solely treated as a technical specification—it is also understood as a personal and ethical responsibility. Within this, textiles emerge as a vital yet often overlooked element, with sourcing, lifecycle considerations, and supply chain visibility playing a central role in how materials are chosen.

The research offers contributions to academic discussion and real-world design practice by mapping out the main criteria behind textile selection, identifying systemic barriers and possibilities, and suggesting tangible strategies for educators, policymakers, and practitioners. As part of its practical output, the thesis presents a targeted sustainability toolkit alongside an online resource platform designed to improve awareness and knowledge across the sector. Taken together, these insights support a more critical and grounded approach to sustainable interior design that encourages long-term, ethical, and informed decision-making.

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Declaration

I hereby declare that this thesis is my own work done during my PhD in Design at Lancaster University and has not been submitted in support of an application for another degree at Lancaster University or any other higher degree or professional qualification.

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Yagmur Sumer

Glossary of Terms

Adaptive Reuse : An attempt to save an existing space or building by repurposing it for another use while maintaining its historical value or original appearance. This conserves resources and reduces the demand for new construction (Bullen and Love, 2011).

Biophilic Design : A design approach aims to enhance the connection between people and nature by incorporating natural features, such as natural light, organic materials, and vegetation, into the built environment (Kellert, 2018).

Carbon Footprint : The total greenhouse gases, mainly carbon dioxide and methane, emitted by a product, person or event. In interior design, efforts to reduce the carbon footprint of materials and processes are integral to sustainable practices (Wiedmann and Minx, 2008).

Circular Economy : An economic model promoting continuous renewal of resources through recycling, reusing, and regenerating the materials in a loop to reduce waste and limit resource extraction (Ellen MacArthur Foundation, 2013).

Cradle-to-Cradle : A sustainable design philosophy that insists on the conception of products within a closed-loop lifecycle that ensures all elements should safely return to the environment or must be reused entirely and not disposed of through a "cradle-to-grave" approach (McDonough and Baumgart, 2002).

Ecological Footprint : A measure of human-induced environmental impact, representing the amount of land required to sustain resource use. This helps assess the sustainability of design practices (Wackernagel and Rees, 1996).

Environmental Impact Assessment (EIA) : A process that examines the potential ecological impacts of large-scale design projects, evaluating biodiversity, air and water quality, and social effects (Glasson, Therivel, and Chadwick, 2012).

Environmental Stewardship : This refers to the responsible management and protection of natural resources to minimise negative impacts on ecosystems. It emphasises long-term sustainability and ethical accountability in how humans interact with the environment, encouraging practices that preserve resources for future generations.

Ethical Sourcing : The act of sourcing materials and products in an environmentally friendly and socially responsible way. (Blowfield and Murray, 2008).

Green Building Certification : Verification of a building's environmental performance by such programs as LEED (Leadership in Energy and Environmental Design) and BREEAM (Building Research Establishment Environmental Assessment Method), which are benchmarks for sustainable interior design (Kibert, 2016).

Interior Decoration : This concept mainly refers to using decorative components—such as furnishings, colours, textures, and accessories—to improve a space`s aesthetic appeal. Although it emphasises visual harmony and style, interior decoration is distinct from interior design, which covers a broader range of considerations.

Interior Design : Enhancing interiors to attain a better user experience. This holistic approach integrates considerations like functionality, sustainability, spatial planning, and user-centred approaches, making it a more comprehensive discipline that balances both form and function. Interior design extends beyond decoration to address the complex interplay of user needs, spatial constraints, and broader societal considerations. It is a multidimensional discipline that shapes people's interactions with their environments (Pile,2003).

Life Cycle Assessment (LCA) : A systematic assessment of the environmental impacts on all steps of the life of a product, from extracting raw materials to production and usage disposal. This is essential in sustainable design to reduce the materials' ecological footprints (Guinee, 2002).

Resilience : The ability of a system, community, and environment to endure and adapt to adverse conditions, such as climate changes and economic challenges. In design, resilience is all about the durability and adaptability of the materials and systems used inside (Holling, 1973).

Resource Efficiency : This entails the strategic use of materials, energy, and other resources to reduce waste and enhance productivity. In the context of interior design, it involves choosing sustainable materials, optimising energy consumption, and creating spaces that lessen environmental impact while upholding functionality and visual appeal.

Retrofit : Adding modern technology or features to older systems, especially within buildings, to improve energy efficiency, functionality, or sustainability; commonly used in interior design for upgrading existing spaces (Bullen, 2007).

Reuse : To use materials again after initial use to minimise waste and conserve resources (Guy and Shell, 2002).

Social Responsibility : A commitment to ethical practices underscores the importance of individual and community well-being. In the context of interior design, this means creating inclusive and accessible spaces, sourcing fair trade and ethically produced materials, and prioritising health and safety in built environments. By integrating these principles, interior design not only enhances functionality and aesthetics but also serves as a force for positive social and environmental impact.

Sustainability : Meeting present needs without compromising future generations (Brundtland, 1987). In the context of interior design, therefore, sustainability combines environmental stewardship, resource efficiency, and social responsibility. Designers play a pivotal role by selecting sustainable materials, reducing waste, and promoting healthier, eco-conscious environments for occupants. This approach ensures that design practices contribute positively to both the planet and society, aligning with long-term sustainability goals.

Sustainable Textiles : Textiles made, sourced, and used in manners that exert the least pressure on the environment using eco-friendly materials, energy-efficient manufacturing processes, and ethical labour. In this respect, sustainable textiles lead to eco-friendly interior design (Fletcher, 2008).

Triple Bottom Line (TBL) : A framework for organisational success embracing the three dimensions of social, environmental, and economic performance. TBL advocates an integrative approach toward sustainability in the discipline of business and in designing practices (Elkington, 1997).

Upcycling : It is the process of transforming by-products, waste materials, or unwanted items into new materials, or products that improve in quality or environmental value. Recognised as an innovative and sustainable approach to material use in interior design, upcycling promotes resource efficiency by extending the lifecycle of materials and reducing waste (Sung, Cooper, and Kettley, 2014).

CHAPTER 1

Introduction: Background and Context

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This research uses a structured framework for investigating the intersection of interior design, textiles, and sustainability particularly focusing on the decision-making processes of UK-based interior designers. Through the thematic analysis of semi-structured interviews, this research aims to offer insights into the challenges, opportunities, and strategies associated with integrating sustainability principles into interior design practice, with a specific emphasis on the selection and utilisation of sustainable textiles.

Chapter 1 gives an outline of the background and context of this research. The chapter provides an overview of the research context, problem statement, objectives, research questions, and significance of the study. This sets the stage for the following chapters by framing the research context, delineating the research problem, outlining objectives and questions, and highlighting the study's significance in advancing knowledge and practice in sustainable interior design.

1.1 Background of the Study

The field of interior design is at a crossroads because there is growing global awareness concerning environmental stewardship and social responsibility that encroaches into various industries. Sustainability has become a central concern within the realm of interior design, which reflects the urgent need for environmental stewardship and social justice (Alfaro, 2019). This shift in paradigm requires a reassessment of conventional design approaches as well as embedding sustainable principles into all stages of designing processes (Koskela and Veneer Pettersson, 2018).

The UK, with its rich cultural heritage and vibrant design scene, makes for an interesting place to study sustainable practices in interior design (Stone, 2019). Legal obligations, changing consumer preferences and increased realisation about environmental conservation have led to the UK's design community being more committed to a sustainable approach to living (Winchip, 2020). Thus, this paper will focus on the strategies, challenges,

and innovation peculiarities that accompany decisions related to sustainability in the space of internal designs in the United Kingdom.

Furthermore, the integration of sustainable textiles constitutes a pivotal dimension of sustainable design efforts (McQuillan, 2020). Textiles not only contribute to the aesthetic and functional aspects of interior spaces but also have enormous environmental and social impacts from cradle to grave (Baillie and Loughlin, 2019). Consequently, understanding how contemporary interior designers navigate the complex landscape of textile selection, supply, and usage within the framework of sustainability is paramount to advancing the discourse on sustainable interior design practices.

Against this backdrop, this research attempts to delve into the nuanced interplay between sustainability-related imperatives and interior design practices, with a specific focus on the UK context. By mapping out the complex processes through which material decisions get made, especially in relation to differing approaches to sustainable textiles, this research seeks to stimulate a conversation about what more can be done in order to guide and transform industry practices, interior design education and policy initiatives. Through meticulous inquiry and analysis, this research seeks to contribute to the ongoing dialogue surrounding sustainable design, fostering a more conscientious and environmentally responsible approach within the field of interior design.

1.2 Research Problem Statement

Despite the increasing emphasis on sustainability in interior design, there remains a gap in understanding how designers navigate sustainable decision-making processes, particularly concerning the selection and integration of sustainable materials, including textiles, into their projects. This research aims to address this gap by exploring the practices and perspectives of interior designers in the UK regarding sustainable decision-making. Specifically, the study seeks to elucidate the factors influencing designers' choices, the challenges they encounter, and the opportunities for advancing sustainable practices within the industry. While sustainability principles have gained prominence in design discourse, the translation of these principles into tangible actions within design practice presents multifaceted challenges and complexities (Baillie and Loughlin, 2019).

One of the primary concerns pertains to the lack of consensus or standardised frameworks guiding sustainable decision-making processes in interior design (Alfaro, 2019). While sustainability encompasses environmental, social, and economic dimensions, the prioritisation and negotiation of these aspects within the context of design projects often vary, influenced by factors such as client preferences, project constraints, and available resources (Pirasteh, 2018). Consequently, interior designers face the formidable task of balancing aesthetic, functional, and sustainable considerations, often navigating conflicting demands and trade-offs.

Moreover, the selection and utilisation of textiles for interior design pose unique challenges in the pursuit of sustainability (McQuillan, 2020). Textiles contribute significantly to environmental impacts throughout their lifecycle, from raw material extraction and manufacturing processes to product use and end-of-life disposal (Stone, 2019). Despite the proliferation of eco-friendly textile options and sustainability certifications, designers encounter difficulties in evaluating the sustainability credentials of various textile materials and suppliers, compounded by limited access to transparent information and industry standards (Winchip, 2020).

Furthermore, while external factors such as regulatory requirements and market dynamics exert influence on sustainable decision-making, internal factors intrinsic to the designer's values, knowledge, and professional ethos also play a pivotal role (Koskela and Vennere Pettersson, 2018). The integration of sustainability into design practice necessitates a shift in mindset and skill set, requiring designers to possess not only technical expertise but also a deep understanding of ecological principles, ethical considerations, and systems thinking.

Given these complexities, there is a pressing need to investigate how interior designers navigate the intricacies of sustainable decision-making, with a specific emphasis on the integration of sustainable textiles within the UK context. By unravelling the underlying factors shaping sustainable practices, this research aims to illuminate pathways for enhancing sustainability literacy, fostering innovation, and promoting responsible design stewardship within the interior design profession .

1.3 The Scope of the Study

There is a parallel between the issue of sustainability and the multi-dimensional crisis that the world is experiencing today. The role of textile and interior design is integral to the aspects of these crises related to the environment, human health, and spirituality. Therefore, there has recently been a shift in interior design. Interior designers have started to focus on sustainability in the creation of sustainable, healthy living and work environments. This research highlights a significant contemporary set of problems related to sustainability and their relation to textiles for interior design. It is followed by the gathering of primary data from semi-structured interviews with designers in the UK to explore how they make sustainable decisions in their interior design projects. Then, we examine interior designers` textile choices as a case study. Thus, this research will provide a theoretical and practicable framework for interior designers to contribute to the development of sustainable textile solutions for contemporary interior design.

1.4 Research Objectives

This research aims to address the following objectives:

OB1 - To Investigate Current Practices: The primary objective is to examine the existing practices and approaches employed by interior designers in the United Kingdom regarding sustainable decision-making in interior design projects, with a specific focus on the integration of sustainable textiles.

OB2 - To Identify Key Factors: This study seeks to identify the key external and internal factors that influence sustainable decision-making processes within the realm of interior design, including regulatory frameworks, client demands, market trends, designer values, and professional expertise.

OB3 - To Explore Challenges and Opportunities: An essential objective is to explore the challenges and opportunities encountered by interior designers in navigating sustainable decision-making, particularly concerning sustainable textiles. This entails examining barriers, such as limited access to sustainable materials and information asymmetry, as well as potential pathways for innovation and improvement.

OB4 - To Understand Decision-Making Criteria: This research aims to elucidate the criteria and considerations that inform interior designers' selection and utilisation of

textiles in sustainable interior design projects. By analysing the decision-making process, this study seeks to uncover the rationales, trade-offs, and decision heuristics employed by designers.

OB5 - To Provide Actionable Insights: Ultimately, this research aims to offer actionable insights and recommendations that can inform industry practices, educational curricula, and policy interventions aimed at enhancing sustainability literacy and fostering responsible design stewardship within the interior design profession in the UK.

By addressing these objectives, this research endeavours to contribute to a deeper understanding of sustainable decision-making processes in interior design, particularly regarding the integration of textiles, and to offer practical guidance for advancing sustainability within the profession.

1.5 Aim and Research Questions

The main aim of this research is to explore how interior designers in the UK make sustainable decisions in their interior design projects using textiles. This study seeks to address the following research questions:

- How do interior designers in the United Kingdom currently incorporate sustainability principles into their decision-making processes within interior design projects?
- What are the main challenges and opportunities encountered by interior designers when navigating sustainable decision-making, specifically regarding the selection and utilisation of sustainable textiles?
- What criteria and considerations do interior designers employ in the selection and utilisation of sustainable textiles within the framework of sustainable design projects?
- How can insights gained from this research be translated into actionable recommendations for enhancing sustainability literacy and promoting responsible design practices within the interior design profession in the UK?

By addressing these research questions, this study aims to provide a comprehensive understanding of the complexities inherent in sustainable decision-making processes within the realm of interior design, with a specific emphasis on the integration of textiles. Moreover,

the findings are expected to offer valuable insights and recommendations for advancing sustainability within the profession, thereby contributing to the broader discourse on environmental stewardship and ethical design practices.

1.6 Significance of the Study

This study holds significant implications for various stakeholders within the field of interior design and beyond. By investigating sustainable decision-making processes, particularly concerning the integration of textiles, this research contributes to both theoretical knowledge and practical applications.

Firstly, this study addresses a notable gap in the existing literature by providing empirical insights into how interior designers in the United Kingdom navigate sustainability considerations within their practice. By elucidating the factors influencing sustainable decision-making and exploring the challenges and opportunities encountered, this research enhances our understanding of the complexities inherent in sustainable design processes (Alfaro, 2019).

Secondly, the findings of this study offer practical implications for interior designers, design educators, industry practitioners, and policymakers. By identifying key factors shaping sustainable practices and highlighting best practices, this research can inform the development of guidelines, educational curricula, and professional standards aimed at fostering sustainability literacy and promoting responsible design practices within the profession (Baillie and Loughlin, 2019).

Moreover, this study contributes to the advancement of sustainable design discourse by shedding light on the integration of sustainable textiles in sustainable decision-making. Textiles play a pivotal role in interior design projects, and understanding how designers navigate the complexities of textile selection, procurement, and utilisation within the framework of sustainability is crucial for advancing sustainable design practices (McQuillan, 2020).

Furthermore, the findings of this research have broader societal implications, as sustainable design practices have far-reaching environmental and social impacts. By promoting sustainable decision-making within the interior design profession, this study aligns

with broader sustainability goals, including mitigating environmental degradation, reducing resource consumption, and fostering social responsibility (Pirasteh, 2018).

In summary, this study's significance lies in its contribution to advancing knowledge, informing practice, and promoting sustainability within the field of interior design. By offering empirical insights, practical recommendations, and theoretical frameworks, this research aims to catalyse positive change and foster a more conscientious and environmentally responsible approach to design.

1.7 The Structure of the Thesis

The structure of the thesis outlines the progression of the thesis, starting with the introduction and literature review to the methodology, findings, discussion, and conclusion. It provides a comprehensive framework for exploring the research topic and presenting the findings and implications in a structured manner.

Chapter 1 (Introduction) provides essential background and context for this research. This part offers an overview of this study and states the research aims and objectives. It summarises the key points of the thesis.

Chapter 2 (The Concept of Sustainability and Design) provides the theoretical framework of sustainability and its relationship with design. After exploring the meaning, evolution and challenges of sustainability, the literature review chapter examines how sustainable principles are applied in design practices.

Chapter 3 (Interior Design and Textiles in the Context of Sustainability) focuses on sustainable interior design and its relation with textiles. This literature review chapter also provides insight into the state of sustainable interior design in the UK.

Chapter 4 (**Findings from the Literature Reviews)** discusses findings from the literature review sections of Chapter 2 and Chapter 3. The intricate relationship between interior design, textiles, and sustainability is explored through a comprehensive analysis of literature reviews.

Chapter 5 (**Methodology)** explains the research design of this research by discussing the philosophical underpinnings, approaches, and methods used in the research.

Chapter 6 (**Thematic Analysis)** shows how the data shaped the emerging findings. It explores internal factors affecting sustainability in the interior design sector and then examines external factors influencing sustainability in the sector. This chapter also states the challenges and future directions of sustainable textile usage in interiors.

Chapter 7 (**Discussion of Findings)** explores the insights emerging from the research and discusses the practical and theoretical implications.

Chapter 8 (Conclusion and Contribution) draws out the conclusion and identifies the contributions, knowledge, and limitations of this research. This concluding chapter also acknowledges the limitations of the research and proposes suggestions for future research.

This is followed by references and appendices.

1.8 Chapter Conclusion

Sustainable design has emerged as a critical consideration in various industries, including interior design, due to escalating environmental concerns and heightened awareness of the need for responsible resource efficiency. The incorporation of sustainable practices into the interior design not only addresses environmental impacts but also encompasses social and economic dimensions, thereby contributing to the broader goal of sustainable development. Over recent years, there has been a noticeable shift within the interior design profession towards embracing sustainability principles, reflecting a growing recognition of the role designers play in promoting environmental stewardship and fostering healthier, more resilient built environments.

Chapter 1 contextualises the current state of the interior design profession within the broader discourse of sustainability, emphasising the growing imperative to integrate sustainable principles into design practices. The chapter articulates the specific focus of the research on sustainable decision-making processes within interior design projects, with a particular emphasis on the integration of textiles for interior design.

The problem statement highlights the gap in understanding how interior designers in the UK navigate sustainability considerations, especially concerning textile choices, and underscores the importance of addressing this gap to advance sustainable design practices. The research objectives are delineated to guide the inquiry, aiming to investigate current

practices, identify key factors influencing decision-making, explore challenges and opportunities, understand decision-making criteria, and provide actionable insights.

Furthermore, the research questions are formulated to guide the investigation systematically, probing into the nuances of sustainable decision-making processes and textile integration within the UK's interior design context. Lastly, the significance of the study is underscored, emphasising its contributions to theoretical knowledge, practical applications, and broader sustainability goals within the field of interior design and society at large.

CHAPTER 2

The Concept of Sustainability and Design

Chapter 2: The Concept of Sustainability and Design

2.0 Introduction

Chapter 2 reviews the literature to provide a foundational understanding of sustainability and its integration into design practices. It comprises two main areas:

- The Concept of Sustainability (Section 2.1)
- Interrelation between Sustainability and Design (Section 2.2)

This chapter begins by addressing contemporary issues and the condition of unsustainability, in conjunction with the global issues that will increasingly challenge us more and more in the future (Section 2.1.1). From there, this deals with the fundamentals of sustainability (Section 2.1.2), with its expansion in time and how it appears today (Section 2.1.3), also discussing about the term and concept of sustainable development (Section 2.1.4). Then, the widely adopted Triple Bottom Line approach of the interdependent and interlocking dimensions of environmental, social, and economic elements in sustainability efforts is articulated in section 2.1.5. This is followed by the address to the challenges of sustainable development (Section 2.1.6) and then problems with and criticism of sustainability (Section 2.1.7).

Moving forward, the relationship between sustainability and design is examined in section 2.2. Then, the evolution of sustainability is reviewed as applied through design movements, exploring how past movements have shaped contemporary design practices (Section 2.2.1), before turning our attention to the idea of Design for Sustainability (DfS) in section 2.2.2. Finally, the Quadruple Bottom Line of Design for Sustainability (QBL) is introduced, a comprehensive framework that expands upon the Triple Bottom Line by incorporating a fourth dimension - cultural significance. This holistic approach emphasises the importance of considering practical, social, personal, and economic aspects in design decision-making to achieve sustainable outcomes (Section 2.2.3). Discussions of the findings and conclusions from Chapter 2 are drawn in section 2.3.

2.1 The Concept of Sustainability

2.1.1 Contemporary Issues and Unsustainability

It is always helpful to place the discussion in context before imbuing it with specificity. Before the concise and largely viable definition of sustainability as a just, resilient, and regenerative future is embraced and explored, it is essential to contextualise the conversation concerning a rather straightforward notion of unsustainability. So, what do we mean by unsustainability? In a nutshell, the condition pertains to the fundamental mismatch between what humans do and what systems are capable of supporting on a long-term basis, as defined by the Club of Rome in 1972 as 'when human activities 'no longer match the capacity of natural systems to support them', as such 'the 'health and productivity of vital natural system has deteriorated beyond valid boundaries''. Unsustainable states result in environmental degradation, resource scarcity, and socioeconomic injustices because they escalate the challenge of humans' ability to survive within the context of a finite planet (Meadows et al., 1972). There are also impacts on economic sustainability.

Environmental Degradation: The loss of natural resources and the degradation of ecological systems and the planet, including all its natural resources. Humanity is part of its own bio-geochemical cycles (IPCC, 2021). However, these are not sustainable from an ecological vantage point. Environmental degradation has been brought about by human actions that lead to loss of habitat, species extinction and climate change – specifically through deforestation, pollution, and overexploitation of a limited supply of resources (Rockström et al., 2009). Important ecosystem services, such as air, water, and soil, are put under pressure due to unsustainable human activities. It becomes more difficult for ecosystems to recover, and biodiversity is at risk, all of which lead to both physical and ecological disservices for humans (IPCC, 2021).

Social Inequity: Inequities, inequalities, and susceptibilities within and between societies become unsustainable because they reinforce differences and further exacerbate social injustices, including social and economic exclusion, lack of access to resources and infrastructure, as well as human suffering. Indeed, according to Bullard (2000), disenfranchised communities, such as low-income, minority and indigenous populations, are the most vulnerable communities when it comes to environmental degradation and the impacts of climate change; cycles of poverty, social unrest and human suffering are only exacerbated by exclusion (Bullard, 2000).

Economic Instability: In economic terms, the damages wrought by unsustainability are inflicted on the robustness, stability, and prosperity of international economies by bringing about financial instability, material scarcity and market volatility. Economic growth is at odds with long-term sustainability because of unsustainable consumption, speculative investments and short-term profit motives, and economies are therefore more vulnerable to systemic risks, environmental shocks and supply chain disruptions (Jackson, 2009) that threaten livelihoods, businesses and international stability.

Given these challenges, the virtues of the sustainability idea are revealed as a powerful paradigm by which to address the root causes of unsustainability and encourage radical change in the direction of a just, resilient, and regenerative future. According to Rockström et al. (2009), sustainability involves economic prosperity 'to remain within planetary boundaries', social justice, and equity 'to benefit all well' and ecological limits 'to stay within Earth's carrying capacity'. To ensure that human activities remain within ecological limits, full consideration of social justice, and economic prosperity, radical changes involving shifts in values, behaviours and institutions are required.

2.1.2 What is Sustainability

There are various views of what sustainability is. Weber-Blaschke et al. (2005) explain that the term sustainability was probably used for the first time in the context of German forestry, and the development of ideas encompassed by sustainability goes back to the 16th century. Forest sustainability was formulated for the first time in the Age of Enlightenment when faith in humanity's progress through rational action gave strength to theoretical science.

Gomis et al. (2011, p. 172) suggest that "the concept has ancient and universal roots" in Taoism, early Chinese philosophy, Confucianism, Hebrew Scriptures as well as Native American philosophy. Mebratu (1998, p. 498) suggests that the overall complexity of our day is far beyond the revelations of the past. However, he also adds that traditional forms of wisdom still have plenty to offer in relation to "living in harmony with nature and in society". Walker (2014, p. 8) has even suggested that "the great wisdom traditions" are one of the fundamental doctrines of the notion of sustainability.

Du Pisani (2006, p. 87) agrees “that the roots of the concept of sustainability can be traced back to ancient times”. Explaining that resource-related problems led to increased awareness that these resources need to be used in a sustainable manner, Du Pisani also adds that it reflects a fear that people of “present and future generations might not be able to maintain their living standards [and this] stimulated a mode of thinking that would inform discourses which prepared the way for the emergence and global adoption of sustainable development”.

Sustainability, according to Gomis et al. (2011, p. 172), is not only one of the most controversial topics of our century, is also one of “the defining concepts of our contemporary global culture”. It is stated that the definition of this concept differs in accordance with the interests of each group (Gomis et al., 2011). Coatanea et al. (2006, p. 81) believe that the difficulty in characterising this concept is partly responsible for its evolution, which is also due to the fact that “environmental interactions are difficult to model quantitatively”. Given this challenge, Coatanea et al. (2006) suggest that the role played by our methodological thinking is partly responsible for the confusion and variation in the definition of the concept of sustainability.

Costanza et al. (2007, p. 523) associate sustainability with “global change”, while many others, such as Mebratu (1998, p. 493), refer to it as synonymous with “sustainable development as a basis for overcoming environmental challenges”. Meanwhile, Kuhlman and Farrington (2010) explain that the evolution of this concept took place while it was also being reinterpreted to encompass the environmental, social, and economic dimensions. Traditionally, environmental conservation has been the primary understanding of sustainability. Along with environmental stewardship, Kuhlman and Farrington (2010) contend that social responsibility and economic viability are equally important components of sustainability in order for it to be truly effective and inclusive. Because of this, their reinterpretation broadens the definition of sustainability to include a more comprehensive strategy that takes into account how environmental, social, and economic factors are interconnected to achieve sustainable development. These researchers do however also discuss that the transformation of its meaning has dichotomised and converted the original meaning, and the researchers propose to return to the original (Kuhlman and Farrington, 2010).

2.1.3 Evolution of the Sustainability Concept

The historical background of the concept of sustainability was also influenced by important historical events, movements and academic contributions. Before the 20th century, Indigenous societies all around the world in a unique way based their livelihood and lifestyle on their own specific knowledge about local ecosystems and natural resources, which is what we today know as sustainable (Berkes, 2018). This understanding of sustainability can be seen in example for early agricultural societies. Toledo and Barrera-Bassols (2009) for example argue that: 'The way prehistoric agricultural communities developed radically complex forms of knowledge and conservation practices that allowed generations of human intervenors to successfully live on their "inherited" landscapes for hundreds, even thousands, of years.' Similarly, Ponting (1991) expresses the conservation of nature by ancient agrarian societies in Mesopotamia and in the Indus Valley, where for example the way of farming was maintained by socialist kin groups who used their own style of conserving soil, using existing resources and irrigation (Ponting, 1991).

The early 20th-century conservation movements raised a renewed environmental conscience in the 1960s and 1970s and internationally recognised the need for interaction between human activities and ecosystems. The first crucial moment of the 20th century regarding modern sustainability was in 1972 when the United Nations Conference on the Human Environment was held. Then the 1980s, characterised by the work of Jaqueline Birntland's Brundtland Commission, finally gave a global definition of sustainable development (United Nations, 1972; WCED, 1987). And in the 1990s, the United Nations Agenda 21 documents Nations made a step that could promote sustainability beyond ecological considerations by endorsing the United Nations Millenium Development Goals (MDGs) (United Nations, 2000) and then the Sustainable Development Goals (SDGs) from 2015, in which support for sustainability efforts in socio-economical areas – for example in combatting social inequality or unfair payment of wages – was included alongside biodiversity loss and climate (United Nations, 2015).

Table 1 below provides an overview of the concept of sustainability on the historical background by identifying crucial points that influenced the conceptualisation of sustainable development.

Event	Time	Development
Pre-Modern Era		Limited concern for sustainability; focus on the exploitation of natural resources for economic growth and development.
Early Indigenous Culture		Incorporation of sustainable practices into daily life, including respect for nature, sustainable resource management, and community harmony (Berkes, 1999).
Early Environmental Movements		Emergence of environmental awareness and calls for conservation in the 19th and early 20th centuries (Worster, 1979).
United Nations Conference on the Human Environment	1972	Recognition of the interdependence between human well-being and the environment led to the establishment of environmental governance structures at the international level (UN, 1972).
Brundtland Report	1987	Introduction of the concept of sustainable development, emphasizing the need for development that meets present needs without compromising the ability of future generations to meet their own needs (WCED, 1987).
Earth Summit (Rio Summit)	1992	Adoption of Agenda 21 and the Rio Declaration on Environment and Development, highlighting principles of sustainable development and global cooperation (UNCED, 1992).
Triple Bottom Line (TBL) Concept	1994	Elkington proposes the TBL framework, which expands the focus of sustainability to include economic, social, and environmental dimensions (Elkington, 1994).
Millennium Development Goals	2000	Adoption of the Millennium Development Goals, integrating sustainability principles into the global development agenda (UN, 2000).
Rio+20 Conference	2012	Renewed commitment to sustainability, with emphasis on green economy, poverty eradication, and sustainable development goals (UN, 2012).
Sustainable Development Goals	2015	Sustainable Development Goals (SDGs): Adoption of the 17 SDGs by the United Nations, providing a comprehensive framework for addressing global challenges by 2030 (UN, 2015).

Table 1: Historical overview of sustainability.

2.1.4 Understanding of Sustainable Development

The adoption of the concept of sustainable development marked a landmark event in the 21st century. Following the publication of the United Nations sponsored report in 1987, 'Our Common Future', by the World Commission on Environment and Development (WCED), sometimes known as the Brundtland Report, the definition of sustainable development became firmly established as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, p. 43).

The definition of sustainable development "marks the concept's political coming of age and establishes the context and structure of the present debate" (Mebratu, 1998, p. 499). A conceptual definition of sustainable development had to be based on the reconciliation of two concepts; the concept of needs, which particularly concerns the world's poor and raises questions as to the importance of equity, and the idea of limits to growth determined by the ability of the environment to meet present and future needs (Harris and Roach, 2013, p. 510). More specifically, 17 Sustainable Development Goals (SDGs) and 169 targets at its core are underscored in the 2015 UN Global Sustainable Development Report, which forms a core part of the UN 2030 Agenda (United Nations, 2015). The 17 SDGs individually are defined as follows:

"No Poverty [1]; Zero Hunger [2]; Good Health and Well-being [3]; Quality Education [4]; Gender Equality [5]; Clean Water and Sanitation [6]; Affordable and Clean Energy [7]; Decent Work and Economic Growth [8]; Industry, Innovation and Infrastructure [9]; Reducing Inequality [10]; Sustainable Cities and Communities [11]; Responsible Consumption and Production [12]; Climate Action [13]; Life Below Water [14]; Life On Land [15]; Peace, Justice and Strong Institutions [16]; Partnerships for the Goals [17]" (See the following Figure 1).

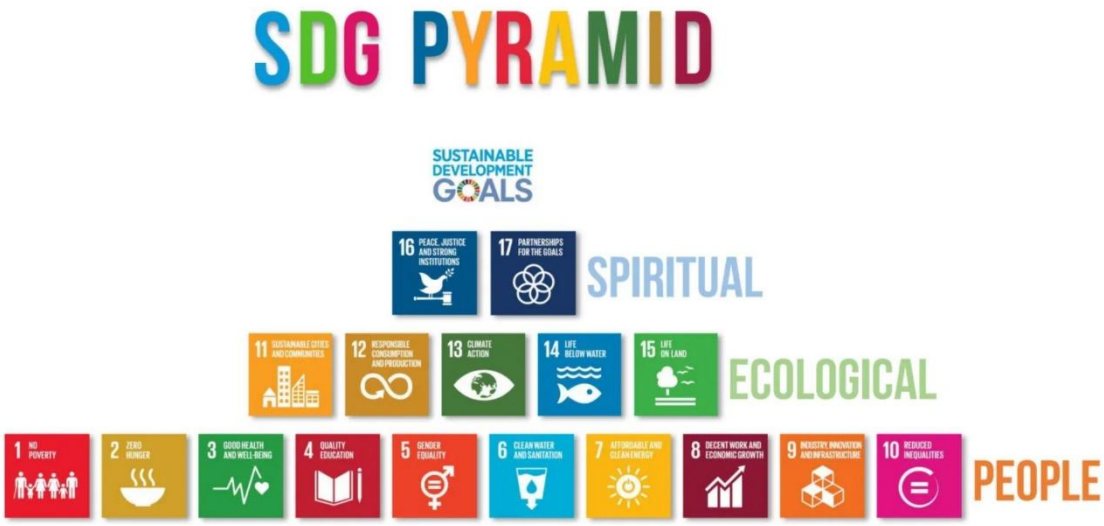

Figure 1: The model of the SDG pyramid (United in Diversity Foundation, 2019).

This set of global goals agreed upon by the UN in 2015 addresses a wide range of interconnected issues regarding social, economic, environmental and governance pillars of sustainable development (UN, 2015). To attach importance to humanitarian values and human prosperity as well as a guide to sustainability (United in Diversity Foundation, 2019). Moreover, these 17 SDGs can be interpreted as issues of people, environment, and spirituality (as shown in Figure 1 above) as follows:

People: Many of the SDGs are aimed at enhancing the well-being and livelihoods of people across the world. This involves achieving goals related to ending poverty and hunger, ensuring good health and well-being, giving quality education, supporting gender equality, and promoting inclusive and sustainable economic growth (UN, 2015; United in Diversity Foundation, 2019).

Environment: A significant portion of the SDGs are devoted to solving environmental issues and supporting sustainability. This covers goals such as addressing climate change and its consequences (goal 13), conserving and sustainably managing terrestrial and marine ecosystems (goal 15), ensuring access to clean water and sanitation (goal 6), and encouraging sustainable resource efficiency (goal 12), among others (UN, 2015).

Spiritual: This component may allude to the realisation that spiritual and cultural dimensions influence human well-being in addition to material causes. While spirituality,

culture, and values are not explicitly mentioned in the SDGs, they can be indirectly addressed through goals that promote peace, justice, and strong institutions (goal 16), as well as efforts to foster inclusive societies that value diversity and encourage cultural heritage (UN, 2015; United in Diversity Foundation, 2019).

Sustainable development is an overarching framework for addressing global challenges based on a number of interlinked principles that are key to advancing sustainability goals (WCED, 1987; Stiglitz et al., 2009; Leach et al., 2010; Raworth, 2017; UNEP, 2021). The key principles and goals of sustainable development are outlined below in Table 2.

Principle	Explanation
Environmental Conservation	Preserving and equitably managing natural resources, biodiversity, and ecosystems such that ecological integrity and resilience are thriving (UNEP, 2021).
Economic Prosperity	Creating economic growth and development that is inclusive, resilient, and environmentally sustainable, while ensuring equitable distribution of assets and benefits (Stiglitz et al., 2009).
Social Responsibility	Promoting social justice, inclusion and equity through greater equality of access to resources, and opportunities and in the enjoyment of fundamental human rights (Raworth, 2017).
Participation and Collaboration	Multi-stakeholder and multi-scale decision-making, drawing from diverse policy sectors and communities, and aimed at responsible, transparent and democratic policy and decision-making (Leach et al., 2010)
Inter-generational Equity	To fulfil our responsibilities towards future generations in our decisions today so that they may fulfil their needs for life and well-being over a longer time (WCED, 1987).

Table 2: A concise summary of the sustainable development goals and key principles.

All of these principles – Environmental Conservation, Social Responsibility, Economic Prosperity, Inter-generational Equity and Participation and Collaboration – are necessary for achieving sustainability purposes. However, many of these principles are also

interdependent and mutually reinforcing of each other, where the pursuit of a sustainable environment, social and economic outcomes cannot be separated. Injecting these principles through policies, practices and decisions is what will help societies become more sustainable and build a better future for the next generations (WCED, 1987; Stiglitz et al., 2009; Leach et al., 2010; Raworth, 2017; UNEP, 2021).

2.1.5 Triple Bottom Line Approach

The Triple Bottom Line (TBL) originates from the writings of the British business consultant John Elkington. He coined the term and proposed the idea in his book Cannibals with Forks: The Triple Bottom Line of 21st Century Business (1998), where he advocated a new approach by which corporations should report the economic, social and environmental outcomes of all aspects of their operations. According to Elkington (1998), international business can rediscover the percentage of profit generated for society (triple 'P') rather than focusing on the classic 'bottom line' showing only profit.

The Triple Bottom Line is a fundamental framework often used in sustainable development, proposing that decision-makers need to account for the three mutually dependent elements of development: economic, social, and environmental dimensions (Elkington, 1998). The notion of TBL has usefully interrelated three pillars of sustainability as "people, planet and profit" (Bhamra and Lofthouse, 2007, p. 15); but widely known as; "focusing on economic prosperity, environmental quality, and - the element which business had preferred to overlook - social justice" (Elkington, 1997, p. 70). A visualisation of TBL is given below in Figure 2.

In practice, the TBL method helps organisations answer performance questions -- such as 'how well are we doing' - based on indicators and metrics for each of the economic, social and environmental dimensions. In terms of economics, questions might be about financial profitability, cost-effectiveness and/or resource efficiencies. From a social perspective, questions could relate to conditions within the organisation in terms of how well employees are taken care of, how community members are engaged and treated, and how well the organisation relates to other stakeholders. Environmental questions might relate to what resources the organisation consumes, how waste is removed and the impact of the organisation's activities on the broader ecology of the area where its operations occur, or the planet as a whole. The original TBL model, as defined by Elkington (1998), refers to the

‘Triple Bottom Line’, describing the three P`s of economics, people and planet. This has important consequences for sustainable design. It changes the terms of engagement for a designer, who will no longer only need to consider aesthetic or functional considerations but will have to strategies over a much more comprehensive landscape of options. These can be measured using life cycle assessment (LCA) methodologies, stakeholder engagement processes and mandates for reducing the environmental footprints of materials and processes (Elkington, 1998; Azapagic and Perdan, 2000).

As one of the most influential and widely diffused ideas in the sustainability discourse, Elkington’s TBL framework pioneered the notion that businesses should measure themselves in terms that broadened the concept of corporate value beyond profit to include social and environmental contributions (Elkington, 1994). The TBL framework has had significant influence in guiding the world of business and beyond; however, the TBL framework has also been criticised for its supposed shortcomings and limitations despite its popularity and early traction (Bansal, 2003).

A major criticism of the framing of TBL relates to its operations and implementation (Henriques and Richardson, 2004). On the one hand, it calls out to decision-makers to bring the three dimensions of sustainability – economic, social, and environmental – into the institutional decision-making frameworks; and, on the other hand, it stays silent on the grounded institutional and operational questions of how to reconcile these dimensions and how to impose trade-offs and priorities when choosing the pathways from economic, social or environmental bottom lines (Bansal, 2003). Short of specific metrics and other measurement tools for assessing corporate performance and responding effectively to societal expectations for acting responsibly, the reasoning goes that the TBL concept will fare poorly in fostering much-needed organisational reform in the corporate sector (Henriques and Richardson, 2004). A related interpretation of the TBL framework critiques its ability to address systemic issues of power and inequality within existing economic and social structures. By mobilising voluntary firm initiatives under the label of corporate social responsibility, for example, TBL may subsequently allow them to escape other forms of regulation and social scrutiny, exposing ‘the problems of under-regulating corporate power’ (Matten and Moon, 2008, p. 904).

Additionally, TBL has been criticised for promoting too simplistic an approach to sustainability based on its emphasis on the financial equivalence of the three bottom lines (Gray et al., 1996). Peet (2009) points out that these three elements, which initially seemed to

be balanced, turned into a Mickey Mouse model (see Figure 2b). This reflects the view of John Elkington, the original proponent of TBL, who has recently commented that the sustainable development system did not reach its purpose in practice as economic factors outweigh other components (Elkington, 2018). Adams (2006) exhibits that it has been transformed into ecological models to limit the economy and to have more environmentally friendly and stronger sustainability (see Figure 2c).

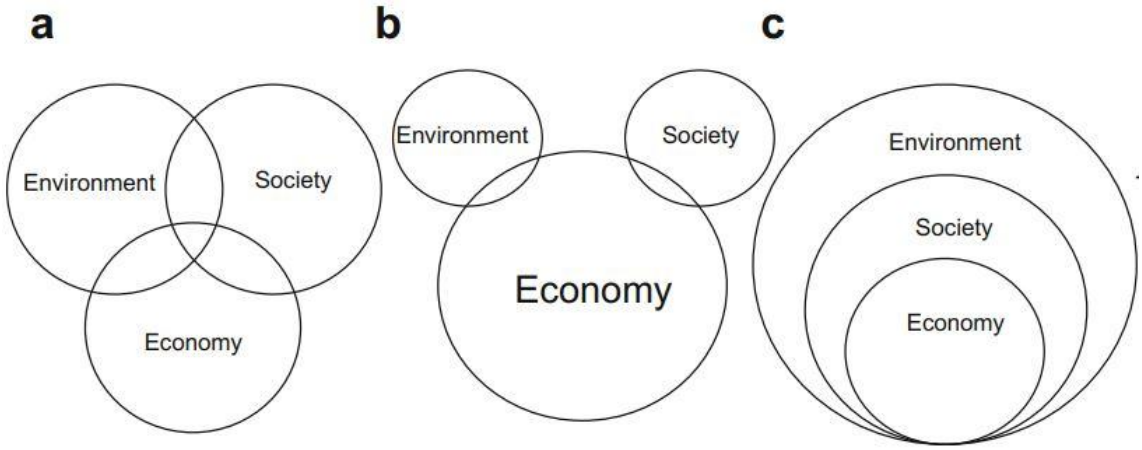

Figure 2: Triple Bottom Line of Sustainability (a); Mickey Mouse Version of the TBL (b) and (c) There-dimensional Model of Ecological Sustainability (Pelletier et al., 2012, p. 14).

2.1.6 The Challenges to Sustainable Development

The World Economic Social Survey (2013) highlighted the challenges the world would face after 2015, including poverty, the impact of climate change, hunger and malnutrition, income inequality, rapid urbanisation, energy needs, and financial crises. Similarly, the Royal Geographical Society (2020) talks about increasing levels of waste, greenhouse gases, energy, water, and transport issues. However, the real source of challenge to sustainability is identified as a lack of unified and organised human intervention, which could overcome the above problems. For instance, the report states that although the UN Agenda 21 highlights the interconnectedness of various dimensions of sustainable development, it appears that intervention did not occur in an integrated manner (UN The World Economic Social Survey, 2013). Although it is not directly expressed, the challenge is

attributed to human inaction or failure instead of pre-existing problems that only seem to be deteriorating.

A further significant problem with the UN sustainable development goals is that of non-implementation (Filho et al., 2020). The goals are criticised for being vague and open to interpretation, lacking in indicators and benchmarks, which are important in terms of formal agreements and collective action (Filho et al., 2020). The goals are also criticised for being contradictory, leading to trade-offs. Further problems include a lack of accountability for commitments, problems with financial investment, capacity building, lack of updated technology, and cultural issues that prevent implementation.

According to Zovko (2013) what defines sustainable development is our own perception of the future. In his view, a prosperous future requires interdisciplinary expert effort in research and development. These experts are to develop scenarios so as to create a consensus on what kind of future humanity wants. The researcher also believes that international consensus on a common future requires engagement in future studies research (Zovko, 2013).

The issue of failure and inaction is often mentioned by researchers such as Conard (2013, p. 3370), who questioned the consequences of recommendations released by the World Commission on Environment and Development. These problems are compounded by the fact that "most social institutions, indeed all governments, are resistant to change and are especially good at equating a go-slow philosophy with stability", which makes it difficult for governments to embrace new methods of managing economic development. However, meanwhile, there is increasing evidence of accumulating issues the consequences of which would be harder to deal with. For instance, "an earth system framework" has determined "a safe operating multi-dimensional space for humanity" that is "determined by planetary boundaries which, should they be crossed by human activity" would lead to sudden or irreversible environmental changes that would jeopardise the sustainability of the whole system. It is also stated that humanity has a dilemma that transforming the global environmental footprint is regarded as the requirement of sustainability while there is an organisational fear of transforming too much far too rapidly (Conard, 2013, p. 3370).

Kopnina's (2016, p. 113) argument is sharper as she demonstrates that sustainable development goals are not likely to result in "greater social equality and economic prosperity, but to a greater spread of unsustainable production and consumption, continuous economic as

well as population growth that has caused environmental problems in the first place and further objectification of environment". She insists that it is necessary to go beyond the existing status quo by incorporating a sense of ethical responsibility toward the environment. She believes that approaching unsustainability ethically would also allow the shortcomings embedded in the mainstream discourses on sustainability to be addressed effectively. Kopnina (2016, 119) also makes some recommendations including the reconfiguration of industries away from the systems of unsustainable production and consumption. Similarly, Gomis et al. (2011, p. 172) also regard sustainability primarily as a matter of ethics.

Criticisms also involve the ways in which sustainability is used by organisations worldwide. Bateh et al. (2014) indicate that businesses have adopted the concept of sustainability or sustainable development in order to improve their productivity as well as competitive advantages. The view of the sustainability of business leaders is said to be very narrow since the only dimensions of sustainable development or sustainability that they are interested in are the dimensions directly related to the performance of their businesses.

Pogge and Sengupta (2016, p. 1) have laid out a very strong case against the anticipated success of sustainable development goals. Pogge and Sengupta (2016), similar to Filho et al. (2020) and others, "argue that, despite some clear positives, the SDGs are unlikely to fulfil their self-proclaimed purpose of inspiring and guiding a concerted international effort to realise the human rights of all". Although they also take issue with the incremental approach of global initiatives to overcome the existing deprivations, there are no explanations as to the reasons for this preference. The concept of "progressive realisation" used by the UN in relation to the speed of implementations is interpreted as "we may take as much time as we deem reasonable to complete the task" (UN, 2020, p. 2). Besides, there is said to be no clarity in terms of accountability, the method of implementation and distribution of important tasks i.e. implementing global institutional, including financial, reforms. Instead, it is stated that if the most powerful parties had been held accountable in terms of providing what they owe for realising the success of sustainable development, "the concepts of partnership and universalism would have been more meaningful, rather than what they are now likely to become: a smokescreen for extreme global inequalities" (Pogge and Sengupta, 2016, p.7).

The editorial of the influential Nature Journal (2020) discusses that, currently, the UN blames the fact that the sustainable development goals are out of reach- on the COVID-19 pandemic. It says that while more than 70 million people are living in abject poverty, 270

million face hunger and 750 million have already been living on less than $2 per day. Thus, “all in all the goals to eliminate poverty, hunger and inequality and to promote health, well-being and economic growth are headed for extinction”. It is also emphasised that there were arguments prior to the pandemic for making the sustainability development goals more achievable.

Moreover, Diab of the European Environmental Bureau (EEB, 2020) studied the 2020 review of Eurostat, the statistical agency of the EU. Despite claims made by Eurostat that Europe has made progress on all goals, the European Environmental Bureau (EEB, 2020) criticise the measurement methods concluding that this claim can not be trusted as Eurostat did not measure the impact of Europe on the world. The outcome is used to claim that Europe can continue to economically grow indefinitely while achieving sustainability at the same time. For instance, the calculations only took into consideration domestic material consumption. However, using the raw material equivalent of imports (RME), the figure would appear to be 2.5 times higher. Besides, it is explained that “for some SDGs where the EU has recorded progress, the improvements have been so slow and marginal that they would hardly count as progress”.

According to Johnson et al. (2016), accompanying these branches of ideas and practices in sustainable development is a return to traditional ecological knowledge that has been growing since the 1980s. This is said to indicate a need to learn from Indigenous communities about the ways in which they practised resource efficiency and the requirement to develop a different type of ecological ethics partly by learning from those who are knowledgeable of traditional methods. It is argued that sustainability sciences and indigenous knowledge and methods can be focused on in order to come up with the best practices that can guide collaboration. Indigenous understanding of sustainability is that it is a combination of process, ability and human ethics required for the earth to support all life on earth including human life. In this view, as opposed to the Western view, there is a dialectical, open-ended continuity between part and whole, local and global, and the individual and society. Sustainability is both a lifestyle and a way of living in a world in which humans are only one of the species. However, the Western mind finds it hard to comprehend and interpret this culturally integrated way of thinking. It is criticised for being mingled with the spiritual belief system of the indigenous populations making it hard for the Western scientific thinking to share these ideas. However, Western science is also criticised for having lost the value of spirituality, which serves the indigenous populations as a bridge between humans and nature.

It is argued that collaboration between both sides could help to constitute a common ground for sustainability, which requires indigenous knowledge holders to explain the metaphors they use to refer to the relationship between nature and humans as well as the methods they use to protect the environment.

2.1.7 Problems with and Criticism of Sustainability

Debates on sustainability revolve around two different poles; the first is determined by the limits to growth school that "projected a drastic showdown and even collapse", and the views of technocrats "who argue that resource constraints can be overcome at relatively little cost, provided the correct (usually market-oriented) policies are put in place" (Mebratu, 1998, p. 503). In short, while the first camp discussed that humanity has to change the ways in which it lives in order to ensure its continuity, the other believes that humanity can ensure its continuity by regulating the way in which it lives.

The idea of the limits to growth comes from the Club of Rome, which is a group of intellectuals who published a report entitled "Limits to Growth" (LTG) in 1972. The report envisaged the end of non-renewable resources, increased population growth and pollution and a decline in agricultural and industrial production leading to declining in the human population due to the minimised availability of services and food (Bardi, 2011, p 2). The World Commission on Environment and Development indicates that the most important way to achieve the environmentalist goal is to challenge the philosophy of limits to growth and replace it with a new one (WCED, 2005). Borowy (2014) refers to these challenges as contradictions; present generations versus future generations, economic development versus perspectives on the environment, South versus North, and scientific precision versus political consensus. However, Mebratu (1998, p. 504) demonstrates that three different versions of arguments have been developed based on their focus on different dimensions of sustainable development. The institutional version, which is also referred to as the "establishment version" is based on the idea that the possibility of "equitable economic growth" as the "greatest test for business and industry, which must devise strategies to maximise added value while minimising resource and energy use through the implementation of the principles of eco-efficiency".

The ideological version (Mebratu, 1998, p. 511) boils down to the ideas of eco-feminism and eco-socialism, while the academic version, which "reflects the response of the

scientific community" has many branches ranging from the neo-classical approach that aims at turning the environment into a commodity that can be analysed just like other commodities, to the concepts of "shallow ecology and deep ecology". Shallow ecology relates to the treatment of environmental problems without tackling the underlying causes and without confronting the philosophical assumptions that underlie our current political and economic thinking. Deep ecology believes that environmental reforms and socioeconomic systems are not viable solutions to offset the accelerating destruction of the environment. The purpose of this approach is to replace anthropocentric hierarchies with bio-centric egalitarianism. Thus, the problems and challenges in sustainable development belong to a broad spectrum based on the tensions laid out by Borrowy (2014) and Mebratu (1998). A widely known argument as about the Triple Bottom Line`s dimensions of people, profits and planet, is according to Lee (2007, 2), that it "requires companies not only consider financial profit and losses but also their effect on social and environmental concerns". Alibasic (2018, p. 4) states that the triple bottom line can be extended to a quadruple bottom line that adds a focus on governance, which is regarded as "necessary to the successes of sustainability and resilience". For Edelheim (2015, p. 38), the quadruple bottom line is about the consideration of a firm's operations from different perspectives. The bottom line is a concept taken from accounting practices where the revenue deducted from the expenses adds up to eventual loss or profit. Similarly, continued consideration of environmental factors led to including the ecological bottom line in the equation in order to show the extent to which an operation is environmentally conscious. The quadruple bottom line is thus an extension that seeks to add considerations of ethical or political significance in human activities. Sridhar and Jones (2013, p. 108) indicate that the triple bottom line approach is subject to intense criticism as corporations "easily ignore or bypass key sustainability issues" by using any one of the available "reporting systems to mask themselves from the external pressure to be more sustainable", This is achieved due to the diversity and non-integration of triple bottom line principles, which are thus independent of one another and are measured in different ways.

Another significant trend in debates refers to Eco-modernism. Fremaux and Barry (2019) eco-modernism is a philosophy advocating the reconciliation of environmental challenges with liberalism via innovation to be directed by state. Symons and Karlsson (2018, p. 686) explain that a significant criticism of this philosophy is that "its abstract, technocratic solutions are both non-democratic and irrelevant to ordinary people".

Kirchherr et al. (2017, p. 229) introduced and analysed the trend of circular economy (CE), which has a total of 114 definitions. These researchers defined circular economy as "an economic system that replaces the 'end-of-life 'concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes". However, they also note that "trending concepts tend to diffuse in their meaning, and many have claimed that this has also happened to the CE concept".

Coatanea et al. (2006) indicated that concepts and methods are formulated by researchers who "regard sustainability as a solution to attack the possible limitation of the economic growth due to increasing environmental load caused by the human community on nature".

Carpetier and Braun (2020, p. 14) point out that international effort is also being made by organisations such as the UN that adopted the 2030 agenda and 169 targets that serve as a roadmap for sustainable development in 2015. The agenda highlights the role of every group including the governments "in solving our common and globally interrelated challenges". The goals range from the eradication of poverty, zero hunger, and quality education, gender equality to climate action, peace and partnerships (UN Website, 2020). Similarly, in 2015 the United Nations Framework Convention on Climate Change (UNFCCC) reached the Paris Agreement, which aimed to stabilise greenhouse gases to a level that would prevent dangerous human-induced interference with the climate system" (Alagoa and Iwueke, 2018, p. 2). It is argued that the global community needs to know about these emission trends to change them collectively. However, the Nationally Determined Contributions (NDCs) made by participating nations under the terms of the Paris Agreement are inadequate to achieve these temperature targets. The ambition needed to effectively reduce greenhouse gas emissions is lacking in the NDCs of many countries. This shortfall poses significant challenges in achieving the agreement's goals and mitigating the impacts of climate change (Climate Action Tracker).

Another important initiative in sustainable development, according to Tideman (2016), is the concept of the Gross National Happiness Index (GNHI). This was expressed for the first time by the fourth "King of Bhutan, Jigme Singye Wangchuk, in response to Western economists visiting his country who said that they regarded Bhutan to be a 'poor' country…measured in terms of its gross domestic product". Verna (2017, p. 477) explains that the GNHI "is a unique and meaningful living development alternative that challenges the

logic of GDP metrics". In this view, the basis of human progress is the happiness of society, and the centre of social development is constituted by "sociocultural, spiritual, political, economic and ecological wellbeing". It is stated that GNHI is almost similar to the idea of de-growth. However, while de-growth remained as a political slogan and a theory, GNHI came as a practical approach to shape real life.

Reflecting on these ideas, Osorio et al. (2005, p. 515) believe that these models and initiatives "are split into reductionist analyses, a situation that prevents researchers from perceiving the complexity underlying sustainable development as a field of knowledge, and the reality that is being subjected of analysis". They also discuss that each discipline studies a different part of the phenomena leaving out the other aspects as a result of which they miss the whole, which is such a grave issue that even prevents them from conceptualising sustainability and sustainable development and forming a consensus on their definitions.

2.2 Interrelation between Sustainability and Design

2.2.1 Historical Context of Sustainability in Design Movements

Sustainability in design has been and continues to be an evolving idea. It has different roots across different historical periods and responds to changing and ever-increasing environmental, social, and economic challenges. Tracing the historical arc of sustainability in design illuminates changes in the history of sustainable design and why sustainability in design looks the way it does today. Beginning in the late 19th and early 20th centuries, the rise of the Arts and Crafts movement reacted against new industrial production methods used to mass consume, produce, and pollute. While most 20th-century movements had a direct negative impact on the environment and people, the Arts and Crafts movement, especially its founder William Morris, celebrated handcrafting and local production using materials sourced from the places people lived. Many principles of sustainability emerged from this movement, from a focus on quality and longevity to better worker and environmental conditions. Sustainable design as a movement has foundations in craftsmanship (Frey, 2018).

The mid-20th century brought an era of modernist design, with functionalism and minimalism informed by technology. Profound breakthroughs, such as the reproduction of complex shapes, had an impact on the emergence of mass production, thus creating the modern era we know today. But, with functionalism, civil societies faced the impacts brought

about by enormous demands for resources, pollution and social inequality. Modernist's responses for the future were limited, but a few designers proposed socially responsible designing practices that incorporate the natural cycle of living in harmony with nature and creating a better world for humans on this planet. They include Victor Papanek, Buckminster Fuller and others. Walker (2017) noted that excerpt from an essay assessing the historical or cultural development of an element of architecture or design.

Indeed, these responses were fired up by the increased awareness of the environment spurred on by the environmental movement of the 1960s and '70s, with an insistence on ecological integrity. One of the notable additions was the 'cradle-to-cradle' design, an approach to industrial design popularised by McDonough and Braungart (2002) that interprets material flows as repeating cycles and urges designers to consider the afterlife of products at the start of the design process; and the various sustainable architecture movements that followed over the years, such as biophilic design and passive solar design, focused on building design that takes resource efficiency, natural lighting and natural connection into account (Beatley 2016).

Sustainability has been thoroughly integrated into the language and practices of design in recent decades, from architecture and the built environment to fashion and product design. Across fields, designers have reimagined their practices to respond to large-scale environmental problems such as climate change, finite resource use, and biodiversity loss through interventions that leverage the design lessons of natural systems (Benyus 2002; McDonough and Braungart 2013). Contemporary design movements such as regenerative design and biomimicry have also developed around the principle of harnessing the capabilities of nature to develop innovative, sustainable practices. Designers now have new opportunities and directions for sustainability through enhanced capacities to work with novel materials at the nano- and micro-scale, for instance through 3D printing with biodegradable materials (Bakker et al., 2014).

The historical overview of these ideas – tracing influences across the sustainability movements – demonstrates that there has been a slow slaloming and growing maturity to design ethos, with increasing recognition of systemic responsibility and environmentalism. With conservation in our hearts, empathy for others in our minds, and a fortune-coloured optimism for the future, designers can empower ourselves to continuously expand the horizons of sustainability and foster a more resilient world for the planet and humankind.

Table 3 below provides a concise overview of the evolution of sustainability in design movements, highlighting key features, key figures, and key concepts associated with each movement.

Design Movement	Key Figures	Key Concepts	Key Features
Arts and Crafts Movement	William Morris	Craftsmanship, ethical treatment of workers and environment.	Emphasis on handcrafted, locally sourced materials; Quality, durability, ethical production practices.
Modernist Design (Mid-20th Century)	Victor Papanek, Buckminster Fuller	Socially responsible design, considering broader impacts of design decisions.	Functionalism, minimalism, mass production; Concerns about resource depletion, pollution.
Environmental Movement	McDonough and Braungart, Biophilic design proponents	Cyclical materials, passive solar design, connection to nature, energy efficiency.	Increased awareness of ecological issues; "Cradle-to-cradle" design; Sustainable architecture and passive solar design principles.
Contemporary Design Trends	Janine Benyus, McDonough and Braungart	Mimicking natural systems, circular economy, 3D printing with biodegradable materials.	Regenerative design, biomimicry; Sustainable innovation through technology and materials science.

Table 3: The evolution of sustainability in design movements (Benyus, 2002; McDonough and Braungart, 2002; McDonough and Braungart, 2013; Bakker et al., 2014; Beatley, 2016; Walker, 2017; Frey, 2018).

2.2.2 Design for Sustainability

Design for Sustainability (DfS) is a broad field that is still in development, consisting of a range of approaches with distinct and complementary attributes based on the integration of environmental, social and economic considerations into the design of products, services or

systems to shape the human role in the world and better meet ‘social’, ‘planetary’ and ‘generational’ needs (Bhamra et al., 2008; Ceschin and Gaziulusoy, 2016; Vezzoli C. et al., 2018).

Design for Sustainability can be also used to describe and explain a process of design that aims generating ways to benefit equally to the environment and economic system (globally but especially locally), and communities around us, particularly unprivileged and disadvantaged societies (Bhamra et al., 2008; Tischner, 2010). Some authors adopt the definition of DfS as “a design practice, education and research that, in one way or another, contributes to sustainable development” (Vezzoli C. et al., 2018, p.103).

The historical trajectory of Design for Sustainability stems from emerging socio-economic, environmental, and cultural dynamics. As a reaction to increasing global challenges such as climate change, resource depletion and social inequality, DfS represents a radical mindset in the sphere of design practice by advocating ‘performing from cradle to cradle’ in a quest for ‘fundamental system change’ towards environmental sustainability, social responsibility, and economic prosperity (Bhamra et al., 2008; Ceschin and Gaziulusoy, 2016; Vezzoli C. et al., 2018).

Early Environmental Movements: DfS borrows some of its ideas from the origins of environmentalism, going back to the progressive messages of cultural reform movements in the late 19th and early 20th centuries. These movements laid the foundation for much of today’s mainstream discourse about sustainability (Walker, 2006). Visionaries such as John Muir, Aldo Leopold and Rachel Carson spoke up for nature conservation in response to the unchecked exploitation of natural resources. They developed the idea of the interdependence between human activities and ecosystems, which eventually led to modern environmentalism and its associated goals of ecological preservation and management. They fomented the public awareness of environmental well-being that later inspired sustainability theories (Carson, 1962).

Industrial Revolution and Resource Depletion: Industrialisation ushered in unparalleled economic growth and groundbreaking technological changes, but also the prevailing way of challenging the natural environment. Alongside groundbreaking developments and increasing quality of life, the accelerated process of industrialisation has given rise to growing worries over resource depletion, environmental degradation and the pollution of natural resources, including air and waterways (Hawken et al., 1999). Accordingly, calls to address resource scarcity and environmental degradation and pressures

to produce and consume in a more sustainable way paved the way for the establishment of DfS.

Limits to Growth and Sustainable Development: The seminal 1972 report titled The Limits to Growth by Donella Meadows and colleagues put the environmental dimension of development into stark relief by bringing the headline 'limits to growth' – the fact that Earth has finite resources – to the forefront of the national stage. The authors showed how unabated economic growth could potentially lead to ecological disasters such as the inability to feed the world's population and thus called for development pathways that reconcile human needs and ecological constraints (Meadows et al., 1972). The notion of 'sustainable', as elaborated in the Brundtland Report on Our Common Future (1987), referred to a dynamic process in which 'humankind could continue to develop economically, socially and environmentally in a balanced way' (WCED, 1987).

The emergence of Design for Environment (DfE): During the late 20th century, various iterations of environmental thinking began to make their way into design processes – universities, consultancies, and corporations started talking about Design for Environment (DfE) (Pigosso et al., 2017). DfE focused primarily on environmental impacts that could be associated with a product's manufacture, use or disposal, such as substituting materials, reducing waste or improving resource efficiency (Graedel and Allenby, 1995). DfE was a turning point for design in that it attempted to make explicit the environmental implications of the products designers were creating; however, it was often a reductive approach that favoured efficiency and risk-mitigation often viewable more as a corporate approach than an ideology for design (Pigosso et al., 2017).

Transition to Design for Sustainability (DfS): The move from DfE to DfS signifies a growing ethos for radical change, away from more linear and divisive to more open, integrated approaches to design, which take into account environmental, social and economic dimensions of a given proposition (Bhamra et al., 2008). Building upon seminal works such as "Cradle to Cradle: Remaking the Way We Make Things" by McDonough and Braungart (2002), DfS conceptualises products, services and systems as being part of broader, regenerative ecosystems; embracing eco-efficiency, closed-loop systems and social responsibility as core principles to address the complexity of sustainability challenges in innovative ways that benefit people and planet (McDonough and Braungart, 2002).

The following Table 4 outlines the historical perspectives for DfS. This is followed by an exploration of historical perspectives that framed the emergence and development of DfS as a critical paradigm in design practice.

Perspective	Description
Early Environmental Movements	The late 19th and early 20th-century environmental movements laid the groundwork for sustainability discourse, emphasizing the preservation of natural resources (Walker, 2006; Carson, 1962).
Industrial Revolution	The Industrial Revolution marked a turning point in human-environment relations, leading to resource depletion and pollution (Hawken et al., 1999).
Limits to Growth	"The Limits to Growth" publication in 1972 highlighted the finite nature of resources and the need for sustainable development pathways (Meadows et al., 1972).
Emergence of DfE	Design for Environment (DfE) emerged in the late 20th century, focusing on minimizing environmental impacts in product development (Graedel and Allenby, 1995; Pigosso et al., 2017).
Transition to DfS	The evolution from DfE to DfS represents a shift towards holistic approaches that integrate environmental, social, and economic dimensions (Bhamra et al., 2008; McDonough and Braungart, 2002).

Table 4: The historical perspectives for DfS.

Historical perspectives on DfS can give insights into the changing meanings of sustainability within the context of environmentalism, industrialisation, and sustainable development. Tracing the history of DfS reveals key socio-economic, cultural and technological forces that shaped today's understanding of sustainable design.

At the core of DfS are several principles that inform design and strategy decisions. Eco-efficiency is a classic DfS principle, which maximises the resource efficiency and minimises waste over the life of products by designing material use, impact and toxicity out of the product to benefit both the environment and economic value (Walker, 2006).

Mimicking nature's cyclical processes, the closed-loop systems design principle aspires to design out waste and pollution by adopting ideas of use, reuse, regeneration and recycling (McDonough and Braungart, 2002). Moreover, social responsibility as another important principle argues that design has social implications, and calls for attention to human rights, labour practices and community welfare (Bhamra et al., 2008).

DfS also refers to a collection of strategies and methods to incorporate the principles of sustainability into the design process. For example, Life Cycle Assessment (LCA) allows designers to assess the environmental impacts of a product or a system over its entire lifecycle, so that they can inform decisions that minimise the resource consumption (Guinee, 2002). Biomimicry stands as yet another approach to sustainable design inspired by nature's design strategies and solutions, often leading to the creation of more efficient and resilient products and systems (Benyus, 1997).

Circular design approaches that optimise the continuous reuse of materials include Design for Disassembly (DfD), which focuses on the sustainable recovery of resources, attempting to close product loop flows by designing products that are built with easily disassembled components, and/or materials where the extracted components can be reused, recycled or regenerated (Fujita et al., 2012). User-centred design methodologies focused on end-users' needs, preferences and behaviours help designers develop viable sustainable mini-ecosystems by ensuring that the environmental, social and economic objectives are catered for in harmony, and in a way that users find functional and desirable. These methods, among others, constitute the many strategies that enable designers to create innovative solutions (Norman and Draper, 1986).

DfS has evolved over time and enlarged its scope and field of action (Rocchi, 2005; Vezzoli and Manzini, 2008; Ceschin and Gaziulusoy, 2016). The focus of DfS has expanded from the selection of resources with low environmental impact to Life Cycle Assessment or Eco-design of products, to designing for eco-efficient Product-Service Systems and to designing for social responsibility and cohesion (Ceschin and Gaziulusoy, 2019). The initial DfS approaches such as green design, eco-design, Cradle to Cradle, have predominantly focused on the technical aspects of sustainability (Burall, 1991; McDonough and Braungart, 2002; Karlsson and Luttrop, 2006). On the other hand, more recent DfS approaches such as emotionally durable design and design for sustainable behaviour have realised the importance

of the role of users; communities such as design for social innovation; and social dynamics in socio-technical systems.

Despite its promises for sustainability challenges, DfS has significant barriers and complexities to overcome. It needs trade-offs between competing objectives such as environmental performance, cost, user satisfaction (Walker, 2006), and design education, industry and policy must change their mindsets, culture, and infrastructure (Chen et al., 2016). However, these challenges also become opportunities for collaboration, innovation, and collective action by all key actors in the responsive design arena: designers, design educators, businesses, and policymakers. For instance, Transition Design has been posited as a response within the broader socio-economic and political landscape, advocating for cosmopolitan localism—a lifestyle rooted in locality while addressing global challenges through locally suitable solutions. This approach amalgamates diverse skill sets, transdisciplinary knowledge, and methodologies to catalyse systemic changes and societal shifts toward more sustainable futures (Irwin, 2015). Another noteworthy example is the Quadruple Bottom Line of Design for Sustainability (QBL), introduced by Walker in 2011- and this will be discussed in the following section 2.2.3.

2.2.3 The Quadruple Bottom Line of Design for Sustainability

Walker (2006) underlines the three elements of TBL may not be sufficient in defining sustainability and has been suggested that discussions in TBL (mentioned in section 2.1.5) show that sustainability is in need of a fourth element (Walker, 2011). The four elements of the quadruple bottom line for sustainability are presented by him as “practical meaning including associated environmental implications; social meaning; personal meaning; and economical means”, as shown in Figure 3 (Walker, 2021, p. 97).

The idea of the Quadruple Bottom Line (QBL) is based on the idea of “meaning and meaningful actions” (Walker, 2017, p. 5). In 2011, Walker pointed out that the element of individuality was omitted in the 3BL and added the element of "personal meaning (including inner values, spirituality and ethics)" (Walker, 2011, p. 127). Diverging from technology-centric, growth-oriented paradigms like the Triple Bottom Line and Cradle to Cradle (Elkington, 1998; McDonough and Braungart, 2002), as well as the materials-centric Circular Economy model (Kirchherr et al., 2017), the QBL presents a design-centric approach to

sustainability (Walker, 2014). It centres on the comprehension of human needs, values, and, particularly, human significance (Schwartz, 2012; McLeod, 2020).

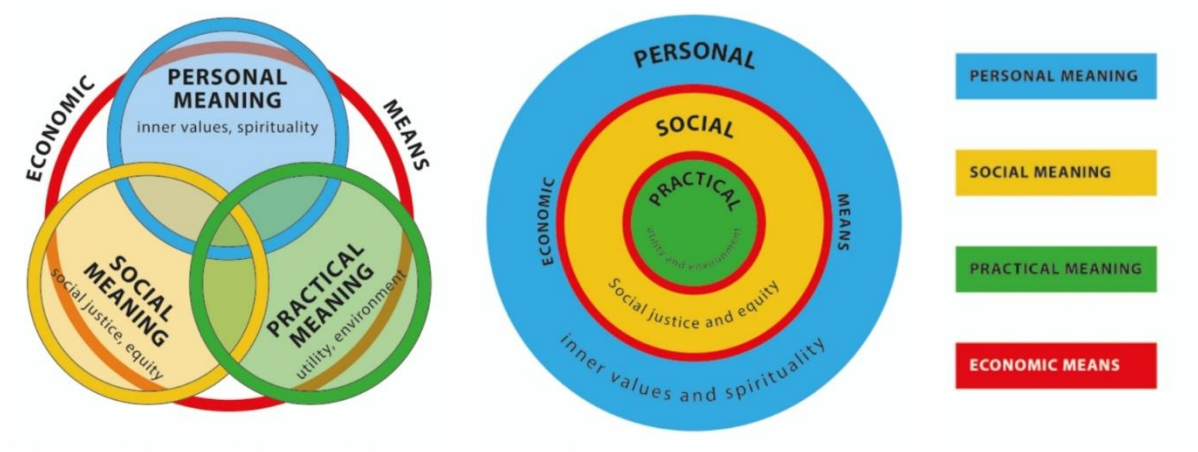

Figure 3: Quadruple Bottom Line for Sustainability (Walker, 2014, pp. 90-184).

The Quadruple Bottom Line (QBL) of Design for Sustainability represents the four ultimate dimensions that inform sustainable design practice, each of which needs to be addressed to achieve socially responsible, environmentally friendly, financially viable and soulfully fulfilling products and services.

- **Practical Meaning:** The corresponding practical meaning dimension includes the environmental impacts of products and services – for example, their utility, resource efficiency during their production, the use of renewable materials, and durability. Sustainable design solutions seek to minimise harm to the environment while maximising the potential functional purpose and durability of such solutions (Walker, 2011).

- **Social Meaning:** Social meaning emphasises the ethics and social responsibility of design activities and their consequences for communities and places. It places a premium on benevolence, ethical behaviour and fostering community well-being and place (Walker, 2011).

- **Personal Meaning:** Personal meaning focuses on the personal experience and benefit that a sustainable product or service provides, including creativity, personal values, well-being, and spiritual meaning – all aspects of how people feel when they interact with the world. That humans are at the centre of the equation (Walker, 2014).

- **Economic Means:** Economic sustainability allows the other three dimensions to be built upon it, since without businesses remaining economically sustainable, they cannot continue their operations, employ their workers, or pursue their practical, social and personal meanings (Walker, 2011).

In sum, the Quadruple Bottom Line combines practical, social or humane, and personal aspects of sustainability with economic sustainability in the supporting role of a pillar, into a comprehensive source for meaningful sustainable design.

2.3 Chapter Conclusion

In this chapter, we reviewed the notion of sustainability and discussed about relationship with design. Starting with the definition of a multidimensional term, the meaning of sustainability, its history and evolution, and its current challenges and predicaments were discussed in some detail. Moreover, the evolution of sustainable development in light of the critique of development was carefully examined. This was also reviewed the importance of holistic sustainability assessment and our conceptual frame of reference, which is the Triple Bottom Line. In this way, the conceptual framework orienting our discussions about design and sustainability was introduced.

Furthermore, it was asked how the systems thinking underlying sustainability can guide design thinking and offered examples from design history of movements and individuals operating through a sustainability lens, and point to current Design for Sustainability efforts. The Quadruple Bottom Line which is an expansion of the triple bottom line to include cultural dimensions, was explained with the interconnectedness of systems, where social responsibility, as much as economic viability and environmental stewardship, are critical to securing all three of them. Then the confluence of sustainability and design was also explored and proposed that design is merely a subset of sustainable systems. Since design can influence everything around us, perhaps everything around us is also design – and must therefore contribute to a sustainable future.

This chapter is thus a literature review that establishes that sustainability is a crucial concept in design, by developing a nuanced understanding of its concepts, obstacles, and benefits. Through discussing the relationship between sustainability and design, we have laid the groundwork for future discussions of how those ideas are translated into the domains of

interior design and textiles. Table 5 below depicts the key points discussed in Chapter 2 in a concise and organised manner.

Key Concept	Summary
Sustainability	• Evolution of the sustainability concept • Contemporary challenges and issues • Adoption of the Triple Bottom Line Approach Criticisms and challenges of sustainable development
Challenges and Criticisms of Sustainability	• Complexity of sustainability implementation • Criticisms surrounding economic, social, and environmental dimensions.
Integration of Sustainability into Design Practice	• Intrinsic connection between sustainability and design. • Design as a driver of sustainable development. • Exploration of Design for Sustainability principles and applications.
Interrelation between Sustainability and Design	• Historical context of sustainability in design movements • Emergence of Design for Sustainability • Introduction of the Quadruple Bottom Line approach

Table 5: The key points of Chapter 2.

CHAPTER 3

Interior Design and Textiles in the Context of Sustainability

Chapter 3: Interior Design and Textiles in the Context of Sustainability

3.0 Introduction

Interior design, as a multifaceted discipline, plays a pivotal role in shaping the built environment and influencing human experiences within interior spaces (Edwards, 2017). Within the framework of sustainability, the practice of interior design undergoes a transformative shift towards addressing environmental, social, and economic considerations to mitigate negative impacts and enhance overall well-being (Alam and Rahman, 2018). Central to this discourse is the integration of textiles, which are essential components in interior design, contributing to aesthetics, functionality, and comfort. However, the traditional production and usage of textiles have been associated with significant environmental consequences, necessitating a revaluation of practices within the context of sustainability (Shamir, 2019).

The evolution of sustainable interior design practices reflects an increasing awareness of environmental issues and a commitment to responsible design approaches (Brebbia et al., 2019). This chapter aims to explore the intersection of interior design and textiles within the broader context of sustainability. It begins by examining the historical evolution of sustainable design practices within the field of interior design, highlighting key movements and developments that have shaped current perspectives. Subsequently, the chapter delves into the environmental impact of textile production and usage, elucidating the challenges and opportunities for integrating sustainable textiles into interior design practices. Furthermore, it provides insights into the current state of sustainable interior design in the United Kingdom, offering a contextual understanding of the challenges and opportunities within the local industry.

3.1 The Context of Interior Design

3.1.1 Distinction Between Interior Architecture and Interior Design

The terms interior architecture and interior design are often used interchangeably in casual discourse; however, they represent distinct disciplines with differing scopes of practice, educational requirements, and professional focus. Understanding these distinctions is critical for academic, professional, and regulatory purposes, particularly within the UK context.

Professional Organisations' Perspectives: Professional organisations provide a clear delineation between interior architecture and interior design. The International Interior Design Association (IIDA) defines interior design as a discipline focused primarily on the planning and aesthetic enhancement of interior spaces, emphasising the selection and arrangement of furniture, colour schemes, and materials to create functional and visually appealing environments (IIDA, 2021). In contrast, interior architecture is characterised by a more technical approach that includes an understanding of building systems, structural changes, and compliance with building codes, placing it closer to traditional architectural practices (IIDA, 2021).

In the UK, the British Institute of Interior Design (BIID) offers a similar distinction. The BIID describes interior design as encompassing the creative and technical solutions applied within a structure that are functional, enhance the quality of life, and are aesthetically attractive (BIID, 2022). Interior architecture, on the other hand, is defined more broadly as a discipline that integrates interior design with architectural principles, often involving the reconfiguration of interior spaces and the integration of structural and spatial elements (BIID, 2022).

Educational Distinctions: The academic curricula for interior architecture and interior design further illustrate the differences between these two fields. Universities and accreditation bodies such as the Council for Interior Design Accreditation (CIDA) and the National Architectural Accrediting Board (NAAB) often set distinct standards for these programs. Interior design programs typically focus on aesthetics, space planning, and the decorative aspects of interior environments, including courses on colour theory, furniture design, and material selection (CIDA, 2022). Conversely, interior architecture programs

include coursework on structural systems, building codes, and environmental systems, preparing students to make more profound alterations to building interiors (NAAB, 2021).

In the UK, educational institutions also distinguish between the two disciplines. For instance, universities offering degrees in interior architecture, such as the University of Westminster, emphasise a curriculum that includes architectural theory, technical drawing, and construction methods, along with spatial design and sustainability considerations (University of Westminster, 2023). In contrast, interior design programs, such as those offered by the University of the Arts London, focus more on creativity, materials, and space utilisation, with less emphasis on structural changes (University of the Arts London, 2023).

Legal and Regulatory Considerations: In many jurisdictions, the practice of interior architecture requires specific qualifications and licensure, reflecting its closer alignment with architectural practice. For instance, interior architects are often required to pass examinations and obtain licensure akin to architects, especially when their work involves making structural modifications or ensuring compliance with safety regulations (NCIDQ, 2019). This regulatory framework highlights the distinct responsibilities and legal considerations associated with interior architecture compared to interior design, which generally does not require the same level of regulatory oversight.

In the UK, while the title "interior designer" is not legally protected, "interior architect" often implies a level of technical expertise and responsibility similar to that of an architect, particularly when it comes to modifying structural elements. The Chartered Institute of Architectural Technologists (CIAT) and the Architects Registration Board (ARB) set out regulations and requirements for those practising in fields that involve structural design and alterations, thereby reinforcing the distinction between these professions (CIAT, 2023; ARB, 2023).

Industry Practice: The distinction between interior architecture and interior design is also evident in industry job descriptions and roles. Job postings for interior architects frequently demand a strong understanding of building systems, structural design, and collaboration with engineers and architects (Baker and Funaro, 2018). On the other hand, interior design roles emphasise creativity, aesthetic judgment, and expertise in furnishing and decoration, focusing on creating inviting and functional spaces within pre-existing architectural frameworks (Poldma, 2016).

In the UK, the industry practices reflect these differences. Interior architecture roles often involve responsibilities such as working on adaptive reuse projects, ensuring compliance with UK building regulations, and collaborating closely with architects and structural engineers (RIBA, 2023). Conversely, interior designers in the UK are more likely to be involved in the selection of furnishings, colour schemes, and lighting, working within the structural framework provided by architects and builders (BIID, 2022).

Historical Context and Evolution: Historically, interior architecture emerged as a discipline within architecture focused on the structural and functional transformation of interior spaces. This contrasts with the evolution of interior design, which developed as a distinct profession in the 20th century, focusing on the softer elements of design, such as decoration and space aesthetics (Brooker and Weinthal, 2013). The historical separation of these fields is also reflected in the professional titles and qualifications required to practice in each area.

In the UK, the distinction has been shaped by historical trends in architecture and design, with interior architecture being seen as an extension of architectural practice, particularly in the adaptive reuse of historic buildings—a common practice in the UK where heritage and conservation are key concerns (Stamp, 2014). Interior design, by contrast, evolved more directly from the decorative arts, with a focus on the internal environment's aesthetics and user experience (Pevsner, 1976).

Academic and Legal Definitions: In certain legal contexts, the title "Interior Architect" is protected and can only be used by those with the requisite architectural qualifications and licensure. For example, in the UK, the title "Architect" is legally protected under the Architects Act 1997 and can only be used by individuals who are registered with the Architects Registration Board (ARB) (ARB, 2023). While "Interior Architect" is not specifically regulated in the same way, its use generally implies a level of expertise in both architectural and interior design practices, particularly when it involves structural modifications to buildings.

In summary, while interior architecture and interior design share the common goal of optimising interior spaces, but they are distinct disciplines with varying scopes and approaches. Interior architecture is deeply rooted in the structural and technical aspects of buildings, often requiring a background in architecture and adherence to strict regulatory standards. It bridges the gap between interior architecture and interior design by addressing

spatial planning at a foundational level. In contrast, interior design focuses on the aesthetic and functional enhancement of spaces, emphasising decoration, furnishings, and user experience. Interior decoration, while narrower in focus, involves the careful selection and arrangement of furniture, colours, textures, and accessories to enhance a space's aesthetic appeal. Its role, while distinct from the broader focus of interior design, is integral to creating visually harmonious and inviting environments. While often considered a separate discipline, it plays a vital role in complementing both interior design and interior architecture. It brings together all elements to create cohesive and inviting environments, showcasing the harmonious interplay between aesthetics and functionality. Understanding these differences is crucial for professionals, educators, and students within these fields, ensuring clarity in practice, education, and legal compliance, particularly in the context of the UK's regulatory and professional landscape.

3.1.2 Definition of Sustainability in Interior Design

Sustainability in interior design encompasses a multifaceted approach that addresses environmental, social, economic, and, increasingly, spiritual dimensions (Salingaros, 2015; Chapman and Gant, 2016). More practically, though, in the context of interior design, sustainability is fundamentally all about using resources responsibly in ways that provide healthful environments for generations both present and future generations (Reid, 2014).

Environmental Sustainability: There is a growing body of work on environmental sustainability in interior design, which addresses reducing harmful environmental impacts of a space across its lifecycle, from the sourcing and creation of materials for construction through to changing occupant experience and the ultimate disposal of the space (Papargyropoulou et al., 2019). Although starting to gain more traction, what this entails can be daunting at times due to the complexity of the issues surrounding resource efficiency, material sourcing, and waste production (Kennedy, 2017). However, examples include repurposing or adaptive reuse of existing structures/materials, incorporating renewable energy sources as a design feature, as well as passive design features that reduce a space's resource efficiency (Santamouris, 2017).

Social Sustainability: Social sustainability in the context of interior design is related to the topics of an inclusive, healthy, or culturally responsive space that supports human well-

being and social responsibility. This entails issues of accessibility, inclusion and safety and encourages diversity and the social cohesion of communities (Manzini and Tilley, 2012; Rybczynski, 2014). At the forefront of representing social sustainability is the advocacy of interior designers for the principles of universal design and perceptions striving for inclusion of all ages, abilities, and backgrounds (Imrie and Street, 2014).

Economic Sustainability: In the context of interior design, economic sustainability helps to maximise financial resources and promote long-term viability while delivering value to clients and other stakeholders (Janda and Parolini, 2019). This includes concepts such as lifecycle cost analysis, return on investment and support of local economies and industries (Owen et al., 2018). By using tools such as lifecycle assessment and cost-benefit analysis, interior designers can demonstrate the economic benefits of sustainable design practices to clients and decision-makers (Bina et al., 2015).

Spiritual Sustainability: Spiritual Sustainability acknowledges that we are interconnected with the people, places and environments around us and focuses on creating spaces that feed the human soul, or sense of connection, meaning and belonging (Gifford and Nilsson, 2014).This perspective can take many forms, such as biophilic design that attempts to provide psychological benefits of access to nature through bringing nature into the built environment (Kellert et al., 2008). Interior designers may adopt principles of mindfulness, sacred geometry and symbolism that resonate with occupants to make spaces that are calming, inspiring and transcendent (Kane, 2018). By explicitly integrating spirituality into design processes, designers can produce environments that speak to occupants on a deeper level that nurtures the human soul, creating greater use of well-being and sustainability (Creech, 2017).

As a result, sustainable design needs to consider not only physical environments but also social, economic, and spiritual aspects of design, giving priority to relational thinking and inclusive design processes in which the interconnectedness of various physical and social agents is important, in order to ensure harmonious relationships between people and their surroundings, as well as between the natural and built environment, or the ‘home’ (Guerrieri and White, 2018).

The following Table 6 provides a framework for sustainable interior design integrating environmental, social, economic, and spiritual aspects.

Aspect	Description
Environmental Responsibility	- Incorporates practices that minimise environmental impact, such as energy efficiency, waste reduction, and resource conservation (Sev, 2017). - Emphasizes the use of eco-friendly materials and technologies to promote sustainability in interior spaces (Hassan, 2020).
Economic Viability	- Balances economic considerations with sustainability goals, aiming for cost-effective solutions that deliver long-term value (Lynch, 2018). - Supports local economies, fair labour practices, and ethical sourcing of materials to promote economic sustainability (Chen et al., 2020).
Social Equity	- Considers the well-being and comfort of occupants, ensuring inclusivity, accessibility, and health-promoting design features (Montgomery, 2019). - Prioritizes social responsibility and community engagement in design processes, addressing diverse needs and perspectives (Cuff, 2019).
Spiritual Harmony	- Incorporates elements that foster spiritual well-being, such as natural light, biophilic design, and mindful spatial organisation (Alexander et al., 2004). - Aims to create interior environments that resonate with occupants' values, beliefs, and cultural traditions, enhancing their sense of connection and belonging (Kellert et al., 2008).

Table 6: Sustainability in Interior Design.

3.1.3 Historical evolution of sustainable design practices in interior design

The evolution of sustainable design practices in interior design traces back to early efforts by architects and designers to harmonise human habitats with natural systems (Allen, 2014). Pioneers such as Frank Lloyd Wright and Victor Papanek advocated for principles of organic architecture and socially responsible design, laying the foundation for contemporary sustainable design practices (Gissen, 2015).

During the mid-20th century, the environmental movement gained momentum, leading to increased awareness of the ecological impacts of industrialisation and urbanisation (Papanek, 1971). This period witnessed the emergence of sustainable design principles focused on resource efficiency, recycling, and ecological stewardship (Gissen, 2015).

In the late 20th and early 21st centuries, advancements in technology and growing concerns about climate change further propelled the adoption of sustainable design practices in interior design (Cole, 2016). Concepts such as green building certification systems and life cycle assessment became integral to the design process, driving innovation in sustainable materials and building techniques (Allen, 2014).

Today, sustainable interior design continues to evolve in response to shifting societal values, regulatory frameworks, and technological advancements (Hua et al., 2019). Designers increasingly embrace principles of resilience, adaptability, and social responsibility, aiming to create spaces that are not only environmentally sustainable but also culturally and economically vibrant (Walker, 2014; Gissen, 2015).

3.1.4 Current Perspectives on Interior Design and Sustainability

Moxon (2012, 6) was one of the designers to declare that "it is time for change in the field of interior design". Similar to many others, such as Rashdan and Ashour (2017) the point of departure of the insistence on the necessity of change in the practice is climate change. According to Hayles (2015), sustainability in the field of interior design has already become a major issue in practice. However, she also states that there are not many cases where interior designers make a sustainable choice while putting their plans into practice. This particularly relates to the use of sustainable materials. She also adds that the traditional concern of interior designers has been one-dimensional; the aesthetic nature of the interior space. Kang and Guerin (2009, 179) argued that "although interior designers acknowledge the importance of environmentally sustainable design, its application to interior design projects did not reach the same level as its perceived importance".

Hayles (2015) also argues that there has recently been a shift in interior design as designers started to focus on the creation of sustainable and healthy living and work environments. For Rashdan and Ashour (2017), the issue of the concern for sustainability in

interior design is due to the fact that the practice of design requires extensive amounts of resources. For this reason, they define sustainable interior design as “the rationalisation of natural resources used in a manner that sensibly addresses the impact of all design aspects on the environment” (Rashdan and Ashour, 2017, 311). The authors also indicate that in spite of the increase in research on sustainable design, the criteria for sustainability in interior design, or principles, have not been addressed. This is said to be the current situation of interior design practice many years after Stieg (2006) explained that academia has made every effort to prepare interior designers to take on the responsibility of creating sustainable interior design.

Ayalp (2013) indicated that the issue of sustainability in interior design is as complex and multifaceted as the disciplines of knowledge that surround and are integral to it. The issue of sustainability comes with cultural, social, economic, environmental and even spiritual dimensions (Walker, 2019). However, both Ayalp (2013) and Dell’Isola et al. (2016) also demonstrate that one of the most important features of this whole context of knowledge is its fragmentation and abundance of false dichotomies. Meade (2013) agrees that “disciplines cannot exist in isolation from one another or from global developments”.

The solution offered by educators such as DeKay (1996) relates to systems thinking for interior design, in which there is no place for artificial fragmentation but a continuum between every discipline. This process in which barriers between different streams of knowledge and, hence, disciplines seem to wither away or are irrelevant is also applicable to the relationship between interior design and architecture or the whole process of design. Accordingly, Reham and Eldin (2017, p. 1) underline that “interior design must not be viewed as a separate discipline but has to be an integral part of the comprehensive design process of a building”. A similar continuity is also in question in the context of art, craft, interior design and human psychology (Day, 2004). For instance, Levine (1987, pp. 250-251), who talks about the promise of a more meaningful lifestyle through art, indicates that there is a very thin line between the philosophy behind the idea of whole system thinking or non-dichotomous thinking and occupational therapy. Similarly, Avital (1992, p. 4), who draws attention to art and design, defends that despite the fact that the distinctions that belong to the domains of “art and design are presented as polar contrasts, further analysis shows that all the contrasting pairs of attributes are actually complementary pairs. The relationship between the two domains is, therefore, more like a yin-yang rather than a dichotomy”.

The idea of complementarity or smooth continuum also relates to the recent views on the relationship between humans and nature. According to Caillon et al. (2017), nature and human well-being are often regarded as polar opposites. The main reason for this is that nature is regarded as distinct from culture as a result of which focus is either on the humans or ecosystems while disregarding the interaction between the two.

Perolini (2011, p. 165) demonstrates the way in which the issue with dichotomisation also affects the identity of the interior design industry, as the profession is "associated with decoration rather than design". Moreover, the profession is also regarded as "feminine, superficial and mimetic in comparison to male, rational and original architecture".

This wide spectrum of philosophical ideas, which are regarded as new ways of thinking, has been alluded to by some of the speakers at the 2019 Innovation Conference, which considers the changing nature of the practice. Becky Wang, the CEO of Crossbeat NYC, recognised Generation Z and the Millennials as the "proponents of sustainability", who "embrace compassion for all living things as a value" following a "heartfelt path that leads...to embrace sustainability as a non-negotiable value", whilst, in agreement with Wang, Cheryl Heller of Design for Social Innovation, discussed that "we have to look around to realise that the world is on fire. Business as usual is over" (Interior Design, 6 February 2019).

Piotrowski (2014, p. 44) points out that "the expectations and demands for ethical professional behaviour in interior design increase as our world continues to become more complex". Ethical standards in the field of interior design are defined and enforced by codes of ethics prepared by professional associations. However, it is believed that a code of ethics does not automatically lead to ethical behaviour. For Piotrowski (2014, p. 45), "ethical behaviour must come from individual designers themselves in their daily dealings with clients, peers, the public and allied professionals".

Indicating the lack of established ethical standards, Thorpe (2007, p. 190) states that it is sustainability that demonstrates to us the economic, cultural and ecological aspects of design that have not been recognised before. More importantly, Thorpe believes that "in particular, the agenda of the marketplace, of economic growth, colours many of the opportunities and challenges for sustainable design". For this reason, the author questions the ways in which design can be separated from the growth engines of the industrial economy. However, she indicates that the problem is that "as long as we continue to view design

primarily as a tool of the market, we will have trouble envisioning how to decouple it from economic growth" (Thorpe, 2007, pp. 190-191).

Quinn (2019, p. 461) takes this line of questioning even further by arguing that the way in which the modus operandi of interior design is affected by the existing socio-economic system is exactly as it has been described by Victor Papanek, who believed that interior design is dominated by the "hegemony of bourgeois taste" and "that bourgeois taste offers a humanist idealism that has concealed its peculiarity and its historical uniqueness under its normalising agency". It is stated that this hidden power of design places restrictions on an individual's free choice by way of the distinction between self-management, which coincides with good taste, and self-indulgence, which relates to bad taste. It is also believed that this normalising agency remained intact due to the fact that it is "embedded within commercial society and economic life" (Quinn, 2019, p. 462).

Papanek (1985, p. 52) also says that under the conditions of this economic life, "no longer does the artist, craftsman, or in some cases, the designer, operate with the good of the consumer in mind". Thanks to the "processes and endless list of new materials", the designer suffers under the pressure of "the tyranny of absolute choice". The situation becomes a "never-ending search for novelty" for the designer and newness for the sake of newness for the consumer.

3.1.5 Sustainable Decision-Making in Interior Design

Sustainability permeates the fabric of contemporary interior design, embracing multifaceted considerations encompassing material choices, energy utilisation, and waste management (Smith et al., 2019). It epitomises a conscientious endeavour to harmonise environmental, social, and economic imperatives throughout the design process (Jones and Johnson, 2020). This segment delves into the myriad factors that impinge upon sustainable decision-making in interior design, elucidating the methodologies and strategies adopted by designers to embed sustainability within their projects.

3.1.5.1 Factors Influencing Sustainable Decision-Making

Sustainable decision-making in interior design is influenced by a multitude of factors that encompass environmental, social, economic, and regulatory considerations. Designers must navigate these complexities to create spaces that not only meet functional and aesthetic requirements but also uphold principles of sustainability (Smith et al., 2019).

Environmental Impact: Designers conduct rigorous assessments to evaluate the environmental impact of materials and products used in interior design projects. This assessment encompasses considerations such as resource depletion, carbon emissions, and waste generation (Guerin and Kumar, 2018). The aim is to prioritise materials and products with lower environmental footprints, thus reducing the overall ecological impact of the design (Ryan and Brown, 2021).

Resource Efficiency: Maximizing resource efficiency is fundamental to sustainable decision-making. Designers aim to optimise the use of resources throughout the project lifecycle, minimising consumption and waste generation (Perez and Turner, 2017). This involves careful selection of materials, as well as the implementation of strategies to reduce resource consumption and enhance resource utilisation (Smith and Johnson, 2020).

Health and Well-being: Considerations for occupant health and well-being play a crucial role in sustainable decision-making. Designers prioritise the selection of materials and products that contribute to indoor air quality, mitigate exposure to toxins, and create healthy living environments (Ngo et al., 2020). This ensures that the spaces they design promote the well-being of occupants while also aligning with sustainability goals.

Social Responsibility: Sustainable decision-making in interior design also encompasses social responsibility considerations. Designers are mindful of ethical labour practices, community engagement, and accessibility (Wilkinson and Reed, 2019). By incorporating these considerations into their design decisions, designers contribute to creating spaces that are inclusive, equitable, and socially responsible.

Regulatory Compliance : Compliance with regulatory requirements and building codes is imperative in sustainable decision-making. Designers ensure that their projects meet or exceed applicable standards for environmental performance and safety (Brown and Harris, 2018). This ensures that the designs they create are not only sustainable but also legally compliant.

Lifecycle Assessment : Lifecycle assessment is a key tool used by designers to evaluate the environmental impact of materials and products throughout their lifecycle. This assessment helps designers identify opportunities for improvement and inform decision-making processes (Reza and Mohareb, 2022). By conducting comprehensive lifecycle assessments, designers can make more informed choices that contribute to sustainability objectives.

Client Preferences: Client aspirations significantly shape sustainable decision-making endeavours. Designers collaborate closely with clients to discern their values, aspirations, and sustainability objectives, tailoring design solutions to align with their specific requisites (Lai and Lee, 2018).

Cost Considerations: Fiscal constraints invariably exert an influence on sustainable decision-making. Designers navigate budgetary exigencies, striving to reconcile sustainability imperatives with economic viability (Smith and Johnson, 2020).

In summary, sustainable decision-making in interior design is influenced by a range of factors that encompass environmental, social, economic, and regulatory considerations. By navigating these complexities and incorporating sustainability principles into their design decisions, designers can create spaces that are not only aesthetically pleasing and functional but also environmentally responsible and socially equitable. Table 7 below provides a succinct overview of the key findings related to factors influencing sustainable decision-making in interior design, as derived from the literature.

Factors Influencing Sustainable Decision-Making	Key Findings
Resource Efficiency	- Maximization of resource utilisation and minimisation of waste generation throughout the project lifecycle (Perez and Turner, 2017).
Health and Well-being	- Prioritization of materials and products conducive to enhancing indoor air quality and fostering healthy living environments (Ngo et al., 2020).
Social Responsibility	- Embrace of ethical labour practices, community engagement, and accessibility (Wilkinson and Reed, 2019).
Regulatory Compliance	- Adherence to prevailing standards for environmental performance and safety (Brown and Harris, 2018).
Lifecycle Assessment	- Evaluation of environmental impact throughout the lifecycle of materials and products (Reza and Mohareb, 2022).

Table 7: The key findings related to factors influencing sustainable decision-making in interior design.

3.1.5.2 Methods and Approaches for Sustainable Design

In the pursuit of sustainable interior design, designers employ a variety of methodologies and approaches to integrate principles of sustainability into their projects. These methods encompass material selection, energy efficiency strategies, water conservation techniques, waste reduction initiatives, biophilic design principles, Life Cycle Assessment, and collaborative design processes. This section delves into each of these methods and approaches, highlighting their significance in fostering sustainability within the realm of interior design.

Material Selection : A pivotal aspect of sustainable design involves the careful selection of materials with low environmental impact. Designers prioritise materials that are recycled, recyclable, renewable, and non-toxic (Taylor and Smith, 2019). By opting for eco-

friendly alternatives, designers can minimise the environmental footprint of their projects and contribute to resource conservation efforts.

Energy Efficiency: Energy-efficient design strategies play a crucial role in reducing the environmental impact of interior design projects. Designers incorporate passive solar design principles, maximise natural daylighting, and implement energy-efficient HVAC systems to minimise energy consumption and greenhouse gas emissions (Jones et al., 2021). These strategies not only reduce operational costs but also enhance occupant comfort and well-being.

Water Conservation: Water conservation is another key consideration in sustainable interior design. Designers integrate water-efficient fixtures, employ rainwater harvesting systems, and advocate for greywater recycling to minimise water consumption (Kumar and Brown, 2019). By prioritising water conservation measures, designers contribute to the preservation of water resources and promote environmental sustainability.

Waste Reduction and Recycling: Minimizing waste generation and promoting recycling are fundamental principles of sustainable design. Designers implement strategies to reduce construction waste, reuse materials, and recycle resources (Lopez and Perez, 2018). By adopting waste reduction and recycling initiatives, designers mitigate the environmental impact of their projects and promote the circular economy.

Biophilic Design: Biophilic design seeks to foster a connection with nature within the built environment. Designers integrate natural elements such as daylight, views of nature, greenery, and natural materials to enhance occupant well-being and productivity (Chang et al., 2020). By incorporating biophilic design principles, designers create spaces that promote mental and physical health while also fostering environmental stewardship.

Life Cycle Assessment (LCA): LCA is a comprehensive tool used by designers to assess the environmental impact of materials and products throughout their lifecycle. Designers conduct life cycle assessments to identify opportunities for improvement and inform decision-making processes (White and Green, 2021). By conducting thorough life cycle analyses, designers can make informed choices that optimise sustainability performance.

Collaborative Design Process: Collaboration and interdisciplinary teamwork are essential for achieving sustainability objectives in interior design. Designers collaborate with architects, engineers, consultants, suppliers, and stakeholders to integrate sustainability

principles seamlessly throughout the design process (Gomez and Martinez, 2022). By fostering collaboration, designers can leverage collective expertise to create innovative and sustainable design solutions.

In summary, sustainable interior design encompasses a range of methods and approaches aimed at minimising environmental impact, conserving resources, and promoting occupant well-being. By employing these methodologies and approaches, designers can create spaces that are not only aesthetically pleasing and functional but also environmentally responsible and socially equitable. The following Table 8 provides a concise overview of the key findings related to methods and approaches for sustainable design in interior design.

Methods and Approaches for Sustainable Design	Key Findings
Material Selection	- Prioritization of materials that are recycled, recyclable, renewable, and non-toxic (Taylor and Smith, 2019).
Energy Efficiency	- Incorporation of passive solar design, natural daylighting, and energy-efficient HVAC systems to minimise energy consumption (Jones et al., 2021).
Water Conservation	- Integration of water-efficient fixtures, rainwater harvesting systems, and greywater recycling to minimise water consumption (Kumar and Brown, 2019).
Waste Reduction and Recycling	- Implementation of strategies to reduce construction waste, reuse materials, and promote recycling (Lopez and Perez, 2018).
Biophilic Design	- Incorporation of natural elements such as daylight, views of nature, greenery, and natural materials to enhance occupant well-being (Chang et al., 2020).
Life Cycle Analysis	- Use of life cycle assessments to evaluate the environmental impact of materials and products throughout their lifecycle (White and Green, 2021).
Collaborative Design Process	- Engagement in interdisciplinary collaboration to integrate sustainability principles throughout the design process (Gomez and Martinez, 2022).

Table 8:Overview of the key findings related to methods and approaches for sustainable design in interior design.

3.1.6 Integration of Sustainability into Interior Design Practice

Applying sustainability within interior design practice is critical to create environmentally friendly, socially equitable, and financially viable built environments, as well as spiritually harmony (Kellert et al., 2008; Fischer and Reimers, 2020). This section discusses the integration of sustainability into the practice of interior design and how interior designers incorporate sustainability into their practice across different stages of the interior design process.

Pre-design Phase:

At pre-design stage, interior designers conduct research, analyse client needs and define project goals and objectives. Sustainable design principles can be integrated at that point by:

- Client Engagement: Asking clients to talk about what aspects of sustainability are important to them and what trade-offs they are willing to make and/or not willing to make, and educating them about the environmental and social benefits of various sustainable design solutions (Drew and Ferraro, 2019).
- Site Analysis: Investigating site specifics through detailed site analysis, so as to find opportunities for passive design strategies to maximise daylighting, optimise ventilation, and minimise heat gain (Gauthier and Grimmond, 2016).

Design Development:

In the design-development phase of the project, the interior designer develops the conceptual ideas into design solutions to which sustainable principles can be further integrated, namely:

- Material Selection: Prioritise materials with minimal or reduced environmental impacts that are sustainable, such as those with recycled content, low-VOC (volatile organic compound) materials, and rapidly renewable resources (Fowler, 2015).
- Energy Efficiency: Using energy-efficient lighting systems, HVAC (heating, ventilation, and air conditioning) systems, and appliances to reduce energy consumption and carbon emissions (Manzini and Vezzoli, 2002).

- Water Conservation: Implementing water-efficient technologies; for instance, utilise water-conserving fittings and fixtures such as low-flow toilets, shower heads and faucets, irrigation valves and controllers and low-flow drip and sprinklers to minimise water usage and encourage water saving (Walker et al., 2008).

Construction Phase:

In the construction phase, interior designers supervise the implementation of the design solutions and ensure that sustainability is followed throughout the process. Integration of sustainability principles in this phase of design includes:

- Waste management: Keeping construction waste to a minimum by recycling, salvaging and disposing of waste appropriately (Tischner and Charter, 2001).
- Green Building Certifications: Obtaining green building certifications, such as LEED (Leadership in Energy and Environmental Design) or BREEAM (Building Research Establishment Environmental Assessment Method), to validate the sustainable performance of interior design projects (Bordass and Leaman, 2005).

Post-occupancy Phase:

In this phase, the interior designer assesses the efficacy of the design solutions and feedback from users. At this stage, incorporating the sustainability implies:

- Occupant Comfort and Satisfaction: Performing post-occupancy evaluations to examine the effectiveness, satisfaction and wellness for occupants of a building that would allow sustainable design solutions to meet user needs and preferences (Fischer and Reimers, 2020).
- Lifecycle Analysis: Conducting lifecycle assessments to reduce the environmental impacts of interior design interventions throughout their lifecycle from raw materials extraction to end-of-life disposal (Gauthier and Grimmond, 2016).

Sustainability integration requires a systemic implementation starting in pre-design and continuing through the post-occupancy phases. It is a material, technical and cognitive

change that requires interior designers to incorporate sustainability in all their decision procedures and design options. Integration of sustainability values could foster a healthy, resilient, and low environmental impact-built environments. The following Table 9 illustrates the integration of sustainability into the practice of interior design throughout different stages of the design process.

Design Phase	Sustainability Integration
Pre-design Phase	• Client Engagement: Discussing sustainability goals with clients and educating them about benefits. • Site Analysis: Identifying opportunities for passive design strategies.
Design Development	• Material Selection: Prioritizing environmentally friendly materials. • Energy Efficiency: Incorporating energy-efficient systems. • Water Conservation: Implementing water-saving fixtures.
Construction Phase	• Waste Management: Implementing waste reduction strategies. • Green Building Certifications: Pursuing sustainable building certifications.
Post-occupancy Phase	• Occupant Comfort: Evaluating user satisfaction with sustainable design. • Lifecycle Analysis: Assessing environmental impacts over the lifecycle of design interventions.

Table 9: Integration of Sustainability into Interior Design Practice.

3.2 Current Context of the Textile Industry

Textiles are an essential part of a contemporary interior and have a significant influence on interior sustainability. This second part of Chapter 3 is going to illustrate the environmental impact of textile production, which will be followed by presenting the materials and technologies, applicable for textile sustainability, and state the usage of textiles in the concept of sustainable interior.

3.2.1 Environmental Impact of Textile Production

Textiles have always been associated for their significant environmental imprints in terms of overconsumption of resources, pollution, and greenhouse gas emissions (Fletcher and Tham, 2019). Conventional textile production processes of textiles have often involved the use of toxic chemicals along with massive consumption of water and energy, generating an immense amount of waste and environmental degradation as a result. Social implications are no stranger to the inevitable consequences of those unsustainable textile production strategies as well (Fletcher, 2012). Moreover, due to the linear 'take-make-dispose' model of the textile industry, there is a contribution to waste and a build-up of landfills, a driver for environmental problems (Thompson et al., 2009).

Textile production is a pillar of the modern global economy, and it is an incredibly resource-intensive process that uses non-renewable materials throughout the process (Thompson et al., 2009). This process has a deep and multifaceted impact on the environmental commons by using natural resources and generating pollution and waste. This section outlines the environmental footprint of textile production by addressing resource extraction, pollution, and waste.

- **Resource Consumption**

Notably, textile production is highly resource-intensive, as it requires large quantities of water, energy and raw materials. The cultivation of natural fibres from plants or animals, such as cotton, relies on an excessive amount of water and agrochemicals to international water scarcity and pollution (Mekonnen and Hoekstra, 2010). Additionally, the extraction of synthetic fibres, such as polyester and nylon, also consumes fossil fuels and petrochemicals, which release carbon emissions into the atmosphere and pollute the environment (McKinsey and Company, 2021). As a result, the heavy exploitation of resources in textile production increases the pressure on ecosystems, thereby aggravating environmental deterioration.

- **Pollution**

Textile production uses a wide range of raw materials and various manufacturing processes that inevitably induce the occurrence of different types of pollution: water pollution, air pollution and soil contamination, among others. The dyeing and finishing of textiles relies on a large number of chemicals, including toxic dyes, bleaching agents, finishes and others that are often released untreated into water bodies and freshwater ecosystems, contaminating source waters for use in homes, industry and agriculture (Slavov et al., 2018). The combustion of fossil fuels in textile factories adds to the air pollution and climate change problems, as these pollute the air with particles such as fine particulate matter, volatile organic compounds (VOCs) and greenhouse gases (Xie et al., 2020). The multitude of sources of pollution accumulate in the environment and represent a hazard both to human health and to biodiversity.

- **Waste Generation**

Textile production generates large volumes of waste at each stage of its supply chain, from the extraction and processing of fibres to the manufacturing and finishing processes and consumer disposal. Waste streams in textile production include unused fabric scraps (skips), off-cuts and byproducts of manufacturing processes that end up in landfills or incinerators depriving invaluable resources for nature's detoxification systems, generating plastic microfibres and carbon emissions (e.g., from incinerators), and ocean and land pollution (CIRFS, 2020). Furthermore, waste is generated by perpetuating the unsustainable linear 'take-make-dispose' model that lies at the heart of economies and production as well as overproduction and throwaway consumer culture (Fletcher, 2014). The profusion of textile waste poses problems as part of waste-management practices and recycling programmes, stressing the need for more sustainable practices in the textile industry.

3.2.2 Clarification of the Scope and Meaning of Sustainable Textiles within Interior Design

The term sustainable textiles within the context of interior design refers to fabrics and materials used in interior spaces that are selected, produced, and utilised in ways that minimise environmental impact and promote social responsibility throughout their lifecycle. The integration of sustainable textiles into interior design is a critical component of

sustainable interior practices, reflecting a commitment to ecological stewardship, human health, and ethical production standards.

Environmental Considerations

Sustainable textiles are those that reduce negative environmental impacts across their entire lifecycle, from raw material extraction to production, usage, and end-of-life disposal. This includes the use of organic or renewable fibres such as organic cotton, hemp, or bamboo, which are grown without harmful pesticides and fertilisers, thereby reducing soil degradation and water pollution (Fletcher, 2008). Additionally, sustainable textiles often include recycled materials, such as polyester made from recycled plastic bottles, which help reduce waste and lower the carbon footprint of manufacturing processes (Gwilt, 2014).

Moreover, the environmental impact of textiles extends to the processes used to dye, finish, and treat fabrics. Sustainable textiles employ eco-friendly dyes, such as natural or low-impact synthetic dyes, which reduce water and chemical use and minimise toxic runoff into waterways (Myers and Hansen, 2015). The focus is also on reducing water and energy consumption during manufacturing and promoting circularity through the potential for recycling or biodegradation at the end of the product's life.

Social and Ethical Considerations

Sustainable textiles also encompass social and ethical dimensions, particularly concerning the conditions under which they are produced. Ethical production involves ensuring fair wages, safe working conditions, and the avoidance of exploitative labour practices in the textile industry (Ross, 2016). Certifications such as Fair Trade, Global Organic Textile Standard (GOTS), and OEKO-TEX Standard 100 provide assurances that textiles meet specific social and environmental criteria, making them more suitable for inclusion in sustainable interior design projects (Black, 2012).

Incorporating sustainable textiles into interior design also involves making informed choices about the supply chain and the origins of materials. This requires designers to consider the transparency of textile sourcing, the environmental footprint of transportation, and the impact of production on local communities. By prioritising suppliers who adhere to sustainable and ethical practices, interior designers can contribute to the promotion of more responsible and fair textile industries globally.

Health and Well-being Considerations

An essential aspect of sustainable textiles within interior design is their contribution to indoor environmental quality and human health. Many conventional textiles are treated with chemicals such as flame retardants, formaldehyde, or volatile organic compounds (VOCs), which can off-gas harmful pollutants into the indoor environment (Stein and Reineke, 2018). Sustainable textiles, by contrast, aim to reduce or eliminate the use of these harmful substances, thereby improving indoor air quality and promoting the health and well-being of the occupants.

The use of natural fibres, non-toxic dyes, and finishes in sustainable textiles also aligns with the principles of creating healthier interior environments. These materials contribute to creating spaces that are not only environmentally responsible but also safer and more comfortable for people to live and work in.

Application in Interior Design

In the practice of interior design, sustainable textiles are used in a variety of applications, including upholstery, drapery, carpets, wall coverings, and soft furnishings. Designers incorporate these materials to enhance the aesthetic and functional qualities of a space while aligning with sustainability goals. The choice of sustainable textiles is often driven by considerations of durability, aesthetic compatibility, and lifecycle impacts, ensuring that the materials selected contribute positively to the overall sustainability of the design project (Hethorn and Ulasewicz, 2008).

Sustainable textiles are not merely alternatives to conventional materials; they represent a fundamental shift in design thinking, where the environmental and social impacts of material choices are given equal weight to aesthetic and functional considerations. This holistic approach to material selection ensures that interior design contributes to broader sustainability objectives, such as reducing resource consumption, mitigating climate change, and promoting social responsibility.

The scope of sustainable textiles within interior design encompasses environmental, social, and health-related considerations, all of which are integral to the practice of sustainable interior design. By prioritising sustainable textiles, designers play a crucial role in promoting responsible production practices, reducing environmental impacts, and enhancing the well-being of building occupants. This commitment to

sustainability in material selection reflects a broader ethical responsibility to create interiors that are not only aesthetic and functional but also contribute to a more sustainable and equitable world.

3.2.3 Role of Certifications in Textile Decision-Making

Certifications play a crucial role in guiding textile decision-making processes by providing designers with transparent and verifiable information about the sustainability credentials of textiles (Hassan, 2017). These certifications serve as reliable indicators of environmental responsibility, social equity, and product safety, empowering designers to make informed choices that align with sustainability objectives (Tang and Tang, 2015).

- **Assurance of Sustainability Standards**

Certifications such as the Global Organic Textile Standard (GOTS) and OEKO-TEX Standard 100 provide designers with the assurance that textiles meet stringent sustainability standards (Hassan, 2015). GOTS certification ensures that textiles are made from organic fibres sourced from certified organic agriculture and manufactured using environmentally friendly processes, while OEKO-TEX certification verifies the absence of harmful substances in textile products (Hassan, 2017). By selecting certified textiles, designers can be confident that their material choices adhere to recognised sustainability criteria, promoting environmental stewardship and responsible consumption practices.

- **Transparency and Accountability**

Certifications enhance transparency and accountability within the textile industry by providing clear and standardised criteria for evaluating sustainability performance (Tang and Tang, 2015). Certification schemes require textile manufacturers to undergo rigorous testing and assessment processes to verify compliance with sustainability standards, ensuring transparency in production practices and product labelling (Hassan, 2017). By obtaining certifications, manufacturers demonstrate their commitment to sustainability and ethical production, fostering trust and accountability throughout the supply chain (Hassan, 2015). Designers can rely on certified textiles as credible and trustworthy options, mitigating the risk of greenwashing and false sustainability claims.

- **Facilitation of Informed Decision-Making**

Certifications facilitate informed decision-making by providing designers with reliable information and guidance on sustainable textile options (Tang and Tang, 2015). Certified textiles undergo comprehensive evaluation and testing processes to assess their environmental and social performance, allowing designers to compare products based on standardised criteria (Hassan, 2017). By consulting certification databases and labels, designers can easily identify certified textiles that meet their project requirements and sustainability preferences (Hassan, 2015). Certifications thus serve as valuable tools for navigating the complex landscape of sustainable textile choices and making informed decisions that promote sustainability objectives.

In summary, certifications play a crucial role in textile decision-making processes by providing assurance of sustainability standards, enhancing transparency and accountability, and facilitating informed decision-making within the interior design industry.

3.2.4 Integration of Textiles in Sustainable Interior Design

The integration of textiles in interior design has a profound influence on the ambience, functionality, and sustainability of indoor spaces (Ryu and Kang, 2017). Textiles are ubiquitous in interior design and used for upholstery, curtains, rugs, and other furnishings, contributing to the overall aesthetic appeal and comfort of a space (Karana et al., 2018). However, the conventional production processes of textiles often involve significant environmental degradation, including water pollution, chemical usage, and energy consumption (Fletcher and Tham, 2019). In response to growing environmental concerns, there has been a paradigm shift towards sustainable interior design practices, emphasising the use of eco-friendly materials and processes (Baek and Jang, 2020).

In recent years, there has been a growing emphasis on sustainable textile manufacturing practices aimed at reducing environmental impact and promoting social responsibility (Prajapati et al., 2020). Several innovations have emerged to address the environmental challenges associated with conventional textile production. These include the use of organic and recycled materials, the adoption of water-saving dyeing techniques, the implementation of renewable energy sources, and the implementation of closed-loop systems for waste management (Liu et al., 2019). Furthermore, certifications such as Global Organic

Textile Standard (GOTS) and Oeko-Tex Standard 100 ensure the eco-friendly and socially responsible production of textiles, providing consumers with assurance of product integrity (Muthu et al., 2016). These emerging trends signify a shift towards more sustainable practices within the textile industry, aligning with the principles of sustainable interior design.

Additionally, strategies for integrating sustainable textiles into interior spaces necessitate a multifaceted approach that considers material selection, manufacturing processes, and end-of-life disposal (Prajapati et al., 2020). Designers should meticulously choose textiles composed of organic or recycled materials, prioritising those certified by reputable eco-labels (Taleb et al., 2021). Additionally, the design should incorporate considerations for disassembly, ensuring that textiles are easily separable and recyclable at the end of their lifecycle, thus promoting circularity and resource efficiency (Klein et al., 2019). Collaboration with manufacturers committed to sustainable practices and transparent supply chains is imperative to ensure the eco-friendliness of selected materials (Zhu et al., 2020). Furthermore, education and awareness initiatives should be employed to enlighten clients and stakeholders about the benefits of sustainable textiles and to encourage their adoption in interior design projects (Li et al., 2018). Conducting lifecycle assessments is essential to comprehensively evaluate the environmental impact of textile choices throughout their entire lifecycle, from production to disposal (Bocken et al., 2017).

The integration of sustainable textiles in interior design presents an opportunity to mitigate the environmental impact of textile production while creating aesthetically pleasing and functional spaces. By adopting eco-friendly materials and practices, designers can contribute to a more sustainable built environment and promote the well-being of occupants. However, achieving widespread adoption of sustainable textiles requires collaboration among designers, manufacturers, policymakers, and consumers to overcome existing challenges and barriers. Through continued innovation, education, and advocacy, the integration of sustainable textiles in interior design can become the norm rather than the exception, leading to positive environmental and social outcomes.

3.3 The Context of the United Kingdom

3.3.1 Current State of Sustainable Interior Design in the UK

The United Kingdom (UK) has witnessed significant advancements in sustainable interior design practices in recent years, driven by a combination of regulatory initiatives, market trends, and increasing consumer awareness of environmental issues. The current state of sustainable interior design in the UK reflects a growing commitment to integrating sustainability principles into design practices across various sectors (Alfaro, 2019).

The UK government has implemented several regulatory measures aimed at promoting sustainability within the built environment. Building regulations require new construction and renovation projects to adhere to energy efficiency standards, such as the Building Regulations Part L, which set requirements for thermal performance and energy conservation in buildings (Baillie and Loughlin, 2019). Additionally, environmental certifications, such as BREEAM (Building Research Establishment Environmental Assessment Method), incentivise sustainable building practices and provide a framework for assessing and certifying the environmental performance of buildings (Gibson, 2019).

Industry organisations and certification programs play a crucial role in advancing sustainable interior design practices in the UK. The UK Green Building Council (UKGBC) promotes sustainable building practices and provides guidance and resources for architects, designers, and developers seeking to incorporate sustainability into their projects (McQuillan, 2020). Furthermore, certification programs such as LEED (Leadership in Energy and Environmental Design) and WELL Building Standard offer frameworks for evaluating and certifying the sustainability and wellness attributes of interior spaces (Pirasteh, 2018).

Increasing consumer awareness of environmental issues and a growing demand for sustainable products and services have propelled sustainability to the forefront of interior design practice in the UK. Consumers are increasingly seeking eco-friendly and ethically produced interior products, driving market demand for sustainable materials, furnishings, and finishes (Stone, 2019). Designers and manufacturers are responding to this demand by offering a wide range of sustainable interior products and solutions, from recycled materials and low-VOC paints to energy-efficient lighting and smart home technologies (Koskela and Vinnere Pettersson, 2018).

Design education and professional development programs in the UK are increasingly integrating sustainability into their curricula and training initiatives. Design schools and professional organisations offer courses, workshops, and certifications focused on sustainable design principles, equipping designers with the knowledge and skills needed to integrate sustainability into their practice (Fairs, 2021).

In summary, the current state of sustainable interior design in the UK reflects a multifaceted landscape characterised by regulatory initiatives, industry efforts, consumer demand, and educational initiatives aimed at promoting sustainability within the built environment. While significant progress has been made, there remains ample room for further advancements and innovation in sustainable interior design practices.

3.3.2 Overview of the Textile Industry in the United Kingdom

The United Kingdom (UK) boasts a robust textile industry with significant relevance to interior design, characterised by its historical legacy, innovation, and diverse product offerings. Within the realm of interior design, textiles play a pivotal role in shaping the aesthetic, functionality, and sustainability of built environments (Green, 2019). The UK textile industry encompasses various segments, including manufacturing, design, retail, and research, contributing substantially to the country's economy and cultural landscape (UK Textile Assoc).

Historically, the UK textile industry has been renowned for its craftsmanship, quality, and innovation in producing textiles for interior applications such as upholstery, curtains, carpets, and soft furnishings. These textile products have adorned homes, offices, hospitality spaces, and public institutions, reflecting the UK's rich textile heritage and design tradition (Jones, 2018).

Despite facing challenges such as offshore competition and changing consumer preferences, the UK textile sector has adapted to evolving market dynamics and technological advancements. Today, it remains at the forefront of textile innovation, with a focus on sustainability and environmental stewardship (Brown, 2016). Manufacturers and designers are increasingly exploring sustainable materials, processes, and production methods to meet the growing demand for eco-friendly interior textiles (Adams, 2021).

Initiatives such as the Sustainable Clothing Action Plan (SCAP) and the Textiles 2030 Vision underscore the industry's commitment to sustainability, fostering collaboration between stakeholders to drive positive environmental and social impacts (UK Textile Assoc). Moreover, advancements in digital printing, smart textiles, and circular design principles are shaping the future of the UK textile industry, offering new opportunities for innovation and growth (Evans, 2019). The UK textile industry is, overall, in a vital role in supplying high-quality, innovative textiles for interior design applications. Despite challenges, it continues to evolve and adapt, driven by a commitment to excellence, sustainability, and design innovation within the built environment.

3.4 Chapter Conclusion

The examination of interior design and textiles (within the framework of sustainability underscores the complex interplay between environmental responsibility, aesthetic considerations, and functional requirements. Throughout history, the evolution of sustainable design practices within the interior design discipline has demonstrated a gradual but significant shift towards incorporating environmental consciousness into design decisions (Edwards, 2017). This evolution has been driven by a growing recognition of the environmental impacts associated with traditional design practices and a heightened awareness of the need for more sustainable alternatives (Alam and Rahman, 2018).

The environmental impact of textile production and usage presents both challenges and opportunities for sustainable interior design. While conventional textile manufacturing processes contribute to resource depletion, pollution, and waste generation, the adoption of sustainable textiles offers the potential to mitigate these negative effects (Shamir, 2019). Sustainable textiles, characterised by eco-friendly materials, production methods, and end-of-life considerations, represent a crucial aspect of sustainable interior design practices (Brebbia et al., 2019). Furthermore, the current state of sustainable interior design in the United Kingdom reflects ongoing efforts to integrate sustainability principles into design processes and decision-making frameworks. However, challenges such as limited awareness, resource constraints, and regulatory barriers persist, highlighting the need for continued collaboration and innovation within the industry (Alam and Rahman, 2018).

In light of these insights, future research endeavours should focus on exploring innovative solutions and best practices for integrating sustainable textiles into interior design projects. Additionally, efforts to raise awareness, foster collaboration, and advocate for supportive policies will be instrumental in advancing the adoption of sustainable interior design practices on a broader scale (Brebbia et al., 2019).

CHAPTER 4

Key Findings of the Literature: Final Considerations

Chapter 4: Key Findings of the Literature: Final Considerations

4.0 Introduction

Chapter 4 initiates a comprehensive discussion and conclusion by synthesising key insights from existing literature on sustainability and design, with a specific focus on interior design and textile utilisation. It acknowledges sustainability as a fundamental guiding principle in contemporary design, emphasising its multifaceted nature encompassing environmental, social, philosophical and economic dimensions.

This chapter aims to distil actionable insights by examining sustainable design practices within interior design, including material selection and spatial configuration. Additionally, it explores the implications of sustainability on textile usage, addressing concerns such as material sourcing and end-of-life considerations. By critically engaging with scholarly contributions, the chapter seeks to offer valuable insights that contribute to both theoretical discourse and practical applications in sustainable design. Overall, it sets the stage for a robust discussion and conclusion based on key findings from the literature, providing a foundation for future research endeavours.

4.1 Sustainability and Design

Throughout Chapter 2, a comprehensive examination of sustainable design practices has been undertaken, emphasising the integration of sustainability principles into design processes. Initially, the conceptual framework of sustainability was elucidated, encompassing environmental, social, spiritual, and economic dimensions. Subsequently, the importance of sustainable design principles, such as Triple Bottom Line (TBL), Design for Sustainability (DfS), The Quadruple Bottom Line of Design for Sustainability (QBL) was underscored, highlighting their role in fostering environmental stewardship, social responsibility, and economic viability (Elkington, 1998; Brown, 2016; Johnson, 2021).

Additionally, the interrelation between sustainability and design was explored, emphasising the imperative for designers to consider broader socio-environmental impacts in their decision-making processes (Jones, 2018).

The integration of sustainability principles into design practices holds profound significance for addressing contemporary challenges and advancing societal well-being. Sustainable design approaches offer a framework for mitigating environmental degradation, promoting social responsibility, and ensuring long-term economic prosperity (Adams, 2021). By embracing sustainability principles, designers can optimise resource efficiency, minimise ecological footprints, and enhance the resilience of built environments (Grey, 2020; Taylor, 2019). Moreover, integrating sustainability into design practices fosters innovation, stimulates market differentiation, and positions businesses for sustained success in a rapidly changing global landscape (Evans, 2019).

Looking ahead, sustainable design faces both opportunities and challenges in its pursuit of creating a more sustainable future. While advancements in technology, policy frameworks, and industry standards present opportunities for innovation and transformative change, persistent challenges such as regulatory barriers, economic constraints, and cultural inertia continue to impede progress (Wilson, 2016). Moreover, the complexity and interconnected nature of sustainability issues necessitate interdisciplinary collaboration, holistic approaches, and continuous adaptation to evolving socio-environmental contexts (Roberts, 2020). Nonetheless, by leveraging opportunities and addressing challenges, the field of sustainable design stands poised to catalyse positive environmental, social, and economic transformations in the years to come (Lee, 2020).

In conclusion, the integration of sustainability principles into design practices is imperative for addressing global challenges, fostering innovation, and promoting the well-being of present and future generations. By embracing sustainability, designers can play a pivotal role in shaping a more resilient, equitable, and sustainable future (White, 2017).

Table 10 below provides a structured overview of key points discussed in this part, focusing on themes related to sustainability in design.

Theme	Key Points
Importance of Sustainability in Design Practices	• Sustainability principles, including Triple Bottom Line (TBL) and Design for Sustainability (DfS), are crucial for fostering environmental stewardship, social responsibility, and economic viability in design processes. • Integration of sustainability principles into design practices optimizes resource utilization, minimizes ecological footprints, and enhances the resilience of built environments.
Prospects and Challenges in Sustainable Design	• Advancements in technology, policy frameworks, and industry standards offer opportunities for innovation and transformative change in sustainable design. • Persistent challenges such as regulatory barriers, economic constraints, and cultural inertia continue to impede progress in sustainable design.

Table 10: Overview of key points discussed in section 4.1.

4.2 Interior Design and Sustainability

4.2.1 Overview of Sustainable Practices Interior Design

The landscape of interior design is characterised by a growing emphasis on sustainability, reflecting broader societal trends towards environmental consciousness and ethical consumption. Scholarly discourse has provided a comprehensive overview of sustainable practices within the interior design industry, elucidating key initiatives and trends that underscore the sector's commitment to sustainability.

A prominent aspect of sustainable interior design practices is the integration of green building certification and certification programs. Studies have highlighted the widespread adoption of internationally recognised certifications such as Leadership in Energy and Environmental Design (LEED) and Building Research Establishment Environmental Assessment Method (BREEAM) as benchmarks for sustainable building practices (Smith and

Johnson, 2020). These certifications serve as guiding frameworks for designers, architects, and developers seeking to incorporate sustainability into their projects, encompassing aspects such as energy efficiency, resource conservation, and indoor environmental quality.

Furthermore, collaborative approaches and interdisciplinary partnerships have emerged as integral components of sustainable design practices. The research underscores the importance of collaboration between designers, architects, engineers, suppliers, and stakeholders in fostering innovation and advancing sustainability goals (Gomez and Martinez, 2022). By leveraging collective expertise and perspectives, interdisciplinary teams can develop holistic design solutions that address complex sustainability challenges while meeting the functional and aesthetic requirements of interior spaces.

In addition to certification programs and collaborative approaches, sustainable interior design practices are characterised by a focus on material selection, energy efficiency, waste reduction, and occupant well-being. Scholars have explored the use of eco-friendly materials, energy-efficient technologies, and waste management strategies aimed at minimising environmental impact and promoting resource conservation (Taylor and Smith, 2019). Moreover, research has emphasised the importance of designing spaces that prioritise occupant health, comfort, and productivity through considerations such as indoor air quality, natural lighting, and ergonomic design (Ngo et al., 2020). The interior design industry is, overall, undergoing a paradigm shift towards sustainability, driven by a combination of regulatory mandates, consumer demand, and industry leadership. By (embracing green building principles, fostering collaboration, and integrating sustainable design strategies into their projects, designers and practitioners are playing a pivotal role in shaping a more environmentally responsible and socially conscious built environment.

4.2.2 Summary of Key Findings from Sustainable Interior Design

This has provided a comprehensive examination of sustainable interior design practices from Chapter 3, highlighting key findings regarding their significance, implications, and future directions. Firstly, sustainable interior design encompasses a range of strategies, including material selection, energy efficiency, indoor environmental quality, and waste reduction initiatives (Adams, 2021; Green, 2019). Moreover, the chapter emphasises the

importance of Life Cycle Assessment and environmental impact assessment tools in evaluating design interventions and making informed decisions (Jones, 2018).

The importance of sustainable interior design in addressing global challenges cannot be overstated. Sustainable interior design practices contribute to mitigating environmental impacts, enhancing occupant health and comfort, and promoting broader sustainability agendas aimed at addressing climate change, resource depletion, and social inequality (Grey, 2020; Taylor, 2019). By adopting sustainable interior design principles, designers can play a pivotal role in creating healthier, more resilient, and sustainable built environments (Lee, 2020).

Moving forward, several recommendations emerge for advancing research and practice in sustainable interior design. Firstly, there is a need for continued research into innovative materials, technologies, and design strategies that promote sustainability while meeting functional and aesthetic requirements (Wilson, 2016). Additionally, interdisciplinary collaboration between designers, architects, engineers, and sustainability experts is essential for developing holistic, integrated design solutions that optimise environmental, social, and economic performance (Evans, 2019). Furthermore, education and professional training programs should emphasise sustainability principles and equip designers with the necessary skills and knowledge to navigate complex sustainability challenges (Johnson, 2021). Finally, policymakers and industry stakeholders should collaborate to establish supportive regulatory frameworks, incentives, and certification programs that promote sustainable interior design practices and encourage market transformation (White, 2017).

Overall, sustainable interior design practices are essential for addressing global challenges, enhancing human well-being, and promoting environmental stewardship within the built environment. By embracing sustainability principles and implementing recommendations for future research and practice, the field of sustainable interior design can contribute to creating more resilient, equitable, and sustainable living environments for present and future generations (Smith, 2020).

Table 11 below shows key findings, emphasising the importance of sustainable interior design, and providing detailed recommendations for future research and practice.

Theme	Key Findings
Sustainable Interior Design Strategies	• Sustainable interior design encompasses various strategies, including material selection, energy efficiency, indoor environmental quality optimisation, and waste reduction initiatives (Adams, 2021). • These strategies are essential components of sustainable design practices, aiming to minimise environmental impacts, enhance occupant well-being, and promote resource efficiency (Green, 2019). • Examples of sustainable design strategies include the use of environmentally friendly materials, implementation of energy-efficient systems, incorporation of biophilic design principles, and adoption of waste reduction measures (Brown, 2016).
Environmental Impact Assessment Tools	• The use of life cycle analysis (LCA) and environmental impact assessment tools is crucial for evaluating the environmental performance of design interventions (Jones, 2018). • LCA helps designers assess the environmental impacts of materials and processes throughout their life cycle, from extraction to disposal (Clark, 2018). • EIA allows designers to evaluate the potential environmental consequences of design decisions and identify opportunities for improvement (Roberts, 2020). • By employing these tools, designers can make informed decisions that minimise environmental footprints and maximise sustainability outcomes (Taylor, 2019).
Importance of Sustainable Interior Design	• Sustainable interior design plays a critical role in addressing global challenges, such as climate change, resource depletion, and environmental degradation (Smith, 2020). • By incorporating sustainable design principles, designers can contribute to mitigating environmental impacts, reducing carbon footprints, and promoting environmental stewardship within the built environment (White, 2017). • Sustainable interior design also enhances occupant health, comfort, and well-being by creating healthier indoor environments with improved air quality, thermal comfort, and daylighting (Evans, 2019).
Recommendations for Future Research and Practice	• Continued research into innovative materials, technologies, and design strategies is needed to advance sustainable interior design practices (Johnson, 2021). • Interdisciplinary collaboration between designers, architects, engineers, and sustainability experts should be encouraged to develop holistic, integrated design solutions (Brown, 2016). • Emphasis on sustainability principles in education and professional training programs is essential to equip designers with the necessary skills and knowledge (Adams, 2021). • The establishment of supportive regulatory frameworks and certification programs is recommended to promote and incentivise sustainable interior design practices (Green, 2019). • Industry-wide adoption of sustainable design standards, such as LEED (Leadership in Energy and Environmental Design) and BREEAM (Building Research Establishment Environmental Assessment Method), can further drive the implementation of sustainable interior design principles (Clark, 2018).

Table 11:Overview of key findings from the literature on sustainable interior design.

4.3 Textiles for Interior Design and Sustainability in the UK Context

4.3.1 Analysis of Sustainable Decision-Making Factors

The process of sustainable decision-making in interior design involves a complex interplay of factors that influence the selection of materials, technologies, and design strategies. Academic discourse has delved into the analysis of these factors, shedding light on the key considerations that shape sustainability initiatives within the field.

A critical aspect of sustainable decision-making in interior design is the assessment of environmental impact. Scholars have emphasised the importance of conducting comprehensive environmental impact assessments to evaluate the ecological footprint of design choices (Guerin and Kumar, 2018). This includes considerations such as resource depletion, carbon emissions, and waste generation, which are crucial for identifying sustainable alternatives and minimising adverse environmental effects.

Resource efficiency emerges as another significant factor influencing sustainable decision-making processes. Designers seek to maximise resource efficiency while minimising consumption and waste generation throughout the project lifecycle (Perez and Turner, 2017). This entails the selection of materials and technologies that optimise resource efficiency, promote circular economy principles, and reduce environmental burden.

Furthermore, considerations for health and well-being play a pivotal role in sustainable decision-making. Scholars have highlighted the importance of prioritising materials and products that contribute to indoor air quality, occupant comfort, and overall well-being (Ngo et al., 2020). This involves selecting non-toxic materials, incorporating natural ventilation systems, and creating spaces that promote mental and physical health.

Social responsibility considerations also influence sustainable decision-making processes within interior design. Designers are increasingly mindful of ethical labour practices, community engagement, and cultural sensitivity in their design choices (Wilkinson and Reed, 2019). This entails fostering equitable working conditions, supporting local communities, and respecting cultural heritage in design projects.

Moreover, regulatory compliance and adherence to sustainability standards are integral to sustainable decision-making in interior design. Designers must navigate a complex regulatory landscape encompassing building codes, environmental regulations, and industry standards to ensure compliance and uphold sustainability principles (Brown and Harris, 2018).

In summary, the analysis of sustainable decision-making factors in interior design reveals a multifaceted process shaped by environmental, social, economic, and regulatory considerations. By carefully evaluating these factors and integrating sustainability principles into their decision-making processes, designers can create spaces that are not only aesthetically pleasing and functional but also environmentally responsible and socially equitable. Table 12 below shows the summary of key findings in sustainable decision making factors and sustainable textile usage in interior design.

Aspect	Key Findings
Environmental Impact	- Conduct comprehensive assessments to evaluate ecological footprint, considering resource depletion, carbon emissions, and waste generation (Guerin and Kumar, 2018).
Resource Efficiency	- Maximize resource utilisation, minimise consumption and waste generation, and promote circular economy principles through material and technology selection (Perez and Turner, 2017).
Health and Well-being	- Prioritize materials and products contributing to indoor air quality, occupant comfort, and overall well-being, incorporating natural ventilation systems and promoting mental and physical health (Ngo et al., 2020).
Social Responsibility	- Embrace ethical labour practices, community engagement, and cultural sensitivity, fostering equitable working conditions, supporting local communities, and respecting cultural heritage (Wilkinson and Reed, 2019).
Regulatory Compliance	- Navigate complex regulatory landscape, including building codes, environmental regulations, and industry standards, to ensure compliance and uphold sustainability principles (Brown and Harris, 2018).
Material Sourcing	- Select textiles from renewable resources with lower environmental footprints, such as organic cotton, bamboo, or hemp. Minimise energy consumption, water usage, and chemical inputs in production processes (Chang et al., 2020).
Durability and Recyclability	- Choose durable textiles capable of withstanding wear and tear to reduce replacements and minimise waste generation. Promote textile recycling and circular economy principles for resource conservation (Taylor and Smith, 2019; Lopez and Perez, 2018).
Ethical and Social Factors	- Source textiles from suppliers adhering to fair labour practices and ethical working conditions throughout the supply chain. Foster transparency, supplier accountability, and engagement with socially responsible manufacturers (Wilkinson and Reed, 2019).

Table 12: Summary of key findings in sustainable decision-making factors.

4.3.2 Examination of Sustainable Textile Usage in Interior Design

The utilisation of textiles in interior design plays a significant role in shaping the sustainability of built environments. Scholarly investigation into sustainable textile usage within the field has yielded critical insights into material selection, production processes, and environmental impact.

A fundamental aspect of examining sustainable textile usage is the evaluation of material sourcing and production methods. Studies emphasise the importance of selecting textiles derived from renewable resources, such as organic cotton, bamboo, or hemp, which have lower ecological footprints compared to conventional materials (Chang et al., 2020). Additionally, research has highlighted the significance of considering production processes that minimise energy consumption, water usage, and chemical inputs, thereby reducing environmental impact (Brown and Harris, 2018). Furthermore, the exploration of sustainable textile usage encompasses considerations for material durability, recyclability, and end-of-life disposal. Scholars advocate for the selection of textiles that are durable, long-lasting, and capable of withstanding wear and tear, thereby reducing the frequency of replacements and minimising waste generation (Taylor and Smith, 2019). Moreover, the promotion of textile recycling and circular economy principles is essential for mitigating the environmental impact of textile disposal and fostering resource conservation (Lopez and Perez, 2018).

In addition to environmental considerations, ethical and social factors play a crucial role in the examination of sustainable textile usage. Researchers emphasise the importance of sourcing textiles from suppliers that adhere to ethical sourcing, uphold worker rights, and ensure ethical working conditions throughout the supply chain (Wilkinson and Reed, 2019). This entails transparency in sourcing practices, supplier accountability, and engagement with socially responsible textile manufacturers. Moreover, the integration of sustainable textile usage into interior design projects requires collaboration between designers, manufacturers, and stakeholders. Scholars emphasise the significance of fostering partnerships with textile producers, suppliers, and clients to facilitate the adoption of sustainable materials and promote sustainable design practices (Gomez and Martinez, 2022). By leveraging collective expertise and resources, stakeholders can address challenges related to material sourcing, production, and implementation, thereby advancing sustainability objectives within the industry.

The examination of sustainable textile usage in interior design, overall, underscores the importance of material selection, production processes, and social responsibility considerations in shaping environmentally conscious design practices. By prioritising sustainable textiles and embracing ethical sourcing and production methods, designers can contribute to the creation of spaces that are both aesthetically pleasing and environmentally responsible.

Table 13 below summarises the key findings in sustainable textile usage in interior design.

Aspect	Key Findings
Material Sourcing and Production Methods	- Select textiles derived from renewable resources like organic cotton, bamboo, or hemp, with lower environmental footprints compared to conventional materials (Chang et al., 2020). Additionally, prioritise production processes minimising energy consumption, water usage, and chemical inputs to reduce environmental impact (Brown and Harris, 2018).
Durability, Recyclability and Disposal	- Choose durable textiles capable of withstanding wear and tear to reduce replacements and minimise waste generation (Taylor and Smith, 2019). Promote textile recycling and circular economy principles for mitigating environmental impact and fostering resource conservation (Lopez and Perez, 2018).
Ethical and Social Factors	- Source textiles from suppliers adhering to fair labour practices, worker rights, and ethical working conditions throughout the supply chain (Wilkinson and Reed, 2019). Ensure transparency in sourcing practices, supplier accountability, and engagement with socially responsible manufacturers (Wilkinson and Reed, 2019).
Collaboration	- Foster partnerships with textile producers, suppliers, and clients to facilitate the adoption of sustainable materials and promote eco-friendly design practices (Gomez and Martinez, 2022). Leverage collective expertise and resources to address challenges related to material sourcing, production, and implementation, advancing sustainability objectives within the industry (Gomez and Martinez, 2022).

Table 13: Summary of key findings in sustainable textile usage in interior design.

4.4 Synthesis of Literature Findings

The synthesis of literature findings on sustainable interior design reveals a multifaceted landscape characterised by diverse practices, challenges, and opportunities. Drawing upon insights from various scholarly works, this synthesis offers a comprehensive understanding of key themes and trends within the field.

A recurring theme across the literature is the pervasive influence of green building certification on interior design practices. Studies highlight the widespread adoption of certifications such as LEED and BREEAM as guiding frameworks for sustainable building design, emphasising the importance of compliance with environmental standards and regulations (Smith and Johnson, 2020). Additionally, scholars underscore the role of collaborative approaches and interdisciplinary partnerships in advancing sustainability goals within the industry, emphasising the need for collective action and knowledge sharing among designers, architects, engineers, and stakeholders (Gomez and Martinez, 2022).

Moreover, the analysis of sustainable decision-making factors elucidates the complex interplay of environmental, social, economic, and regulatory considerations that shape design choices within the interior design landscape. Scholars emphasise the significance of conducting environmental impact assessments, maximising resource efficiency, promoting occupant health and well-being, and adhering to regulatory compliance requirements in fostering sustainable design practices (Ngo et al., 2020).

Furthermore, the examination of sustainable textile usage in interior design highlights the importance of material selection, production processes, and social responsibility considerations in shaping environmentally conscious design practices. Researchers advocate for the adoption of sustainable textiles derived from renewable resources, produced using eco-friendly manufacturing methods, and sourced from ethically responsible suppliers (Taylor and Smith, 2019). By prioritising sustainable textile usage, designers can contribute to the creation of spaces that are both aesthetically pleasing and environmentally responsible.

In synthesising these literature findings, it becomes evident that sustainable interior design is characterised by a holistic approach that encompasses environmental stewardship, social responsibility, and economic viability. By integrating sustainability principles into decision-making processes, material selection, and collaborative partnerships, designers can

create spaces that not only meet the functional and aesthetic needs of occupants but also contribute to the long-term well-being of the planet and its inhabitants.

Table 14 provides the key findings from the literature on sustainable interior design and textiles, highlighting themes such as certification influence, collaborative approaches, decision-making factors, sustainable textile usage, and integration of sustainability principles.

Theme	Key Findings
Influence of Sustainability Certifications	- Widespread adoption of certifications such as LEED and BREEAM as guiding frameworks for sustainable building design (Smith and Johnson, 2020).
Collaborative Approaches	- Importance of interdisciplinary partnerships and collective action in advancing sustainability goals within the industry (Gomez and Martinez, 2022).
Factors in Sustainable Decision-Making	- Environmental impact assessments, resource efficiency, occupant health considerations, and regulatory compliance are pivotal factors (Ngo et al., 2020).
Sustainable Textile Usage	- Selection of sustainable textiles derived from renewable resources, eco-friendly production methods, and ethical sourcing practices are emphasised (Taylor and Smith, 2019).
Integration of Sustainability Principles	- Holistic approach encompassing environmental stewardship, social equity, and economic viability is essential for sustainable design (Ngo et al., 2020).

Table 14: The key findings from the literature on sustainable interior design and textiles.

4.5 Identification of Gaps in Existing Research

While the literature review has provided valuable insights into sustainability in design, it has also highlighted several gaps in existing research. These gaps represent areas where further investigation and scholarship are needed to advance knowledge and understanding within the field:

- **Limited Focus on Cultural Sustainability**: One notable gap in existing research is the relatively limited focus on cultural sustainability in design. While there is growing recognition of the importance of cultural factors in shaping sustainable outcomes, research in this area remains sparse compared to other dimensions of sustainability, such as environmental and economic considerations (Walker, 2017). More studies are needed to explore the role of cultural values, traditions, and ethics in shaping sustainable design outcomes, particularly in diverse cultural contexts.

- **Lack of Interdisciplinary Research**: Another gap in existing research is the limited interdisciplinary collaboration within the field of sustainability in design. Sustainable design requires integration across multiple disciplines, including architecture, urban planning, sociology, anthropology, and environmental science (Beatley, 2016). However, there is a need for more interdisciplinary research that integrates diverse perspectives and methodologies to address complex sustainability challenges effectively.

- **Limited Empirical Studies**: Many existing studies in sustainability and design are theoretical or conceptual in nature, with limited empirical evidence to support their findings. While theoretical frameworks and conceptual models provide valuable insights into the principles and processes of sustainable design, more empirical research is needed to assess the effectiveness and impact of sustainable design practices in real-world settings (Boland et al., 2020). Empirical studies can help bridge the gap between theory and practice by providing empirical evidence to inform decision-making processes and guide design interventions.

- **Inadequate Attention to Social Responsibility**: A further gap in existing research is the inadequate attention to social responsibility and justice within sustainability in design. While sustainability frameworks often emphasise environmental and economic considerations, social responsibility and justice are equally important dimensions of sustainability (Couch, 2014). Future research should explore how design interventions

can promote social responsibility, inclusivity, and empowerment, particularly for marginalised and vulnerable communities.

Identified Gaps in Existing Research	Explanation
Limited Focus on Cultural Sustainability	Research in the area of cultural sustainability within design remains relatively sparse compared to other dimensions of sustainability. There is a need for more studies to explore the role of cultural values, traditions, and ethics in shaping sustainable design outcomes (Walker, 2017).
Lack of Interdisciplinary Research	Interdisciplinary collaboration within the field of sustainability in design is limited. More research integrating diverse perspectives and methodologies is needed to address complex sustainability challenges effectively (Beatley, 2016).
Limited Empirical Studies	Existing research in sustainability and design often lacks empirical evidence to support theoretical frameworks and conceptual models. More empirical studies are needed to assess the effectiveness and impact of sustainable design practices in real-world settings (Boland et al., 2020).
Inadequate Attention to Social Responsibility	Social responsibility and justice dimensions within sustainability in design are often overlooked. Future research should explore how design interventions can promote social responsibility, inclusivity, and empowerment for marginalized communities (Couch, 2014).

Table 15: Identification of gaps in existing research.

4.6 Chapter Conclusion

The synthesis of literature presented in this chapter underscores the paramount importance of sustainability in contemporary design practices, particularly within the realm of interior design and textile utilisation. Through a critical analysis of scholarly contributions, several key insights have emerged, shedding light on the complexities and opportunities inherent in sustainable design endeavours.

Firstly, the literature review has highlighted the multifaceted nature of sustainability, emphasising its holistic approach encompassing environmental, social, personal and economic considerations (Walker, 2014; Buchanan, 2020). This nuanced understanding underscores the need for designers to adopt a comprehensive approach that balances aesthetic appeal with ethical responsibility and environmental stewardship (Cairns and Cuthbert, 2021). Moreover, the discussion has elucidated the diverse array of sustainable practices within interior design, ranging from material selection to spatial configuration (Groat and Wang, 2013). Sustainable decision-making processes, influenced by factors such as client demand, regulatory frameworks, and resource availability, play a crucial role in shaping design outcomes (Bryan and Wakefield, 2015). Furthermore, the examination of textile utilisation in sustainable interior design has underscored the pivotal role of materiality in shaping environmental outcomes (Fletcher and Tham, 2019). From material sourcing to end-of-life considerations, designers are confronted with a myriad of challenges and opportunities in their quest for textile sustainability (Meinhold and Pettit, 2017).

In light of these findings, several implications for design practice and future research emerge. Designers must adopt a proactive approach towards sustainability, integrating principles of environmental responsibility and social responsibility into their decision-making processes (Haigh and Ruckstuhl, 2018). Additionally, there is a pressing need for further research to explore emerging trends and innovations in sustainable design, particularly within the context of interior design and textile utilisation (Walker, 2012).

This chapter, overall, serves as a foundational exploration into the intersection of sustainability and design, providing valuable insights that inform both theoretical discourse and practical applications in the field. By synthesising key findings from existing literature, it offers a springboard for future research endeavours aimed at advancing sustainable design practices and promoting a more harmonious relationship between humans and the built environment.

CHAPTER 5

Methodology

Chapter 5: Methodology

5.0 Introduction

Methodology is the structuring logic through which a study is conceived, conducted, and evaluated. This chapter defines the methodology used to address the research questions of this study, which are:

- How do interior designers in the UK currently incorporate sustainability principles into their decision-making processes within interior design projects?
- What are the main challenges and opportunities encountered by interior designers when navigating sustainable decision-making, specifically regarding the selection and utilisation of sustainable textiles?
- What criteria and considerations do interior designers employ in the selection and utilisation of sustainable textiles within the framework of sustainable design projects?
- How can insights gained from this research be translated into actionable recommendations for enhancing sustainability literacy and promoting responsible design practices within the interior design profession in the UK?

Given the complexity of the relationships between sustainability, interior design, and textiles, this study seeks to gain a multifaceted and multidimensional understanding of these relationships.

This chapter discusses the philosophical assumptions, epistemological orientations and methodological strategies that structure this research as well as primary and secondary data collection methods and data analysis. Reflexive engagement with research paradigms, approaches, and methods places this research within wider scholarly discourses which helps to make sense of the research context.

Building on the literature review that explored and synthesised literature relating to sustainability, interior design, and textiles, the main primary research method of this study is semi-structured interviews conducted with 21 interior designers and design professionals. Having identified a gap in knowledge relating to how interior designers understand sustainability, the primary research phases aim to gain insights into the real-world context of practising designers and related design professionals. From this, the research aims to reveal multidimensional dynamics that shape sustainable interior design leading to recommendations for both theoretical investigation and professional practice.

5.1 Research Design

A research design -also known as “procedures of inquiry”- is a broad outline of the steps a researcher will take to address an issue for the study, or research questions (Creswell, 2014, p.4). Research designs include everything from the overarching philosophical principles of the research to the details of the methods used for gathering and analysing data. This offers specific guidance for procedures in a research study (Denzin and Lincoln, 2011). In creating the research design for this study, the following sections explored types of the various types of research philosophies and then compared different research paradigms. Next, research approaches, methods, data collection and data analysis were discussed in detail.

5.1.1 Research Philosophies and Paradigms

Research philosophies and paradigms play a crucial role in shaping the way researchers approach and conduct their studies. Understanding the different research philosophies and paradigms is essential for researchers to make informed decisions about their research design, methods, and interpretations (Kamal, 2019). The philosophy of science is about the theory behind finding knowledge (Ponterotto, 2005), while research philosophy looks at how knowledge is developed and the assumptions that guide researchers (Filstead, 1979). Paradigms are like different sets of beliefs that shape how researchers see the world and conduct their studies. Researchers' assumptions, stemming from their beliefs and perspectives, have a direct influence on the research methods and strategies they employ (Kamal, 2019). A paradigm, as Filstead (1979) describes, encompasses a comprehensive set of interrelated assumptions about the social world. This paradigm not only offers a

philosophical foundation but also provides a structured conceptual framework for conducting a systematic and organised study of the social world.

Creswell and Creswell (2018) defined a research paradigm as a comprehensive worldview that not only shapes behaviour but also guides the entire research process. This includes the philosophical foundations of researchers, the characteristics of the participants involved, the tools and methods employed, and the overall approach to investigation, all of which are significantly influenced by the selected research paradigms (Denzin and Lincoln, 2000). Guba (1990, p.18) outlines that the research paradigm is a combination of "ontology, epistemology, and methodology". Figure 4 below visually represents the interconnected relationship between ontology, epistemology, methodology and methods within the research paradigm.

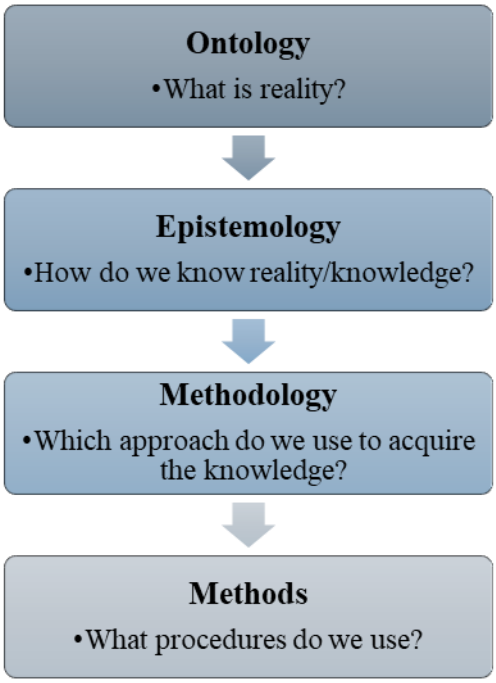

Figure 4: The interconnectedness of ontology, epistemology, methodology and methods (Adapted from Hay, 2002 and Crotty, 1998).

This part provides an in-depth exploration of these diverse research perspectives and Table 16 below shows the main research paradigms and their relevance to ontology, epistemology, and theoretical perspective.

Paradigm	Positivism	Constructivist (Interpretive)	Pragmatism	Subjectivism
Ontology What is reality?	There is a single reality or truth- more realistic.	There is no single reality. Reality is created by individuals in groups- less realistic.	Reality is constantly renegotiated, debated, and interpreted, considering its usefulness in new, unpredictable situations.	Reality is what we perceive to be real.
Epistemology How do we know reality/ knowledge?	Reality can be measured, and hence, the focus is on reliable and valid tools to obtain that.	Reality needs to be interpreted. It is used to discover the underlying meaning of events and activities.	The best method is one that solves problems. Finding out the means and change are the underlying aims.	All knowledge is purely a matter of perspective.
Methodology Which approach do we use to acquire the knowledge?	- Experimental research - Survey research.	- Ethnography - Grounded - Theory - Phenomenological research - Heuristic inquiry - Action research - Discourse - Analysis - Feminist - Standpoint research, etc.	- Mixed methods - Design-based research - Action research.	-Postmodernism - Structuralism - Post-structuralism.
Methods What procedures do we use?	- Usually quantitative, - Could include Sampling Measurement and scaling - Questionnaire - Focus group - Interview.	- Usually qualitative, could include: - Qualitative interview - Observation - Participant - Non-participant - Case study - Life history - Narrative - Theme identification, etc.	- Combination of any of the above and more, such as data mining expert review, usability testing, and physical prototype.	- Discourse theory - Archaeology - Genealogy -Deconstruction, etc.

Table 16: Research paradigms and their relevance to ontology, epistemology, and theoretical perspective (Patel, 2015).

Ontology explores the understanding of what is, while epistemology delves into the comprehension of what it means to know (Gray, 2018). Ontology, as defined by Dudovskiy (2018), delves into the essence of existence and the nature of reality. On the other hand, epistemology focuses on the nature of knowledge, its boundaries, and foundations (Hamlyn, 1995). It serves as a philosophical framework for determining the types of knowledge that are attainable and how to ensure their validity (Maynard, 1994). Furthermore, previous studies have extensively explored various research paradigms, such as positivism, realism, constructivism, and pragmatism (Creswell and Creswell, 2018).

Positivism is a philosophical stance that posits the existence of an objective social reality governed by universal truths. This approach, also known as scientific, empirical, or postpositivist research, emphasises the importance of observation and a quantitative research methodology (Ayikoru, 2009). Thus, positivism is more suited to quantitative rather than qualitative research (Creswell and Creswell, 2018). Researchers subscribing to this paradigm hold the view that social phenomena and the meanings attributed to them have an independent existence from social actors (Bryman, 2012). The deterministic philosophy embraced by positivists suggests that outcomes are causally determined, making this paradigm particularly suitable for research focused on establishing causal relationships in quantitative studies (Creswell and Creswell, 2018).

Realism, positioned between positivism and constructivism, was developed within the positivist framework and is rooted in a philosophical stance linked to scientific inquiry (Creswell and Creswell, 2018). Researchers following a realist approach seek to uncover the underlying structures and mechanisms that govern the world. This paradigm encompasses two branches: direct and critical realism. Direct realism asserts that human experiences directly reveal the true nature of the world (Alvesson and Sköldberg, 2000), while critical realism contends that human experiences merely symbolise images of reality, potentially leading to unforeseen outcomes due to incomplete observations (Saunders et al., n.d.). Critical realists emphasise the generalising aspect of scientific activity but diverge from positivism by seeking to uncover deeper underlying mechanisms generating empirical phenomena (Alvesson, 2009).

Constructivism, also known as social constructivism or interpretivism, is predominantly associated with qualitative research methodologies that emphasise the subjective nature of

reality. (Creswell and Creswell, 2018). Social constructivists argue that individuals construct meanings based on their unique experiences, influenced by cultural and historical contexts. This perspective highlights the importance of recognising the varied and multi-dimensional nature of these subjective meanings, encouraging researchers to explore the complexity of views rather than simplifying them into predefined categories (Creswell, 2007). The evolution of social constructivism stems from the belief that subjective perspectives are shaped by cultural norms, historical influences, and social interactions, challenging the notion that individual perceptions are solely internal. Central to the constructivist position is the interactive process between researchers and participants, which plays a pivotal role in uncovering deep meanings and insights (Ponterotto, 2005).

Pragmatism, a research paradigm rooted in real-world contexts, actions, and outcomes, stands in contrast to the antecedent conditions of post-positivism. This paradigm, emerging from a focus on situations, actions, and consequences rather than antecedent conditions, emphasises the significance of research questions in shaping research philosophy (Creswell, 2007; Creswell and Creswell, 2018). Central to pragmatism is the belief that research questions play a pivotal role in determining the research philosophy embraced by the researcher. This paradigm places a strong emphasis on problem-solving, prioritising the exploration of research problems and questions over the specific research methods employed (Denzin and Lincoln, 2000; Creswell, 2007). Pragmatists advocate for a flexible approach, utilising both qualitative and quantitative methods as deemed appropriate to address research questions (Saunders et al., 2009). Researchers in this paradigm reject the notion of absolute knowledge and prioritise achieving practical solutions to research problems (Tashakkori and Teddlie, 1998).

5.1.2 Research Approaches

After the selection of a research paradigm initially, Saunders et al. (2019) recommend considering three theory development approaches: induction, deduction, and abduction.

The inductive approach termed the research-then-theory approach (Reynolds, 1971), is the process of drawing generalisable inferences from observations and collected data. Research questions play a pivotal role in guiding the formulation of data collection plans in this process (Gray, 2018). Then, data analysis is conducted to identify emerging patterns and themes that serve as the foundational elements for generalisations, relationships, and theories.

It emphasises that theories are developed as an outcome of research, reflecting the data and observations gathered rather than being predetermined starting points (Bryman and Teevan, 2005; Gray, 2018).

The deductive approach- known as the theory-then-research approach (Reynolds, 1971)- involves the researcher deriving hypotheses from existing knowledge and theoretical considerations. These hypotheses are then tested through empirical study to validate or refute them (Bryman and Teevan, 2005). In the deductive process, hypotheses and theories are formulated based on a foundation of principles and concepts (Gray, 2018), which are subsequently subjected to empirical observation or experimentation to ascertain their confirmation, refutation, or modification (Bryman, 2012; Saunders et al., 2019). Dudovskiy (2018) highlights the distinction between the deductive and inductive approaches, emphasising that the deductive method assesses the validity of existing assumptions or theories, whereas the inductive method fosters the emergence of novel theories and generalisations. On the other hand, it is important to recognise that inductive and deductive processes can coexist and complement each other. A combination of both methods has been successfully employed in projects addressing contemporary social issues (Gray, 2018).

The abductive approach is a different kind of logical reference that was created in the 19th century by American philosopher Charles Sanders Peirce (Staat, 1993). Deductive and inductive methods have both drawn criticism for their flaws. One criticism of inductive reasoning is that "no amount of empirical data will necessarily enable theory building," which is the focus of criticisms directed towards deductive reasoning due to the absence of clear guidelines on which theories should be chosen to be tested by constructing hypotheses (Dudovskiy, 2018, p. 75). Abductive reasoning is developed as an option within a pragmatist worldview to overcome such shortcomings.

5.1.3 Overview of Methodology

Research, as described by Kothari (2012), involves the creation of innovative contributions to existing knowledge through a comprehensive process of study, observation, comparison, and experimentation. It is a systematic and methodical process aimed at enriching knowledge by delving into the unexplored to either validate existing information or acquire fresh insights (Dane, 1990). In order to proceed effectively, it is imperative to explore the different research methods and their applicability to the research study. Research

methodology is concerned with the theoretical and philosophical implications associated with the selection of a research method, aiming to facilitate researchers in comprehending the scientific inquiry process. (Dawson, 2002; Seale, 2004). The research method encompasses the systematic collection and analysis of data to address the selected research questions. Research can be conducted using a diverse range of methods (Creswell, 2007; Johnson et al., 2007). The classification of research methods into quantitative and qualitative approaches has a deep-rooted history in social science research (Blaxter et al., 2006). Scholars in the early 20th century predominantly emphasised qualitative research (Creswell and Creswell, 2018), which later contributed to the rise of mixed methods research, combining both quantitative and qualitative methodologies (Creswell, 2007; Johnson et al., 2007).

Qualitative research, according to Creswell and Creswell (2018), is deeply rooted in understanding intricate cultural and social contexts, capturing actions in their natural essence. It goes beyond mere observation by empathising with individuals to gain insights into their perspectives, with a primary focus on unravelling the underlying reasons behind the why and how questions (Creswell, 2003). Qualitative research involves understanding social or human issues by creating a comprehensive, nuanced depiction using verbal expressions, capturing detailed perspectives of participants, and is conducted in natural settings (Creswell, 2009, p. 233). This method, often termed inductive research, is characterised by the development of perceptions and beliefs based on discernible patterns within the data rather than conforming to predetermined models or theories (Bryman and Teevan, 2005). As emphasised by Taylor et al. (2015) and Saunders et al. (2016), qualitative research embodies an inductive perspective, aligning with an interpretivist epistemological stance that centres on comprehending the social world through participants' interpretations. Furthermore, it embraces a constructivist ontological position, suggesting that social life emerges from interactions among individuals rather than existing independently (Bryman and Teevan, 2005).

Quantitative research, as described by Henn et al. (2005), relies on natural science experiments for scientific exploration. It aligns with post-positivist perspectives on knowledge development (Creswell, 2013) and involves the meticulous measurement of various social aspects (Blaikie, 2010). Quantitative research entails investigating social or human issues by testing a theory comprising variables, quantified through numerical measures and analysed using statistical procedures to validate predictive generalisations derived from the theory (Creswell, 2009). Punch defines quantitative research as follows:

"*Quantitative research is empirical research where the data are in the form of numbers.*" (Punch, 2000:3). Qualitative research is primarily concerned with textual data over numerical data. The difference between quantitative and qualitative research is that quantitative research employs closed-ended questions (quantitative hypotheses) in contrast to the open-ended questions used in qualitative interviews (Miles and Hubberman;1994; Creswell, 2009; Bryman and Teevan, 2005). Scholars have highlighted that quantitative research predominantly focuses on participants' attitudes through extensive surveys, contrasting with behaviours examined in smaller surveys (Brannen, 1992; Naoum, 2012).

Mixed-method research involves the integration of qualitative and quantitative research methods to enhance the understanding of social phenomena. Researchers utilise various theoretical perspectives and research instruments to produce precise information (Collins, 2010; Creswell and Clark, 2011).

5.1.4 Research Design of This Study

The research paradigm employed in this study is essential to understand the philosophical underpinnings guiding the research design. This study adopts a constructivist research paradigm, which recognises the subjective nature of reality and emphasises understanding human experiences and interpretations within their social and cultural contexts (Creswell and Creswell, 2017). Given the fluid and evolving nature of sustainability in interior design, a qualitative approach was chosen to allow the voices of practitioners to shape the findings organically.

To investigate how interior designers engage with sustainability in practice, semi-structured interviews were conducted as the primary data collection method. This approach was selected for its balance between structure and flexibility, allowing participants to elaborate on their responses and providing opportunities for unexpected insights to emerge (Fontana and Frey, 2005). Semi-structured interviews ensured that while key themes were addressed consistently across interviews, there was also space for individual perspectives and experiences to surface. The iterative nature of this approach allowed for ongoing refinement and adaptation based on emerging themes and insights from the data (Charmaz, 2014).

In alignment with the constructivist paradigm, this study employs an inductive approach, meaning that patterns and themes were drawn directly from the data rather than

being pre-imposed (Gray, 2018). This inductive approach ensured that participants' lived experiences remained central to the study's findings. Thematic analysis was chosen as the primary method for analysing interview data, as it facilitates systematic identification of patterns and themes across the dataset while maintaining flexibility for emerging insights (Braun and Clarke, 2006). This method was particularly suited to capturing the complexities of sustainable decision-making, allowing for nuanced interpretations of how designers navigate material choices, industry constraints, and evolving sustainability practices. (For a detailed discussion on data analysis, see Section 5.3.)

While my academic background in sustainable interior design and textiles provided an initial framework for engaging with participants, I remained mindful of the need to ensure methodological objectivity. By carefully structuring the interviews and allowing participants to lead the discussions, I sought to minimise the influence of my preconceptions (see Section 5.1.5 Reflexivity Statement for a more detailed discussion on the researcher's positionality and reflexive engagement).

To systematically outline the methodological choices made in this study, the Research Onion framework proposed by Saunders et al. (2019) was adapted. This framework offers a layered approach to research design, ensuring coherence between philosophical positioning, research strategy, and data collection methods. It serves as a structural guide, ensuring that each methodological decision aligns with the study's ontological and epistemological foundations.

As illustrated in Figure 5, this study follows a constructivist paradigm, employing an inductive approach and qualitative research methods, with semi-structured interviews and thematic analysis as core data collection and analysis techniques. This layered structure demonstrates the relationship between the study's philosophical foundations and its practical research design choices.

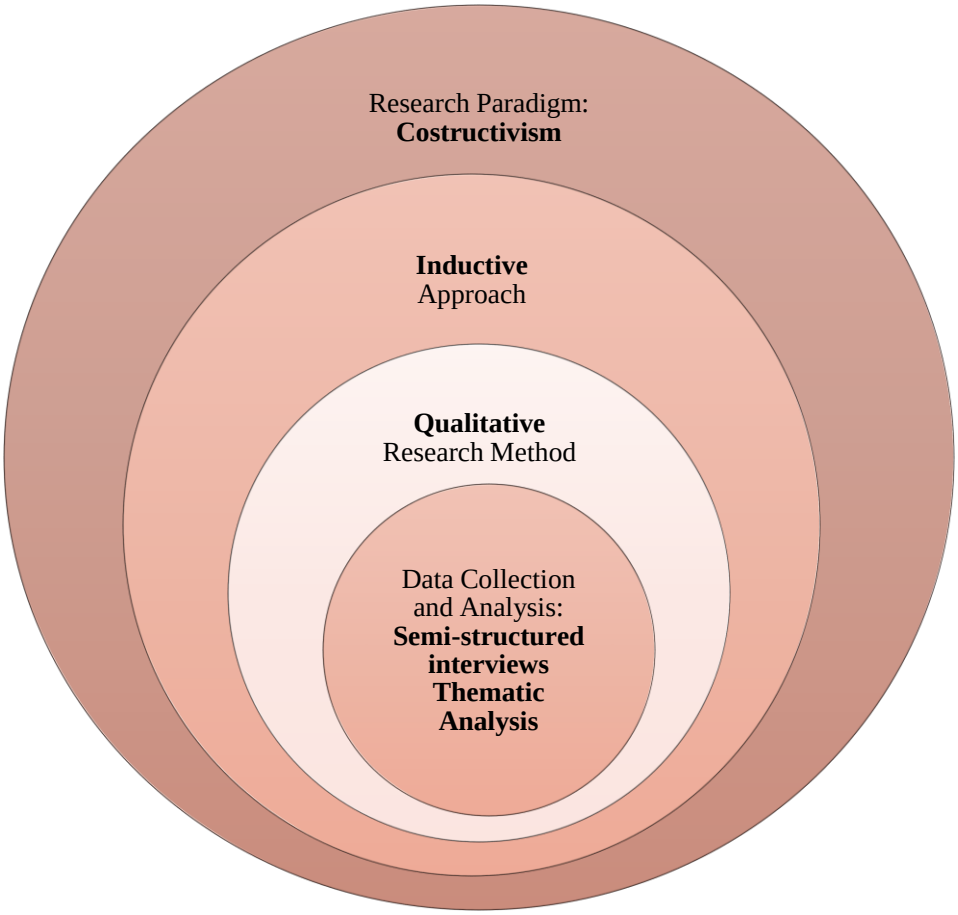

Figure 5: Adapted Research Onion Framework for the Study's Research Design (Adapted from Saunders et al., 2019).

By aligning philosophical, methodological, and practical choices, this research design ensures rigor, coherence, and contextual relevance in investigating sustainable decision-making in interior design. The following section (5.1.5 Reflexivity Statement) discusses the researcher's positionality and reflexive engagement, while Section 5.2 Data Collection details participant recruitment strategies, ethical considerations, and interview procedures.

5.1.5 Reflexivity Statement

As a researcher with an academic background in sustainable interior design and textiles, I recognised that my prior knowledge could introduce interpretive bias (Berger, 2015). In particular, my master's research deepened my understanding of how textiles

influence built environments, reinforcing the significance of material choices in shaping sustainable interior design decisions. While this familiarity allowed me to engage meaningfully with participants and ask informed questions, I remained aware of the potential for pre-existing assumptions to influence my interpretations in both data collection and analysis (Berger, 2015; Ruslin et al., 2022).

To ensure a participant-driven approach, I maintained a reflexive stance throughout the research process, consistent with the constructivist emphasis on researcher positionality (Kvale, 1996; Ruslin et al., 2022). This involved critically examining how my perspectives aligned or contrasted with those of my interviewees while remaining open to unexpected insights. One key strategy was allowing participants to shape the direction of the conversation, in line with the semi-structured interview methodology that encourages guided flexibility (Rubin and Rubin, 2005; Ruslin et al., 2022). By prioritising participants' lived experiences, I aimed to co-construct an authentic account of sustainability practices in interior design, aligned with constructivist epistemology (Kvale, 1996; Charmaz, 2014).

Additionally, I actively documented my reflections at various stages of the research. This included noting moments of surprise, contradictions in participant narratives, and shifts in my own assumptions as the study progressed. This iterative self-examination, often described as reflexive journaling, ensured that the study remained transparent, adaptable, and firmly grounded in real-world industry perspectives (Berger, 2015; Ruslin et al., 2022).

Although my expertise informed the research, I intentionally avoided imposing interpretations, ensuring that participants' narratives remained central (Arksey and Knight, 1999; Ruslin et al., 2022). Embedding reflexivity into the research design enhanced the study's credibility, transparency, and rigour, and supported a situated understanding of how sustainability is practised in interior design (Mason, 2002; Ruslin et al., 2022).

5.2 Data Collection

Research methods encompass a wide range of techniques used to collect, organise, and analyse data that are relevant to a research question or hypothesis. According to Gibbs (2007), "...Naturally occurring data are those that record events that would have occurred whether a researcher was present or not. Nevertheless, data are not out there waiting to be collected. Data are the product of the research itself."(Gibbs, 2007, p.148).

Data can be gathered in two distinct forms: primary data, which involves the direct creation of new information for a particular study; and secondary data, which refers to the use of pre-existing data (Bryman and Teevan, 2005; Creswell, 2009, Silverman, 2006). Similarly, Kotler (1996) makes a clear distinction between secondary and primary data. Secondary data refers to information that already exists and was collected for a different purpose, while primary data is original information specifically gathered for the current purpose.

The primary data collection method chosen for this study is semi-structured interviews (see section 5.2.2), ensuring in-depth insights. Furthermore, secondary data is meticulously collected, reviewed, and synthesised through an extensive literature review (which will be discussed in the following section 5.2.1), providing a robust contextual foundation that enhances the study's credibility and depth.

5.2.1 Literature Review

The literature review, a fundamental aspect of research, primarily relies heavily on secondary data sources to identify research problems and understanding gaps in existing knowledge (Creswell and Creswell, 2018). Gall et al. (2006) highlight several purposes for gathering secondary data, including uncovering neglected research areas, gaining insights into methodologies applicable to one's own research, developing research questions and objectives, and identifying suggestions for further study.

In the initial stages of empirical work, it is common practice to conduct a literature review to clear the ground and prepare for further research. This involves synthesising existing knowledge on a specific topic by assessing relevant empirical research (Hakim, 2000).

The literature review aims to identify current and emerging issues, generate new ideas, and emphasise the substantive knowledge gained from previous research. Literature reviews can vary in emphasis, style, and presentation, ranging from contemporary to historical analyses (Kessler-Harris, 1982). Researchers may seek to establish enduring patterns, relationships, or cultural influences on research (Lester, 1983; Hakim, 1999).

Neuman (2007) outlines the objectives of a literature review, including, showcasing familiarity with existing knowledge and establishing credibility; secondly, illustrating the trajectory of previous research and its connection to the current project; and thirdly,

amalgamating and condensing the collective knowledge within a particular domain, fostering learning from others and sparking new ideas.

Various types of literature reviews can be discerned. Dooley and Catalano (cited in Hakim, 2000) broadly categorise them into two main types: methodological research reviews, which focus on evaluating the contributions and shortcomings of different research approaches, and policy-oriented research reviews, which synthesise current knowledge to extract policy implications.

On the other hand, Neuman (2007) offers a more nuanced classification of literature reviews, including self-study to enhance reader confidence, context reviews to contextualise a project within a broader framework, historical reviews to trace the evolution of an issue over time, theoretical reviews to compare different theoretical approaches to a problem, and integrative reviews to summarise the existing knowledge at a given moment.

It's important to note that literature reviews often combine features from multiple types, and their methodology varies by study (Neuman, 2007). Evaluating published research requires discernment, as reports may have faults but also offer valuable insights (Black, 2002). Additionally, the scope and depth of a study can be limited by available literature within a specific research focus (Hakim, 2000).

The literature review played a pivotal role in shaping research questions, defining the research problem, and guiding the study's direction. The insights gleaned from the review were synthesised across three chapters, providing a solid foundation for further investigation and analysis. Chapter 2 explores the concept of sustainability and its relevance to design, establishing the theoretical foundation of the research. Chapter 3 examines the intersection of interior design and textiles within sustainability discourse, identifying key material and industry-specific considerations. Chapter 4 synthesises key findings from the literature, highlighting research gaps and emerging trends that shape the study’s empirical direction.

During the research study, data collection from the literature encompassed various sources such as conference proceedings, books, annual reports, journal articles, published official statistics and surveys, magazines, and online resources from relevant websites. The secondary data was collected and developed over the study of this research to keep it up to date. It covered discussions about interior design, textiles and sustainability from a wide variety of both international and local sources. This comprehensive review not only

addressed specific research questions but also influenced the overall trajectory of the study, as well as limiting the scope of the research to focus on textiles in interior design.

While semi-structured interviews formed the core of this study's empirical work, the literature review was not merely a contextual background but an active data collection method. Secondary sources, such as industry reports, sustainability and material guidelines and professional design standards, were used to validate and cross-reference participant claims, providing a broader contextual framework for analysing interview findings. This methodological triangulation (Denzin, 1978) enhanced the study's reliability by ensuring that participant perspectives were situated within a wider discourse on sustainable interior design. Beyond shaping the study's research scope, the literature review remained a continuous analytical reference throughout the research process, informing not only interview design and theoretical positioning but also the interpretation of findings in later chapters. The discussion of results (Chapters 6 and 7) actively engaged with existing scholarship, allowing for a comparative evaluation between participant insights and broader industry trends. This ensured that emergent themes were critically examined within both professional and academic contexts, rather than interpreted in isolation.

In summary, the literature review played a dual role: first, to contextualize the study within existing research on sustainable interior design and textiles; and second, to inform primary data collection by identifying gaps, shaping interview questions, and providing industry reports for comparative analysis. This structured engagement with the literature ensured that participant perspectives were not examined in isolation but were instead positioned within a wider discourse on sustainability in design.

The review process actively contributed to the study's research design by:

- Refining the thematic scope to focus on sustainable interior design practices.
- Identifying underexplored areas in the application of textiles within sustainability.
- Informing methodological choices, particularly the adoption of thematic analysis as the primary analytical framework (Braun and Clarke, 2006).

By synthesizing existing knowledge within this structured framework, the literature review provided both a conceptual foundation for analysis and a methodological roadmap for qualitative data collection. Beyond shaping the study's empirical direction, it ensured a

rigorous, theory-driven approach to investigating sustainable decision-making within interior design, bridging theoretical discourse with professional practice.

5.2.2 Semi-Structured Interviews

In qualitative research, verbal data are essential because they form the basis for understanding complicated phenomena (Flick, 2006). Among the various methods, interviews are the most widely used and adaptable data collection technique (Bryman, 2001; Bryman and Teevan, 2005; Kvale, 1996; Gillham, 2005). According to Kvale (1996), interviews are fundamentally an attempt to understand the world from people's perspectives and uncover the meaning of their experiences before interpreting them. Gillham (2005) emphasises the value of interview data and Burns (2000) emphasises the advantage of obtaining informants' viewpoints in their own words.

Interviews have advantages, but also disadvantages. Burns (2000) and Creswell (2009) emphasise the importance of using non-directive questioning strategies and having good listening skills. Furthermore, respondents may change their behaviour, which could distort the veracity of the information (Kvale, 1996; Burns, 2000). Furthermore, conducting interviews requires a significant amount of time to prepare, conduct, and analyse (Gillham, 2005; Neuman, 2007; Silverman, 2005), as well as a significant amount of time to find suitable participants (Bryman and Teevan, 2005; Flick, 2006).

As Kvale (1995) explains, interviews provide forums for people to express their viewpoints, goals, and life experiences. There are different types of interviews, each tailored to a specific context and research objective. The following types of interviews -summarised in Table 17- are included: narrative, life history, expert, ethnographic, problem-centred, focused, semi-structured and unstructured (Bryman and Teevan, 2005).

Types of Interviews	Definition
Narrative Interview	Focuses on the participant's involvement in a particular area of interest, aiming to construct a coherent narrative (Flick, 2006).
Life History Interview	Explores an individual's entire life course, often supplemented with personal documents like diaries and photographs (Bryman and Teevan, 2005).
Expert Interview	Involves interviews with individuals considered experts in a particular field, offering specialized insights (Bryman and Teevan, 2005).
Ethnographic Interview	Conducted within the context of ethnographic field research, often arising spontaneously from regular field contacts (Flick, 2006).
Problem-Centred Interview	Gathers biographical data related to a specific problem, characterized by problem centring, object orientation, and process orientation (Flick, 2006).
Focused Interview	Utilizes a uniform stimulus to explore its impact on the interviewee, focusing on non-direction, specificity, and depth (Bryman and Teevan, 2005).
Semi-Structured Interview	Involves a set of predetermined questions or topics, providing flexibility while ensuring consistency (Silverman, 2005).
Unstructured Interview	Relies on minimal prompts, allowing interviewees to respond freely, akin to a conversation (Flick, 2006).

Table 17: The overview of Qualitative Research Interview Types.

When selecting an interview technique, careful consideration of the context and research objectives is required (Kvale, 1996). To investigate sustainable design decision-making amongst interior designers, this study adopts the method of semi-structured interviews. Semi-structured interviews strike a balance between flexibility and consistency, crucial for maintaining methodological rigor in research. This allows researchers the flexibility to delve into unexpected avenues while ensuring consistency across semi-structured interviews by using pre-formulated questions and an open-ended format (Kvale, 1996; Silverman, 2005). However, despite these advantages, unexpected problems can arise with this method, which is essential for inductive research projects (Flick, 2006). These issues may include participant responses deviating significantly from anticipated patterns or challenges in synthesising diverse qualitative data into coherent findings. Addressing these challenges requires researchers to adapt their approach dynamically, emphasising the

importance of methodological reflexivity and meticulous analysis in qualitative research endeavours (Silverman, 2005; Flick, 2006).

Ultimately, semi-structured interviews continue to be a vital component of qualitative research because they allow researchers to explore the complexities of individual experiences and viewpoints. Even with their difficulties, careful planning and skilful application of interview techniques can produce a deep and complex understanding of the topic under study. Figure 6 summarises the semi-structured interview data collection process.

Note: *From this point forward, the term 'interview' refers specifically to Semi-Structured Interviews (SSI), the qualitative method used for data collection, which was employed throughout the study to explore participants' perspectives in depth.*

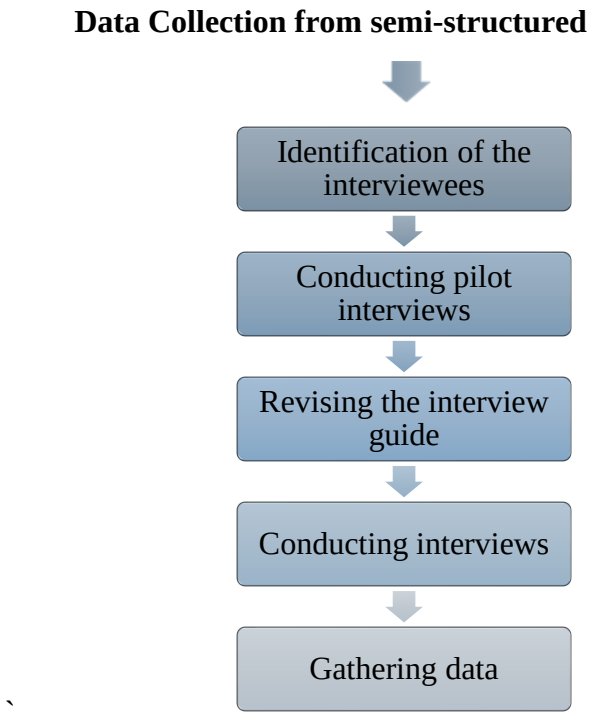

Figure 6: Overview of data collection process from semi-structured interviews.

5.2.2.1 The Semi-Structured Interview Guide

Semi-structured interviews involve a prearranged set of questions while allowing flexibility in wording and sequence to adapt to the interview context (Kvale, 1996). This balance ensures consistency across interviews while enabling participants to elaborate on their experiences. According to Bryman and Teevan (2005), interviewers must use flexible questioning to get participants' perspectives on their social environment. They endorse several guidelines for writing an interview guide, including the establishment of a formal framework that facilitates persuasive questioning while permitting flexibility during the interview. To maintain alignment with the study's research objectives, the interview guide was designed to cover core sustainability-related themes while avoiding excessive specificity or leading questions. Similarly, for interviews conducted in quantitative research, it is recommended to avoid asking leading questions. Additionally, it is imperative that broad demographic information such as name, age, and gender- along with specific contextual data -as tenure and organisational role- to contextualise the responses of the participants (Bryman and Teevan, 2005).

The interview guide for this study was developed iteratively in response to the research questions. The interview questions avoided the use of technical jargon and instead emphasised understandable language to improve interviewees' understanding. This strategy is consistent with Bryman and Teevan's (2005) advice to use plain language to promote participant understanding and engagement without asking pointed questions.

The development of the interview guide was an iterative process, shaped by pilot testing and recruitment constraints. To enhance clarity and accessibility the guide was refined through two pilot interviews (n=2), which assessed question formulation, pacing, and participant comprehension. Based on pilot feedback, the guide was revised to simplify technical language, adjust the order of questions for a more natural flow, and ensure adaptability across varying levels of expertise. The full and final set of interview questions can be found in Appendix 3.

The guide was initially structured to include both interior and textile designers, reflecting the study’s interest in material selection processes. However, the primary data collection was conducted exclusively with interior designers (n=21), as they are the key decision-makers in interior projects, particularly regarding material sourcing and sustainability implementation. Textile-related questions were retained in the guide to explore

how interior designers interact with textile professionals and integrate sustainable textile choices into their practice. Textile-related questions were intentionally retained to explore how interior designers interact with textile professionals and integrate sustainable textile choices into their practice. Rather than conducting separate interviews with textile designers, this study captured their influence indirectly through the perspectives of interior designers, offering insights into how sustainability considerations in textiles intersect with broader design decisions.

While the original plan included interviewing textile designers directly, practical constraints necessitated an alternative approach. Due to challenges in participant recruitment (see Section 5.2.2.2), the study prioritised interior designers as the primary interview group while ensuring a secondary focus on textiles through targeted questioning. This approach allowed for indirect insights into textile sustainability considerations, capturing how interior designers perceive, evaluate, and integrate sustainable textiles without requiring separate interviews with textile designers. Given the difficulties in securing participants within a reasonable timeframe, the study concentrated on interior designers as the core participant group, ensuring feasibility while still addressing the role of textiles through targeted interview questions. The findings reflect this integrated approach, positioning textile-related discussions within the broader sustainability discourse in interior design rather than as an isolated topic.

5.2.2.2 Sampling and Identification of Participants for SSI

Recruitment Strategy: Identifying suitable participants for this study required an iterative and adaptive approach. Initially, the recruitment strategy focused on leveraging established industry organisations, under the assumption that their networks would provide a direct and reliable avenue to interior designers. Emails were sent to prominent industry bodies, including the British Institute of Interior Design (BIID), the Society of British and International Interior Design (SBID), the Chartered Society of Designers, RIBA, and the British Interior Textile Association (BITA). However, despite carefully crafted emails emphasising the study's relevance, the response rate was disappointingly low. Some organisations declined to distribute research requests due to internal policies or time constraints., while others did not respond.

Recognising the limitations of institutional support, a purposive sampling approach was adopted, prioritising professionals with demonstrable expertise in sustainable design. This method aligns with qualitative research best practices, ensuring the inclusion of participants whose insights would be most relevant to the study. However, it is important to note that having expertise or prior experience in sustainability was not a requirement for participation. The study did not exclusively focus on professionals with a sustainability-oriented practice; rather, it aimed to engage a broad range of interior designers, some of whom encountered sustainability through client demand, regulatory changes, or emerging industry trends.

While the study initially considered including textile designers, recruitment challenges and feasibility constraints led to a focused engagement with interior designers (see Section 5.2.2.1). This approach ensured that sustainability considerations in textile selection were still explored, albeit through the lens of interior design practitioners rather than textile specialists themselves.

The recruitment process evolved to include independent searches through professional directories, LinkedIn, and company websites, followed by direct outreach via personalised emails. While this approach yielded some engagement, response rates remained inconsistent, often due to designers' workload constraints or competing priorities, such as illness and maternity leave. It became clear that a more direct, personal approach was needed. Despite multiple follow-ups, the initial recruitment effort resulted in zero interviews, making it necessary to reassess and adapt the recruitment strategy.

The recruitment required strategic adaptation and persistence in response to initial challenges. An alternative, more hands-on approach was adopted:

1. **Searching Industry Directories and Online Presence** – Instead of relying on organisations, independent searches were conducted across professional directories, LinkedIn, and their websites to identify potential participants.
2. **Cold Email Outreach** – A personalised approach was taken in direct emails to designers. While this led to some engagement, the response rate was still low.
3. **Attending Trade Fairs and Industry Events** – Recognising the importance of face-to-face interactions, in-person networking at major industry events became the core recruitment strategy.

The challenge of recruitment was further compounded by post-pandemic shifts in working culture. Many designers were still working remotely, overwhelmed with project backlogs, or simply not prioritising external research requests. This made cold emailing alone an insufficient method of engagement.

Trade Fair Engagement: A Game Changer: Given the difficulties posed by remote recruitment—where email outreach yielded low response rates and many professionals deprioritized external research requests—an alternative approach was necessary. Recognizing the potential of face-to-face interactions, the recruitment strategy pivoted towards in-person engagement at major industry events. Trade fairs and exhibitions provided an opportunity to establish credibility, engage in informal discussions, and build rapport before extending formal invitations. This shift proved instrumental in securing participation and enhancing the study's industry relevance.

The first major event attended was Decorex International, a prestigious interior design trade fair held in London in October 2022. Participation in Decorex International marked a turning point. Designers who had previously overlooked email outreach were more receptive in face-to-face conversations, with approximately 45% of those engaged at the event subsequently agreeing to participate in the study.

Encouraged by this success, a similar approach was adopted at London Design Week 2023 at Chelsea Harbour. This event brought together a different set of professionals, including those working with luxury and bespoke interiors. Again, informal networking after panel discussions proved invaluable. Not only did I secure additional interviewees, but I also gained insight into the broader industry landscape—understanding who the key players were, which firms dominated sustainable design conversations, and how material trends were evolving post-pandemic.

By the time Decorex 2023 arrived, my focus had shifted. Rather than seeking new interviewees, I used the event as an opportunity to validate my observations, reconnect with previous contacts, and observe whether the same industry figures were still leading sustainability discussions. Surprisingly, two additional interviewees emerged from this event—professionals whose work had recently transitioned into sustainability, making them valuable late additions to the study. This illustrates how trade fairs functioned as both a recruitment tool and an industry mapping exercise.

Pre-Interview Market Exploration: Decorex and London Design Week: Before conducting interviews, I engaged in a preliminary market exploration phase by attending Decorex International and London Design Week 2023. These industry events provided valuable insights into emerging material innovations, sustainability trends, and key players in the interior design sector. By exploring exhibitor showcases, attending panel discussions, and engaging in informal conversations with designers and suppliers, I was able to refine my understanding of industry priorities and evolving sustainability practices. The materials collected, including exhibitor guides, design reports, and event programs, offered an overview of contemporary discussions within the field (see Figure 7).

Figure 7: Industry reports, exhibitor guides, and design trend publications collected by the Researcher from Decorex and London Design.

Attending these events also enhanced my ability to contextualise the responses of interviewees. Several participants later provided material samples, lookbooks, and trend reports to offer additional context for their projects. These resources were particularly valuable in identifying how sustainable design was being interpreted and marketed across different interior design sectors. Reviewing these materials enabled a deeper understanding of

visual and material trends, bridging the gap between theoretical discourse and practical application (see Figure 8).

Figure 8:Material Samples and Visual References Gathered by the Researcher.

By reviewing these industry reports, brochures, and visual documentation prior to data collection, I ensured that interview discussions were grounded in current industry realities rather than being solely shaped by theoretical constructs. This preparatory step allowed for a more informed and engaged approach to participant interviews, fostering richer discussions on sustainability in practice.

Ensuring a Representative Sample: To ensure a sample that accurately reflected industry realities, the selection criteria were based on the following key dimensions.

- **Years of Experience** – Participants were selected based on a minimum of five years of experience in the UK interior design sector. This criterion ensured that they had sufficient industry exposure, had developed professional networks, and had made

independent material and project decisions. This resulted in a sample that included both early-career (5+ years) and highly experienced (30+ years) designers, allowing for a comparative analysis of generational perspectives on sustainability.

- **Geographic Distribution** – Given the focus on the UK context, the sample included participants from different regions across the country. This geographical diversity allows the research to account for regional variations in market demands, regulatory environments, and access to sustainable materials.
- **Project Specialization** – Participants were required to be actively involved in the interior design industry. The sample was designed to capture a broad range of specialisations within interior design, including residential, commercial, and public spaces. This diversity ensures that the research reflects the different challenges and opportunities encountered across various sectors of the industry.
- **Business Structure** – The sample prioritised sole practitioners and small firms, as these professionals often have greater autonomy in decision-making regarding materials and sustainability strategies, compared to designers working within large firms constrained by corporate policies. Unlike designers in larger firms, who may be constrained by corporate policies, procurement departments, or client-imposed restrictions, independent designers have greater flexibility to experiment with sustainable materials and innovative design strategies. This focus allowed for a deeper exploration of how sustainability is implemented at a personal and business level, rather than being dictated by external corporate pressures.
- **Sustainability Focus** – While sustainability was a key aspect of the study, participants were not exclusively selected based on a predefined sustainability focus. Instead, the study sought to engage with a range of professionals who encountered sustainability in different ways—some through client demand, others through personal commitment, or as part of broader regulatory shifts in the industry. This approach allowed for a more nuanced understanding of how sustainability is integrated, challenged, and negotiated within real-world design practices.

Participant Overview: Table 18 below presents a structured summary of the 21 interviewees, categorised by geographic distribution, years of experience, company size, and sectoral specialisation. This demographic spread ensures that insights were gathered from a

diverse set of professionals, capturing the complexities of sustainability integration across different business models and regions.

Designer ID	Sex	Region	Project Focus	Company Size	SIC Code	Years of Experience
D-1	M	South East	Residential Interior Design	Small	74100 – Specialised design activities	25+
D-2	M	South East	Residential and Commercial Interior Design	Small	43390 – Other building completion and finishing	20+
D-3	F	North West	Residential Interior Design	Small	74100 – Specialised design activities	5+
D-4	F	Yorkshire and the Humber	Residential and Commercial Interior Design	Small	74100 – Specialised design activities	10+
D-5	F	South East	Residential Interior Design includes listed building conservation and cruelty-free, wellness-focused interiors.	Small	74100 – Specialised design activities	10+
D-6	F	South East	Luxury Residential Interiors	Small	74100 – Specialised design activities	20+
D-7	F	South East	Residential Interior Design	Sole Practice	74100 – Specialised design activities	15+
D-8	F	South East	Residential Interior Design	Sole Practice	74100 – Specialised design activities	20+
D-9	M	West Midlands	Residential and Commercial Interior Design	Small	71111- Architectural activities	5+
D-10	F	South East	Vegan and Sustainable Interiors	Sole Practice	74100 – Specialised design activities	30+
D-11	M	Scotland	Architectural and Interior Design	Small	74100 – Specialised design activities	30+
D-12	F	North East	Residential Interior Design	Small	74100 – Specialised design activities	10+
D-13	F	South East	Architecture, Interior, Furniture, and Landscape Design	Small	71111- Architectural activities	10+
D-14	F	Wales	Luxury and Bespoke Interiors	Small	74100 – Specialised design activities	10+
D-15	F	South East	Luxury Residential Interiors	Sole Practice	74100 – Specialised design activities	20+
D-16	F	South East	Sustainable Interior Design and Fabric Resale	Small	46160- Agents involved in the sale of textiles, clothing, fur, footwear and leather goods	5+
D-17	F	West Midlands	Human-Centred and Ergonomic Design	Small	74100 – Specialised design activities	5+
D-18	F	South East	Residential Interior Design	Small	74100 – Specialised design activities	15+
D-19	M	South West	Eco-Conscious and Biophilic Interiors	Sole Practice	74100 – Specialised design activities	5+
D-20	M	Northern Ireland	Technology-Integrated Interiors	Small	74100 – Specialised design activities	10+
D-21	F	Wales	Residential Interior Design	Sole Practice	74100 – Specialised design activities	10+

Table 18: Dataset of Interviewees.

The dataset includes 21 design professionals, categorised by region, company size, sector classification (SIC), and primary area of expertise. The years of experience are

grouped into five-year increments, providing insights into industry seniority and career trajectories.

The geographical distribution shows a concentration of practitioners in the South East, North West, and West Midlands, with representation from all UK regions, including Scotland, Wales, and Northern Ireland. This broad coverage ensures that regional variations in design practice, market conditions, and business structures are reflected in the analysis. The participant distribution by region is detailed in Figure 9.

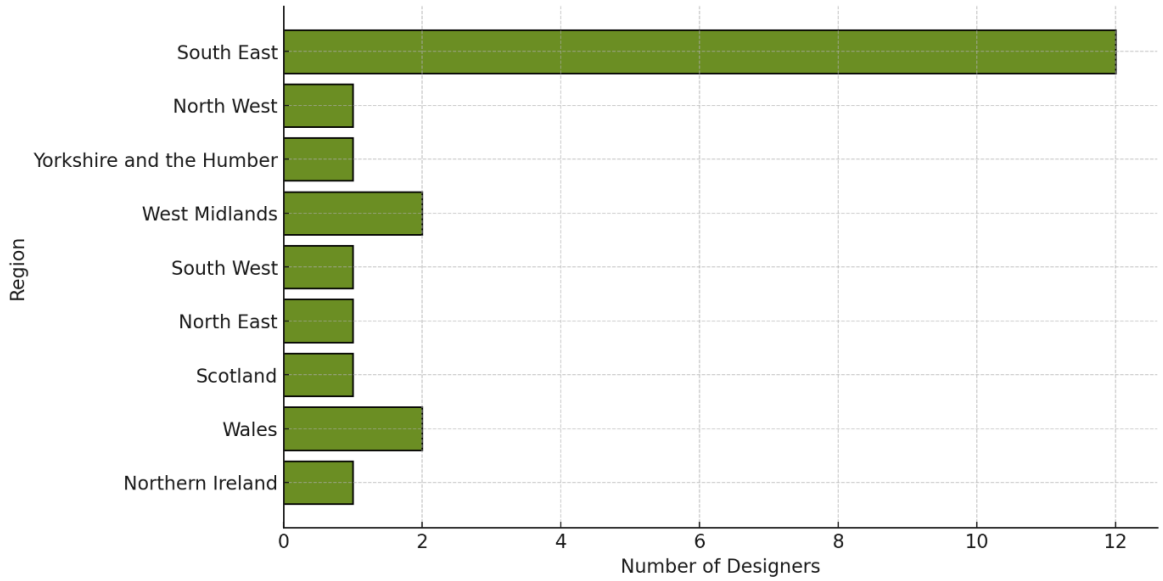

Figure 9: Regional Distribution of Interior Designers Interviewed in the UK.

Company size is classified as either "Small" or "Sole Practice," distinguishing independent practitioners from those operating within compact teams or legally registered businesses. This classification aligns with industry structures, where many design professionals operate as sole traders or micro-businesses, often collaborating with temporary project teams or subcontractors when needed. Participants were classified as either "sole practitioners" or "small businesses," both of which operate as private limited companies (Ltd) for liability protection, financial structuring, or contractual compliance. While sole practitioners work independently and assemble temporary teams as needed, small firms maintain a core team while outsourcing specific tasks to specialists. This distinction highlights the varying degrees of autonomy and operational flexibility in sustainability-driven design decisions.

Since all participants are registered businesses, this classification ensures a precise understanding of business resilience, operational flexibility, and professional autonomy within the interior design sector. This dataset in Table 18 categorizes interviewees by their business model, geographic distribution, and years of experience. The SIC codes reflect the interdisciplinary nature of interior design, covering interior design (74100), architectural planning (71111), fit-out and finishing services (43390), and sustainable material sourcing (46160). These classifications reflect the interdisciplinary nature of interior design, where professionals frequently work at the intersection of architecture, material innovation, and interior design.

In terms of project focus, participants engage in a wide range of specialisations, including heritage conservation, sustainable design, retail, hospitality, and workplace interiors (see Figure 10). This diversity illustrates a balance between traditional and innovative design approaches, with a strong emphasis on low-impact and climate-responsive solutions.

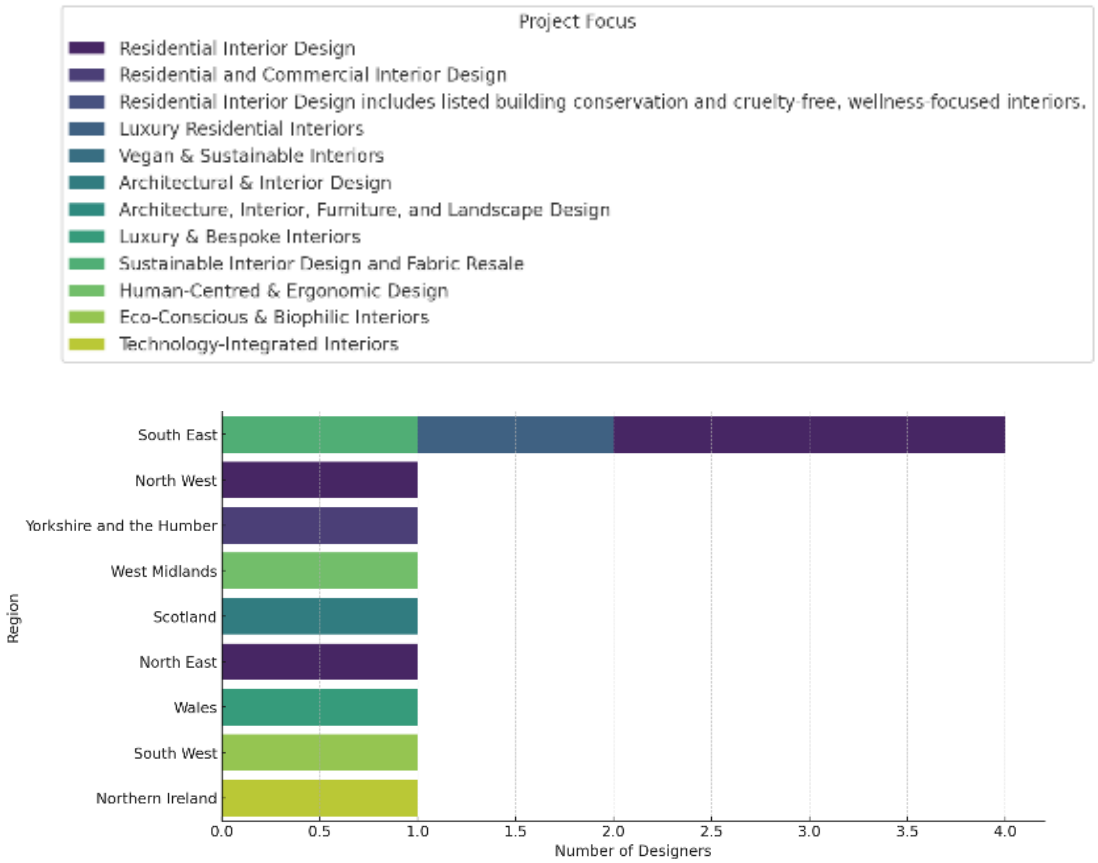

Figure 10: Project Focus of Interviewed Interior Designers Across UK Regions.

Participants ranged from early-career designers (5+ years) to highly experienced professionals (30+ years), allowing for a comparative analysis of generational shifts in sustainability adoption, material sourcing, and business strategies. Table 19 below provides an overview of experience levels within the sample.

Brackets	Years of Experience
5+	5-10 years
10+	10-15 years
15+	15-20 years
20+	20-25 years
25+	25-30 years
30+	30 years and above

Table 19: Scaling of Experience Levels in Five-Year Increments.

The experience profile within the sample varies significantly (see the following Figure 11).

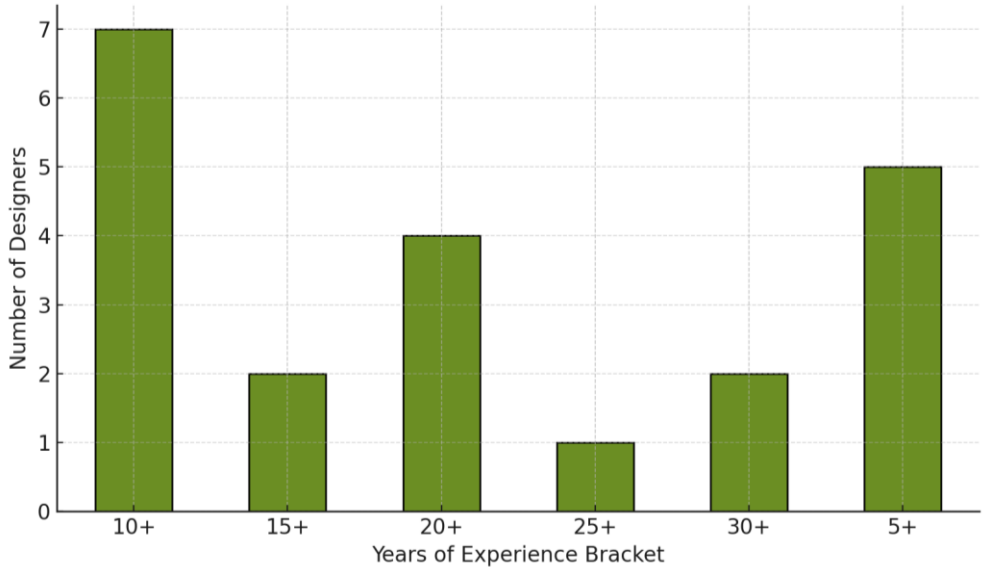

Figure 11: Experience Profile of Interviewed Interior Designers.

This dataset provides a well-rounded foundation for examining regional dynamics, industry structures, and evolving sustainability priorities within the interior design profession. The detailed classification of business size, SIC codes, experience levels, and specialisations ensures that the analysis captures both macro-trends in design practice and micro-level variations in individual career pathways.

5.2.2.3 Conducting Semi-Structured Interviews in Practice

Conducting the Interviews: Once participants were confirmed, the interview process required careful scheduling, considering the designers' professional commitments. While face-to-face interactions were valuable during industry events, practical constraints such as time limitations and professional commitments made it impractical to conduct in-depth interviews in person. Instead, interviews were arranged to take place online, ensuring flexibility for participants while maintaining a structured research process. Online interviews are increasingly recognized as a valid qualitative data collection method, offering accessibility, logistical convenience, and the ability to engage geographically dispersed participants (Janghorban et al., 2014). While lacking some of the contextual depth of in-person interactions, virtual interviews can still yield rich, meaningful insights when conducted with a structured yet adaptive approach.

To facilitate this process, participants who expressed interest in an interview during industry events were asked to share their personal email addresses for further communication. Upon receiving confirmation, a formal invitation was sent from my official university email, ensuring transparency and professionalism. This step helped establish a clear researcher-participant relationship and allowed participants to schedule their interviews at a convenient time.

Interviews ranged between 45 to 90 minutes and followed a semi-structured format, ensuring flexibility to explore emerging themes while maintaining consistency across discussions. All interviews were conducted via Microsoft Teams, using the official university-provided email account, ensuring that all communication and recordings were securely stored within the institution's data protection framework.

Interviews were conducted until data saturation was reached—that is, when no new themes or insights emerged from additional interviews (Guest, Bunce and Johnson, 2006). While initial interviews revealed diverse perspectives, later stages of data collection

confirmed recurring themes, suggesting that additional participants were unlikely to generate novel findings. Data saturation was assessed through ongoing thematic coding. Following Braun and Clarke's (2006) approach to reflexive thematic analysis, transcripts were coded iteratively, allowing for the identification of recurring themes across interviews. After each set of five interviews, preliminary coding was reviewed to assess whether new subthemes were emerging or whether findings were becoming redundant. By the 21st interview, no new themes or codes were identified, indicating saturation (Guest, Bunce and Johnson, 2006). This process ensured that the decision to conclude data collection was based on systematic thematic assessment rather than arbitrary limitations.

Additionally, the constraints inherent to doctoral research played a role in determining the endpoint of data collection. Given the structured timeline of a PhD, there were practical limits to extending the recruitment and interview process indefinitely. The unexpected challenges in participant recruitment extended the data collection period beyond initial projections, necessitating a strategic decision about when to conclude interviews. While additional perspectives could always be sought, the combination of thematic saturation and time limitations ensured a well-rounded yet feasible data collection process within the scope of this study.

Ethical Considerations and Institutional Approval: Amidst these efforts, ensuring that all research activities adhered to ethical standards remained paramount. A submission to the University Research Ethics Committee was prepared to outline the ethical considerations, protocols, and participant protections governing the interview process. This document detailed the procedures for obtaining informed consent, ensuring confidentiality and anonymity, and clarifying the academic purpose of the research. It also emphasised the voluntary nature of participation, reinforcing that designers could withdraw at any time without consequence.

The submission was approved on July 29, 2022, formally granting permission to proceed with participant recruitment. To maintain transparency, each participant received an information sheet and consent form (Appendix 1 and 2), providing clarity on how their data would be used, stored, and protected. The ethical approval process was not merely procedural—it was essential in building credibility with potential interviewees, many of whom were justifiably cautious about sharing insights into their design processes, material choices, and professional challenges. Beyond procedural ethics, the researcher-participant relationship also presented potential validity considerations. Given the increasing prominence

of sustainability within the interior design sector, there is a possibility that some participants framed their responses in ways that aligned with dominant sustainability discourse rather than reflecting the full complexity of their decision-making processes. This risk of social desirability bias (Nederhof, 1985) is a well-documented concern in qualitative research, particularly when discussing ethically charged topics. While efforts were made to encourage candid discussion—such as establishing rapport and framing the interviews as exploratory rather than evaluative—this remains a potential limitation in interpreting the findings.

Overcoming Barriers to Recruitment: Drawing together a list of potential participants to interview was not simply a matter of compiling names from industry directories—it was an evolving process of exploration, networking, and perseverance. The search began with a structured industry mapping exercise, identifying key stakeholders through various sources such as professional networks, industry associations, and online directories. The expectation was that organisations like the SBID, BIID, BITA, RIBA, and the Chartered Society of Designers would serve as a gateway to designers engaged in sustainability. However, the reality was far more complex.

Despite multiple outreach attempts, response rates remained discouragingly low. Some organisations declined to distribute the research request due to internal policies, while others simply did not respond. Many designers, particularly those working independently, were difficult to reach or reluctant to commit due to time constraints. This necessitated a shift toward a more direct and personalised approach. Instead of relying solely on industry bodies, I scoured professional websites, LinkedIn profiles, and design portfolios, identifying designers whose work aligned with the study's focus. Cold emails were crafted to emphasise the relevance of the research, yet the response rate was still underwhelming.

It was clear that passive outreach would not suffice. The industry was still recovering from the disruptions of the COVID-19 pandemic, and many professionals were overwhelmed with project backlogs, shifting priorities, or new business models. This added another layer of complexity: potential participants were not necessarily unwilling but simply too busy. Some acknowledged interest but deferred participation indefinitely, while others never responded at all.

At this point, a strategic pivot was necessary. Recognising that email outreach alone was not enough, I leveraged industry events as a more direct recruitment tool. When in-person fairs resumed in 2022, I seized the opportunity to attend Decorex International and

London Design Week, not just as a passive observer but as an active participant. These events became key turning points in the recruitment process. By engaging in design talks, panel discussions, and networking sessions, I was able to introduce myself informally before formally inviting designers to participate in interviews.

This shift proved transformative. Conversations that would have been ignored in an inbox were suddenly met with enthusiasm in person. Approximately 45% of those engaged in trade fairs had previously ignored my emails but were now open to participating after face-to-face interactions. The ability to discuss the study's aims in real-time, answer immediate questions, and establish trust made a significant difference.

While securing verbal or written commitments from designers was one step, scheduling and conducting interviews proved to be another challenge entirely. The lingering effects of the pandemic meant that many professionals had restructured their businesses—some were balancing increased client demands, while others had transitioned to remote or hybrid work environments. This meant that even those who were willing to participate often struggled to find time, leading to multiple reschedules and, in some cases, cancellations.

To accommodate these limitations, I adopted a flexible and patient approach. Instead of setting rigid deadlines, participants were given the option to select their preferred interview format and timing that worked best for them—whether via Microsoft Teams, phone, or in-person. Follow-up reminders were strategically timed, ensuring that the request remained on their radar without being intrusive. This approach paid off, as several designers who initially postponed their participation later reached out proactively to schedule their interviews once their workload lightened. This adaptive approach ensured that even busy professionals could engage in the study, increasing the depth of insight gathered. However, it is important to acknowledge that the reliance on trade fair recruitment may have introduced a bias toward highly engaged industry professionals—those actively participating in networking events, panels, and material showcases. This approach may have underrepresented interior designers who are less publicly engaged or whose work is more localized and independent of major industry gatherings. As a result, the findings may reflect perspectives that are more attuned to contemporary sustainability discussions within professional circles rather than those operating outside these networks.

Lessons in Persistence and Strategic Engagement: Reflecting on the recruitment journey, the process underscored the importance of adaptability, persistence, and strategic

engagement in qualitative research. Initial expectations that professional organisations would facilitate access proved overly optimistic, highlighting the need for direct, researcher-led recruitment efforts. Trade fairs became more than just a recruitment tool; they functioned as live industry mapping exercises, providing first-hand insights into the evolving discourse on sustainability.

Ultimately, this phase of the research reinforced an essential lesson: in an industry as dynamic as interior design, relationships matter. Establishing credibility, engaging in industry conversations, and demonstrating a genuine investment in the field were the keys to breaking through barriers. By the time interviews were fully scheduled and underway, the research had evolved beyond mere data collection—it had become a collaborative dialogue with the designers shaping the future of sustainable interiors.

5.3 Data Analysis

Qualitative research is a multifaceted endeavour, and its analysis stage stands as both intellectually demanding and intellectually stimulating (Saunders et al., 2019). The data, often comprising verbatim transcripts from semi-structured interviews, inundates researchers swiftly, a phenomenon noted by Bryman and Teevan (2005). However, while qualitative data's richness is enticing, caution is warranted, as Miles (1979) warns of its potential to obscure broader contextual significance. Spencer et al. (2003) characterise this phase as a delicate balance between creativity and methodical exploration, permeating the entire research process from its inception to the articulation of results.

Gibbs (2007) asserts that qualitative research, typically rooted in inductive logic, seeks to generate theories concurrently with data collection, thereby fostering the emergence of novel insights. The crux of data analysis lies in deciphering meaning from the collected data, a process underscored by Burns (2000) as systematic organisation and presentation. Blaxter et al. (2006) further emphasise that raw data lack inherent meaning; they must undergo a transformative process to yield meaningful insights. Gibbs (2007) elaborates on this transformation, highlighting the necessity of handling voluminous qualitative data through analytic procedures to produce clear, insightful, and trustworthy analyses.

Qualitative data analysis tends to be less structured compared to its quantitative counterpart (Silverman, 2006). Robson (2002) highlights the absence of a universally

accepted set of conventions for qualitative analysis akin to those in quantitative research. Using a framework that includes four essential stages, Creswell and Clark (2007) describe general procedures for qualitative data analysis.

• Preparing the data for analysis: This stage includes organising documents, visualising data, transcribing text, and readying the data for additional analysis.

•Exploring the data: To obtain familiarity and understanding, researchers read through the data, compose memos, and create qualitative codebooks.

•Data analysis: This phase comprises coding the information, labelling the codes, classifying the codes into themes or categories, and connecting the themes or abstracting to a more manageable set of data.

•Presenting the data analysis: The results are shown using tables, figures, and visual models in addition to a discussion of the themes or categories.

Additionally, Creswell and Clark (2007) emphasise the importance of validating the data through researcher, participant, and reviewer standards, as well as employing validation strategies like member checking, triangulation, and peer review. Section 5.3 employs the framework below (see Figure 12) to illustrate the systematic approach undertaken in this study.

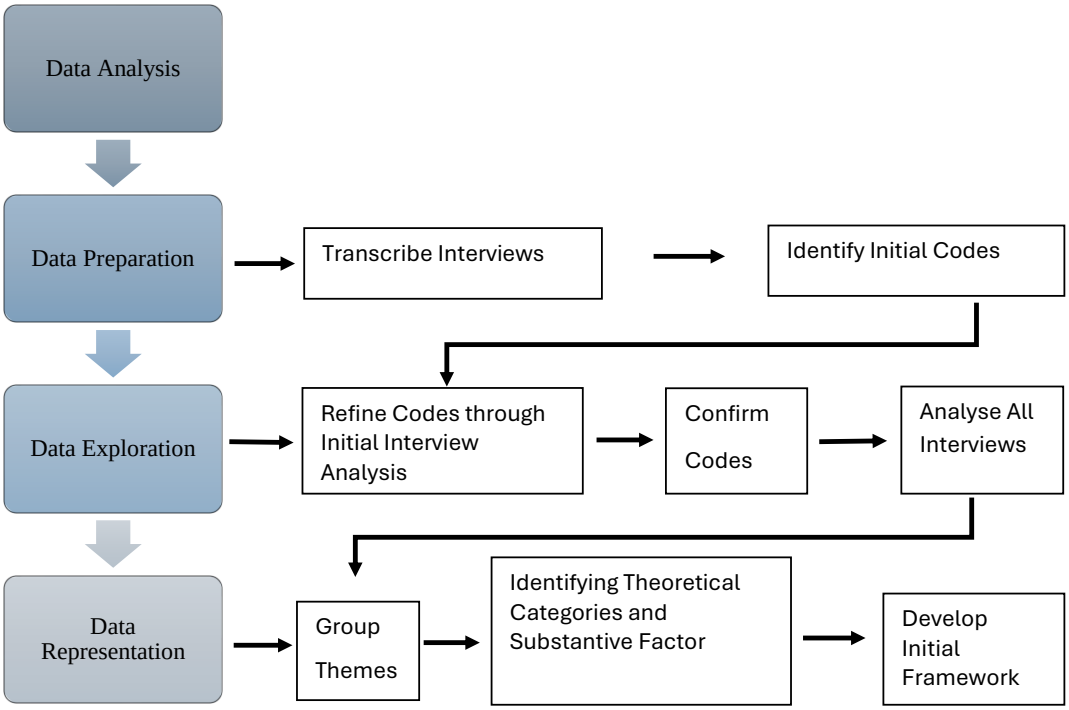

Figure 12: Detailed overview of data analysis process for this study.

Building on these qualitative analysis principles, this study employs thematic analysis to explore how interior designers navigate sustainability decision-making (Braun and Clarke, 2006). Thematic analysis was selected over grounded theory and discourse analysis as it best supports participant-driven insights while maintaining methodological rigour (Nowell et al., 2017). Unlike grounded theory, which seeks to develop new theoretical models, thematic analysis is well-suited for examining existing industry practices and identifying naturally occurring patterns in professional discourse.

Within thematic analysis, this study specifically applies reflexive thematic analysis (Braun and Clarke, 2019), which prioritises researcher interpretation and iterative theme development. Unlike framework-based thematic analysis, which relies on a structured coding matrix, reflexive thematic analysis allows themes to evolve dynamically from participant discourse. This approach aligns with the study's objective of capturing the complexities of sustainability decision-making in interior design, ensuring that findings are shaped by participants' narratives rather than pre-imposed analytical structures. By adopting this approach, the study ensures that themes emerge organically, authentically reflecting the lived

experiences and professional perspectives of interior designers navigating sustainability challenges.

To systematically structure the analysis, ATLAS.ti was used for data coding, organisation, and retrieval. This software facilitated a systematic approach, ensuring consistency in coding and enhancing the traceability of thematic development. The selection of ATLAS.ti over alternative qualitative software (e.g., NVivo or MAXQDA) was based on its advanced visualisation capabilities, flexibility in handling large datasets, and capacity for linking memos with coded data (Friese, 2019). These features were particularly valuable for capturing nuanced relationships between sustainability themes, allowing for iterative refinements throughout the analysis process. The use of software ensured a rigorous and transparent analytical process, allowing the study to systematically track theme development and minimise researcher bias.

5.3.1 Data Preparation

At the outset of the analysis process, researchers are confronted with a vast and intricate mass of data, requiring initial efforts to sort, organise, and condense it into a more manageable form (Spencer et al., 2003). The process of data preparation is crucial to ensure accuracy, maintain consistency, and facilitate meaningful thematic analysis.

The creation of accurate interview transcriptions is deemed crucial in qualitative data analysis, as it ensures the integrity of participant narratives and enables in-depth thematic analysis (Miles and Huberman, 1994; Creswell, 2009; Gibbs, 2007; Blaxter et al., 2006; Silverman, 2006). In this study, to maintain the integrity of participant narratives, all interviews were conducted in English, audio recorded and subsequently transcribed verbatim. This method captured not only content but also linguistic nuances, including pauses, emphases, and tonal variations, which are essential for accurate interpretation. Transcription was performed directly in ATLAS.ti, where recordings were uploaded, enabling simultaneous listening and annotation. This integrated approach streamlined data processing, coding, and retrieval, reducing errors that may arise when transferring transcripts between platforms.

Various transcription systems are available, differing in detail and application, although standardisation remains elusive in qualitative research (Flick, 2006). Flick (2006) advises caution regarding exactness in transcription, warning against overly rigid rules that may deviate from the research question's essence. Jefferson's transcription conventions,

known for their intricate notation of interactional features, were not utilised for this study due to their potential complexity and lack of clarity (Rapley, 2007). Interactional nuances such as laughter, pauses, questioning tones, and emphasis were incorporated, while filler utterances were included only when contributing to the interview narrative. Grammatical accuracy was prioritised whenever feasible, with transcriptions cross-checked against audio recordings for accuracy upon completion.

Silverman (2005) suggests an inductive approach to transcription, where analysis is guided by the data itself rather than pre-existing theoretical categories. This aligns with Heritage's (1984) view that transcriptions should serve as detailed representations of spoken data to allow for deeper interpretation. Accordingly, this study retained interactional nuances such as laughter and questioning tones while excluding filler utterances unless they contributed to meaning.

Despite the advantages of verbatim transcription, technical challenges were encountered in the process, including recording quality variations, diverse accents, and industry-specific terminology. In cases where background noise or overlapping speech was present, repeated listening was required to ensure accuracy. While automated transcription tools were tested for efficiency, they were ultimately deemed insufficient due to frequent misinterpretation of industry-specific terms and failure to capture tonal nuances. To ensure precision, manual transcription was conducted by the researcher, allowing for precise adjustments and contextual refinements where needed.

Although interviews were recorded and transcribed verbatim, field notes were also taken during and immediately after interviews to capture not just verbal but also nonverbal cues such as body language, which can provide valuable insights into respondent discomfort or engagement with the line of questioning, as noted by several researchers (Creswell, 2009; Burns, 2000; Bryman and Teevan, 2005). These additional data points were particularly valuable in interpreting participant responses, as they provided insights into possible underlying emotions, concerns, or uncertainties. For instance, a participant who paused frequently before responding to a question about sustainable material choices might indicate uncertainty or internal conflict, which would be less evident in a verbatim transcript alone.

Given the sensitive nature of participant narratives, ensuring confidentiality and compliance with ethical guidelines was a priority. At the transcription stage, to maintain participant confidentiality, all identifying details were anonymised, and unique identifiers

(D-1 to D-21) were assigned within ATLAS.ti to streamline cross-referencing between transcripts and coded themes (see Figure 13). This process ensured that participant responses could be compared across cases without compromising privacy.

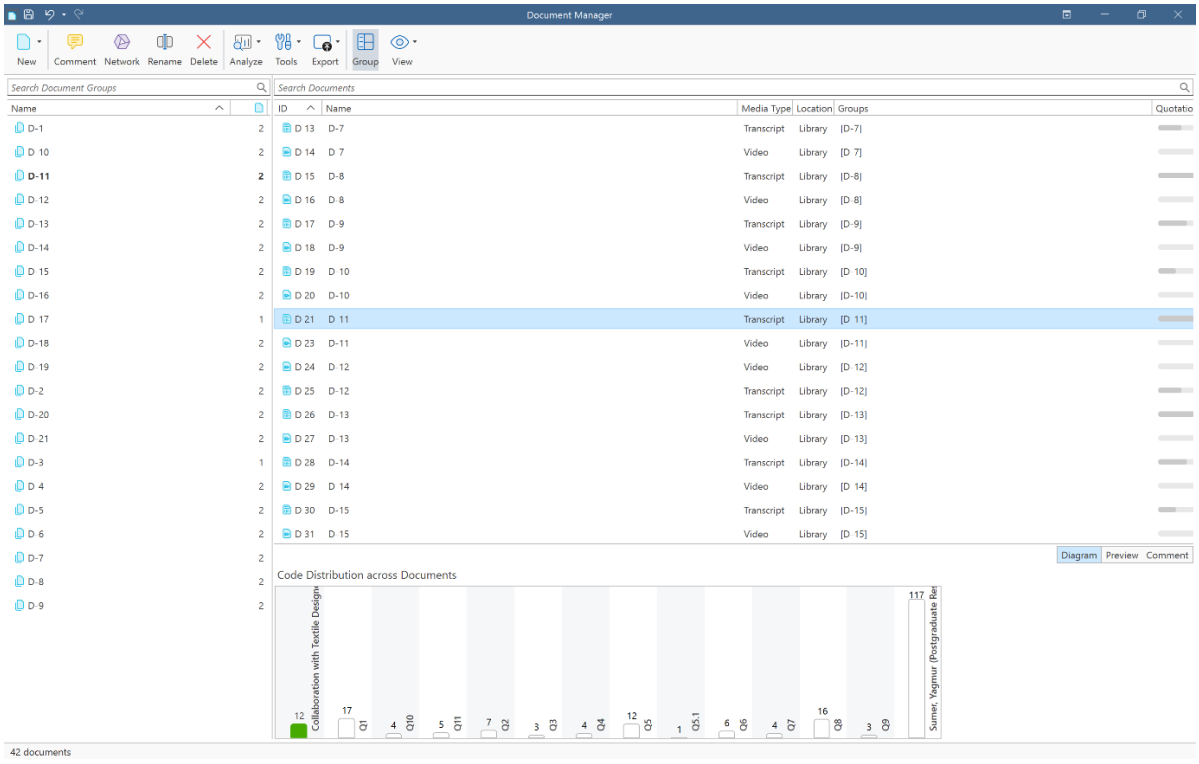

Figure 13: Document Manager and Coded Participant Identifiers in ATLAS.ti.

All digital files —including transcripts, field notes and audio recordings of interviews were saved on the researcher's computer with password protected, and they were labelled with number and date. Data retention was set for five years in accordance with university data management protocols. Ethical approval for this study was granted by the Lancaster University Research Ethics Committee, confirming that data handling and participant privacy measures adhered to the highest ethical standards.

All interviews were conducted in English. To enhance validity and avoid overlooking any crucial details or sections (Harding, 2013), the researcher also meticulously reviewed and re-read all transcripts as part of the data preparation process. Transcription was conducted directly in ATLAS.ti, allowing for simultaneous listening, annotation, and initial coding. As the transcripts were completed, they were systematically structured within the software for further coding, theme identification, and data retrieval. ATLAS.ti's features, such as co-

occurrence analysis, network diagramming, and memo integration, facilitated a rigorous and transparent analytical process, ensuring consistency across the dataset (Friese, 2019). To identify key terminology and recurring themes, a word cloud visualisation was generated, revealing frequently occurring terms that informed the initial coding framework (see Figure 14). This assisted in recognising dominant language patterns used by participants when discussing sustainability-related concepts.

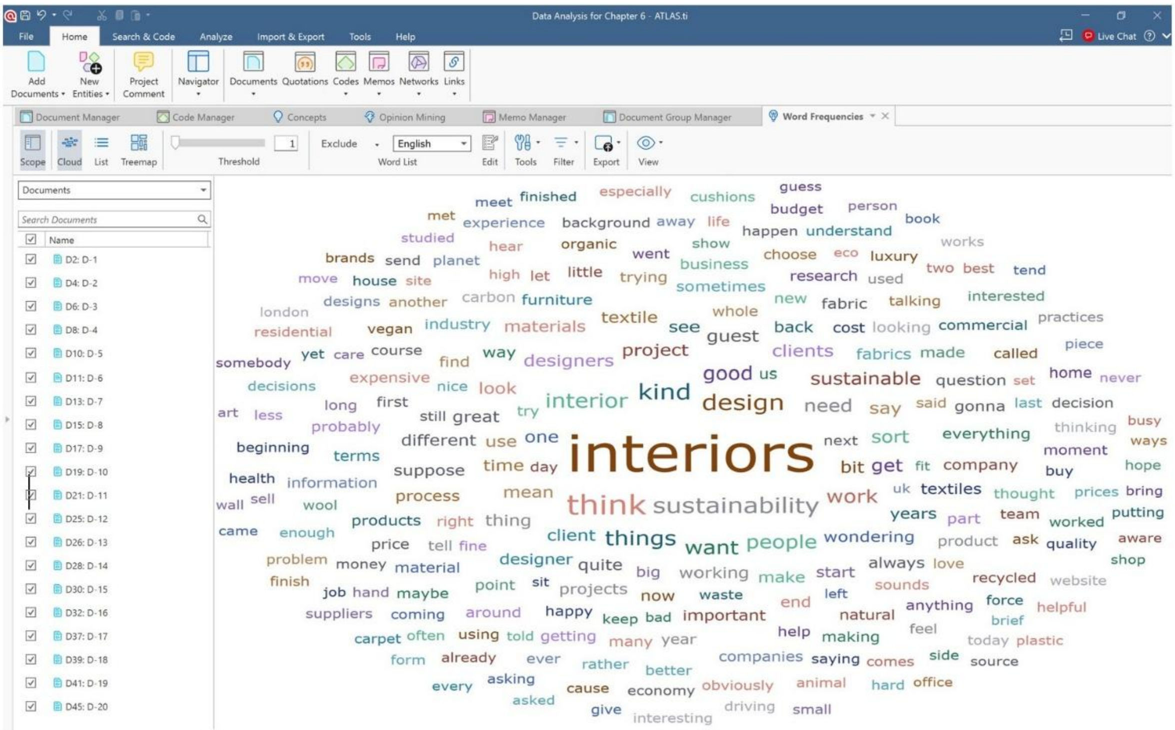

Figure 14:Word Cloud of Frequently Occurring Terms in ATLAS.ti.

Beyond transcription and coding, reflexive memos were maintained throughout the process to document analytic decisions, emerging themes, and researcher reflections. Given the interpretative nature of qualitative analysis, this iterative self-reflection helped ensure that themes emerged from participant discourse rather than researcher assumptions (Harding, 2013). Regular re-reading of transcripts allowed for deeper engagement with the data, facilitating the recognition of subtle patterns and conceptual links that informed the thematic clustering process. Additionally, memo writing provided a structured way to track preliminary interpretations, which later informed coding and thematic clustering in subsequent analysis stages (see Figure 15).

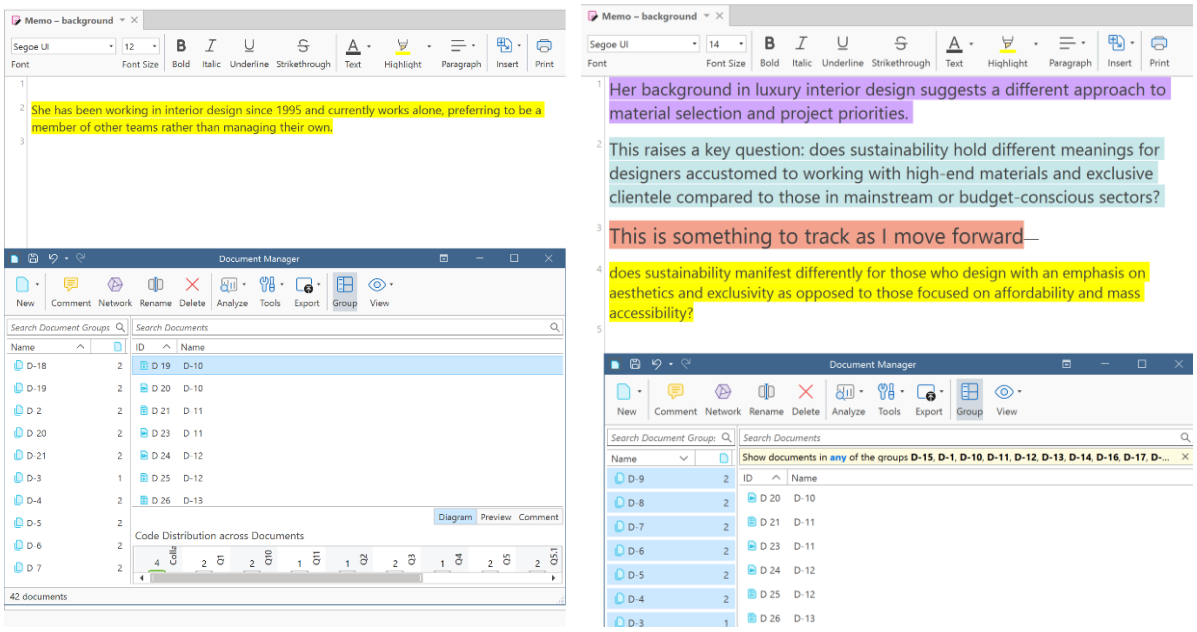

Figure 15: Example of Reflexive Memo-Writing in ATLAS.ti, Demonstrating Theme Development and Researcher Reflections.

The data preparation phase established a methodologically rigorous foundation, ensuring that all materials were systematically processed, ethically managed, and effectively structured for further analysis. By leveraging verbatim transcription, field notes, reflexivity, and digital tools within ATLAS.ti, this phase, prioritising participant-led analysis, laid the groundwork for a detailed exploration of interior designers' sustainable practices in the following chapters.

5.3.2 Data Exploration

Rapley (2007) underscores the inherently interpretive nature of transcriptions, highlighting their partial and selective representation of data. He emphasises the importance of grounding analysis not solely on transcriptions but also on recordings and field notes to ensure a nuanced understanding of participant narratives. Rapley advocates for active engagement with data through reading, note-taking, and developing familiarity, considering these activities essential components of the analysis process.

Miles and Hubberman (1994) similarly stress the importance of exploring data to facilitate insight development. However, the literature presents diverse methods for data

exploration. Grbich (2007) asserts that researchers must determine their preferred approach, as no single method prevails. Dey (1993) outlines various interactive reading techniques, including free association, comparing interviews with personal experiences, and critiquing data using specific questions.

In this study, data exploration followed an inductive approach, ensuring that themes emerged organically from participant discourse rather than being imposed through pre-defined categories. This approach aligns with Creswell and Clark's (2007) assertion that data exploration involves examining data for broad trends and developing a preliminary understanding of contained categories. As part of this iterative process, memo-writing was employed throughout data reading and coding. It not only served as a tool for capturing emerging ideas and patterns but also provided a structured way to track evolving interpretations. Robson (2002) defines memos broadly as any thoughts occurring during a project and analysis, suggesting their utility in linking data and suggesting broader categories.

An example of memo-writing applied during the data exploration process is shown in Figure 16. This demonstrates how early reflections shaped the analytical approach, highlighting key themes, researcher assumptions, and shifts in interpretation over time.

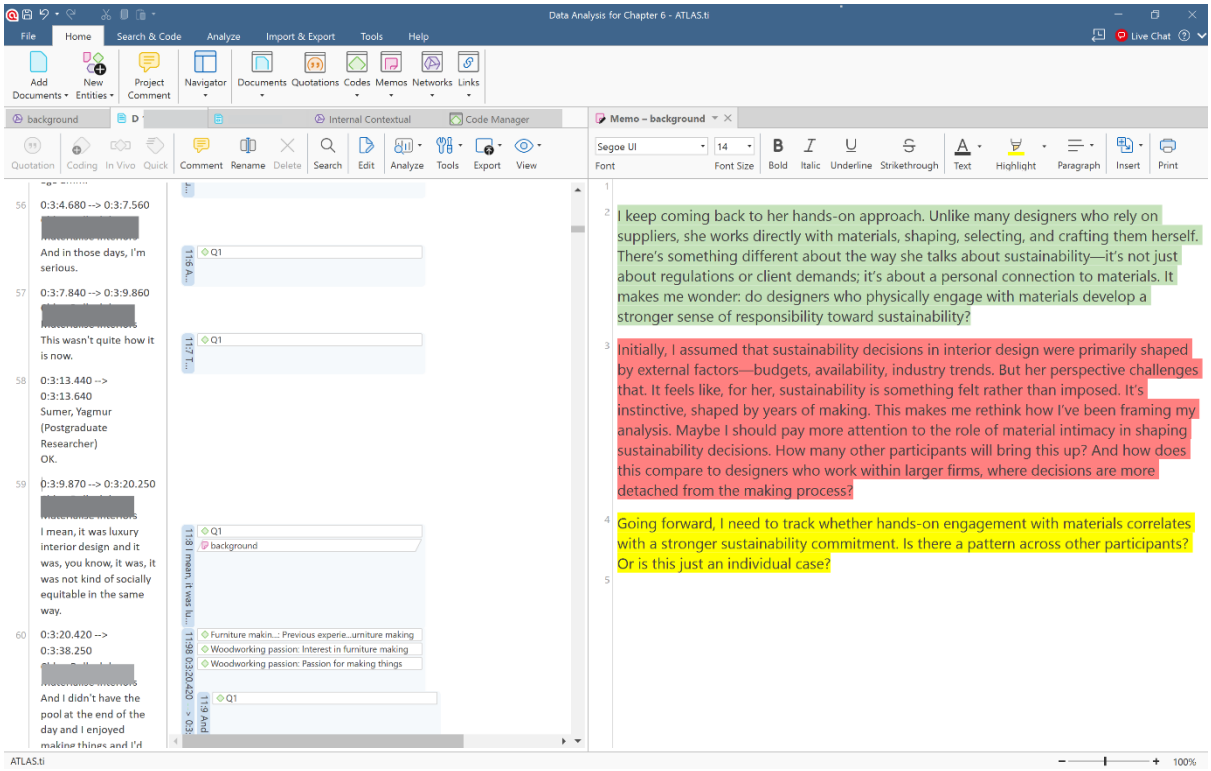

Figure 16: Example of Reflexive Memo-Writing in ATLAS.ti.

Creswell and Clark (2007) further discuss the importance of memos in forming broader categories, such as codes or themes, and the development of a qualitative codebook. The codebook, a statement of codes for the database, aids in organising data and facilitating agreement on transcript contents. In this study, memos were used to:

1. **Record Initial Impressions** – Noting key phrases and recurring ideas in transcripts.
2. **Refine Emerging Patterns** – Tracking connections between sustainability themes, material selection, and ethical decision-making.
3. **Validate Coding Decisions** – Revisiting memos to ensure consistency in code application.

These memos played a critical role in identifying cross-cutting themes and refining the broader conceptual framework used in the analysis. Memo-writing also supported the structured coding process, ensuring that emerging themes were systematically refined (see Section 5.3.4 Analysis in Practice).

Gibbs (2007) views code construction as an analytic process, contributing to the development of a conceptual schema. He identifies two approaches to codebook development: concept-driven coding and data-driven coding. Concept-driven coding draws on existing literature, previous studies, and interview topics to construct codes, while data-driven coding starts with no preconceived codes, often associated with grounded theory. Gibbs (2007) notes that researchers often blend both approaches during analysis, reflecting their inclination and theoretical sophistication. The possibility of constructing codes before or separately from data examination reflects researchers' preferences and theoretical orientations to some extent. While some preliminary concepts related to sustainability and material choices were drawn from existing research, this study predominantly relied on data-driven coding to ensure that themes were grounded in real-world industry practices rather than theoretical assumptions.

The coding process in this study followed a three-step approach, ensuring a structured yet flexible method for identifying themes:

1. **Open Coding** – The initial phase involved identifying recurring words, phrases, and emerging patterns across the dataset. For example, common terms included "sustainable materials," "design constraints," and "client preferences."
2. **Axial Coding** – In this stage, related codes were grouped into broader conceptual categories. For instance, mentions of cost, availability, and client resistance were categorised under the theme "barriers to sustainability."
3. **Selective Coding** – The final stage involved refining these categories into core themes, which structured the research findings.

This iterative approach ensured that themes remained reflective of participant perspectives rather than researcher assumptions.

Like many qualitative studies, this research encountered challenges in coding reliability and thematic organisation. Certain concepts overlapped, making it necessary to continuously refine code definitions and merge similar categories. To ensure rigor and consistency, the following strategies were employed:

- **Revisiting Codes** – Initial codes were reviewed multiple times to check for alignment with research questions.
- **Cross-checking with Field Notes** – Observational insights were used to validate emerging patterns.
- **Peer Review and Reflexivity** – Regular discussions with peers and supervisors helped refine category definitions and resolve ambiguities in coding decisions.

By implementing these strategies, the analysis remained transparent, systematic, and aligned with participants' lived experiences.

Data exploration in this study was an iterative and reflexive process, ensuring that emerging themes were deeply rooted in participant narratives. By combining memo writing, open-ended coding, and continuous code validation, the research established a robust thematic structure that shaped the subsequent stages of analysis. This approach not only strengthened the credibility of findings but also provided a comprehensive understanding of the challenges and decision-making processes encountered by interior designers engaging with sustainability.

5.3.3 Data Representation

Data representation is an important step in the research process where we need to be alert to the possibilities as we turn the raw research data gained during data collection into information upon which we base our research findings and conclusions (Bryman, 2016). This process involves organising, summarising, and visualising data to identify patterns, trends, and relationships. This means that the data is structured so it can be analysed and interpreted (Creswell and Creswell, 2017). The goal is to systematically convey findings in a way that facilitates both interpretation and critical engagement.

Data structuring is a dynamic and iterative process in qualitative research. As themes, concepts or variables generated during or at the end of the data analysis process emerge, data must be continually refined and reorganised to ensure coherence and validity (Corbin and Strauss, 2015). In this study, data was structured through thematic categorisation, where key themes were identified and linked to broader research questions. The iteration process played a crucial role in refining data representation. Initial broad themes were continuously reassessed and adjusted, ensuring that emerging patterns were grounded in participant discourse rather than imposed through pre-defined frameworks.

Furthermore, different illustrations are constructed to depict the data for easy interpretation, facilitate thematic clarity and ensure that findings are presented in a structured manner (Field, 2018). For example, we make tables, bar graphs and pie charts to condense major findings into one brief and less ambiguous piece of information (Kosslyn, 2006). Such illustrations not only can make the paper easy to read and assimilate, but also can quickly bring out the differences and similarities between different variables or categories (Tufte, 2001). In this study, visualisation techniques were carefully selected to align with the nature of thematic analysis and the research objectives. Rather than prioritising numerical distributions, the focus was on representing conceptual relationships, patterns, and interconnections between sustainability themes. For this reason:

- Tables were used to summarise coded data, enabling comparisons across participants and ensuring structured thematic categorisation.
- Thematic maps were chosen over pie charts as they visually mapped interconnections between themes, offering a structured yet flexible analytical framework suited to inductive coding.

- Bar graphs were employed selectively to illustrate categorical trends, such as the frequency of sustainability-related concerns in interior design decision-making.
- Hierarchical coding trees were not used due to their rigid structure, which was incompatible with the evolving nature of reflexive thematic analysis. Likewise, heatmaps were not prioritised as they were less effective in visually conveying nuanced thematic relationships.

By integrating tables, thematic maps, and selective bar graphs, the study ensured readability and facilitated comparative analysis, illustrating differences and similarities across participant perspectives (Tufte, 2001).

Moreover, data representation is clarified and verified by showing the way we sourced the data (that is, description and explanation of was done), and how we measured the results (Yin, 2018). To maintain rigour and transparency, this study adopted the following practices:

1. **Clear Documentation of Coding Decisions** – Each theme was supported by specific excerpts from interview transcripts.
2. **Cross-Referencing with Field Notes** – Observational insights were used to contextualise thematic interpretations.
3. **Validation Through Reflexivity** – Regular reflections ensured that visual representations remained grounded in the data rather than shaped by researcher bias.

Maxwell (2013) stresses that any deviation from transparent data structuring can compromise the reliability of qualitative findings. To mitigate such risks, potential limitations in data visualisation were acknowledged, and alternative interpretations were considered during the analysis.

Like all qualitative studies, this research faced challenges in structuring complex data into clear and digestible formats. Some themes overlapped, requiring multiple iterations of coding refinement. Additionally, not all insights could be effectively captured through visualisation, requiring descriptive explanations alongside graphical representations.

To address these challenges:

- Multiple iterations of thematic mapping were conducted to refine relationships between key concepts.

- Tables were restructured to prevent oversimplification while maintaining clarity.
- Interpretative text was incorporated alongside visuals, ensuring that the depth of participant narratives was retained.

Given that data representation is not entirely objective, reflexivity played a central role in shaping how themes were selected and visualised. Throughout this process, the researcher remained mindful of potential biases, ensuring that data was represented as accurately as possible.

To mitigate subjectivity, debriefing sessions were conducted with supervisors to review coded themes and visual representations. These discussions provided external validation of the researcher's interpretations, ensuring that findings were grounded in participant data rather than influenced by researcher assumptions.

Data representation in this study was a structured, iterative, and reflexive process, aimed at transforming raw qualitative data into meaningful insights. By employing tables, thematic maps, and selective graphical illustrations, the research ensured that key themes and relationships were effectively conveyed. Furthermore, by integrating reflexivity and transparency measures, the study strengthened the credibility of its findings while maintaining a participant-centred analytical approach.

5.3.4 Analysis in Practice

Thematic analysis was employed in this research to analyse the qualitative data collected through semi-structured interviews, utilising the software, ATLAS.ti for structured coding and thematic exploration. The thematic analysis offers a systematic approach to identifying, organising, and interpreting patterns or themes within the data, facilitating a comprehensive exploration of the research questions (Braun and Clarke, 2006). This makes it an effective approach for examining interior designers' perspectives on sustainability.

This method was selected over alternative qualitative approaches (e.g., grounded theory, discourse analysis) because it allows for flexibility in capturing participant-driven insights while maintaining methodological rigour (Nowell et al., 2017). Unlike grounded theory, which seeks to develop a new theoretical model, thematic analysis is well-suited for exploring subjective experiences and identifying patterns across participant narratives, making it the most appropriate approach for this study.

ATLAS.ti was selected as the primary qualitative data analysis tool for this study due to its robust features for managing complex datasets, organising codes, and visualising thematic relationships, as outlined by Friese (2019). The software provided a structured framework for managing the complexity of the data and allowed for efficient organisation, coding, and retrieval of interview transcripts, enhancing the rigour and efficiency of the analysis process (Friese, 2019). Specifically, it enabled:

- Efficient coding of interview transcripts, enabling systematic data segmentation.
- Thematic clustering to explore patterns across participants.
- Network diagrams and co-occurrence tables, which facilitated concept mapping and identification of interconnections between themes.

By leveraging these capabilities, ATLAS.ti enhanced the rigour and efficiency of the analysis process, ensuring that findings were grounded in participant responses rather than researcher-imposed categories.

The analysis process unfolded through a structured, iterative approach, ensuring that themes emerged organically rather than being pre-imposed. The key steps included:

1. **Data Familiarisation and Initial Memo-Writing:** The analysis process commenced with familiarisation with the data, involving repeated readings of interview transcripts to gain a nuanced understanding of participants' responses (Data preparation). During this stage, memo-writing played a central role in this phase, allowing the researcher to:
    - Document initial reflections on emerging ideas.
    - Identify key phrases, contradictions, and recurring patterns.
    - Track researcher biases and assumptions to ensure reflexivity.

    This phase helped in distinguishing significant patterns from peripheral details, ensuring that the analysis remained grounded in participants' experiences. An example of memo-writing during the data familiarisation phase is shown in Figure 15 (see section 5.3.1).

2. **Initial Open Coding:** Following familiarisation, initial coding was conducted using ATLAS.ti to segment the data into meaningful units based on key concepts, ideas, or phrases (Data exploration). This phase involved generating codes within the software interface to capture salient aspects of participants' experiences and perspectives

related to sustainable decision-making in interior design and the role of sustainable textiles. Open coding allowed the identification of recurring terms related to sustainability in interior design, including:

- **Design philosophy and values** – Participants described how their personal design values and sustainability beliefs shaped material choices and project decisions.
- **Client demand and cost considerations** – Many designers noted that sustainability decisions were heavily influenced by client expectations, budget constraints, and willingness to invest in eco-friendly solutions.
- **Availability and sourcing of sustainable materials** – Designers expressed challenges in finding high-quality, affordable, and verifiable sustainable materials.

The coding process followed an inductive approach, allowing themes to emerge organically rather than being pre-imposed. These preliminary codes provided a foundation for refining broader themes in subsequent stages. Open coding was conducted first, identifying key terms and concepts, followed by axial coding, where related codes were grouped into broader categories.

3. **Axial Coding and Thematic Clustering:** Following initial open coding, related codes were grouped into broader thematic categories using axial coding (Corbin and Strauss, 2015). This stage was essential in:
    - Establishing relationships between concepts, such as the connection between budget constraints and material selection decisions.
    - Differentiating internal and external influences on sustainability practices.
    - The role of professional autonomy in sustainable design practices.
    - Examining variations in sustainability engagement based on firm size, professional autonomy, and project type.

By structuring the dataset into meaningful thematic clusters, the analysis transitioned from descriptive coding to conceptual abstraction, allowing for a more nuanced exploration of participant perspectives. Thematic refinement involved categorising codes into broader conceptual groups to enhance analytical clarity (see Figure 17). This step ensured that

interconnected sustainability themes were systematically structured, supporting a robust analytical framework.

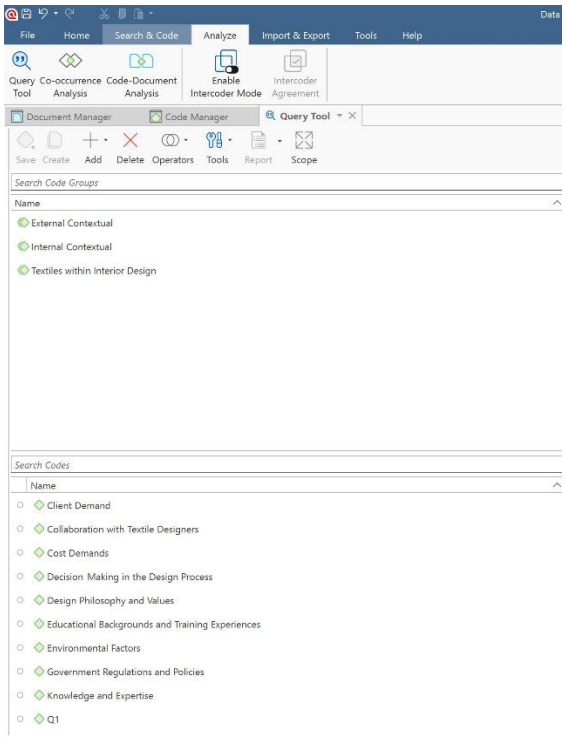

Figure 17: Thematic Code Grouping in ATLAS.ti.

Subsequently, themes began to emerge as the data were systematically reviewed and analysed within ATLAS.ti (Data representation). The software facilitated the process of clustering related codes into broader themes, allowing for a systematic exploration of patterns and trends within the data. Network diagrams and co-occurrence tables were generated, not merely for visual representation, but to validate and refine thematic relationships by examining how frequently codes appeared together. Additionally, reflections on the challenges encountered during the data analysis process were documented within ATLAS.ti, providing a record of the analysis process, ensuring transparency in analytical decisions and providing a structured account of the coding and theme development process.

To further illustrate the structured coding process, Figure 18 presents the application of axial coding within ATLAS.ti, specifically showcasing the coding framework for 'Textiles within Interior Design.' This example highlights how participant quotations were assigned to sub-themes, facilitating a refined thematic analysis and allowing for the identification of key sustainability-related challenges and decision-making factors.

During the thematic coding process, ATLAS.ti facilitated structured code assignment and network visualisations, illustrating connections between key themes (see Figure 18). These tools enabled a systematic exploration of sustainability considerations across different cases.

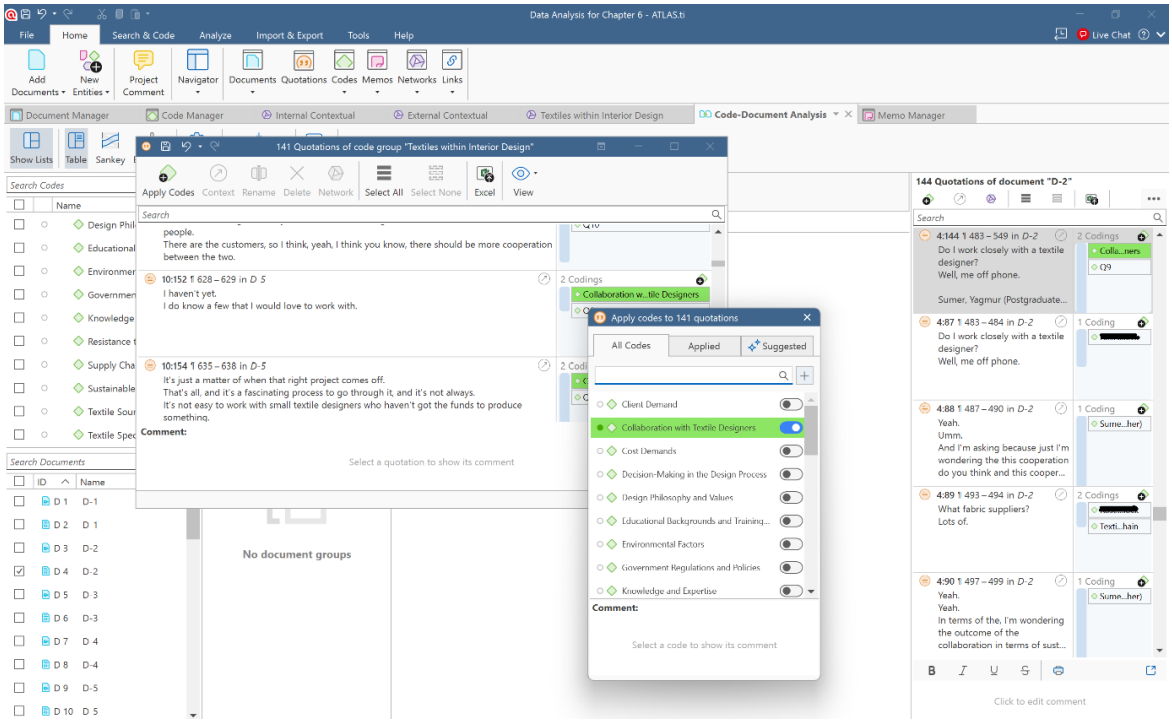

Figure 18: Code Application for 'Textiles within Interior Design' in ATLAS.ti.

4. **Selective Coding and Thematic Refinement:** At this stage, core themes were refined and validated, structuring the final analysis. The iterative nature of thematic analysis within ATLAS.ti allowed for continuous refinement and validation of themes, ensuring rigour and coherence in the analysis (Fereday and Muir-Cochrane, 2006). As part of this iterative process, new insights prompted adjustments to initial coding structures, leading to a more refined thematic framework. These refinements resulted in three overarching thematic categories:

    1. **Internal Contextual Influences on Sustainability in the Interior Design Sector**

        - Design philosophy and values: How personal beliefs shape sustainable choices.
        - Educational background and training experiences: The role of formal education in sustainability adoption.
        - Decision-making in the design process: How sustainability considerations emerge throughout project stages.

- Knowledge and expertise: The impact of experience levels on sustainable material selection.
- Resistance to change: Why some professionals hesitate to integrate sustainability into their work.

2. **External Contextual Influences on Sustainability in the Interior Design Sector**

- Client demand and cost considerations: Budget limitations and client awareness as determining factors.
- Government regulations and policies: The role of policy frameworks in promoting sustainability.
- Availability of sustainable resources: Designers' struggle to access verified sustainable materials.
- Supply chain constraints: Limited supplier options, long lead times, and inconsistent sustainability claims.
- Environmental factors: The increasing pressure to align with global sustainability targets.

3. **Textiles within Interior Design**

- Textile specification: How fabric choices impact sustainability goals.
- Textile sourcing and supply chain: The difficulties in procuring eco-friendly textiles.
- Collaboration with textile designers: How partnerships with textile specialists influence sustainable outcomes.

The refinement process involved multiple iterations of data re-examination to ensure that:

- Themes accurately reflected participant perspectives.
- Overlapping categories were consolidated without losing the depth of meaning.
- The final thematic structure remained directly relevant to the research objectives.

Recognising the interpretative nature of qualitative analysis, the study employed several strategies to enhance the credibility and trustworthiness of the findings:

- Intercoder Reliability Checks: Peer debriefing sessions ensured coding consistency.

- Cross-Case Validation: Thematic comparisons across participants helped refine analytical consistency.
- Thematic Triangulation: Findings were cross-referenced with field notes and prior research, ensuring a broader contextual grounding.

To minimise researcher bias, multiple cycles of thematic refinement were conducted, ensuring that themes were derived directly from the data rather than being imposed artificially. This iterative approach strengthened the credibility of the findings by allowing for continuous validation and refinement of the emerging themes. To ensure methodological rigour, the data analysis progressed through a structured sequence, enabling systematic processing, interpretation, and validation:

1. **Code Frequency Analysis** – To identify dominant themes across the dataset, ATLAS.ti's query functions were employed to determine the frequency of specific codes. This step allowed for the recognition of patterns and trends across multiple interviews, highlighting recurring topics and areas of consensus or divergence among participants. Code frequencies were analysed both quantitatively (how often certain concepts appeared) and qualitatively (how they were used in different contexts), ensuring that themes were not just counted but meaningfully interpreted.
2. **Thematic Clustering and Relationship Mapping** – Once frequent codes were identified, related codes were grouped into broader thematic clusters using axial coding. ATLAS.ti's network view feature enabled the visual representation of relationships between themes, allowing for a clearer understanding of how different concepts were interconnected. This step was particularly useful in capturing nuanced associations between sustainability considerations, decision-making processes, and industry challenges.
3. **Quote Extraction and Contextual Analysis** – Key quotations from participants were selected to exemplify and support the emerging themes. Rather than selecting quotes based solely on frequency, an interpretive approach was taken to ensure that they captured the depth of participant experiences and perspectives. These direct excerpts were contextualised within the overall analytical framework, ensuring that they not only to illustrate findings but also to strengthen thematic discussions in Chapter 6 and Chapter 7.

4. **Refinement and Thematic Validation** – The themes and interpretations that emerged were iteratively reviewed to ensure robustness and credibility. At this stage, the researcher revisited transcripts, cross-checked emerging themes against raw data, and reassessed whether any significant insights had been overlooked. Additionally, peer debriefing was conducted to discuss and validate key findings, ensuring that interpretations remained grounded in the data rather than researcher bias.

5. **Thematic Saturation and Finalisation** – The coding and refinement process continued until thematic saturation was reached—where additional data no longer yielded new themes. This ensured that the analysis was both thorough and comprehensive. Once saturation was achieved, themes were finalised and prepared for presentation in the results section.

A crucial aspect of thematic analysis is saturation—when no new themes emerge despite further data analysis (Guest, Bunce, and Johnson, 2006). Once saturation was reached, the coding process was considered complete, ensuring that all core themes had been adequately captured. Thematic saturation confirmed that findings were comprehensive, participant-driven, and methodologically sound. Saturation was determined when no new themes emerged across three consecutive interviews, ensuring that additional data collection was unlikely to yield novel insights (Guest, Bunce and Johnson, 2006). To enhance the reliability of the coding process, intercoder reliability checks were conducted at multiple stages. While the primary coding was conducted by the researcher, peer debriefing sessions with supervisors and research colleagues were used to validate coding consistency and resolve ambiguities. This ensured that the coding framework remained robust and reflexively aligned with participant discourse.

Overall, thematic analysis, facilitated by ATLAS.ti, served as a methodological approach to analysing qualitative data, facilitating a systematic exploration of participants' perspectives and experiences. Through iterative coding, memo-writing, and thematic validation, the study ensured that findings remained deeply embedded in participant narratives while also allowing for the discovery of novel insights related to sustainable decision-making in interior design.

By employing intercoder reliability, triangulation, and structured thematic refinement, the study upheld credibility, consistency, and methodological transparency. This systematic

analytical approach provided a rich, participant-centred exploration of sustainable decision-making within the interior design industry.

5.3.5 Reflexivity in Data Analysis

Reflexivity remained a central consideration throughout the data analysis process to ensure that interpretations were grounded in participant narratives rather than shaped by my own professional background in sustainable interior design and textiles. Given my familiarity with sustainability discourse, I recognised the potential for unintentional bias when coding and interpreting the data. To mitigate this, I employed several reflexive strategies throughout the thematic analysis.

Firstly, memo writing was systematically integrated into the coding process to document my initial thoughts, emerging patterns, and any moments of uncertainty. These analytic memos helped me critically assess whether certain themes were genuinely participant-driven or influenced by my own expectations. By revisiting these memos at different stages of analysis, I ensured that themes were refined through an iterative and transparent process.

Secondly, constant comparison techniques were used to check for consistency across participant responses. This involved revisiting earlier-coded transcripts to ensure that the same analytical lens was applied throughout the dataset. Where discrepancies arose, I re-evaluated coding decisions to maintain interpretative accuracy.

Additionally, I remained aware of the risk of over-emphasising concepts that aligned with my existing knowledge of sustainability in design. To counter this, I actively sought out contradictory perspectives within the data, ensuring that diverse viewpoints were represented rather than privileging dominant sustainability narratives. This approach allowed for a more nuanced and balanced interpretation of sustainable decision-making in interior design.

Finally, peer review and researcher reflexivity checks were conducted to enhance analytical rigour. I periodically discussed emerging themes with colleagues and supervisors to challenge potential assumptions and verify the validity of my interpretations. This helped ensure that the final analysis was firmly rooted in the data rather than guided by pre-existing industry perspectives.

By embedding reflexivity into the data analysis process, I aimed to uphold the credibility and trustworthiness of the findings, maintaining a balance between my own expertise and the authentic voices of the participants. This iterative engagement with the data allowed for a more transparent, participant-led interpretation of sustainability in interior design. However, it is important to acknowledge the potential influence of social desirability bias, particularly in sustainability-related discussions. Given the increasing industry focus on sustainable practices, participants may have presented their approaches in a more positive light, aligning their narratives with prevailing professional expectations rather than fully disclosing the constraints or trade-offs they encounter. While reflexive analysis helped mitigate this risk by seeking contradictions and diverse perspectives, the possibility of self-presentation bias remains a limitation to consider when interpreting findings.

5.4 Chapter conclusion

This chapter has set out the methodological approach adopted in this study to explore the relationship between sustainability, interior design and textiles. It framed the philosophical foundations and epistemological orientations of the research as well as discussed research approaches, methods, data collection and analysis. Semi-structured interviews were discussed and justified as being a relevant method for collecting data from interior designers– the analysis and interpretation of which, aims to contribute to knowledge both in academia and the working world.

In addition, this chapter has detailed the rigorous analytical process, including thematic coding and reflexive engagement, ensuring transparency and credibility in the research findings. The methodology is designed to provide both academic and industry-relevant insights, bridging the gap between theoretical discussions and real-world applications.

In sum, the methodology described ensures a solid foundation for the rigorous, transparent analyses and discussions that follow in this study. The next chapter will build on this foundation by presenting and interpreting the findings, offering a deeper understanding of how sustainability is integrated into interior design practices.

CHAPTER 6

Thematic Analysis

Chapter 6: Thematic Analysis

6.0 Introduction

This chapter provides a thematic analysis derived from primary data collected through semi-structured interviews with twenty-one interior designers in the United Kingdom. The interviews were conducted to investigate the decision-making processes surrounding sustainable practices, particularly concerning the utilisation of textiles in interior design projects. The interview participants, whose insights underpin this analysis, are outlined in Table 18 (first introduced in Section 5.2.2). This dataset provides contextual details about their professional backgrounds, project specialisations, and years of experience, ensuring that findings remain rooted in real-world design practices rather than theoretical assumptions.

After repeated and iterative coding and clustering, key themes were identified and grouped into three main categories:

- Internal Contextual Influences on Sustainability in the Interior Design Sector (Section 6.1)
- External Contextual Influences on Sustainability in the Interior Design Sector (Section 6.2)
- Textiles within Interior Design (Section 6.3)

Section 6.1 and section 6.2 discuss the analysis in the context of interior design and present a comprehensive exploration of the multifaceted influences and challenges that shape sustainability practices within the interior design sector. By examining both internal (design philosophy and values, educational backgrounds and training experiences, decision-making in the design process, knowledge and expertise, resistance to change) and external factors (client demand and cost considerations, government regulations and policies, availability of sustainable resources, supply chain constraints, environmental factors), this analysis aims to offer insights into how sustainability is integrated into design processes, decision-making, and project outcomes.

Section 6.3 focuses specifically on interior design textiles. This examines how designers navigate the selection, sourcing, and utilisation of textiles in sustainable design projects. By exploring the various barriers and challenges associated with textile usage, this section provides valuable insights into one of the key components of sustainable interior design.

Designer ID	Sex	Region	Project Focus	Company Size	SIC Code	Years of Experience
D-1	M	South East	Residential Interior Design	Small	74100 – Specialised design activities	25+
D-2	M	South East	Residential and Commercial Interior Design	Small	43390 – Other building completion and finishing	20+
D-3	F	North West	Residential Interior Design	Small	74100 – Specialised design activities	5+
D-4	F	Yorkshire and the Humber	Residential and Commercial Interior Design	Small	74100 – Specialised design activities	10+
D-5	F	South East	Residential Interior Design includes listed building conservation and cruelty-free, wellness-focused interiors.	Small	74100 – Specialised design activities	10+
D-6	F	South East	Luxury Residential Interiors	Small	74100 – Specialised design activities	20+
D-7	F	South East	Residential Interior Design	Sole Practice	74100 – Specialised design activities	15+
D-8	F	South East	Residential Interior Design	Sole Practice	74100 – Specialised design activities	20+
D-9	M	West Midlands	Residential and Commercial Interior Design	Small	71111- Architectural activities	5+
D-10	F	South East	Vegan and Sustainable Interiors	Sole Practice	74100 – Specialised design activities	30+
D-11	M	Scotland	Architectural and Interior Design	Small	74100 – Specialised design activities	30+
D-12	F	North East	Residential Interior Design	Small	74100 – Specialised design activities	10+
D-13	F	South East	Architecture, Interior, Furniture, and Landscape Design	Small	71111- Architectural activities	10+
D-14	F	Wales	Luxury and Bespoke Interiors	Small	74100 – Specialised design activities	10+
D-15	F	South East	Luxury Residential Interiors	Sole Practice	74100 – Specialised design activities	20+
D-16	F	South East	Sustainable Interior Design and Fabric Resale	Small	46160- Agents involved in the sale of textiles, clothing, fur, footwear and leather goods	5+
D-17	F	West Midlands	Human-Centred and Ergonomic Design	Small	74100 – Specialised design activities	5+
D-18	F	South East	Residential Interior Design	Small	74100 – Specialised design activities	15+
D-19	M	South West	Eco-Conscious and Biophilic Interiors	Sole Practice	74100 – Specialised design activities	5+
D-20	M	Northern Ireland	Technology-Integrated Interiors	Small	74100 – Specialised design activities	10+
D-21	F	Wales	Residential Interior Design	Sole Practice	74100 – Specialised design activities	10+

Table 18: Dataset of Interviewees (provides an overview of participant demographics and industry experience, offering additional context for the themes discussed in this chapter).

6.1 Internal Contextual Influences on Sustainability in the Interior Design Sector

Five key internal factors emerged from the interview data that influence sustainability practices within the interior design profession. These factors relate to:

- Design philosophy and values.
- Educational backgrounds and training experiences.
- Decision-making in the design process
- Knowledge and expertise
- Resistance to change within established design practices.

6.1.1 Design Philosophy and Values

The interviews reflected a range of design philosophies and values held by the twenty-one interior designers. Each interview reveals a rich tapestry of design aesthetics, showcasing the multifarious nature of interior design practices. Significantly, 33.3 per cent (7 of 21) of these interior designers explicitly mentioned sustainability as a core aspect of their design philosophy. For instance, D-5 reflected: *"My design practices are industrial chic, with a touch of sustainability."* D-5 also highlighted: *"...My main goal is to reuse, recycle and re-purpose every item I can, to save on materials and benefit the environment, by reducing the number of items we have in landfills."* Here, sustainability is not just an additional consideration for the designer but the motivating philosophy that underpins material choices and creative processes and shapes the final products.

Another interviewee incorporates sustainable methods into his initiative: *"Drawing on the elegance and durability of the natural world, I am motivated by a drive for innovation. [...] Everything I do is underpinned by a commitment to sustainability and inspired by the sheer beauty and resilience of the natural world. I am driven by a passion for innovation and nature."* (Interview with D-2, 2023).

Sustainability was central to the design ethos of D-10, a vegan interior designer, who reflected: *"Sustainability is the backbone of my design ethos. And seeing myself as a bohemian aesthetic stylist is not contradictory; it is one and the same. What I really value is*

each piece making its contribution to eco-consciousness, that, for me, is part of my ethical consumption."

D-19 similarly highlighted: *"I believe [that] sustainability is an enduring value in design, [...] I use eco-friendly materials in all of my designs whenever possible."* This reflects a deliberate attempt to integrate low-impact design practices into design processes. Meanwhile, D-19 acknowledges the importance of sustainability in influencing both the aesthetic and functional attributes of their design outcomes.

D-4 stressed the need to develop spaces not only with nice aesthetics but also in a way that is environmentally appropriate: *"My design aim is to create a place [that is] not only beautiful [but] also works exquisitely for the clients, and it is completely environmentally."* For D-8: *"Organic designs using natural materials are my signature style. I believe in creating well-being and environmental stewardship."* Here, the concern is not just for ecological sustainability but for human wellbeing in relation to the natural world.

Another respondent noted: *"Sustainability is a guiding principle in my designs. […] my aim is to create spaces [that] not only promoting tranquillity but also minimising environmental impact through the use of sustainable materials and practices. […] I simply cannot design an item without using sustainable and recycled materials and practices. […] I feel it's my responsibility as a designer to reduce our overall environmental impact and to incorporate more sustainable ways of living and co-existing into design."* (Interview with D-16, 2023).

The goal of the D-16 is to create environments that allow users to find peace of mind while simultaneously minimising the ecological footprint of spaces through the use of sustainable materials and practices. This highlights a commitment to creating harmonious environments that align with ecological values. D-16's quote expresses a strong sentiment that sustainability is a core driving principle of their design. By stating that being sustainable is her *"guiding principle",* the designer shows that the conception of design is filtered through sustainability from start to finish. This points towards sustainability being considered not as an afterthought but as something that is embedded into the design process at every level. The quote also highlights the designer's broader goals beyond aesthetics alone. The expression *"aim to create spaces that not only promote tranquillity"* alludes to intentions to elicit particular emotional responses within users, connoting a broader design ethos that seeks to accommodate human experience and the perception of the built environment. The later

expression about *"minimising environmental impact through the use of sustainable materials and practices"* highlights the designer's attempts to address wider ecological concerns and make a positive contribution to environmental sustainability.

However, not all interior designers were equally committed. While acknowledging its importance, 42.9 per cent (9 out of 21) of interior designers prioritise other aspects of design over sustainability. D-14, for instance: *"There is a fine line between wanting to achieve luxury and not being eco-conscious. I am inspired by Art Deco designs but add a modern twist to it. […] Sustainability is important to me, but luxury and elegance in my design is my priority."* Similarly, D-13 prioritises luxury and attention to detail over sustainability, though sustainability remains a recognised notion within the design process, stating: *"It is ultimately all about the luxury and the detail. [...] though sustainability is an important thing in the design process, I am more concerned about personalised and luxurious designs which meet [the] client's needs."* This sentiment, expressed in the above quotation, reflects the importance given to fulfilling the client's mandate for luxury and customisation, often sacrificing a more balanced set of sustainability metrics. D-9 remarked that: *"As a designer I try to provide customers with cost-effective solutions without compromising in quality and aesthetics. […] Sustainability is of course something highly valued, but meeting quality and aesthetical standards will sometimes not be possible with sustainable and green materials."* This pinpoints the D-9's struggle to find a balance between cost-effectiveness, aesthetics, quality, and sustainability in their solutions. It also acknowledges the practical challenge of maintaining all these objectives together, the implication being that it can be difficult to keep quality in a sustainability budget. D-20 noted that: *"I draw upon technology and innovation for the inspiration behind my designs. Sustainability plays second fiddle."* This statement illustrates the designer identifying technology and innovation as the elements of design that are given priority over sustainability within their design strategy. Furthermore, D-12 stated: *"Yes, sustainability is a matter of course, but when it comes to the creative and innovative capacity of design in interior space, I am more interested in pushing the envelope and striking sensitivities."* This emphasises an understanding of design as a way to challenge perception and fire the imagination, with sustainability, among many other considerations influencing the direction of the creative process.

Another interviewee emphasises functionality at the expense of relevance to the task at hand: *"For me, the functionality of a space is the most important aspect. […] Although I do consider aspects of sustainability, I typically focus on the spatial arrangement […] and*

ergonomic design solutions to maximise ease of use and efficiency" (Interview with D-7, 2023). D-17 contributes to the discussion, stating: *"Sustainability is a concern of mine, but my intent is that human beings should occupy a space I designed as comfortably and ergonomically as possible: my philosophy is to enhance the quality of life for occupants through the design process with consideration for human health and ergonomics."* This focus on the end-user – on the experiences of the human being – also reflects the humanistic attitude found across the design discipline. D-17 strives to create satisfying, comfortable places for people, above and beyond their building's utility for the environment.

Furthermore, D-18 acknowledges sustainability but focuses primarily on creating nostalgic and comforting spaces: *"Although I understand the importance of sustainability, my goal […] is to create spaces that evoke feelings of emotional attachment and fond memories, and offer a comfortable ambience to its occupants."* Although D-18 states it understands sustainability, mentions that above everything it wants to create a feeling of nostalgia and comfort in its designs. D-11 continues with the following answer: *"My design philosophy is rooted in cultural heritage in the sense of preserved architectural assets [and] the interior feel inspired by tradition here. [...] while sustainability is valued in my office, the priority number one is heritage and history through architectural elements and interior aesthetics."* This emphasises the overlap between the sustainability movement and cultural preservation efforts, where D-11 might prioritise heritage conservation over environmental concerns. On the other hand, by prioritising cultural heritage and history over sustainability concerns, D-11 could inadvertently undervalue or neglect the significant impact. This focus on cultural heritage could lead the interior designer to neglect the holistic nature of sustainability. While often, D-11 gestures towards its environmental aspect, stating, *"sustainable practices have a good record in conserving our environment"*. Thus, the respondent has missed the ethical, social, and economic pillars of sustainability. The distribution of design philosophies among the interviewed designers highlights the varying priorities in their approach to interior design, as summarised below in Figure 19.

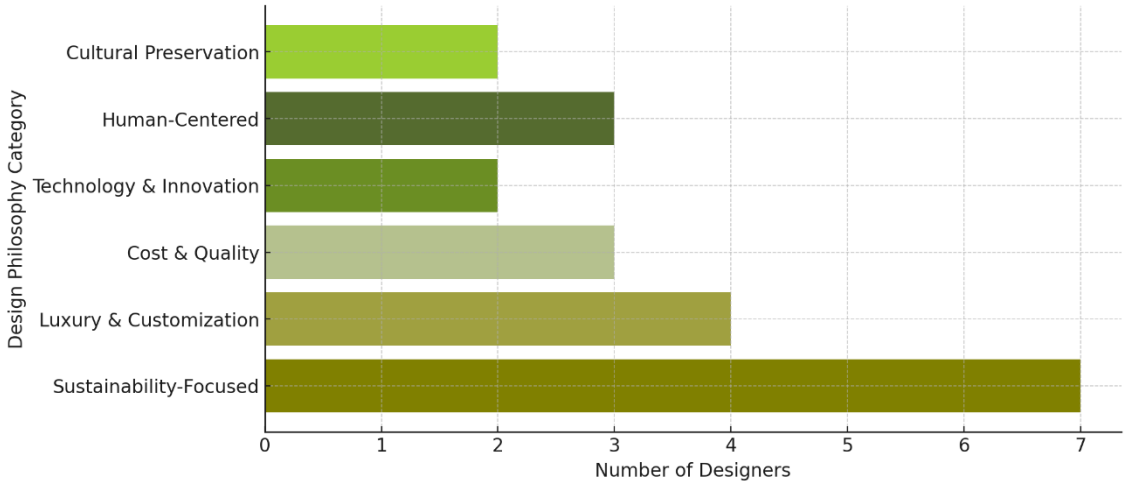

Figure 19: Integration of Sustainability in Design Philosophies.

This resistance to change is not uniform across all designers; it is shaped by factors such as experience level, company size, and market positioning. The dataset suggests that design philosophy is influenced by experience, company size, and market focus. Designers who prioritise sustainability (D-5, D-10, D-16, D-19) tend to be sole practitioners or work in small firms, allowing them more flexibility in defining their approach. Their focus on eco-conscious, vegan, and sustainable interiors indicates that niche markets are driving sustainability adoption. These designers generally have 5–10 years of experience (e.g., D-3, D-4, D-16, D-19), suggesting that newer designers are more likely to embrace sustainability as a guiding principle.

On the other hand, designers who place sustainability as a secondary concern (D-6, D-13, D-14, D-15, D-20) often focus on luxury, bespoke interiors, or technology-driven designs. Many of these designers have 20+ years of experience (e.g., D-1, D-2, D-6, D-10, D-15), reinforcing the idea that long-established professionals are less likely to shift their philosophy towards sustainability. Additionally, those in luxury interiors (D-6, D-14, D-15) frequently prioritise aesthetic refinement and exclusivity over eco-conscious design.

Functionality-driven designers, including D-7 and D-17, concentrate on ergonomics and human-centred design rather than sustainability, reflecting a pragmatic approach that emphasises usability and user well-being over environmental concerns. Similarly, D-11's commitment to preserving cultural heritage exemplifies an alternative approach to

sustainability, in which maintaining historical integrity is prioritised over minimising material impact.

These findings demonstrate that design philosophy is shaped by a complex interplay of experience, market positioning, and client demands. While sustainability-driven designers—particularly newer practitioners and sole traders—actively integrate eco-conscious principles, luxury and technology-focused designers often prioritise aesthetics, exclusivity, and innovation. This variation underscores the need for industry-wide initiatives that promote sustainability education, foster client awareness, and drive material innovation, ensuring that sustainability becomes a fundamental rather than optional component of interior design.

6.1.2 Educational Backgrounds and Training Experiences

The interviews reveal valuable insights regarding how educational background and training experience shape designers' interior design sustainability practices. Across the responses, it becomes evident that formal education serves as a significant foundation for sustainability awareness, influencing both theoretical understanding and practical application. Approximately 52.38 per cent (11 out of 21) of the interviewed designers identified their sustainability ethos as influenced by their educational background. D-16, for instance, highlighted the role of her education in shaping her understanding of sustainability, stating: *"My education in interior design is the foundation for my evolving perspective on sustainability. and some courses exposed me to the concept of minimising impact on design and introduced some sustainable materials."* Likewise, D-5 noted: *"Through my education, I was exposed to lifecycle analysis of materials and key tenets of sustainability in architecture through built examples. So, I learned that principles that inform my practice today."* Similarly, D-9 stated the impact of his education on his sustainability values: *"While studying interior design, some modules on design ethics towards sustainability made me think about the social and environmental implications of making design decisions. This instilled me to think about my ethical responsibility to the natural environment, something I now am much more committed to doing."* D-2 further noted: *"I studied interior design in college and [...] acquired how design decisions affect human health and environmental impacts*." D-3 also underlined the impact of educational practices in terms of sustainability, stating:

"I really learned about sustainability in my design course. Workshops and projects during my degree gave me the opportunity to apply ideas from sustainable design and work with sustainable methods in an actual context. We looked at how companies use energy and how they can make their products from more energy-saving materials. My work in university also taught me a lot about how buildings in my city are heated and how more sensible solutions could be used. After that, I am looking at my own projects and design from this perspective."

Furthermore, D-7 highlighted the inherent interdisciplinarity of sustainability education: *"I joined some design teams in my university years as a part of my course. [...] Group activities encouraged me to think about complex environmental challenges. [...] and working together to address these challenges broadened my design perspective on this matter [sustainability]."* D-12 further emphasises the role of experiential learning, stating: *"Field trips in my university years to sustainable buildings and design firms allowed us to better understand innovative design strategies and principles in practice, [as well as] the application of sustainable technologies and their impact on the built environment. [...] Seeing sustainable design principles implemented in real-world situations motivated us to apply similar strategies in design projects."* Likewise, D-14 remarked that *"Some design courses required me to analyse the environment and design decisions that challenged me to think about the ethics of my own design work. This perspective continues to influence my approach to designing for sustainability."* D-19 further elaborated: *"Working on research projects relating to biophilic design and green building certification systems provided me with valuable education regarding sustainable design methodologies and best practices. Studying research questions also enabled me to look beyond obvious solutions to challenging sustainability issues and explore cutting-edge and creative solutions*." D-17 reflected on her training experiences of community engagement in understanding sustainability, stating: *"Participating in community-based design projects gave me the opportunity to explore how design can intervene within the complex systems that define the relationship between the built environment and environmental and social issues. Working alongside local stakeholders and residents taught me a humbling lesson about the value of designing with awareness to the lands, peoples and histories connected to a site and with sensitivity to the needs and desires of those engaged with a new built environment."* Moreover, D-20 reflects on the transformative nature of education in sustainable design: *"Sustainability modules in my master [degree] challenged preconceived ideas about design and extended my roles and*

responsibilities in dealing with environmental issues. This made me look at the connections between design, society and the environment and encouraged me to [become] a more holistic designer enabling [me] to include sustainability in [my] design practice."

In addition, one respondent shared the need to stay informed about early innovations in new design technologies and trends and wanted to persist in their professional development and continuous learning habits. D-10 expressed this sentiment on the need to continually learn: *"I make it a point to attend workshops and conferences to stay informed of the newest innovations in sustainable design."* This proactive approach to professional progress demonstrates an understanding of the industry's dynamic nature and the necessity to adapt to changing trends and practices.

Data-driven insights from the designer profiles further underscore the connection between educational background and sustainability awareness. A generational trend emerges among younger designers (5–15 years of experience) who are firmly committed to sustainability, often incorporating it into their work through university education, workshops, and research projects. In contrast, designers with over 20 years of experience seem to have integrated sustainability later in their careers, depending on continuous learning, industry adaptation, and professional development rather than formal education.

Additionally, company structure influences the adoption of sustainability. Sole practitioners such as D-10, D-15, D-19, and D-21 exhibit higher engagement with sustainability than designers in small firms like D-1, D-2, D-9, and D-11. This suggests that independent designers may have greater freedom to apply sustainable principles, while those in commercial firms might encounter constraints in implementation. The shift towards sustainability appears more pronounced among recent graduates, indicating that sustainability education has become increasingly prominent in design curricula. This highlights the critical role of academic institutions in fostering environmentally responsible design approaches and equipping emerging designers with the necessary tools to integrate sustainability into their practice.

There is a clear link between an interior designer's education and their sustainability ethos, and this is apparent in the responses. This indicates that formal education is an effective catalyst for enhancing the awareness and values of interior designers with respect to sustainability. These findings also show how formal education and training experiences help

to shape interior designers' knowledge of sustainability notion and foster a sense of ethical responsibility in their designs.

6.1.3 Decision-Making in the Design Process

Over half of the designers, nearly 52%, had ambiguous answers about which stage in their design processes they prioritise sustainability. It can, therefore, be said that there is a lack of clarity or consensus in the industry over the best timing for introducing sustainable practices in the design process. As D-7 pointed out, *"I think in the beginning, but that is a tough question, and I cannot reflect back on whether any established industry standard about when this would happen exists."* This clearly shows the appreciation of early integration, but it also indicates the indistinctness within the industry itself as to general guidelines. D-9 stated: *"I am not sure when sustainability should be factored in. [...] wish there were more concrete guidance on how to design so that sustainability is the extent. It so often is an afterthought rather than a conscious strategy."* It shows frustration with the current state of ambiguity and calls for just more structured guidance or recommendations.

To further highlight, D-11 put it, *"Sustainability is, of course, something we may consider, but all these things are vague, and it's not clear quite when or how you should address that. Sometimes, it comes up at the material selection stage and other times, it's in the initial design brief."* This serves to point out how loose and often inconsistent the approaches taken by designers are. This also reinforces the notion that sustainability practices often vary on a case-by-case basis rather than following a structured framework.

D-8 provided a more client-focused perspective, stating: *"There's no one-size-fits-all approach to sustainability in design. [It] depends on the project and what the clients are most interested in."* Here, it becomes evident that client demands significantly influence sustainability priorities, often dictating whether sustainability is considered at the outset or introduced at a later stage.

D- 13 expressed a similar sentiment, emphasising variability across projects: *"While I do feel that sustainability is essential, I still won't know exactly when it is to be mentioned. It differs between projects."* Such variability makes it hard to work out how to bring some standardisation of sustainability practices within the industry.

D- 14 reinforced the complexity of the issue, stating: *"There is a lack of consensus within the industry about when to prioritise sustainability. It's a complex problem [that]*

deserves thinking about very carefully." That underscores, hence, that the inclusion of sustainability is very multi-aspect and that, indeed, even more consistent action is necessary.

D-17 also highlighted the lack of formal rules, stating: *"I try to incorporate sustainable practices into my designs, but I think there is a wright answer or there's no set rule for when to do so. It's a bit of a gray area."* This reveals sentiments of an individual nature, such as designers having to discern an answer where formal guidelines do not exist.

D- 18 captured this sentiment well: *"Secondly, it's hard to try to balance sustainability and other things in the design. More clearly, when to introduce sustainability would be very helpful."* This position clearly describes challenges in balancing competing priorities and the need for more explicit directives to facilitate better decision-making.

D-20 noted the internal conflict designers face when balancing sustainability with other priorities: *"I think I have a certain problem with knowing when to stick out my neck for sustainability […] when it's going to be potentially at odds with other contracting or design priorities. Now, it's constant balancing."* The elicited response, in this case, shows the kind of internal conflict a designer goes through in advocating for sustainability in the presence of other competing demands on the project.

D-12 further mentioned, *"In my firm, we often have debates on so many things about when to bring sustainability into the picture. Early integration is ideal, but quite often, it's retrofit later when it's hard to implement effectively."* That is where the internal struggle and pragmatic challenge for designers come about.

D-19 further admitted, *"Many times I catch myself improvising with sustainable practices, not least because of the lack of structure toward which to orient design strategies. This gets very challenging in terms of delivering on sustainability goals".* This shows the improvisational nature of sustainability integration in design, itself an often weak strategy for delivering sustainable design efforts.

For one designer, sustainability decisions tend to be ad hoc, with sustainability entering the conversation more fully when material choices are being considered. This reactive approach suggests that ad hoc decisions about sustainability deepen further into the processes of material consideration. D-10 stated, *"I tend to focus on sustainability once the initial design concept is finalised. It becomes a priority during the material selection phase."*

Contrasting that with the fact that 4 out of 21 designers think about sustainability from the whole design process explains a creative approach taken by about 19% of respondents with a high commitment to incorporating sustainability as the entire centre of the design philosophy. This view is holistic and steeped deep in development for sustainability at all project stages. Note, for example, D-2 emphasised: *"Sustainability is presented as a major consideration during the commencement phase. We apply it through every step in the design process, from planning to execution."*

D-5 shared the same idea: *"Sustainability is taken into consideration for the entire design, but it gets louder during construction."* This shows that sustainability ideas get louder at particular stages rather than being of a constant essence.

However, the strategy was more integrated for another, D-4: *"Sustainability is a guiding principle to the overall design process. We are prioritising some ecologically-friendly materials and practices from the first conception".* This is a proactive telling where the outlook is holistic—it lies in every decision from the start.

D-16 shared their firm's approach to that: *"We have a dedicated sustainability team working on bringing green into the design at all levels. It's a priority from start to finish".* So therefore, this holistic approach underlines the need for specialised roles in consistently integrating sustainability.

Furthermore, five of the interviewed persons clearly claimed not to consider issues of sustainability during their design process. This neglect indicates a huge deficit of sustainability integration. D-1 said, *"Sustainability is not a priority for us; we are more concerned about the aesthetic and the functional presentations."* D-13 also said, *"I do understand sustainability, but I don't look at something we would incorporate in all our designs."* Such views possibly build up a disjuncture between sustainability awareness and actual practice. It is noticed in the interviews that D-6 said, *"[...] we do not prioritise them unless specifically requested",* and D-15 gave in, *"We haven't had much training or emphasis on sustainability, so it is not part of the usual workflow."* Lastly, D-21 emphasised, *"Sustainability feels like an extra layer of complexity that we are not prepared to handle right now"*. All seem to evoke this deep sense of a need for broader education and advocacy to increase the priority of sustainability.

Indeed, the general lack of consensus on the time frame and approach for achieving sustainability simply calls for an obvious direction and standard for the industry. On the other

hand, creating such a standard allows movements ahead with a firm and more cumulative way of actual meaningful assimilation and positive environmental contribution.

Understanding at what stage sustainability enters a designer's decision-making process is essential for shaping best practices within the industry. Some designers begin considering sustainability during the conceptual phase, while others only introduce it later in the process, often at the material selection or consolidation stage. This variability underscores the need for a more structured framework to ensure that sustainability is consistently integrated rather than treated as an afterthought.

However, the extent to which sustainability is actually prioritised in practice may also depend on external factors, such as company structure and available resources. An intriguing link between the dataset and this discussion emerges when considering the designers' backgrounds. Many designers who expressed uncertainty regarding sustainability decision-making come from small firms (D-1, D-2, D-9, D-11, etc.), suggesting that smaller firms may face more challenges in structuring sustainability practices compared to sole practitioners (D-10, D-15, D-19, etc.), who tend to be more proactive in implementing sustainability. This implies that company size and independence may influence how systematically sustainability is embedded into the design process.

Furthermore, experience level also appears to influence sustainability integration. Designers with 20+ years of experience (e.g., D-1, D-2, D-10, D-15) tend to incorporate sustainability either reactively or not at all. In contrast, younger designers (5–10 years of experience, e.g., D-3, D-4, D-16, D-19) display a stronger inclination toward embedding sustainability from the outset of their projects. This reinforces the generational shift identified in previous sections, where sustainability-conscious design is increasingly becoming a defining characteristic of newer generations of designers. The following Table 20 provides a structured overview of the relationship between designer backgrounds, including company size and experience, and their approach to sustainability decision-making.

Designer ID	Company Size	Years of Experience	Sustainability Decision Stage
D-1	Small	25+	Uncertain
D-2	Small	20+	Full process
D-3	Small	5+	Early-stage
D-4	Small	10+	Early-stage
D-5	Small	10+	Full process
D-6	Small	20+	Uncertain
D-7	Sole Practice	15+	Uncertain
D-8	Sole Practice	20+	Uncertain
D-9	Small	5+	Uncertain
D-10	Sole Practice	30+	Material Selection
D-11	Small	30+	Uncertain
D-12	Small	10+	Retrofit
D-13	Small	10+	Not prioritised
D-14	Small	10+	Full process
D-15	Sole Practice	20+	Not prioritised
D-16	Small	5+	Early-stage
D-17	Small	5+	Uncertain
D-18	Small	15+	Uncertain
D-19	Sole Practice	5+	Early-stage
D-20	Small	10+	Balancing priorities
D-21	Sole Practice	10+	Not prioritised

Table 20: Summarise the relationship between designer background and sustainability integration.

6.1.4 Knowledge and Expertise

The integration of sustainability into interior design hinges significantly on the knowledge and expertise of interior designers. A lack of knowledge and expertise in the subject of sustainability is one of the most critical barriers and challenges facing an interior designer in the integration of sustainability into a designer's practice. Approximately 62% (13 out of 21) had concerns about their understanding and competence in sustainability.

The multi-dimensionality of sustainability can be overwhelming for interior designers. Sustainability is so much considering the environmental, social, spiritual and economic elements that drawing the conceptual boundaries can be hard. In general, designers are concerned that they are not well-equipped to identify what is and is not a sustainable choice among all the information and conflicting priorities. One such expression by D-7 is, *"Sustainability is such a vast field, and I often struggle to keep up with the latest trends and best practices"*. This general sentiment was also expressed by D-12: *"So many different pieces of information knocking around out there, and it's hard to know which of it is leading you towards what might be sustainable"*. In this vein, a similar feeling of inadequacy oozes from the following statement by D-8: *"A nagging worry that my designs aren't as green as they could be, due to my limited knowledge of sustainability"*. D-18 indicated, *"I feel like I don't know enough to properly or effectively design with sustainability at the fore".* This clearly showed the need for providing information in more simplified and available ways so that the designer could facilitate the complex winds of sustainable design for proper decision-making.

Technical challenges facing designers emerged as technical aspects of sustainable design, such as energy modelling and materials assessment. Without targeted technical knowledge in the fields mentioned, designers may find it hard to translate sustainable solutions. This highlights a need for focused training and resources that support a designer to gain technical knowledge. D-11 noted*, "Sometimes, the technical issues of sustainable design seem too much to handle"*. Another shared, D-18, *"I struggle with the technical aspects of sustainable design, like energy modelling and materials assessment".* The extent to which these technical challenges can be met calls for focused training programs that help designers acquire essential skills in integrating innovative sustainable practices into projects.

Designers aired out their frustrations relating to the inaccessibility of resources and the non-provision of adequate means to guide them regarding the materials and practices of

sustainability. This dramatically restricts designers' abilities to make informed decisions and incorporate sustainability into the designs. As D-20 commented, *"Getting useful information and resources on sustainable materials is not easy".* Another one agreed: "I wish there were more resources to help designers like me to improve their knowledge on sustainability" (D-19). To overcome these resource limitations, it should be an initiative throughout the industry to guide designers with accurate and comprehensive resources about sustainable designs.

Continued professional education and training is a key component of sustaining and improving designer capacity in sustainable design. As D-9 pointed out: *"With sustainable design being a rapidly developing field there are constant innovations and tools to master, and it can be difficult to keep up to speed."* Continued professional education needs to provide opportunities for professional renovation and reconstruction of knowledge, skills and ideas both individually and in interaction with peers and supervisors. Similarly, D-14's issues with concerns involving multiple factors in sustainable materials and sourcing were summed up as: *"The landscape of sustainable materials can feel overwhelming. It can be hard to comprehend concepts like lifecycle assessments, certifications, and primary and secondary impacts."* Both perspectives reflect the need for specialised knowledge required to assess both the environmental and the moral consequences of materials and sourcing practices. Likewise, D-17 remarked that:

"At the same time, trying to be knowledgeable in [sustainable] materials and sourcing is difficult – like there's so much stuff about … lifecycle assessments and certifications and all this stuff … and what the benefit is of that versus … this. … So, I think there's a need, for people, to … know what materials go into that …" (Interview with D-17, 2023).

In addition, a lack of understanding and generalisation often caused the designers to forget about the broader sustainable issues outside the environmental aspects. D-19 said: *"Although I feel environmental sustainability is important, I often neglect to consider social and economic issues when designing."* It points to the need for training and education in sustainable design that is broader and more holistic, addressing social responsibility, economic viability, and environmental stewardship from the very beginning. Beyond the already considerable scope of knowledge gaps, structural barriers such as lack of resources and lack of support networks further hamper designers when it comes to addressing sustainability. Likewise, D-21 elaborated:

"Without access to mentorship or peer support networks, the learning journey to design a more sustainable world becomes very lonely." (Interview with D-21, 2023).

These challenges can be further illustrated by examining the most frequently cited barriers to acquiring sustainability knowledge among interior designers, as summarised below in Figure 20.

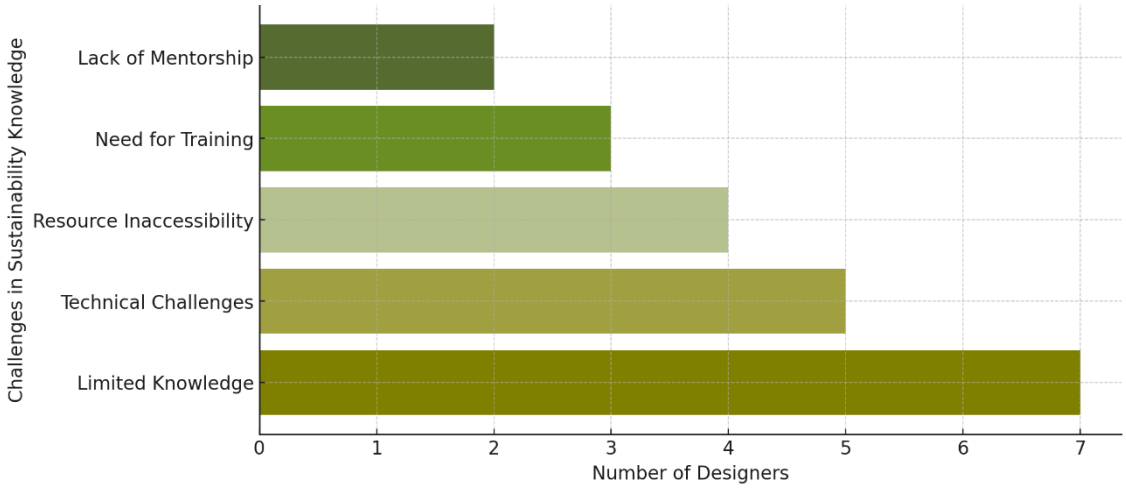

Figure 20: Key barriers designers face in gaining sustainability knowledge.

The dataset further underscores these challenges by revealing distinct patterns in how sustainability knowledge is shaped by company size and experience level. Designers from small firms (D-1, D-2, D-9, D-11, etc.) often report difficulties in accessing sustainability knowledge, suggesting that smaller firms may lack structured training programs and industry resources. In contrast, sole practitioners (D-10, D-15, D-19, etc.) appear to take a more independent and proactive approach to learning about sustainability, likely due to their autonomy in decision-making and the necessity of staying competitive. Similarly, years of experience play a crucial role in sustainability expertise. More experienced designers (20+ years, such as D-1, D-2, D-6, D-10, D-15) often express challenges in keeping up with evolving sustainability trends, as sustainability was not a major focus in their initial design education. Meanwhile, younger designers (5–10 years of experience, e.g., D-3, D-4, D-16, D-19) recognise the importance of sustainability but feel underprepared due to the complexity of sustainable materials and industry standards. These findings reinforce the need for structured, industry-wide sustainability education, mentorship, and accessible resources to support all designers in integrating sustainability effectively into their practice.

Overall, these findings relate to diverse challenges arising from limited knowledge and expertise on sustainability. Designers often struggle with the technical aspects, accessibility of resources, and a lack of structured training, making it difficult to fully integrate sustainability into their practice. Addressing these challenges is linked to the need for multi-stakeholders interplaying through a collaborative effort among design educators, the industry, and individual designers toward ensuring dedicated courses in sustainability education, making resources accessible, and cultivating a culture of lifelong learning and collaboration across different levels of the design community. The more knowledge and skills we can equip designers with, the better they will integrate sustainability into their practice in seamless ways to have a positive impact on the built environment. This will not only enhance their ability to make informed decisions but also contribute to a more environmentally responsible and ethically conscious design industry.

6.1.5 Resistance to Change

Six designers expressed much reluctance at the thought of moving away from their traditional design practices with reasons that any change may cause an interruption in their fixed routines. This is because they fear what they consider an unknown course and would instead stick with what they are used to (Reichers, 1986). Sustainable design strategies could be new ground to many designers, and there is likely to be some form of resistance in building these into their procedures. As stated by D-1: *"I am just stuck with my tried-and-true design methods I have been using for years, and changing them feels a bit uneasy"*. D-13 stated,*"I feel like sustainability calls for a different approach to design. I'm not sure I want to get on that bus".* D-6 noted*"I fear that integrating sustainability approaches in my designs will jumble up my smooth, tried, and tested design process."*

Additionally, the perceived risk of trying a new technology or material can be sufficient to deter them from change:

"Designers are scared of the unknown, […]" (Interview with D-10, 2023).

"Clients spend lots of money with us. We don't want to get the reputation of giving them something that's not as good as it should be. If there's a real risk of making a weak product, or a product that's not going to please a client, we're not going to go down that road." (Interview with D-10, 2023).

Furthermore, entrenched values make people resistant to change and stereotypes about sustainable design – *"it doesn`t look lux"* (Interview with D-15, 2023) or *"it never works"*- (Interview with D-10, 2023) create further barriers to shifting requirements, and entrench old beliefs about the relationship between sustainability and design excellence in projects. A summary of the primary factors contributing to resistance to sustainability adoption is illustrated below in Figure 21.

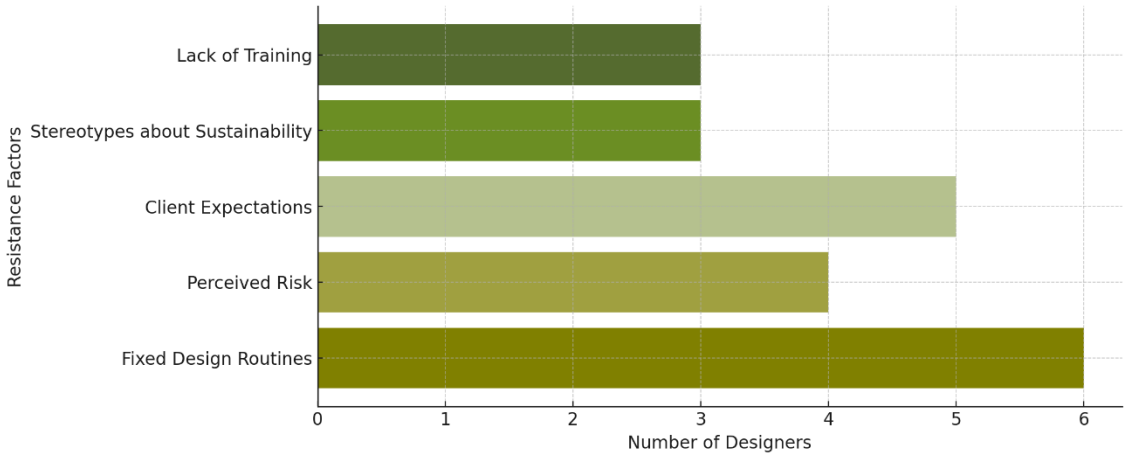

Figure 21: Factors Contributing to Resistance to Change.

While resistance to sustainability is a common theme among designers, its intensity and underlying reasons vary based on experience levels, company structure, and market positioning, as indicated in the dataset. However, not all designers experience these barriers in the same way. Resistance to sustainability integration varies depending on experience levels and professional habits, which is evident in the dataset. The dataset suggests that resistance to sustainability adoption is most prevalent among highly experienced designers (20+ years, such as D-1, D-2, D-6, D-10, D-15). These designers often rely on well-established workflows and hesitate to alter their methods, fearing that sustainability integration may disrupt their tried-and-tested design processes. This aligns with the statements made by D-1 and D-6, who expressed discomfort with changing their approaches.

In contrast, newer designers (5–10 years, e.g., D-3, D-4, D-16, D-19) appear more open to sustainability but feel underprepared due to a lack of structured industry guidance. Additionally, company size influences resistance to change. Designers from small firms (D-1, D-2, D-6, D-9, D-11, etc.) exhibit greater reluctance, possibly due to limited resources and risk aversion. Without dedicated sustainability teams or research departments, small firms

often find it more challenging to adopt new design strategies. Meanwhile, sole practitioners (D-10, D-15, D-19) acknowledge sustainability's importance but struggle with concerns over client expectations and market viability, as noted in D-10's remark about the fear of delivering unproven sustainable solutions.

Furthermore, perceived risk remains a critical barrier in sustainability adoption. Designers working in luxury interiors (D-6, D-15) express scepticism towards sustainable aesthetics, reinforcing the stereotype that sustainability does not align with high-end design. Additionally, as highlighted by D-10, concerns over product reliability and client satisfaction act as a deterrent to experimenting with new sustainable materials.

Resistance to change is endemic, but it can be reduced through systemic changes, such as questioning entrenched industry norms and creating a cultural environment conducive to innovation and sustainability. This can make designers more able to overcome resistance and include sustainability in their products. Also, it's important to acknowledge that many designers feel this kind of change is unrealistic: they can suggest sustainable ideas to clients, but they're the ones stuck with the legacy projects. Designers might not feel empowered to ask for the time or support necessary to do the right thing. Thus, designer education, training and organisational support are critical.

In summary, these findings remind us that designers themselves can be resistant to making changes, which has an impact on their ability to integrate sustainable design practices into their design projects. With education, training, and organisational support to address barriers, designers can nurture a culture of innovation and sustainability in their interior design work, moving the profession towards the achievement of environmentally and socially sustainable goals.

Ultimately, entrenched habits, lack of structured support, and market-driven pressures continue to hinder the widespread adoption of sustainability. Addressing these barriers through targeted education, industry collaboration, and a cultural shift in design perception will be key to overcoming resistance and achieving long-term sustainability goals.

6.2 External Contextual Influences on Sustainability in the Interior Design Sector

Moving beyond internal factors, this section investigates the external influences that impact sustainability practices within the interior design sector. It analyses factors such as

client demand, cost considerations, government regulations, and the availability of sustainable resources, all of which play a significant role in shaping sustainable design practices. Furthermore, the section explores the challenges imposed by supply chain constraints and environmental factors, which affect designers' ability to implement sustainable practices effectively.

6.2.1 Client Demand and Cost Considerations

About 62% (13 out of 21) of the designers interviewed expressed concerns regarding meeting their client's demands while at the same time designing with sustainability in mind. D-1 said, *"Clients often do not look at sustainable solutions. They just look at the aesthetics and cost, so it can be a real challenge to present a design solution emphasising sustainability."* A similar perception was expressed by yet another designer regarding awareness and understanding of sustainability by clients: *"There is a lack of knowledge of the benefits of using sustainable design by our clients. One has difficulty convincing them to spend on good sustainable features if they do not understand its value."* (Interview with D-10, 2023). D-7 reinforced this perspective, *"I'm unsure if my clients would be willing to pay for sustainable design features. The perception in their minds is that sustainable material is expensive, which makes it difficult to sell the idea."*

Numerous instances also come up where the role of client misconception was mentioned. D-5 commented, *"Clients often come to us with misconceptions about sustainability based on misinformation or outdated information. As designers, it is our job to address and correct their misconceptions and provide them with the right information so that informed decisions may be made."* Another added, *"Some clients doubt if the environment would benefit from a sustainable design or not. They also believe that little effort and, in some cases, excess money used are not worth it in the long run. The presentation of evidence and case studies in support of sustainable practices has been set out."* (Interview with D-8, 2023). D-16 also stated, *"Clients are showing a growing interest in sustainability, but due to a lack of knowledge, they often don't understand what being sustainable means. Our role as designers is to educate them and show them the way to more sustainable options."*

Sustainability and aesthetics were other central points of consideration. D-11 said, *"Some clients are ready for sustainable design, but they're just scared to make big changes that might compromise how their space would look. It's a fine line between following what they want and making it sustainable".* The other said, *"Sustainability often takes a backseat*

when the client makes his priorities list, with other factors like style and functionality at the top. It becomes a tricky challenge to win them over so that this becomes a priority over anything else in the design" (Interview with D-9, 2023).

It is recognised the long-term benefits of sustainable design. As D-12 stated, *"Educating clients on the long-term benefits of sustainable design is key. Many are unaware of the potential savings and the effect they could have on the environment by choosing sustainable materials and practices."* Another designer stated:

"It [Interior Design] is collaborative by I see we can communicate the large load of projects that you're dealing with or trying to load into your plate and trying to work with a client to figure out how we may be able to get this project accomplished…" (Interview with D-3, 2023).

While most designers raised issues about client pressure and sustainability issues, the remaining 38% (or 8 out of 21) expressed dissenting opinions. Others remained hopeful: *"Clients are becoming more open to sustainable practices as they see more examples of successful sustainable designs"* (Interview with D-20, 2023). D- 2 said, *"Sustainability is increasingly becoming part of the conversation with clients, and we find ways to incorporate it without compromising what they like."*

It is also mentioned using proactive initiatives to encourage their clients to make more sustainable choices. For example, D-19 said, *"By presenting clients with options and demonstrating the long-term benefits, we can often persuade them to choose more sustainable material".* Another revealed an even more critical factor in industry trends: *"As sustainable design becomes more mainstream, clients are starting to expect it as part of the standard offering"* (Interview with D-14, 2023)

However, the cost was also a huge perception barrier. D-21 said*, "More sustainable materials and features are demanded by clients more frequently now, though, and they don't always want to pay the premium prices for such features. We have to find ways to make sustainable design more accessible and affordable for a broader range of our clients".* Another designer made a similar observation*: "There is a perception that sustainable design is confining, that it constrains creativity. We need to prove that lacking constraints can enhance the design process instead."* (Interview with D-15, 2023).

D-6 pointed out the financial constraints associated with sustainable design, stating:

"Unfortunately, it's about making money ...I want to use sustainable materials in my projects, but I still have to convince my clients to pay for them and ... it's very hard sometimes to convince clients to spend those extra money on eco-design" (Interview with D-6, 2023).

The tensions between the ideal of creating sustainable interiors and working with a client's budget require designers to navigate the gap between the ideal of environmental responsibility and the reality of client budgets. Similarly, D-12 raised issues of affordability concerning the expense of sustainable materials, commenting: *"Sure, everyone would like to work with sustainable materials, as long as it makes good environmental sense. But sometimes [some] clients cannot afford these choices."* This brings to the forefront the design barriers that can arise when sustainable design options are seen as too expensive, and potentially those barriers that could discourage clients from thinking of sustainability.

Furthermore, the interviews indicate that interior designers have faced difficulties in not only gauging how much of a premium a sustainable investment would cost over time, but also how to communicate the cost in the long-term to clients. As D-18 commented: *"They [clients] make decisions on the basis of cost in the current year, and [sustainable] design can be costlier than a regular alternative. That makes it very hard to justify the money you need to spend on more ecological options at the beginning."* This suggests a need for significant marketing and education are required to explain how a sustainable building costs less to run and retains, if not accruing, value over time.

There are also market pressures, beyond client perceptions, that may impact the consideration of costs: *"... with the increasing pressure of negligence and cost efficiency, the financial side in an intensely competitive industry might be less keen due to the lack of profit. It would impact our choice of utilising "sustainable" means, ..."* (Interview with D-21, 2023).

The above challenges identified in the interviews highlight client-related barriers, including resistance to change, misconceptions about sustainability, and financial constraints, which are visually summarised in the following Figure 22.

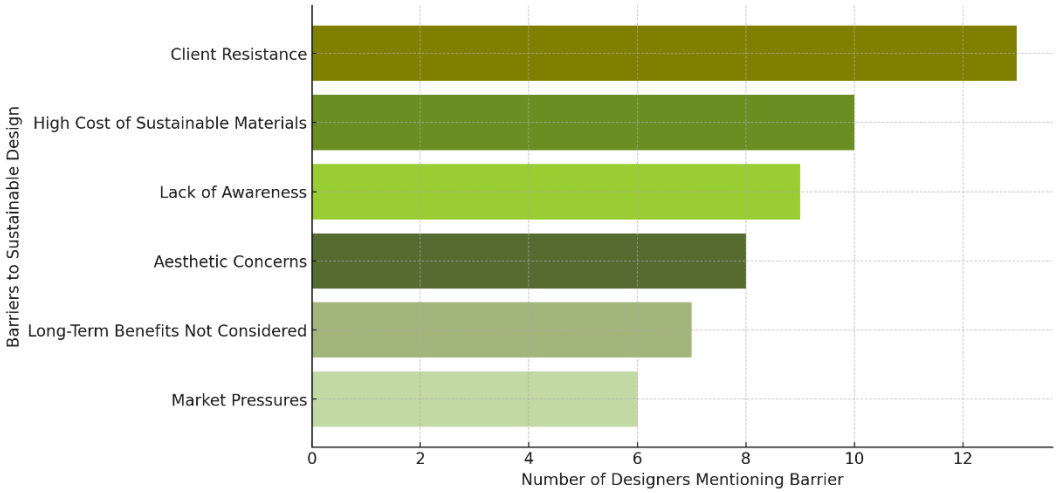

Figure 22: Client-Related Barriers to Sustainable Interior Design Adoption.

This tension between personal design philosophies and sustainability priorities reflects broader patterns observed in the dataset. Designers from small firms (D-1, D-6, D-9, D-12, D-21) frequently mention client resistance and budget constraints as barriers to sustainable design. These designers often cater to residential and commercial clients, who may prioritise aesthetics and affordability over environmental responsibility. For example, D-1 and D-9 explicitly state that clients prioritise cost and appearance, making it difficult to introduce sustainability unless its financial benefits are made clear.

Sole practitioners, such as D-10, D-15, and D-19, appear more proactive in educating clients and presenting sustainable options, possibly due to having greater flexibility in project direction. D-10 emphasises the need for awareness, while D-19 highlights persuasion through showcasing long-term value. This suggests that independent designers play a key role in shifting client perspectives toward sustainability.

Luxury and high-end designers, including D-6, D-14, and D-15, encounter aesthetic concerns and cost-related resistance. D-6 specifically notes that financial constraints limit sustainable choices, even when both designer and client have an interest in eco-friendly options. This aligns with the broader industry perception that luxury design often conflicts with sustainable affordability.

Interestingly, technology-focused designers (D-12, D-20) and human-centred designers (D-7, D-17) view sustainability as secondary to function and innovation. D-12 acknowledges that clients recognise the environmental value of sustainability but struggle with its upfront costs, reinforcing the need for clear communication on long-term savings.

The client demand and cost considerations on sustainable interior design are much more challenging with a lot of opportunity. Aesthetics, cost, and sustainability; awareness and education of the client; perception shift on cost; areas that can further innovation and creativity; and matching up to industry trends are important areas that will have to be addressed. These issues can be furthered by critically examining ways the interior design industry can integrate sustainability to drive meaningful development of strategies toward bringing forward a sustainable future.

Overall, addressing client-related challenges requires a multifaceted approach that combines education, financial incentives, and industry-wide collaboration. While designers in small firms and luxury sectors struggle with cost concerns, sole practitioners tend to take a more proactive role in guiding clients toward sustainable choices. By doing so, sustainability can become a fundamental rather than optional aspect of interior design. Future efforts to bridge the gap between client demands and sustainability should not rely solely on individual designers but require industry-wide initiatives. These may include financial incentives for sustainable materials, regulatory standards encouraging eco-conscious design, and increased visibility of successful case studies demonstrating the long-term value of sustainability in interior spaces.

6.2.2 Government Regulations and Policies

The six of the interior designers interviewed suggest that government policies and regulations have an important impact on the use of sustainable design by interior designers. Government policies, working through various means, such as standards-setting, incentives, regulation etc, actively shape the sustainability of an industry – its personnel, products, and processes (Porter and van der Linde, 1995; Potoski and Prakash, 2005; Delmas and Toffel, 2008; Arimura et al., 2011).

D-2 further elaborated on the influence of building codes and regulations: *"Government regulations tend to set a clear context to the minimum level of energy efficiency and environmental performance expected from our design work."* This recognition fundamentally underscores that regulatory compliance, when included in the broader regulatory frameworks, can drive design intentions towards meeting the necessary environmental standards, as well as help to achieve a holistic sustainable goal.

Furthermore, the government could push for the adoption of environmentally friendly practices through policy, incentives, and other measures. As stated by D-7:

"[...]government incentives, such as tax incentives or grants for sustainable practices in construction, can support design in the environmentally friendly perspective. For example, the government could provide bearable financial support for owners willing to get tax investments in sustainable construction. Thus, governmental support could not only motivate producers with sustainable encouragement, but it can also assist them and cover the higher upfront costs normally associated with sustainable design." (Interview with D-7, 2023).

D-3 explained how global policies can trickle down to the commercial practice of sustainable design: *"[...] all new buildings and renovations should now comply with new energy-saving or sustainable measures. In any case, our practice of design follows eco-practical analyses, and our awareness reflects on the need of sustainable principles as a norm for architectural design.* (Interview with D-3, 2023).

Moreover, interviews suggest that governments play a crucial role in initiating systemic change in a sustainability direction. D-4 highlighted the usefulness of government campaigns and led initiatives in raising designers' and other stakeholders' awareness about sustainable design and producing knowledge that motivates them to design sustainably through the following statement:

"Government ran campaigns and initiatives will raise the awareness of green products and willingness of designer […] They also will create useful knowledge such as guideline which helps designers to design eco-friendly." (Interview with D-4, 2023).

However, Government regulations and policies in promoting the sustainable agenda would not be effective unless the measures are enforced and accounted for. As said by D-18:

"Think of Great Britain. Great Britain has a lot of stringent regulations on environment, but there are not many effective enforcement mechanisms, so people are not really complying with the regulations, so the intervention of regulation is not effective." (Interview with D-18, 2023).

Moreover, interviews pointed to the necessity of cooperation and partnerships between regulatory government agencies, industry and professional associations. Another interviewee said: *"Government-industry partnerships and coalitions represents a receptive*

platform to foster knowledge transfer, capacity building and innovation in more sustainable ways to design and make, encouraging industry transition." (Interview with D-21, 2023).

The extent to which designers rely on these policies varies, particularly based on firm size and experience level. While government regulations provide a framework for sustainable design, the degree to which designers engage with these policies is shaped by their professional context. Designers working in small firms, such as D-1, D-3, D-4, D-9, and D-12, often cited regulatory frameworks as necessary guidance for sustainable design, suggesting that smaller firms rely more heavily on government standards to shape their approach. These designers, with less than 10 years of experience, are more likely to mention government-led campaigns as informative and necessary for improving sustainability integration.

Conversely, sole practitioners, particularly those focused on niche sustainable practices like vegan interiors and biophilic design, express a more proactive role in incorporating sustainability independent of regulations. Designers such as D-7, D-10, D-15, D-19, and D-21 tend to see policy as a supporting rather than a defining factor in sustainable design adoption. For example, D-10's advocacy for sustainable interiors suggests an approach that extends beyond compliance, emphasising ethical and environmental principles that are self-imposed rather than government-mandated.

Designers working in commercial and architectural fields, including D-2, D-11, and D-13, recognise government policies as necessary for industry-wide sustainability adoption. D-2 and D-3, working in both residential and commercial contexts, explicitly mention that regulations help structure the minimum sustainability standards, while D-11, working in architectural and interior design, highlights that new buildings must comply with evolving sustainability measures. These responses indicate that designers operating in mixed-use and commercial sectors feel a stronger push from government policy to integrate sustainability compared to those in purely residential or luxury design.

Luxury-focused designers, including D-6, D-14, and D-15, perceive government policies as restrictive rather than enabling. D-6 noted financial constraints limiting sustainable choices, even when both designers and clients show interest. This aligns with broader industry challenges where high-end aesthetics sometimes conflict with affordability in sustainable materials, making government incentives a potentially critical tool for bridging the gap.

The level of experience also plays a role in shaping perceptions of government intervention. Senior designers with 20 or more years of experience, including D-1, D-10, D-11, and D-15, generally view regulations as insufficient or lacking enforcement mechanisms, as seen in D-18's remark about the ineffectiveness of compliance in Britain. Meanwhile, less experienced designers, such as D-3, D-4, and D-16, express a greater openness to governmental initiatives, seeing policy as a driver for industry transformation rather than a constraint.

The results illustrate the pivotal role of government regulations and policies in facilitating the adoption of sustainable practices in interior designBy establishing regulatory conditions, incentives, and awareness campaigns, government intervention creates an environment where sustainability becomes more accessible and standardised. However, the impact of these policies varies depending on firm size, design specialisation, and level of experience. Smaller firms often rely on policies for structure, whereas sole practitioners adopt sustainability more independently. Commercial designers recognise regulations as essential for industry-wide sustainability, while luxury designers see them as constraints. Younger designers view policies as necessary drivers of industry transformation, whereas senior designers critique enforcement limitations. Moving forward, more targeted policy interventions, including financial incentives, stricter enforcement mechanisms, and educational outreach, could bridge the gap between regulatory goals and practical adoption in interior design. By ensuring that sustainability policies reflect the economic realities and creative constraints of designers, governments can play a more effective role in promoting sustainable design across the industry.

6.2.3 Availability of Sustainable Resources

This section mentioned about the difficulties interior designers face when sustainable materials are not readily available. As D-4 complained:

"Sourcing materials that are both high quality and sustainable is sometimes difficult, especially for special applications." (Interview with D-4, 2023).

The cost was another serious consideration shaping access to sustainable materials. As one interviewee put it: *"There are plenty of alternatives and sustainable options, but there's a price issue. Not everything that is considered sustainable, by design, is going to be cost-*

effective." (Interview with D-9, 2023). This pricing issue challenges designers, at a time when budgets and clients still run the show.

As D-14 put it: *"As a designer, it is very important to understand where materials are from and how they are made in order to make good informed decisions about the environmental impact of them."* If the supply chain is not transparent enough, designers are unable to find material whose sustainability is verified to their satisfaction – and they are unable to source responsibly made resources.

Sourcing locally was central to realising a sustainable practice, on the basis that 'local' materials had low embodied energy, and production and transport impacts: As stated by D-19:

"This is linked to sustainability generally, if you are able to use local artisans and craftsmen by necessity rather than a fashion statement, that's a much better way of avoiding some of the environmental impacts of mass-produced materials. In one way it's a cost reduction exercise but on the other it's a deliberate move to support the nation's craftspeople and that connects sustainability and local manufacture." (Interview with D-19, 2023).

Over time, leading manufacturers were offering green and eco-friendly options, as D-20 noted: *"There is a growing trend towards greener materials and sustainable cutting-edge technology solutions which are driven by consumer demand and manufacturer's initiatives."* For the future, this is a hopeful sign that the interior design sector is heading in a more sustainable direction.

However, despite this positive trend, accessibility remains a key issue, particularly for smaller firms that struggle to source sustainable materials at feasible costs. Designers from small firms (D-4, D-9, D-14, D-19) frequently mentioned difficulties in sourcing high-quality, sustainable materials, aligning with the broader industry trend that sustainable options remain scarce or expensive. D-4's concern about the special applications of materials is particularly relevant to small firms, which often work on bespoke projects that require unique solutions.

The financial challenge highlighted by D-9 further reinforces that budget constraints influence material choices, particularly for designers working in residential and commercial interior design. Since D-9 and D-14 work in small firms and D-19 operates as a sole practitioner, their concerns about sourcing locally highlight an important strategic approach:

local sourcing reduces environmental impact while supporting regional craftsmanship. This practice is often more feasible for independent designers who have direct relationships with local artisans, as D-19 emphasised.

Additionally, D-20's optimism about manufacturers shifting towards greener materials suggests that technology-focused designers may have better access to innovative sustainable materials, a trend that could eventually expand to small firms and independent practitioners as the industry moves towards more accessible eco-friendly solutions.

The findings suggest that sourcing sustainable materials remains a significant challenge, particularly for small firms and independent designers who lack the purchasing power of larger companies. Despite growing interest and market expansion, sustainable materials are still not widely accessible at reasonable costs, and supply chain transparency remains a key barrier. Addressing these challenges will require a multi-faceted approach, including industry-wide efforts to improve material accessibility, greater supply chain transparency, and stronger advocacy for sustainable manufacturing practices.

Encouraging local sourcing, promoting financial incentives for sustainable materials, and supporting research into cost-effective green alternatives could help bridge the gap between sustainability goals and practical implementation. Moreover, as consumer demand continues to shift towards environmentally responsible choices, industry leaders and policymakers must work together to ensure that sustainable materials are not only available but also financially viable for all designers. Only through these combined efforts can sustainable materials become the norm rather than an exception in interior design.

6.2.4 Supply Chain Constraints

Interviewed interior designers raised issues of global sourcing, particularly sourcing materials internationally, as highlighted by D-2: *"Global supply chain constraints, such as ship delays and customs trade impede, are difficult for procuring material from offshore suppliers."*. The vulnerability of the supply chain to factors outside of designers' control is apparent here, illustrating the challenges that are posed to accessing materials in a timely and reliable manner.

One of the key challenges of working with multiple suppliers was the need to have quality control and consistency across the supply chain. As highlighted by D-6:

"It is not trivial to send out a request to five different suppliers for the same thing and to make sure that what you want to do with it, that they are giving you exactly the same stuff with exactly the same parameters, same materials, same everything […] It's challenging to make sure you have this consistent quality and performance of those materials or whatever part of the whole spectrum you are looking at. Some of the variations in product quality and specifications can have implications on project outcomes, and these may also influence the design integrity depending on the degree of long-term impact that the product has on people and the environment." (Interview with D-6, 2023).

This emphasises the need for robust quality assurance across the supply chain of materials. Moreover, Designers' priorities on the supply chain were highlighted as being 'ethical sourcing' and 'sustainability'. As highlighted by D-11:

"There is more pressure on designers to choose suppliers who are more ethical and responsible, […] and this in turn helps the environment in a way. [...] all brands need to have ethical and sustainable sourcing […] ethically produced materials, as if they don't, they will lose their buyers by default." (Interview with D-11, 2023).

In addition to supply chain transparency, logistical complexity, as well as coordinating and timings, were identified. One interviewee elaborates: *"When we have a project with a lot of materials supplied from multiple suppliers, this leads to logistical problems. The transportation and scheduling issues can get really complicated."* (Interview with D-15, 2023). Design staff must coordinate logistics including transportation costs, lead time, and scheduling deliveries to avoid disruptions.

The interdependence between parts of the supply chain is another risk factor because supply chains can be quite intertwined, as stated by D-20: *"Manufacturers might become dependent on a number of specific suppliers of key components and raw materials for their production processes and suppliers could experience disruptions or shortages due to delays in deliveries."* Establishing a supplier base redundancy with different suppliers, as well as contingency plans is an important aspect of reducing risks in parts of supply chains that are dependent on each other, thus ensuring operability continuity.

These supply chain constraints do not affect all designers equally. Factors such as company size, project focus, and experience level influence how designers navigate sourcing difficulties. The dataset indicates that designers working in small firms, such as D-4, D-9, D-14, and D-19, frequently report challenges with supply chain inefficiencies, particularly in sourcing sustainable materials at a competitive price. These firms often have fewer supplier connections, making them more vulnerable to disruptions. Sole practitioners, including D-7, D-10, D-15, and D-19, describe having more flexibility in material sourcing but face additional barriers in supplier negotiations, especially when acquiring niche sustainable materials. Their reliance on smaller-scale, ethical suppliers has also been noted as a factor contributing to supply chain instability. Luxury interior designers, such as D-6, D-14, and D-15, highlight sourcing demands for premium sustainable materials, requiring them to balance aesthetics and sustainability while managing delays and inconsistencies in material quality. Technology-driven designers, including D-12 and D-20, report better access to innovative, sustainable materials as manufacturers increasingly shift toward green solutions, yet they still encounter logistical challenges when integrating multiple suppliers into complex projects.

Supply chain constraints significantly influence how interior designers engage with sustainable materials. Designers in small firms, such as D-4 and D-9, frequently cite cost-related and logistical barriers, while sole practitioners, like D-10 and D-15, refer to challenges in supplier negotiations and maintaining reliable sourcing channels. Luxury and technology-driven designers, including D-6, D-12, and D-20, discuss additional sourcing difficulties, particularly concerning material quality, reliability, and availability. Across different types of practices, designers describe how supply chain constraints shape their ability to integrate sustainability, emphasising the role of supplier networks, sourcing strategies, and market access in determining material choices. These findings highlight the extent to which external factors, such as supplier relationships, global trade logistics, and material accessibility, influence the feasibility of sustainable interior design. Without addressing these structural barriers, the ability of designers to implement sustainability effectively remains constrained by factors beyond their direct control.

6.2.5 Environmental Factors

The relationship between the environment and design thinking is far from one-dimensional. Site context and the natural environment play key roles in contributing to the

outcomes of design. D-6 highlighted the important role played by context and the environment in design projects:

"Context is extremely critical for us because the surrounding starting point and the site contexts are extremely important on how we go about and how we make decisions in the design." (Interview with D-6, 2023).

Efficiency in energy use and other sustainable principles began to influence practice. One interviewee elaborates:

"Everything we do is about taking into account passive design methods and very energy-efficient systems that can reduce the overall impact that goes into that building. [...] began to think more about the stewardship of the environment and the world." (Interview with D-10, 2023).

And another draws attention to material selection, D-15:

"We use materials with the lowest impact possible on the environment and we make lifecycle analysis for the product to see again how sustainable the material is. But we limit the impact on the environment during the material use and at the end of the objects used – the waste') forms a part of holistic and proactive understanding and anticipation of deep environmental contributions." (Interview with D-5, 2023).

As highlighted by D-19: *"Lots of designers are concerned about indoor environmental quality because it's about human health and how people feel. We need to create healthy indoor environments and make sure occupants are comfortable and productive because they breathe, smell, see, and feel."* This generates [a lot of] natural light, ventilation, and furniture and floor tile made out of non-toxic materials. For occupant health and satisfaction, environmental and humanistic tendencies seem to go hand in hand.

Designing for resilience and climate adaptation was increasingly a factor in design decision-making. One interviewee stated: *"Design for resilience and climate adaptation is becoming an important factor in design decision-making given increasing exposure to and occurrence of a changing climate and extreme events."* (Interview with D-21, 2023).

This shift in priorities is particularly evident among designers working in high-end and bespoke interiors, where sustainability is often positioned as a premium feature rather than a necessity. Designers specialising in luxury and bespoke interiors (D-6, D-14, D-15) are

particularly attuned to site context and environmental integration, as D-6 emphasised. These designers cater to high-end clients, where sustainability can be a value-added feature rather than a cost-driven constraint.

Sole practitioners (D-10, D-19, D-21) who prioritise sustainable, biophilic, and vegan interiors integrate passive design strategies, low-impact materials, and lifecycle assessments into their practices. D-10's focus on passive design and energy efficiency reflects a broader movement among independent designers who can experiment with innovative sustainability strategies without strict corporate limitations. D-19's emphasis on indoor environmental quality further illustrates how eco-conscious designers connect sustainability with human well-being, ensuring that their projects contribute to both environmental and occupant health.

Meanwhile, designers working within residential and commercial sectors (D-1, D-2, D-4, D-9, D-12) face challenges in implementing sustainable strategies due to cost constraints and client demand for conventional materials. D-5's commitment to material lifecycle assessments and waste reduction highlights how smaller firms can still play a role in sustainable practices by integrating circular economy principles into their workflows.

Climate resilience and adaptation, as noted by D-21, are becoming essential concerns, particularly as designers factor in extreme weather conditions, resource scarcity, and long-term environmental impacts. This shift suggests that sustainability is no longer just an optional feature but an essential criterion in modern design.

The dataset suggests that environmental factors are most readily adopted by sole practitioners and sustainability-focused designers, while smaller firms in commercial sectors report challenges in integrating these considerations due to financial and client-driven constraints. Designers such as D-10 and D-19 emphasise the importance of passive design, material impact assessments, and indoor environmental quality, highlighting a proactive approach to sustainability that aligns with their independent practice structures. In contrast, designers from small firms (D-1, D-2, D-4, D-9, D-12) frequently cite cost constraints and client preferences for conventional materials as limiting factors in prioritising environmental considerations.

Luxury and bespoke designers, including D-6, D-14, and D-15, engage with sustainability through site-sensitive design and high-end sustainable materials, often framing environmental integration as a value-added feature rather than a fundamental practice. Meanwhile, climate resilience and adaptation are becoming increasingly relevant, as noted by

D-21, reflecting a shift in how designers anticipate long-term environmental challenges. Across different sectors, designers report that environmental considerations are increasingly shaping material choices, design philosophies, and project outcomes, though the extent of their integration depends significantly on firm size, project scope, and market positioning.

6.3 Textiles within Interior Design

This research was interested in exploring, through interviews, the extent to which interior designers were aware of and took account of the particular challenges of sustainability associated with textiles. As seen in section 3.2, the literature indicates that the global textile industry stands as a significant contributor to carbon emissions (Shen et al., 2020), accounting for a substantial portion of manufacturing processes and end-of-life management (Hawken, Lovins, and Lovins, 2013). This highlights the critical importance of addressing sustainability concerns within the textile supply chain to mitigate global impacts.

This section examines the awareness and consideration of sustainability challenges pertaining to textiles among interior designers. This also encompasses both themes internal to the interior design profession and those seated in the exterior environment, focusing on the significance of textiles within interior design.

6.3.1 Textile Specification

The interviews provide insights into the designers' considerations for textile specification practices in interior design projects. 16 of 21 interviewees stated their prioritise of textiles for the overall aesthetic of the interiors. This aesthetic appeal includes visually pleasing considerations such as texture, pattern, colour, and sheen. As stated by D-14: *"Texture and colour are my predominant concerns when it comes to textiles. […] I try to keep a sense of unity of look and feel in my designs [but] generally don't request any specific brands or materials."*

D-7 elaborated: *"Vibrant, colourful designs need textiles. [...] They [textiles] bring energy and life, and brings dynamism to the space."* This focus here is on the designer's use of textile to generate visual 'dynamics' in interiors. D-10 adds: *"depends on design but I prefer richly patterned and texturally vibrant textiles [which] creates a layered and eclectic look."* Furthermore, D-1 exemplifies the aesthetic orientation by commenting*: "For me, what matters most is the look of the textiles and the way it feels and fits into the concept. It*

must align with overall look." D-13 echoes this too: *"Textiles affects ambience. While specifying textiles, thinking how their look affects atmosphere is important, I think. patterns, colours, and any details should integrate the design concept".* D-3 mentioned *"textiles with a delicate and precise quality creating silent luxury."* The textile qualities that generate this effect are considered by the designer to be aesthetically value laden.

9 out of 21 interior designers pointed to functionality, particularly durability, ease of maintenance, and longevity when it comes to specifying textiles. D-18 explained, "The textiles we choose, for example, must be able to survive everyday use, particularly in houses with children or pets", while D-2 remarked: *"Using durable fabrics means our pieces last longer, reducing replacement needs at both cost and environmental consequence."*

Furthermore, D-8 emphasised the importance of selecting textiles based on longevity and suitability for their intended purpose: *"Well, longevity and sort of and the fit for purpose... I usually specify more and robust and needed."* D-8 prioritises robust materials to ensure durability and minimise the risk of failure, drawing from her commercial background to inform her choices.

One respondent gives an indication that the viability of the overall aesthetic and functionality of a space is more important that what kind of textiles should be used:

"I focus more on the overall aesthetic and functionality of a space rather than specific textiles." (Interview with D-9, 2023).

The perception that sustainable options for interior textiles are more expensive acts as a significant barrier, as noted by D-16, *"I think in general it's perceived that it's more expensive to be sustainable."* This perception appears to deter the widespread adoption of sustainable practices and products, despite efforts to offer discounted alternatives. As stated by D-20, budget is the guiding factor in textiles choices for interior design: *"I prefer to source textiles that meet the demands set by the design vision and budget. Technical specifications are often not a consideration."*

D-8's experiences also shed light on the balance between sustainability goals and budget constraints, revealing the nuanced considerations involved in prioritising eco-friendly options within interior design projects. D-8 observed that while sustainable materials may be more expensive: *"Sustainability is seen as being expensive [...] [but] it is not necessarily. It might cost more [...]".* This interviewee to me was saying there were misconceptions that

sustainable materials were expensive, as there were long term savings which made them less expensive, despite a higher initial cost.

The budgetary constraints also guide textile specifications. D-6 elaborated on this issue: *"Many times, the clients are on very tight budgets, and I have to get fabrics that come with the best price while not being low quality."* Indeed, such an issue is critical in terms of balancing cost and quality to meet both the needs and expectations of the clients and their financial limits. As noted by D-12, *"The challenge is to balance cost with quality, [...] [and] to meet client expectations within financial limits."*

D-20 also acknowledges this fact: *"Client demand plays a large role in choosing textiles, […] making sure that the final design reflects their desired level of luxury."*

As D-18 contributed, *"Every project is unique. I always start by understanding the client's vision and how they plan to use the space."* This keeps the decision-making for textiles aligned according to the intended use and aesthetics of each project. In a similar light, D-13 mentioned, *"Textile selections are supposed to be based according to the requirements of respective projects, whether it is meant for a cosy living room or else a hard-working office."* Similarly, D-3 exclaimed an agreement that "client preference often informs textile selection," suggesting a broader implication regarding the influence of client demand on specification practice.

Another interviewee emphasised the prevailing lack of awareness among clients regarding sustainability, stating, "I'd like them to think about it more, and I think it's not at the forefront of their minds." (Interview with D-16, 2023). This sentiment underscores the challenge of shifting consumer priorities towards sustainability amidst predominant considerations of aesthetics and price.

5 of the 21 interviewees mentioned sustainability considerations in the textile specification. D-8 noted *"the use of eco-friendly materials"* that align with her sustainable textile practices, while D-16 stated:

"While still achieving the desired aesthetic, I prioritise fabrics made from organic fibres, recycled materials, and low-impact dyes to minimise environmental impact."

D-5 also highlighted the need to provide an eco-friendly solution in designs: "[...] specifying textiles; I always think about eco-friendly textiles […] I think that we need to consider more on sustainability."

Although D-3, D-7 and D-18 mentioned that they are 'interested' in sustainability, we did not often see a specific consideration for sustainable textile materials, processes, and certifications. As stated by D-3: *"Sustainability is important to me, but I don't really know much about sustainable textile options for my designs."* Other designers highlighted:

"I think [sustainability] is going to be more and more of a focus for me and I don't know that I consciously explore sustainable textile practices, though I think that would be an easy thing to learn more about and apply to my work." (Interview with D-7, 2023).

"I'm aware of the need to be sustainable in design but never really looked into sustainable textiles. That's something I really need to look into further." (Interview with D-18, 2023).

The analysis of the semi-structured interviews with practising interior designers indicates the limited depth of engagement with sustainable textiles in interior design despite the acknowledgement of their importance. The following Table 21 summarises the key textile selection priorities identified across different designer categories:

	Aesthetic Appeal	Functionality	Client Preference	Budget	Sustainability Considerations
D-1	✓				
D-2		✓			✓
D-3	✓	✓	✓		
D-4	✓				
D-5					✓
D-6	✓		✓	✓	
D-7	✓			✓	
D-8		✓			✓
D-9	✓	✓			
D-10	✓				✓
D-11	✓	✓			
D-12	✓		✓	✓	
D-13	✓		✓		
D-14	✓				
D-15	✓				
D-16	✓				✓
D-17	✓	✓			✓
D-18	✓	✓	✓	✓	
D-19	✓			✓	
D-20	✓	✓	✓		
D-21	✓	✓		✓	

Table 21: Summary of key textile selection priorities.

The findings indicate that designers specialising in luxury and bespoke interiors (D-6, D-14, D-15) prioritise aesthetic cohesion, often selecting textiles based on texture, colour, and visual harmony rather than sustainability. This aligns with high-end client expectations, where material quality and exclusivity take precedence over environmental considerations.

In contrast, sole practitioners with a sustainability focus (D-10, D-16, D-19) demonstrate a more proactive approach to integrating eco-friendly textiles into their work. D-16 specifically prioritises organic fibres and recycled materials, reflecting a strong alignment between sustainability principles and independent design practice. These practitioners, who operate with greater flexibility in material selection, are well-positioned to drive industry shifts towards sustainable textile use.

Meanwhile, designers working in commercial and high-traffic residential projects (D-2, D-8, D-11, D-18, D-21) emphasise functionality and durability, selecting textiles that withstand heavy use, frequent cleaning, and long-term wear. Their hesitance to adopt eco-conscious materials is often linked to concerns over cost and client budget constraints, as highlighted by D-12 and D-20.

Additionally, a knowledge gap regarding sustainable textile alternatives is evident among designers with fewer years of experience (D-3, D-7, D-18), who expressed interest in eco-friendly materials but lack awareness of available options. This suggests that targeted education and industry guidance could encourage broader adoption of sustainable textile practices.

Overall, the results highlight the intersection of aesthetics, function, and sustainability in textile selection, with sole practitioners and sustainability-driven designers leading efforts towards eco-conscious materials, while budget-focused commercial designers and high-end practitioners continue to prioritise visual and performance-based considerations. Expanding accessibility to affordable, high-quality sustainable textiles and enhancing education on material alternatives could bridge these gaps and promote widespread adoption of environmentally responsible textile solutions across all sectors of interior design.

6.3.2 Textile Sourcing and Supply Chain

In discussions regarding furnishing, the sourcing of textiles for interior design projects was essentially non-existent. Only a few designers mentioned their textile suppliers or how they source textiles for their projects. For instance, one designer said:

"I try and work with local artisans, and with textile companies that are making the textiles in the right way. I like to be ethically aware." (Interview with D-12, 2023).

Others, however, omitted any deeper discussion of textile sourcing. D-1 stated about obtaining the textiles from different suppliers:

"[…] a bit of both – I use some local suppliers but also some online ones. I do my best to use sustainable fabrics when I can, but it's more a matter of what works with the design brief and the budget."

Another interviewee said:

"I use a couple of go-to producers for standard fabric, but for more unique or specialised materials, I'm going to look around more as the need dictates." (Interview with D-19, 2023).

There was no in-depth discussion of the textile supply chain or how design might help to make it more sustainable. Very few of the designers mentioned environmental and social concerns for fabrics and manufacturing processes, for instance:

"I try to source textiles from suppliers with transparent and ethical supply chains to ensure sustainability." (Interview with D-17, 2023).

"I don't actually think much about who produces the textiles or where they come from. As long as they are of the right quality and do what we want in terms of design, it is not my job to worry about where they come from, that is what the supplier does. Ultimately, it's my responsibility as a designer to create minimal negative impact." (Interview with D-11, 2023).

"They are [sustainable textiles] a huge problem in design. […] and becoming increasingly problematic to work with [because] difficult to come by, so many people not want them. […] I certainly notice the environmental impact of the materials that I use but I don't necessarily look into the supply chain of textiles. That's something that I'd like to do,

the more I educate myself the more I'll know about it for the future." (Interview with D-20, 2023).

This limited engagement with textile supply chains is further reflected in how small firms and sole practitioners approach sourcing decisions. Designers working in smaller firms and sole practices (D-1, D-12, D-19) tend to engage in more flexible sourcing strategies, blending local and online suppliers based on budget constraints and design briefs rather than sustainability considerations. While some designers (D-12, D-17, D-19) expressed a preference for ethically sourced textiles, there was little evidence of a structured, sustainability-driven approach to textile supply chain management.

Luxury-focused designers, such as D-6 and D-14, who cater to high-end clients, are less likely to mention sustainable sourcing, as their focus remains on exclusive and premium-quality materials rather than supply chain ethics. On the other hand, sustainability-conscious designers (D-10, D-16, D-19, D-20) appear to recognise the need for more transparency in textile sourcing, though many acknowledge knowledge gaps and difficulty accessing sustainable options. D-20's concern over the growing difficulty of sourcing sustainable textiles underscores an industry-wide challenge—a lack of accessible, eco-friendly textile alternatives that align with both design aesthetics and sustainability principles.

Overall, the findings suggest that textile sourcing remains an underdeveloped area of sustainability in interior design practice, with most designers prioritising aesthetic and functional requirements over supply chain transparency. While some designers, such as D-12 and D-17, express a preference for ethical sourcing, others, including D-11 and D-20, acknowledge limited engagement with supply chain concerns. The dataset suggests that knowledge gaps and accessibility challenges contribute to the minimal focus on sustainable sourcing, particularly among designers in small firms and luxury sectors.

6.3.3 Collaboration with Textile Designers

Collaboration with textile designers was another topic broached only minimally in the interviews. Although a small number of designers expressed a desire to work with textile designers to custom fabricate or develop novel applications of textiles for their projects, they did not practice collaboration with textile designers frequently. D-8 said: *"I've collaborated with textile designers … but those are like one-offs."* Other interviewees highlighted:

"I haven't had an opportunity to collaborate with a textile designer. Although considering it is a nice concept, it is not something I actively pursue in my practice." (Interview with D-2, 2023).

"I usually use my clients and other design professionals to make what I have in mind. I respect textile designers for their creativity, but I would rather have complete control over the design process." (Interview with D-6, 2023).

However, such collaborations are currently limited, indicating untapped potential for collective action towards sustainability.

This limited engagement with textile designers reflects deeper structural challenges within the industry, particularly concerning segmentation, project constraints, and designer priorities. The limited collaboration between interior designers and textile designers reflects broader industry segmentation and project constraints, particularly among small firms and sole practitioners. The responses indicate that while some designers, such as D-8, have engaged in textile collaborations, these have been occasional rather than routine practices. This suggests that while there is an appreciation for textile designers' expertise, such partnerships are not yet deeply integrated into standard workflows.

The reluctance of designers like D-2 and D-6 to engage with textile specialists underscores a preference for direct design control and client-driven decision-making. D-6, specialising in luxury residential interiors, values autonomy in project execution, prioritising client and architectural influences over textile-specific input. Similarly, D-2, working across residential and commercial interiors, acknowledges collaboration as a concept but does not actively pursue it. This lack of engagement suggests that collaboration with textile designers is not yet perceived as essential to interior design practice, potentially due to cost, project complexity, or a lack of precedent in the industry.

Moreover, sole practitioners (D-8, D-10, D-19, D-21) and small firms (D-1, D-3, D-9, D-12, D-16) may face practical challenges in integrating textile collaborations into their workflows. Limited resources, client-driven priorities, and budget constraints often require these designers to focus on readily available textiles rather than investing in custom textile development. This is particularly evident in D-8's statement, which characterises past collaborations as "one-offs" rather than sustained partnerships.

However, the lack of collaboration presents an untapped opportunity, especially in advancing sustainable textile solutions. Designers specialising in sustainability and ethical design (D-5, D-10, D-16, D-19) could particularly benefit from partnerships with textile designers to develop eco-conscious materials that align with their values. Strengthening cross-disciplinary connections could enhance textile innovation, improve material sourcing transparency, and promote sustainable practices across the interior design industry.

While collaboration with textile designers remains infrequent, responses suggest that its relevance varies depending on firm size, design priorities, and client expectations. Designers specialising in sustainability (D-5, D-10, D-16, D-19) demonstrated an interest in material innovation, yet their engagement with textile specialists appears limited. This reflects a broader industry pattern where cross-disciplinary collaboration is not yet deeply embedded in standard workflows. Although some designers acknowledge that working with textile specialists may enhance sourcing transparency and material selection, practical constraints such as budget limitations and project timelines often shape their decisions. The findings indicate that while textile collaboration is not a common practice, it remains an underexplored area within interior design, particularly for those prioritising sustainability.The dataset suggests that the current lack of collaboration with textile designers is shaped by factors such as cost, project constraints, and designer priorities. While designers specialising in sustainability (D-5, D-10, D-16, D-19) show a stronger alignment with textile material innovation, their engagement with textile specialists remains limited. This reflects a broader industry pattern in which collaboration across design disciplines is not yet deeply embedded in standard workflows. Despite this, some designers acknowledge that working with textile specialists could enhance sourcing transparency and material innovation, particularly in sustainable design contexts.

6.4 Chapter Conclusion

The analysis from semi-structured interviews with interior designers reveals a complex interplay of internal and external contextual influences on sustainability in the interior design sector. Internally, factors such as design philosophy, education, and internal challenges like limited expertise and resistance to change shape sustainability practices. Externally, client demands, cost considerations, market trends, governmental regulations, and resource availability further impact sustainability efforts.

Furthermore, the analysis of textiles for interior design underscores significant barriers and challenges, including limited emphasis on textile specification, sourcing insights, and awareness of sustainable practices. Addressing these challenges necessitates a multifaceted approach, including enhanced education and awareness, better utilisation of textile waste, fostering collaboration, advocating for regulatory measures, and embracing innovation.

The interior design sector must prioritise sustainability by integrating these insights into its practices. By doing so, it can not only mitigate environmental impacts but also enhance societal well-being and economic resilience. Embracing sustainability in textiles for interior design and processes is not merely a trend but a long-term necessity for the future of the industry.

The insights obtained from the interviewed designers about textiles for interior design seem rather superficial when compared with the other aspects brought up in the interviews. Although textiles are indeed an important element of interior design projects, the limited engagement with this aspect reflects a potential gap in knowledge, awareness, and structured decision-making or at least focus, within the field of interior design.

Importantly, engagement with textiles varies between the practices of different interior designers. While some interior designers, such as those with a focus on sustainability or craftsmanship, demonstrated a greater awareness and consideration of textiles in their practice, others may prioritise other aspects of design, such as functionality or aesthetic appeal.

CHAPTER 7

Discussions of Findings

Chapter 7: Discussion of Findings

7.0 Introduction

The chapter presents a critical discussion of the research findings, interpreting how key factors influence sustainable decision-making in interior design. The discussion is structured into three key areas: internal influences, external pressures, and the role of textiles in sustainable practice. Drawing on empirical data from interviews with interior designers and insights from existing literature, this chapter examines the ways in which sustainability is integrated (or, in some cases, deprioritised) within the industry.

A central challenge identified in this study is the tension between sustainability and competing industry priorities, such as cost considerations, aesthetic preferences, and client demands. While some designers actively embed sustainability within their design ethos, others struggle to prioritise it due to market-driven constraints or limited access to sustainable materials. This variability in sustainability adoption highlights a fragmented landscape where individual values, company structures, and external pressures shape design decisions in different ways.

The role of textiles in sustainable interior design is also critically examined in this chapter. Despite growing awareness of sustainable material choices, barriers such as supply chain limitations, cost perceptions, and lack of transparency hinder widespread adoption. Additionally, the findings reveal that collaboration between interior and textile designers remains inconsistent, suggesting that increased interdisciplinary cooperation could facilitate more sustainable practices.

By examining how these factors influence decision-making processes, this chapter not only contextualises the study's findings but also highlights the practical challenges and opportunities for integrating sustainability into interior design practice. These discussions provide a foundation for the recommendations and contributions that will be outlined in Chapter 8.

7.1 Internal Influences on Sustainability

7.1.1 Design Philosophy and Values

An analysis of interview responses from twenty-one interior designers suggests a full range of design philosophies and values. 33.3% of interior designers, indicated that sustainability was at the heart of their design philosophy. This indeed speaks to what should be coined as a growing trend in the interior design field, where sustainability is moving from just being considered to being one of the primary guiding principles. For instance, intense reuse, recycling, and turning into renouncement of building materials by D-5 show a solid sustainable ethic underpinning their practice that compares well with the current literature on practices of sustainable design. The nature of sustainable recycling materials in the implementation of D-5's approach, as cited in findings by Brown et al. (2018), is essential to integrate sustainable practices to curb or reduce environmental degradation.

Similarly, D-2's approach to marrying innovation with sustainability shows how designers can get inspired by the natural beauty and the inherent strength in nature. This fits well with the biophilic design philosophy, as postulated by Kellert et al. (2011), that designs need to be accommodative of their biological forms towards the end of obtaining beauty in design without the risk of environmental degradation through the designs.

Other designers, like D-10 and D-16, are more articulate in underlining sustainability as part of their design ethos. D-10's vegan approach and emphasis on ethical consumption is part of sustainable and ethical design movements, therefore implying that sustainability in this design is fully crossed from material choices right to the design processes and final products. This finds resonance with Papanek's (1985) rallying for socially responsible design—being reminded of the ethical demands on the designer to ensure the considerations of environmental and social impacts in the design sector.

By D-16 indicates concern for the development of serene sustainable spaces that feature how sustainability can be integrated with the design process seamlessly for more excellent user experience while ecological footprints are minimised. These align with the concept of Cradle-to-Cradle design by McDonough and Braungart (2002), which advocates products and spaces resulting in positive environmental implications and contributing to human well-being.

Despite the strong emphasis on sustainability by a substantial minority of designers, a large majority, 42.9%, see other aspects as more critical than that of sustainability. For instance, D-13 and D-14 placed luxury and client-specific customisations well above sustainability, regardless of whether or not it was considered. This reveals a tension identified by Guy and Farmer (2001) between the different architectural values and the pragmatic challenge of balancing aesthetic, functional, and sustainable considerations.

The focus of D-9 on cost and quality over sustainability reflects practical issues a designer has to confront each day. The difficulty of obtaining high-quality aesthetics within sustainability budgets is a common theme in the design literature. It proves the need for new, quality, and resourceful materials that might not compromise quality or sustainability and present an ever-existing gap that the industry is grappling with.

For designers such as D-12 and D-20, technological innovation takes precedence over sustainability, reflecting a broader global trend in the industry—where cutting-edge design is often prioritised over environmental considerations. In their approach, sustainability is viewed as secondary, something to be addressed after other design objectives have been met. More importantly, the push toward innovation and boundary-pushing design often comes at the expense of sustainability, reinforcing the tensions highlighted by Manzini (1994) regarding the complexities of sustainable innovation.

This diversity in philosophical approaches—ranging from a strong ethical commitment to sustainability (D-5, D-10) to a more pragmatic emphasis on technology, innovation, and cost (D-12, D-20)—illustrates the challenge of establishing a uniform sustainability standard in interior design. While sustainability is increasingly valued, its actual integration remains shaped by economic, professional, and client-driven constraints, suggesting that for many designers, sustainability remains an aspiration rather than an inherent design priority.

However, there are a few designers, like D-7 and D-17, whose attention to human factors and ergonomics outweighs sustainability considerations. According to Norman (2004), this humanistic approach is essential in creating excellent habitats for a good life, laying aside broader environmental considerations.

In D-11, culturally relevant design choices are prioritised over environmental sustainability, which reflects another dimension in which design priorities cut across. As Powell (2010) has highlighted, this creates a set of challenges since integrating sustainability

with cultural preservation involves a view that strongly argues that a holistic view of respect to cultural context in design deliberations shall be balanced with environmental stewardship.

While sustainability emerges as a prevalent theme, designers must navigate multiple priorities and considerations to create spaces that are both aesthetically pleasing and environmentally responsible. By critically examining the diverse perspectives and priorities of interior designers, this study contributes to a deeper understanding of the complexities inherent in contemporary design practice and highlights the ongoing evolution of sustainability as a guiding principle in interior design.

This tension between personal design philosophies and sustainability priorities is illustrated in Figure 23, which maps how sustainability interacts with competing design values such as cost, quality, client demands, and industry trends. The figure highlights the complex decision-making processes that interior designers navigate in practice.

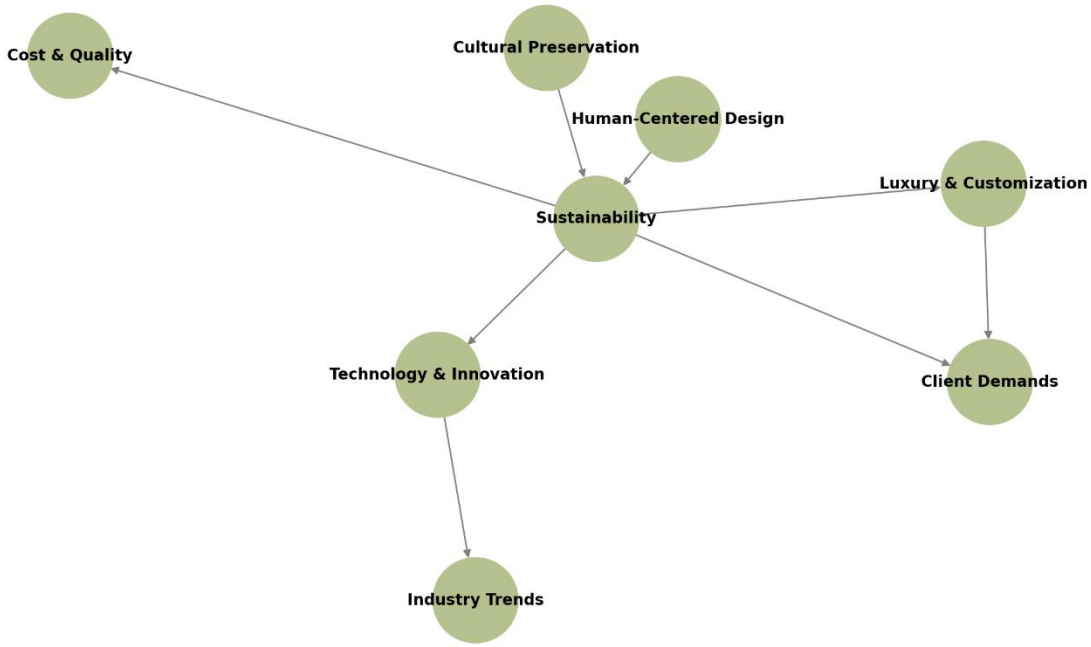

Figure 23: Maps how sustainability competes with other design values.

As the figure illustrates, sustainability exists at the intersection of multiple competing priorities. While sustainability-driven designers (D-5, D-10, D-16, D-19) actively integrate eco-conscious principles, others in luxury and high-end interiors (D-6, D-14, D-15) focus

more on aesthetic refinement and exclusivity, often treating sustainability as a value-added feature rather than a fundamental requirement.

Technology-focused designers (D-12, D-20) prioritise cutting-edge solutions, where sustainability is often secondary to innovation. Client-driven designers (D-9, D-13, D-18, D-20) emphasise meeting client expectations, which sometimes results in sustainability being deprioritised in favour of cost, quality, or customisation.

Additionally, D-7 and D-17, who prioritise human-centred and ergonomic design, frame sustainability within a broader concern for user comfort and well-being, demonstrating how different design values intersect. D-11, who focuses on cultural preservation, aligns sustainability with architectural and historical conservation rather than environmental material choices.

The dataset further confirms that sustainability is gaining importance in design philosophy, but competing priorities remain strong. While 33.3% of designers (D-5, D-10, D-16, D-19) explicitly integrate sustainability into their core values, 42.9% (D-6, D-13, D-14, D-15, D-20) place luxury, client demands, cost, or technological innovation above environmental concerns. This finding aligns with the ongoing debate in interior design literature (Guy and Farmer, 2001), which suggests that sustainability competes with long-standing industry values such as aesthetic refinement, client customisation, and material exclusivity. The perception that sustainability limits creativity, particularly in high-end projects, reflects broader industry challenges regarding material innovation and the accessibility of high-quality sustainable alternatives.

The influence of experience and firm size is also a determining factor in sustainability adoption. Sole practitioners and small firm designers appear more willing to experiment with sustainability, whereas larger and more established firms lean towards traditional design philosophies. Additionally, designers with 5–10 years of experience seem more inclined to embed sustainability into their work, suggesting that recent education and evolving industry standards are shifting the design landscape. This aligns with McDonough and Braungart's (2002) concept of Cradle-to-Cradle design, where new generations of designers are integrating sustainability into their creative processes as part of a systemic shift toward circular economies. However, without stronger industry-wide incentives or regulatory frameworks, the adoption of sustainable principles may continue to be uneven across different sectors.

Notably, the luxury sector (D-6, D-14, D-15) presents a unique challenge for sustainability integration, as high-end aesthetics are often perceived as incompatible with eco-conscious materials. Similarly, technology-driven designers (D-12, D-20) prioritise innovation and cutting-edge design over sustainability, reflecting a trend where digital advancements are often seen as more pressing than environmental concerns. This tension between technology and sustainability echoes findings from Manzini (1994), who highlights that innovation in design often prioritises efficiency and novelty over ecological responsibility. Bridging this gap requires greater emphasis on sustainable material advancements that align with both aesthetic and functional demands.

These findings suggest that while sustainability is an emerging priority, its adoption varies significantly based on experience, market focus, and firm structure. To bridge this gap, increased client education, material innovation, and more accessible sustainable alternatives will be essential in driving change. Encouraging industry-wide advocacy, client awareness, and improved access to sustainable materials will be crucial in making sustainability a standard, rather than an optional, design principle. Furthermore, integrating sustainability into design education and fostering collaborations between material scientists, textile designers, and interior designers could accelerate the shift toward environmentally responsible design. Without these changes, sustainability risks remaining a niche practice rather than a mainstream industry standard.

7.1.2 Educational Backgrounds and Training Experiences

A high percentage of the designers interviewed (52.38%) indicated that they received most of their sustainability ethos from their educational background. Therefore, it is a pointer to the relevance of formal education in shaping designers in this area. Among other designers, for example, D-5, D-9 and D-16, this was attributed to courses and modules during their studies. In addition, this conforms to Jones's (2008) assertion, which affirms that education on sustainability embedded within design curricula is the vehicle through which future professionals acquire an inherent responsibility for their environment.

The experiences underscore the impact that practical, hands-on learning in educational settings can have on D-3 and D-7. Workshops, projects, and trips offer sustainability theory to these designers, thus enhancing theoretical knowledge through

practical application. This approach to experiential learning is supported by Dewey's (1938) theory of experiential education, positing that in learning through direct experience, something of the quality of immediacy clings.

Group work and projects are consistent with the interdisciplinary perspective of sustainability education. For instance, D-7 identifies these broadening one's design perspective and [emphasising] the complexity associated with environmental challenges. This compares with Orr's (1992) recommendation that the approach to interdisciplinary education in sustainability would give students tools to confront complicated and multi-aspected problems connected with the environment.

Additionally, the experiential learning potency was considerably stressed by field visits to various sustainable buildings and design firms by D-20; such visits allowed the students to be exposed to the practice concepts of sustainability and thus encouraged them to practice the same principles in their work. Such experiential learning is critical in addressing and mitigating potential mismatches between theory and practice (Kolb, 1984).

The likes of D-10 and D-20 emphasise the importance of staying ahead with new innovations and trends in sustainable design. The proactive approach toward lifelong learning is so important in a rapidly changing domain such as interior design, where, time after time, new sustainable practices need to be adapted for personal growth in the profession (Schon, 1983).

The different ways by which these designers pursued their respective educational pathways—from some taking formal degrees to others who pursued apprenticeships and self-studied—are manifested by these interviews. That a formal degree in interior design instilled basic principles and technical skills as shown by the experience detailed by D-2. For D-7, it was his internship and on-the-job training that built his problem-solving and actual design competency.

A multiplicity of academic qualifications is another reason for the multi-faceted nature of interior design education. While theoretical and technical bases are delivered by the program itself, practical experience and ongoing professional development are important in achieving a broader and flexible outlook toward sustainable design (Buchanan, 2001).

The latter also reveals the potential of systemic inequalities that allow access to education and training. For example, designers from marginalised and underrepresented

groups can lack an opportunity cost of engaging in formal programs, affecting population disproportions in the profession. Using practical experience in place of formal education will entrench existing inequalities, privileging those who have more chances to learn through experience (Hooks, 1994).

Besides, access to continuing professional development is hinged on geographical location, individual income position, and organisational welfare. In an urban and Metropol, designers could better attend workshops and conferences more frequently than others living in rural or comparatively less-well-off spaces of the earth, which is one reason to at least balance—albeit a bit unrealistically—the distribution of educational resources (Freire, 1970).

These inequalities can be addressed only if the current route into the designing of interiors is surfaced with a more critical evaluation. The education and training programs need to consider ways in which they can create a supportive environment for all kinds of students from diversified backgrounds for ensuring their success in the future. Moreover, lifelong learning provided to future designers can empower these designers to not be left behind in the world of constant development and actually make a difference in the field of sustainable design (Bell, 2020).

This disparity in educational access and training also manifests in generational differences in sustainability adoption. Younger designers (5–15 years of experience) tend to incorporate sustainability more naturally into their practice, as their formal education has exposed them to ethical and environmentally responsible design principles from the outset. This aligns with Dewey's (1938) experiential learning theory, emphasising the importance of hands-on education and real-world application. In contrast, designers with over 20 years of experience often develop sustainability practices later in their careers, relying on ongoing professional development, industry trends, and personal initiatives rather than early academic training.

Furthermore, the influence of company structure on the adoption of sustainability is crucial. The data indicates that sole practitioners (D-10, D-15, D-19, D-21) are more involved in sustainability than designers at small firms. This is likely due to their greater autonomy in decision-making, which enables sole practitioners to implement sustainability-driven strategies without commercial limitations. This finding supports Orr's (1992) interdisciplinary sustainability education model, which posits that the capacity to tackle

complex environmental challenges is improved when designers pursue sustainability independently rather than within inflexible corporate frameworks.

However, access to sustainability training and ongoing education remains uneven. Designers in smaller firms may encounter constraints that limit opportunities for implementing sustainability, especially when business priorities or client demands do not align with sustainable practices. This underscores a systemic gap between formal education and industry realities. While sustainability is increasingly integrated into academic training, real-world application still relies on experience and, business environment, and ongoing professional development.

Interviews with interior designers show that the way sustainability practices are formed is complex, by an interplay of formal education, practical experience, and professional development, visually represented in Figure 24. Formal education provides a foundational understanding of sustainability; however, application and updating of the knowledge take place through experiential learning and continuous professional development. At the same time, systemic imbalances in between access of education and training evils the call for meritorious approaches to professional development in the interior design sector. The industry could support the designers in assimilating sustainability within their way of working by extending this field from the realisation of such equality and an all-inclusive ethos that there would be supported evidence that the industry was both addressing such an increasingly significant equity imbalance within society and that, from this aspect there was room to be intrinsically inclusive.

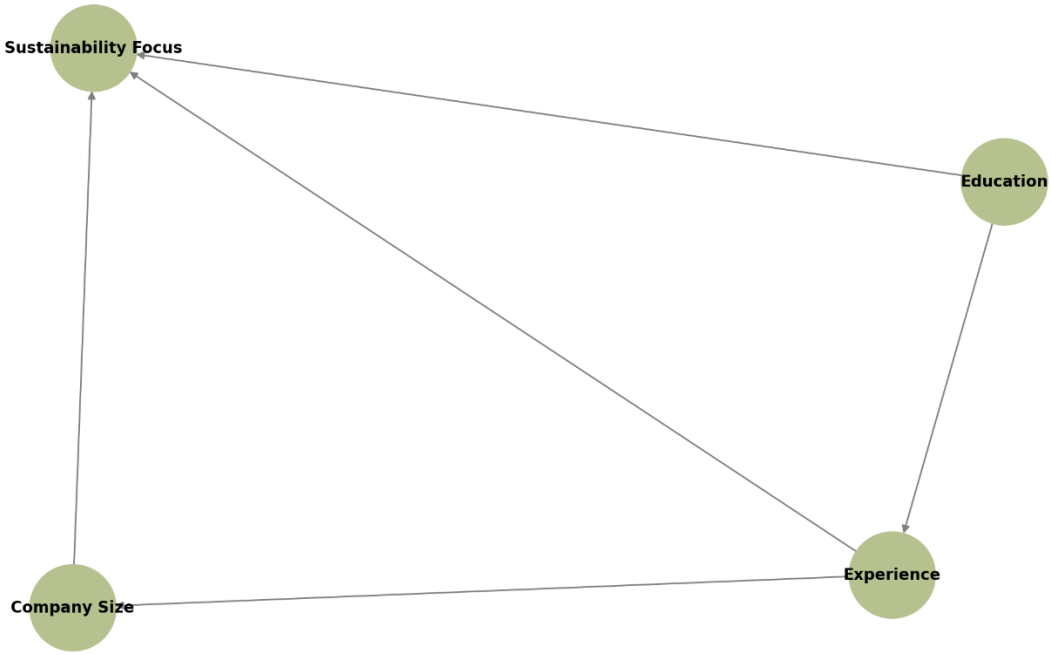

Figure 24: Factors Shaping Sustainability Adoption.

As shown in the Figure, sustainability exists at the intersection of multiple influencing factors. Education plays a fundamental role in shaping sustainability awareness, particularly among newer designers. However, experience and firm structure determine how sustainability is implemented in practice. Sole practitioners and designers with interdisciplinary exposure tend to engage with sustainability more proactively, while those in larger firms or more traditional practice settings may encounter challenges in prioritising sustainability alongside other business and client-driven constraints.

These findings suggest that while sustainability education is increasingly available, gaps remain between academic training and industry realities. Bridging this gap requires expanding access to professional development opportunities, enhancing interdisciplinary learning, and fostering industry-wide support for sustainable design education. Without these efforts, sustainability risks remaining an aspirational concept rather than an embedded standard within interior design practice.

7.1.3 Decision-Making in the Design Process

Most designers, 52%, stated that they were not apparent when sustainability should be included, suggesting confusion throughout the industry. Respondents recognised that sustainability is a relevant subject, but industry consensus on the point within the design process at which sustainability should be introduced is non-existent. It best mirrors the variable outcomes presented within the current literature. For instance, the variation in implementing practices of sustainability at the project level is because the industry itself has failed to standardise these practices (Bonda and Sosnowchik, 2006). Also, the gap between intentions of being sustainable and then actually doing it calls for laying down clear guidelines; the industry is not in a position to produce standards, so this could be one primary reason for being hampered (Fowles, 2010).

The frustration was also expressed by interviewees, as shown in section 6.1.3, regarding the current ambiguity that calls for laying down more precise guidelines. This frustration marks a massive barrier to the mass adoption of such practices in sustainability: an absence of a unified framework that designers can lean on. However, in showing the opportunities for improvement, the study also shows that about 19% of designers consider sustainability through every stage of the process, which does show a commitment from planning to execution to embed practices that respect nature. This proactive approach could potentially be a blueprint for the industry, showing that, indeed, sustainability can be put on the front burner without wavering.

The fact that some of the firms have dedicated sustainability teams is already showing the advantage of unique roles. The teams can ensure that sustainability is integrated in all stages, making it more structured and consistent. This model suggests that more expansive adoption of such roles across industries might achieve better sustainability outcomes. Companies with sustainability roles do much better at implementing sustainable practices than others do (Harter, Schmidt, and Keyes, 2003). Moreover, early and consistent integration of sustainability almost always results in more innovative and practical design solutions (Cole, 2000).

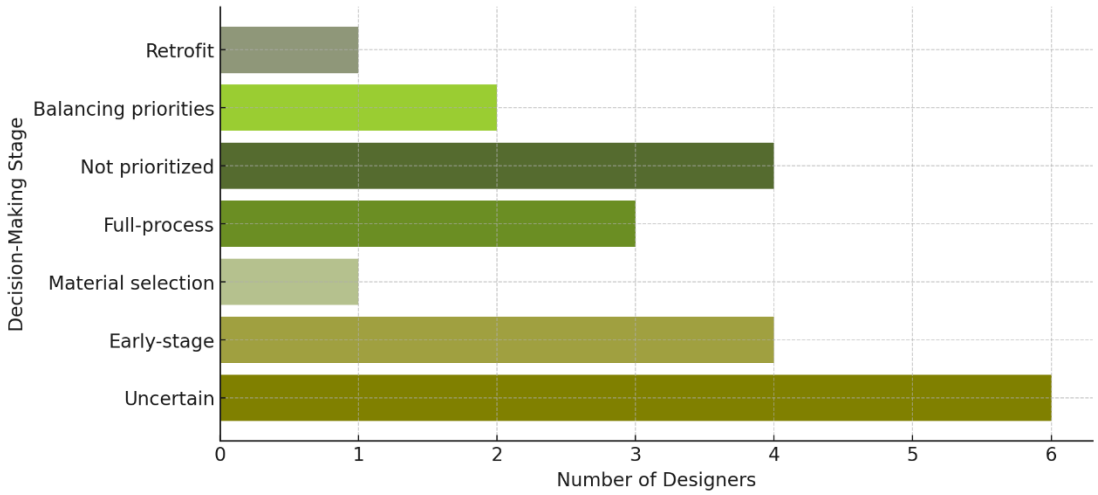

Figure 25: Distribution of Sustainability Integration.

Variations in sustainability adoption become even more apparent when analysing the dataset. These findings highlight the complex relationship between organisational structure, autonomy, and sustainability adoption in design practice. Designers in small firms (D-1, D-2, D-9, D-11) often express greater uncertainty regarding sustainability implementation, whereas sole practitioners (D-10, D-15, D-19) enjoy more autonomy in prioritising sustainability. However, despite this autonomy, sole practitioners frequently face challenges in accessing industry resources and collaborating with suppliers—a limitation also noted in small firms (Häkkinen and Belloni, 2011). The difference lies in decision-making freedom: while small firms may struggle with institutional barriers, sole practitioners' independence allows them to adopt sustainability more flexibly, albeit without extensive structural support.

Additionally, more experienced designers (20+ years) are less likely to have integrated sustainability from the outset, whereas newer designers (5–10 years) tend to adopt it as a fundamental principle from the beginning. This aligns with Orr's (1992) assertion that formal sustainability education fosters early and consistent adoption of environmental principles in design practice. However, without standardised industry guidance, even younger designers may face obstacles in translating sustainability awareness into actionable strategies (Berardi, 2012).

These findings suggest that while smaller firms require more structured industry guidance and support to integrate sustainability effectively, sole practitioners—despite their autonomy—still face challenges in balancing sustainability with business constraints due to

limited financial and logistical resources. Recognising these structural differences is essential for establishing standardised guidelines that accommodate diverse professional contexts. A clear framework for sustainability integration would enable a more systematic approach, ensuring that both small firms and independent designers can implement sustainable practices more effectively. Furthermore, enhancing sustainability education and training is crucial in transforming awareness into actionable strategies. Kibert (2012) emphasises that well-defined industry standards and education are fundamental to the successful implementation of sustainability initiatives. Without such measures, sustainability risks remaining an abstract goal rather than a tangible practice.

More importantly, it is through the education and training of sustainability that awareness can graduate to practice. Establishing standardised guidelines will lead to a more uniform and practical approach to sustainability in design (Berardi, 2012).

In summation, the analysis finds very important ranges of variability and little or no consensus view on how sustainability is integrated within the interior design process. Some designers are proactive in the sense that they introduce sustainability from the onset, while for others, it's a challenge as to when and how to deal with it. A more structured approach—through clearer guidelines, targeted education, and designated sustainability roles—would enhance consistency and effectiveness, ultimately fostering a more environmentally responsible industry.

7.1.4 Knowledge and Expertise

The findings related to the lack of knowledge and skills in sustainable design among interior designers offer important insights into the impediments and opportunities to further the sustainability of the profession. There is an increasing awareness of the need for sustainability in the interiors, even though interior designers' knowledge and skills for sustainable design are limited.

Another of the observable effects is the movement and momentum of sustainable design, as noted by D-9. Sustainable design is a perpetually developing domain of creative and technical inquiry, where innovative inventions, technologies and best practices emerge regularly. In addition, the designers need to continue to invest in ongoing learning and professional development for the practitioners to stay ahead of the curve and keep abreast

with the latest trends and innovations in sustainable design in general. This implies that a sustainable designer must be a continuous learner, as the field evolves at a fast pace, just like the ever-changing economy.

Additionally, the nature of sustainable materials and sourcing is often highly intricate, making contemporary design challenging due to the depth of knowledge required of its practitioners, as highlighted by D-14. To make informed decisions, designers must have a sophisticated understanding of lifecycle assessments of raw and manufactured materials and certifications, while also being able to take into account crosscutting dimensions such as the geopolitics of extraction, toxicity in manufacturing processes, worker welfare and transportation-related carbon footprints of sourcing materials from distant parts of the world.

The results indicate the absence of knowledge or awareness among designers of the impacts and holistic nature of sustainability. For instance, D-19 acknowledges the failure to consider social and economic dimensions while making sustainability decisions as part of the design process, underlining the need for broadening the scope of training and education in the practice of sustainable design. More than just an issue with designers, the results indicate the lack of awareness around the deep nature of sustainability and its place in decision-making processes in design and planning for cities. It is important to note that our primary goal in sustainable design education and practice is to approach sustainability broadly and as a multidimensional concept, rather than focusing on environmental topics only.

Besides, as stated by D-21, scarce access to resources and learning communities amplify knowledge and skills barriers for interior designers, thus taking away their capacity to find suitable solutions for sustainability challenges for their projects. A lack of mentorship or peer learning networks forces a designer to work and learn mostly on their own, creating a sense of isolation when trying to integrate sustainable practices into a project. By creating shared learning environments and mentorship programmes for designers, we could actively improve the community of practice and liberate them from the knowledge and skills barriers, enabling them to make a more positive impact on the industry as a whole.

Educating, training, and mentoring designers are significant concerns in building their capability to integrate sustainable practices into project developments. Prior research suggests that access to sustainability education directly influences designers' ability to implement sustainable solutions effectively (Kang and Guerin, 2009; Bonda and Sosnowchik, 2016). These structural challenges become even more apparent when analysing the dataset, which

illustrates the relationship between company size, experience level, and sustainability expertise. Designers from small firms (D-1, D-2, D-9, D-11, etc.) often express difficulties in acquiring sustainability knowledge, indicating that smaller firms frequently lack structured sustainability training programs or access to industry resources. This aligns with findings from Watson et al. (2017), who highlight that small and medium-sized enterprises (SMEs) often struggle with limited sustainability training due to financial constraints and resource availability.

In contrast, sole practitioners (D-10, D-15, D-19, etc.) seem to adopt a more independent approach to sustainability learning, likely due to having greater control over their professional development and project decision-making. This reflects research by Gwilt (2011), which suggests that independent designers often rely on self-directed learning and professional networks rather than formal sustainability education. However, without access to standardised sustainability frameworks, their knowledge application remains inconsistent, mirroring broader challenges identified in sustainable design education (Fletcher & Grose, 2012).

Furthermore, Figure 26 visually maps the knowledge gaps and training needs among different designer categories, demonstrating the interconnections between experience levels, firm size, and access to sustainability education. As shown in Figure 26, both new and experienced designers face distinct knowledge challenges: while newer designers require foundational sustainability knowledge, experienced professionals often need continuous training to stay updated. Similarly, small firms and sole practitioners both require access to structured mentorship and industry networks to bridge their technical knowledge gaps. This reinforces findings from Fuad-Luke (2009), who argues that sustainability learning must be lifelong and adaptive to remain relevant in an evolving industry.

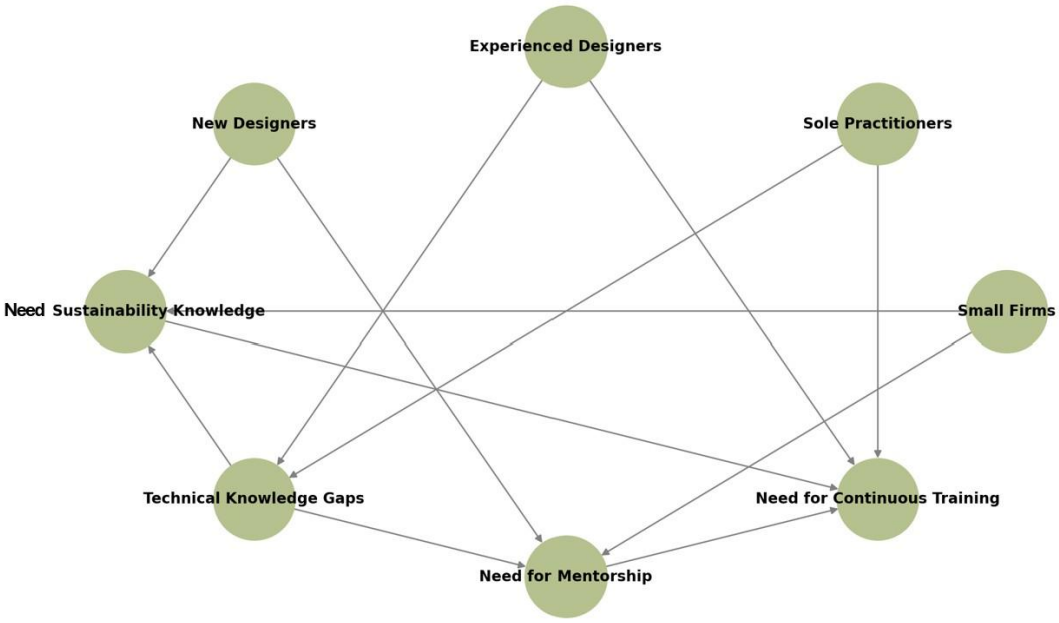

Figure 26: Key barriers designers face in gaining sustainability knowledge.

Moreover, years of experience affect sustainability knowledge gaps. More experienced designers (20+ years, such as D-1, D-2, D-6, D-10, D-15) tend to struggle to keep pace with evolving sustainability trends, as formal sustainability education was not a primary focus when they entered the industry. This reflects similar findings in architecture and product design, where sustainability education has only recently gained traction in professional training (Othman et al., 2013; Henninger et al., 2017). Meanwhile, younger designers (5–10 years, e.g., D-3, D-4, D-16, D-19) acknowledge the significance of sustainability but feel underprepared due to the complexity of sustainable materials, certifications, and industry expectations. This underscores a generational shift in sustainability awareness, while also exposing the lack of standardised training opportunities that support designers at different stages of their careers (Fry, 2009).

These findings emphasise the urgent need for industry-wide sustainability training programs, accessible educational resources, and mentorship initiatives to ensure that designers of all backgrounds can integrate sustainability seamlessly into their work. Without structured sustainability curricula embedded in professional education, the industry risks a fragmented approach to sustainability adoption (Bhamra and Lofthouse, 2007). By addressing these gaps, the interior design sector can move toward a more structured, knowledge-driven approach to sustainable design, enabling designers to adopt sustainable strategies more effectively. Without such structural enhancements, sustainability knowledge will remain

unevenly distributed, impeding the sector's ability to achieve meaningful environmental, social, and economic sustainability.

This would ultimately facilitate the interior design industry to advance towards environmental and social sustainability. In summary, the findings indicate that promoting sustainable design is primarily hindered by internal challenges, such as the designers' low level of knowledge and expertise. This knowledge gap and the lack of professional expertise in the sustainability field highlight the need to invest in increasing designers' capacity and skills via education, training, and mentorship programmes Strengthening these areas will enable designers to implement a range of sustainable strategies in their projects. By addressing knowledge gaps, expanding training programmes, fostering collaboration and promoting lifelong learning, sustainability stakeholders, who make up the interior design industry, can accelerate sustainability efforts in the built environment and to be more efficient and effective in enhancing environmental, social and economic sustainability in interior design.

7.1.5 Resistance to Change

Resistance to change is a persistent issue within the interior design industry, particularly regarding sustainability integration. However, this reluctance is not uniform across all designers; rather, it is shaped by experience level, company structure, and market positioning. Many experienced designers (20+ years, such as D-1, D-2, D-6, D-10, D-15) exhibit greater hesitation in modifying established design methodologies, as indicated in 6.1.5 Findings. This reluctance is largely rooted in habitual workflows and the perception that sustainability disrupts well-tested processes. This aligns with Reichers (1986), who argues that professionals are often resistant to change due to the psychological security provided by familiar routines.

In contrast, newer designers (5–10 years, e.g., D-3, D-4, D-16, D-19) show a more open attitude towards sustainability but frequently feel underprepared due to limited industry guidance and structured training opportunities. This generational gap in sustainability readiness aligns with research suggesting that emerging professionals acknowledge sustainability's importance yet lack institutional support to confidently implement it (Berardi, 2012). Without formalised industry training, their enthusiasm for sustainability may not translate into effective practice, leading to inconsistent adoption across the profession.

Company size also significantly influences resistance to sustainability. As indicated in 6.1.5, designers from small firms (D-1, D-2, D-6, D-9, D-11) report higher levels of resistance, likely due to budget constraints, limited research access, and client-driven pressures. Small firms often lack the financial and structural resources to experiment with sustainable alternatives, making risk aversion a dominant factor in decision-making (Häkkinen and Belloni, 2011). Meanwhile, sole practitioners (D-10, D-15, D-19) demonstrate a greater willingness to explore sustainability but face challenges in convincing clients of its value. D-10's statement about the risks of delivering unfamiliar sustainable solutions exemplifies this challenge—if clients perceive sustainability as a financial or aesthetic compromise, designers may hesitate to recommend sustainable options.

The dataset further reinforces these findings by illustrating the key factors contributing to sustainability resistance. As shown in Figure 27, resistance is influenced by fixed routines, perceived risk, and deep-seated biases in the design industry, particularly in sectors associated with luxury interiors.

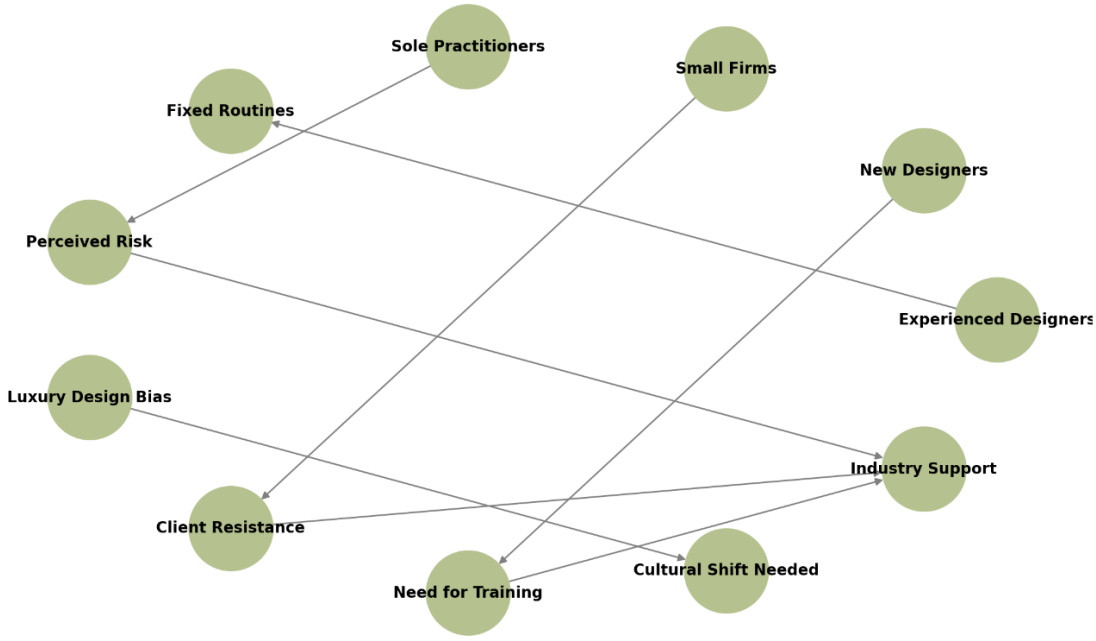

Figure 27: Systemic Barriers and Solutions for Overcoming Resistance.

Designers working in high-end markets (D-6, D-15) express skepticism towards sustainable aesthetics, believing that eco-friendly materials lack the prestige of conventional luxury design. This reflects the long-standing "luxury design bias"—the assumption that sustainable materials compromise exclusivity and quality (Wilson and Downton, 2020).

Additionally, client resistance remains a critical factor in deterring sustainability adoption. As highlighted by D-10, clients investing in high-cost projects often demand proven, high-performance materials and are unwilling to experiment with untested sustainable options. This aligns with research showing that client preferences strongly dictate material choices, reinforcing conventional industry norms rather than enabling sustainable innovation (Kang and Guerin, 2009).

Another major barrier is the industry's lack of structured support for sustainability adoption, as reflected in the "need for training" and "cultural shift needed" nodes in Figure 27. Without accessible training programs and institutional advocacy, sustainability remains an individual responsibility rather than an industry-wide standard (Kibert, 2012). This perpetuates the misconception that sustainability is an optional rather than an integral aspect of design practice.

Resistance to change is endemic, but it can be reduced through systemic changes, such as questioning entrenched industry norms and creating a cultural environment conducive to innovation and sustainability. This can make designers more able to overcome resistance and include sustainability in their products. Also, it’s important to acknowledge that many designers feel this kind of change is unrealistic: they can suggest sustainable ideas to clients, but they’re the ones stuck with the legacy projects. Designers might not feel empowered to ask for the time or support necessary to do the right thing. Thus, designer education, training and organisational support are critical.

To address these barriers, systemic change management strategies are required to create an industry culture conducive to sustainability. Expanding sustainability education will challenge entrenched industry norms and provide designers with the tools needed to navigate sustainability integration (Cole, 2000). Industry-wide advocacy and client engagement will be necessary to shift perceptions of sustainable materials and promote their adoption in high-end markets (Orr, 1992). Organisational incentives and mentorship programs will support small firms and sole practitioners in implementing sustainable practices without compromising business viability (Berardi, 2012).

Positive changes require a multi-dimensional change management intervention as it relates to the cultural, organisational and educational interventions that need to be addressed to overcome resistance to change. Consequently, no or little progress will be made towards meeting the needs of a healthy and harmonious society by the interior design industry if

stakeholders fail to effectively address barriers that impede change and cultivate a creative, experimental and innovative climate of collaboration.

Without these systemic interventions, resistance to change will continue to hinder meaningful progress. By embedding sustainability into industry training, challenging outdated biases, and fostering a culture of innovation, the interior design sector can move toward long-term sustainability goals, ensuring both environmental and economic viability.

7.2 External Influences on Sustainability

7.2.1 Client Demand and Cost Considerations

According to close to 62% of the designers interviewed, the main concern was the ability to balance choices in aesthetics and costs put forth by the client with sustainable practice implementation. It emerges as a significant tension between most designers: Sustainability is seen as one significant trade-off relative to other priorities in the interior design industry. As D-1 said, *"Clients very often consider aesthetics and cost before they consider sustainability, which makes it hard to propose sustainable design solutions."* This epitomises a generalised industry predicament in which sustainability is often considered a follow-up rather than at the heart of the design process.

This is an issue of crucial importance and should be critically addressed to understand why sustainability is seen as a trade-off. Can it still be that the design industry has not fully embraced sustainability as part of its values and operations? Research supports that sustainable considerations in design are not inherently mutually exclusive with aesthetics and cost-effectiveness in the final product of the process (Ferrer et al., 2011). If sustainability themes were to be more deeply integrated into the basic tenets of design, it would come to be recognised as a natural state of good design. This might be a shift in perception that could be facilitated through education and awareness, both within the industry and among clients (Miller et al., 2020).

The interviews underlined a broad gap in terms of client awareness and understanding regarding sustainable design. Designers referred to this factor, with D-10 noting, *"There is a lack of awareness about the benefit of sustainable design on the client side. It is hard to convince him to invest in any sustainable feature when the value of it is not understood".*

This highlights an area where designers can make a difference; they can also be educators and influence sustainability. But then this also raises some of the critical questions about what falls under the duties and abilities of designers. Are these designers fully equipped to face the challenge of becoming educators? Do they have what it takes, in terms of knowledge and resources, to communicate well enough the benefits of sustainable design to other people? These may be the issues that need more training and backup for designers or the tools and material resources to bridge that knowledge base with clients. These studies, therefore, suggest that further professional development and constant learning are necessary to allow designer to stay up to date with sustainable practices and pass this knowledge to their clients as much as possible (Othman et al., 2013). More training and support for designers, tools, and the development of materials could, therefore, bridge this knowledge gap with their clients even further (Azhar and Brown, 2009).

However, some of the designers were positive about putting sustainability into their work. D-11 said, *"We have been able to find creative solutions that meet both the client's aesthetic and sustainability goals".* This shows that there is a role played by innovation and creativity in dealing with limitations that sustainable design shows.

Suggestively, this should mean that sustainability in design should not be deemed as a limitation but rather an open ground for creative problem-solving. Thus, the industry can benefit from an innovation culture where sustainability is considered as the force of creativity instead of being thought to act to the contrary (Manzini, 2014). More so, promoting collaboration and deliberation while best practices are shared may help any designers find new ways how they could incorporate sustainability into their projects almost effortlessly (Baldwin and von Hippel, 2011).

Findings (see 6.2.1) also indicate a broader change in industry trends and client expectations. As sustainable design becomes the norm rather than the exception, clients expect this as part of the standard offering. This trend represents a growing recognition of the importance of sustainability that might eventually transform it into a non-negotiable aspect of interior design (Edwards, 2009); however, this brings to the fore some critical questions regarding how the sector shall be able to hasten that transfer. What can be the role of policy and regulation in advancing sustainable design? How can professional organisations and industry leadership take action to incite change? Such are critical questions to ensure that sustainability does indeed become an integrated and ongoing element in interior design.

Regulatory frameworks and incentives leading to sustainable practices can strongly influence client expectations and thereby shape the standards for the industry (Lutzenhiser, 1994).

Another significant barrier to sustainable design identified in the analysis is the perception of higher costs associated with sustainable materials and practices. D-14 practitioner stated, *"There is a perception that sustainable materials are more expensive, which makes it harder to sell the idea".* Such a perception can be a tremendous put-off factor for clients, mainly when they are focused on short-term costs instead of long-term gains. This question must be critically examined while cost and value are being considered. While it is true that some sustainable materials and practices may have a higher first cost, they can also show long-term savings through efficiency, durability, and health benefits (Kats, 2003). So, the discussion should go on to form a more comprehensive understanding of value with immediate and long-term benefits built in. Designers might have a significant role in reframing the conversation in relation to cost, emphasising the overall value proposition of sustainable design (Fowler and Rauch, 2006).

These challenges are particularly pronounced in smaller firms, where financial constraints and client-driven aesthetics dictate how sustainability is incorporated—or, more often, deprioritised—in design decisions. Designers from small firms (D-1, D-6, D-9, D-12, D-21) frequently report difficulties in persuading clients to adopt sustainable features, largely due to budgetary limitations and a persistent perception of sustainability as a costly add-on rather than a long-term investment. This is consistent with prior research indicating that small design firms, due to their limited financial leverage, often lack the purchasing power or supplier relationships necessary to make sustainable options more viable (Shen et al., 2017; Watson et al., 2017). For instance, D-1 and D-9 noted that clients frequently resist the inclusion of sustainable materials due to upfront costs, reflecting a broader industry-wide challenge in which immediate financial constraints overshadow long-term economic and environmental benefits (Fletcher and Grose, 2012).

Sole practitioners, such as D-10, D-15, and D-19, appear more proactive in educating clients on the benefits of sustainability, albeit within their own professional limitations. D-10 highlights the critical role of client awareness, arguing that a lack of understanding remains one of the biggest deterrents to sustainable adoption. This is consistent with studies emphasising that consumer education plays a pivotal role in shifting purchasing behaviours, as clients who grasp the financial and ecological advantages of sustainable design are more

inclined to invest in it (Bonda and Sosnowchik, 2016; Henninger et al., 2017). D-19, for example, relies on demonstrating long-term cost savings as a persuasive tool—an approach supported by research suggesting that clients respond more favorably to sustainability when framed in terms of economic return and durability rather than abstract environmental responsibility (Kang and Guerin, 2009). However, while sole practitioners enjoy greater flexibility in integrating sustainability, they still face significant challenges in bridging the knowledge gap on sustainability's financial benefits, particularly when engaging with clients unfamiliar with life-cycle costing and material longevity considerations (Black, 2008).

Designers operating in luxury and bespoke interiors, including D-6, D-14, and D-15, encounter a distinct set of challenges related to balancing aesthetics, cost, and sustainability. D-6 explicitly states that financial constraints often limit sustainable choices, even in cases where clients express an interest in eco-conscious materials. This reflects broader concerns in the luxury design sector, where sustainability is often perceived as a secondary consideration, incompatible with high-end aesthetics (Joy et al., 2012; Henninger et al., 2017). Unlike small firm designers, who contend with cost-driven objections, luxury interior designers must navigate the intersection between exclusivity and sustainability, as high-end clientele often prioritise customisation, rare materials, and artisanal craftsmanship over environmental considerations (McNeil and Moore, 2015). Although sustainability-focused luxury markets are emerging, eco-conscious design still struggles to achieve the same status as traditionally prized materials and finishes (Sharma and Kushwaha, 2019).

Technology-driven designers, such as D-12 and D-20, tend to prioritise cutting-edge innovation over sustainability, highlighting how technological advancements in design sometimes take precedence over environmental considerations. This is consistent with the broader discourse in smart design and digital fabrication, where performance-driven innovation often outweighs ecological concerns (Ceschin and Gaziulusoy, 2016). Similarly, functionality-focused designers (D-7, D-17) emphasise ergonomics and human-centred design, reinforcing the notion that usability and comfort often remain primary client concerns, sometimes at the expense of sustainability. Research suggests that designers working in commercial and high-performance interiors frequently face tensions between efficiency, regulatory requirements, and sustainable goals, leading to trade-offs where functional priorities take precedence over environmental considerations (Brown and Bhattacharyya, 2022).

The findings underscore the importance of client education, financial incentives, and a paradigm shift within the industry to overcome barriers to sustainability adoption. Designers in small firms and luxury sectors face greater resistance due to cost constraints and entrenched aesthetic expectations, while sole practitioners and emerging designers are often more proactive advocates for sustainable alternatives. However, without systemic industry changes—including greater accessibility to affordable sustainable materials, comprehensive client education on long-term economic benefits, and regulatory frameworks that incentivise sustainable choices—progress remains incremental (Fry, 2009; Fletcher, 2014). Ultimately, positioning sustainability not as an optional feature, but as an essential and integrated design principle, will be key to ensuring its widespread adoption across all interior design sectors (Manzini, 2015).

The results of responses towards cost-related external challenges on sustainability in the interior design sector further reveal the complicated and multifaceted nature of the relationship between the financial advantage and the sustainable design agenda. Interior designers still confront major difficulties in achieving sustainability goals, especially the external pressures of financial feasibility and economic constraints.

Another important note was the conflict between the goals of sustainability and client spending: more than half of the interviewees pointed out that clients – at least those they've had the opportunity to work with thus far – are resistant to the additional costs purported to be associated with 'sustainable' building materials and practices. Elevating client awareness of the economic positives of sustainable design (such as long-term cost savings, and value-added to the property) might help alleviate that resistance and usefully open up the market for sustainable design.

In addition to this, the affordability challenges of sustainable materials mean that financial accessibility gets in the way of the potential for sustainability to be the driving factor in design work. The interior designers interviewed often spoke about how the higher costs of sustainable materials dissuaded clients with budget restrictions and prohibited designers from prioritising or even considering sustainability as the driving force behind projects, resulting in fluctuations in access to sustainable design options.

Furthermore, competitive pressures and market demands increase the internal pressure towards optimising 'cost' in unsustainable design through tender processes that pit design firms against each other on competitive grounds, potentially overriding financial

sustainability goals to ensure the overall outcome is ‘competitive’. Interviewees pointed out that competitive tender systems in the construction industry might prioritise cost-efficiency over the complexity of other sustainability measures and the social aspects of development and procurement that might subsequently utilise the built environment. Such systemic industry changes would be needed to reshape prevailing incentives towards the promotion of sustainable design approaches.

Cost considerations for sustainable design, as much as client perceptions and market pressures, can be influenced by regulatory frameworks and government policies. As stated in section 6.2.1 that supportive policy environments and financial incentives were essential in encouraging investment in sustainable construction practices and mitigating financial barriers to sustainability.

Overall, the results reveal the multifaceted nature of factors – specifically, related to costs versus sustainability – that designers struggle with in their daily routines. While interior designers strive to internalise sustainability into their projects, they find their progress limited due to the attitude of clients, affordability linked to costing, and the added dimension of new product introduction into the market. Concerted efforts in terms of educating the target audience, advocacy and collaborations of designers, clients, and industry players across the globe can help overcome these roadblocks and improve the uptake of sustainable design while making it more financially and economically viable. This also requires attention to the importance of taking a more systematic and collective approach to overcoming obstacles to sustainable design. This should involve making efforts to address clients’ perceptions, market pressures, regulatory frameworks and accessibility issues related to affordability to create an enabling environment so that sustainable design practices are encouraged and yielded. It is noted that promoting environmental and social sustainability goals requires a collective response by stakeholders in interior design.

7.2.2 Government Regulations and Policies

One key strategy would be ensuring that government policies and industry leaders provide the necessary acrimony and support to effectuate changes towards sustainability. Regulations alone are not enough; providing clear and accessible incentives for interior designers, such as tax credits and grants, creates a tangible motivation for sustainable practice

adoption. Financial tools such as tax relief, subsidies, and government-backed green loans can be particularly effective in ensuring designers across different firm sizes integrate sustainability into their projects (Potoski and Prakash, 2005; Arimura et al., 2011). However, incentives can only be effective if they are not only available but also meaningful. As D-7 noted, incentives that offset the higher upfront costs of sustainable design can encourage wider adoption. The regulation-makers must think critically about who is covered by their policy provisions; a good sustainability promulgation must be available to all designers, including smaller-scale professionals who might not be able to afford the cost of sustainably designed work.

Furthermore, while regulatory frameworks set minimum standards for energy efficiency or environmental performance, a lack of robust enforcement mechanisms can severely undermine their impact. Despite the existence of sustainability regulations, their weak enforcement remains a critical barrier to widespread adoption. This is particularly evident in the luxury sector (D-6, D-14), where sustainability is often treated as an optional, value-added feature rather than an industry standard. To bridge this gap, strengthening enforcement mechanisms and providing clearer incentives for sustainable practice adoption is essential. This would ensure that sustainability is not merely encouraged but systematically integrated across all levels of the industry.

Regulatory credibility depends on effective monitoring and oversight. As D-18 highlighted, while Britain's sustainability regulations are stringent, their weak enforcement limits their effectiveness. This issue has been recognised in previous research, which suggests that policy alone is insufficient unless coupled with strict compliance measures and performance evaluations (Delmas and Toffel, 2008). Without strong enforcement, sustainability measures risk remaining voluntary rather than mandatory, leading to inconsistent sustainability outcomes across different sectors of the interior design industry. This challenge is particularly pronounced in luxury design, where designers such as D-6 and D-14 often view regulations as restrictive rather than enabling.

Additionally, cross-sector collaboration and partnerships are imperative between government agencies, industry stakeholders and professional associations to maximise the effectiveness of sustainability policies. Government-led programmes are key to establishing awareness and providing guidance and resources, but it is critical that partners from different stakeholder groups actively collaborate. Cross-sector collaborative networks can help

policymakers leverage the specific strengths and expertise that each partner has in their area of work to help shape future pathways for the industry at large. D-21's perspective on government-industry partnerships highlights their value in knowledge-sharing and structured support. Research has shown that collaborative regulatory models, where policies are shaped in consultation with industry leaders, tend to have a stronger adoption rate than top-down regulatory approaches (Porter and van der Linde, 1995). This is particularly true in interior design, where creative autonomy plays a significant role in sustainability implementation.

A further, consideration is the evolving nature of sustainability itself. Designers expressed a need to be able to keep up with changes and expressed concern that policies should remain adaptable rather than rigid, as sustainability is not a fixed concept but an evolving goal that requires continuous reassessment and flexibility in policy development (Potoski and Prakash, 2005). Sustainability is often thought of as differences between 'before' and 'after' goals, but in reality, it is iterative and requires ongoing adaptation. Interior design is not immune to this tendency, designers must regularly integrate new sustainable methods as they emerge.

Thus, policymakers should be aware of the changing nature of sustainability goals and industry trends, and adapt their policies accordingly by staying up to date on sustainable design innovations. Governments must establish mechanisms for policy updates that allow continual improvements in sustainable design regulations, ensuring they remain relevant to both current industry demands and future innovations. Despite the guidelines and policies, their success will be contingent on the accessibility, enforcement, cooperation, and responsiveness of multiple key stakeholders. In other words, the government's role in facilitating an environment where designers can effectively incorporate social and environmental sustainability is through the addressing of such obstacles and considerations that policies evolve alongside industry needs.

One of the most pressing policy-related challenges in advancing sustainable interior design is the economic feasibility of sustainability for smaller firms. Designers from small firms (D-1, D-3, D-4, D-9, D-12) frequently cite financial constraints as a primary barrier preventing the adoption of sustainable practices. Since these designers primarily operate in residential and commercial projects, they often engage with budget-conscious clients who prioritise affordability over environmental considerations. This reinforces previous research indicating that cost remains one of the most significant deterrents to sustainability adoption in

interior design, particularly for firms lacking financial resilience (Fletcher & Grose, 2012; Watson et al., 2017). The reliance on short-term cost considerations, rather than life-cycle assessments, further exacerbates this challenge, suggesting the need for targeted financial mechanisms—such as tax incentives, grants, and subsidies—to lower the economic threshold for sustainability adoption (Kang and Guerin, 2009; Henninger et al., 2017). Without such interventions, sustainable interior design risks becoming an exclusive practice, accessible primarily to firms capable of absorbing higher material and implementation costs (Black, 2008).

Sole practitioners (D-7, D-10, D-15, D-19, D-21) demonstrate a different dynamic, leveraging greater autonomy in their material choices and sustainability strategies. Unlike small firm designers who face client-driven constraints, sole practitioners frequently integrate sustainability based on personal ethics, innovation, or niche market positioning. For instance, D-10 applies a vegan interior design approach, which is ethically motivated rather than dictated by policy compliance. Similarly, D-19 implements biophilic design strategies independent of government incentives. This mirrors broader findings in sustainable design research, which suggest that policy acts as a facilitator rather than a determinant in the adoption of sustainability among independent designers (Manzini, 2015; Ceschin and Gaziulusoy, 2016). While policies may create supportive frameworks, designers who specialise in sustainability-driven work tend to pursue environmentally responsible practices irrespective of regulatory requirements (Bonda and Sosnowchik, 2016).

Luxury and high-end designers (D-6, D-14, D-15) face a distinct set of regulatory barriers, particularly in balancing premium aesthetics with sustainability policies. D-6 has already acknowledged that financial constraints frequently limit sustainable choices, despite some clients expressing interest in eco-conscious materials. This aligns with broader industry challenges, where high-end clientele may be reluctant to accept material substitutions that could be perceived as compromising luxury quality (McNeil and Moore, 2015; Joy et al., 2012). The perceived trade-off between sustainability and exclusivity remains a critical hurdle, suggesting that regulatory interventions should not only incentivise sustainability but also support innovation in high-quality, environmentally responsible materials. Previous studies suggest that the luxury sector could benefit from the development of high-performance sustainable materials that align with both ecological and aesthetic expectations (Sharma and Kushwaha, 2019).

The issue of regulatory enforcement also emerged as a critical concern among experienced designers (D-1, D-10, D-11, D-15, D-18). D-18's observations on weak enforcement in Britain reinforce broader concerns that sustainability policies often lack sufficient oversight and accountability measures, leading to inconsistent adoption across the industry. Research on environmental policy effectiveness suggests that compliance depends not only on policy design but also on the presence of monitoring systems and enforcement mechanisms (Delmas and Toffel, 2008). Without rigorous policy enforcement, sustainability risks remaining a voluntary practice rather than an industry standard. In contrast, younger designers (D-3, D-4, D-16) tend to view policy as a transformative tool rather than a restrictive constraint. Their perspectives suggest that adaptability is crucial in ensuring that sustainability regulations evolve alongside industry advancements—a view echoed in policy literature emphasising the need for dynamic regulatory frameworks that can respond to technological and material innovations (Arimura et al., 2011; Ceschin and Gaziulusoy, 2016).

Cross-sector collaboration and partnerships also emerged as a critical factor in enhancing regulatory effectiveness. D-21's emphasis on government-industry partnerships reflects the importance of structured dialogues between policymakers and industry leaders to ensure that regulations are practically implementable rather than externally imposed. Previous research indicates that designers are significantly more likely to adopt sustainability measures when they are involved in shaping policies rather than merely complying with them (Fry, 2009; Manzini, 2015). Policy development that incorporates industry expertise, real-world constraints, and market incentives is more likely to result in measures that balance sustainability goals with economic and creative realities (Bonda and Sosnowchik, 2016).

Moving forward, policy interventions must reflect the economic realities and creative constraints of interior designers, ensuring that regulations remain both enforceable and adaptable. This requires a dual approach: first, ensuring financial accessibility for small firms through subsidies, grants, and incentive structures; second, fostering innovation in luxury and high-end markets to redefine sustainability as a premium attribute rather than a trade-off. The integration of sustainability policies into industry frameworks must be structured in a way that acknowledges the financial constraints, client expectations, and aesthetic priorities of interior designers (Henninger et al., 2017; McNeil and Moore, 2015). By creating an enabling policy environment—where financial incentives, regulatory adaptability, and industry collaboration intersect—governments can play a far more effective role in advancing sustainable design across all segments of the industry.

7.2.3 Availability of Sustainable Resources

There are both opportunities and problems for sustainability in the field of interior design, such as consciousness about resources and how to use them. While there is a significant demand for ecological materials to be used in design projects, designers still face substantial obstacles in sourcing them reliably and affordably.

One of the most urgent issues is the perception and reality of limited access to durable and high-quality sustainable materials. As D-4 noted, sourcing sustainable materials, especially for specialised applications, remains a persistent challenge. This scarcity often restricts the ability of designers to integrate sustainability comprehensively into their projects. The issue is not simply about availability but also about the logistical challenges in procurement, material verification, and supplier transparency. For sustainable practices to be viable, suppliers and policymakers must work collaboratively to expand the availability of sustainable materials in the market.

A further obstacle is the added expense that sustainable resources might incur. While materials with low environmental impact – such as recycled plastics, aluminium with low embodied energy, materials made with renewable energy, responsibly sourced timber or regional stone – are often more expensive to procure than their conventional equivalents, designers can baulk at specifying them in the face of client-driven top sheets and shrinking budgets. As D-9 pointed out, while sustainable alternatives exist, affordability remains a critical barrier. Clients, especially in residential and small commercial projects, prioritise cost considerations over environmental benefits, making it difficult for designers to specify sustainable options. This aligns with previous research, which suggests that the perceived high cost of sustainability discourages investment despite long-term financial and environmental benefits (Kats, 2003; Fowler and Rauch, 2006). Developing tax incentives or subsidies to encourage the use of sustainable materials is another step that policymakers and industry players need to consider.

Greater transparency and traceability within a supply chain help to ensure the credibility of resources. The designers' concern with knowing where resources come from and how they are made emphasises the importance of transparency in verifying the sustainability credentials of resources. In this context, increased supply chain transparency, such as provided by certification schemes and labelling initiatives, can also help designers make more informed choices regarding the sustainability of materials used in their products

and processes. Similarly, D-14 emphasised the need for designers to understand the origins and production processes of materials to make informed environmental decisions.

However, despite these benefits, a persistent lack of supply chain visibility continues to hinder the widespread adoption of sustainable materials, particularly for small firms and independent designers who lack direct access to verified suppliers. In such cases, certification schemes and standardised labelling systems—such as Cradle to Cradle, FSC (Forest Stewardship Council), and Global Organic Textile Standard (GOTS)—play a crucial role in providing designers with reliable information (McDonough and Braungart, 2002). Yet, without these verification mechanisms, claims of sustainability often remain inconsistent and difficult to assess, posing a significant challenge for professionals committed to responsible sourcing.

In addition, local production and artisan craftsmanship are important aspects to consider for ecological sustainability. D-19 highlighted the environmental and cultural benefits of working with local materials and artisans, emphasising that locally sourced materials reduce transportation-related carbon emissions and promote regional craftsmanship. Working with local artisans and craftspeople requires shorter transport distances and helps to maintain local supply chains, thus being more flexible for the community and offering an important cultural resistance to globalisation. This aligns with previous studies suggesting that integrating local supply chains can enhance sustainability efforts while supporting regional economies (Manzini, 2015). Designers can make a crucial difference by demanding local sourcing and advocating artisan craftsmanship in their projects. However, despite these benefits, independent designers and small firms often struggle to find sufficient local resources at competitive prices, which limits their ability to fully implement sustainable sourcing practices.

Despite these complications, expanding sustainable solutions within the interior design market also opens the door to innovations and possibilities for thriving. D-20 highlighted the increasing availability of eco-friendly options driven by consumer demand and manufacturer initiatives. This trend aligns with research showing that sustainability-conscious consumer behaviour is pushing manufacturers to develop more accessible green alternatives (Watson et al., 2017). The designers' eye for an increasing focus on eco-friendly products and solutions indicates a shift within the interior design industry at large, and through tapping into that momentum and utilising sustainable materials well, designers can

make a positive impact on the environmental and social sustainability goals of the design industry. However, despite this progress, smaller firms and independent practitioners (D-4, D-9, D-14, D-19) continue to face sourcing difficulties, particularly due to financial constraints and the dominance of large corporations in the sustainable materials market.

A sustainable approach to resources requires addressing the issue from various aspects, including industry cooperation in design, policy intervention and the education of consumers. Once the problems brought about by not having enough resources high costs of key materials and the lack of transparency in the supply chain are addressed, sustainable interior design can flourish.

One of the key structural challenges within sustainable sourcing is the disparity between large firms and small design practices in accessing eco-friendly materials. Larger firms often have more purchasing power and direct relationships with manufacturers, enabling them to secure better pricing and availability for sustainable resources. In contrast, smaller firms (D-4, D-9, D-14) and independent practitioners (D-10, D-15, D-19) struggle with limited supplier options and higher material costs. This imbalance reinforces the need for policy-driven incentives and collaborative supplier partnerships to ensure equitable access to sustainable materials across different scales of design practice.

Additionally, cost barriers continue to pose substantial challenges, particularly for small and residential-focused firms that must balance sustainability with client budget constraints. D-9's concern about pricing highlights how budget limitations discourage sustainable material selection. This aligns with broader industry findings on the cost-related hesitancy toward sustainable investment (Othman et al., 2013). If sustainable design is to become the industry standard rather than an exception, financial accessibility must be addressed through targeted subsidies and incentive programs.

Despite these obstacles, designers working in eco-conscious and biophilic interiors (D-19), technology-integrated interiors (D-20), and sustainable fabric resale (D-16) see opportunities in locally sourced materials and new innovations in sustainable design. D-19's preference for working with local artisans suggests that sole practitioners can adopt sustainability more easily by leveraging localised, small-scale production—a practice that is harder to implement in larger, commercially driven firms.

The growing trend toward greener materials and technology-driven sustainable solutions, as noted by D-20, suggests that manufacturers are responding to consumer demand.

However, to make sustainable sourcing more accessible, policy interventions, education for designers, and enhanced supply chain transparency remain key factors in ensuring that sustainability becomes mainstream.

Findings indicate that designers in small firms and independent practices are particularly vulnerable to material accessibility issues, while eco-conscious and technology-driven designers are better positioned to adopt sustainable practices. Addressing these challenges through policy incentives, supplier transparency, and local sourcing initiatives will support a broader industry shift toward sustainability.

In summary, the results emphasise the broad range of challenges within sustainable interior design, despite limited access and/or cost issues. While the availability of sustainable alternatives plays a crucial role, the industry must also focus on supply chain verification, affordability, and localised sourcing to ensure that sustainability becomes a practical reality rather than an aspirational goal. Understanding and resolving the challenges listed in the results will empower designers to reach industry goals of environmental and social sustainability, ensuring that sustainability is not only an ethical consideration but also a viable, integrated component of contemporary interior design practice.

7.2.4 Supply Chain Constraints

The findings related to supply chain bottlenecks provide an insightful overview of the complex issues designers face when trying to manage procurement processes and guarantee the sustainability and efficiency of the supply chain. A critical appraisal of the findings highlights a set of considerations and potential implications for interior design practice.

A major area identified by interior designers regards the susceptibility of supply chains to global shocks. According to D-2, COVID-19 further exposed this susceptibility with an onslaught of supply chain contractions, and shipping disruptions and slowed international trade, putting strain on the movement of raw materials sourced from international suppliers. As a result, concepts of supply chain resilience and flexibility are being emphasised, with designers developing contingency plans and diversifying their sourcing strategies to combat the fragilities of global dependencies. This aligns with research highlighting that supply chain resilience is crucial in ensuring business continuity, particularly in sustainability-focused industries (Christopher and Peck, 2004).

Sustainability concerns have pushed the logistics industry towards ethical sourcing practices, which are now prioritised to suit consumers' demands for transparency and commitment to road-to-source practices. D-11 emphasised that there is growing pressure on designers to choose suppliers who follow ethical and sustainable practices, as failing to do so can result in reputational damage and loss of buyers. This reflects broader industry trends where supply chain ethics are becoming a competitive differentiator in sustainability-driven markets (Kogg, 2003). Opting for ethical and sustainable supply chain management could make your brand more appealing and confirmed to the consumer, fulfil your client's expectations, and encourage the development of more widespread practices of ethical and sustainable design.

One of the biggest obstacles to effective supply chain management of the built environment is made up of the logistical complexity and coordination that comes with it. D-15 highlighted that working with multiple suppliers often leads to logistical difficulties, particularly in managing transportation, scheduling deliveries, and ensuring timely project completion. Large-scale projects often have diverse materials that need to be procured and delivered to the site, and involve a lot of logistical choreography in terms of how these are brought together at the right time and a good price. Digital tools and generally used technologies in the built environment could provide logistical support and help in coordinating interactions between supply chain players for better efficiencies and savings of material, product, financial and time costs (Schoenherr and Speier-Pero, 2015).

Dependency upon key suppliers became a salient risk factor with respect to supply chain management, and so designers must analyse dependencies upon suppliers and develop backup plans to reduce risk where a key supplier is disrupted or unable to provide inputs. D-20 highlighted how manufacturers often rely on a limited number of suppliers for key components and raw materials, making them vulnerable to disruptions or shortages. This emphasises the need for designers to establish supplier redundancies and develop contingency plans to minimise risks associated with supplier dependency. Good relationships with diverse, dependable, and responding suppliers will form part of this strategy of resilience, ensuring that projects remain on track even when disruptions occur.

The solutions to supply chain constraints should not simply rely on reactive inventory management mechanisms. Instead, they must be implemented proactively and be multi-faceted to promote resilience, assure quality, promote ethics in sourcing, ensure logistical

efficiency and foster supplier diversification. Over time, as the principles of best practice supply chain management and sustainability are embraced, numerous constraints to the supply chain and even the design process will decrease, making the interior designer's work more feasible, cost-effective, and resilient.

These challenges are particularly pronounced among small firms, where limited resources and reliance on external suppliers make navigating supply chain disruptions more difficult. Small firms (D-2, D-6, D-11, D-14), which often work on residential and commercial projects, struggle with global supply chain vulnerabilities. D-2's mention of disruptions due to COVID-19 highlights how reliance on international suppliers has made sourcing sustainable materials more unpredictable and expensive. For designers like D-6 and D-14, who focus on luxury interiors, delays in sourcing premium, sustainable materials impact project timelines and client satisfaction.

For sole practitioners (D-10, D-15, D-19), supply chain issues often revolve around limited supplier networks and difficulty in negotiating competitive prices for sustainable materials. D-10, who specialises in vegan and sustainable interiors, faces additional hurdles in verifying the ethical credentials of suppliers, reinforcing the broader challenge of ensuring transparency in sustainability claims. This aligns with research indicating that independent designers often struggle with access to reliable supplier networks, making it harder to uphold sustainability standards (Kogg, 2003).

Designers working with technology-integrated and high-performance interiors (D-20) experience another layer of complexity. D-20's concern about key supplier dependencies reflects a challenge in maintaining a consistent flow of high-tech materials needed for smart and eco-efficient designs. This issue extends to D-11, who works with both architecture and interiors, where securing materials that align with both structural and aesthetic sustainability standards is an ongoing challenge.

To improve supply chain resilience, designers must adopt multi-supplier strategies, digital tracking systems, and stronger ethical sourcing policies. Industry-wide initiatives supporting sustainable procurement practices and financial incentives for local sourcing would particularly benefit small firms and independent designers, enabling them to overcome logistical complexities and secure sustainable materials more reliably.

Overall, the findings highlight the complexity and multifaceted nature of supply chain constraints when it comes to the interior design sector. Designers are confronted with issues

around global sourcing, issues with quality management, problems with ethical sourcing, problems with trying to coordinate logistics, problems with working with suppliers, and a lack of control over project outcomes and higher sustainability goals. By first recognising and addressing these constraints, and by pursuing proper supply chain management, designers can increase resilience, mitigate risks and continue to pursue best interior design practices.

7.2.5 Environmental Factors

The findings emphasise that environmental considerations are increasingly influencing interior design practices, with designers integrating sustainability into their decision-making processes at varying degrees. D-6's recognition of site context and environmental surroundings as foundational elements in the design process underscores how luxury and bespoke interior designers are particularly attuned to harmonising designs with their natural context. This suggests that sustainability is being embraced not just as a technical necessity but as an aesthetic and conceptual driver in high-end design, aligning with research indicating that sustainability in luxury markets is often framed as a premium, experience-driven feature (Wang and Shen, 2016).

A key theme that emerged was the role of energy efficiency and passive design strategies, as highlighted by D-10. This aligns with the practices of sustainability-driven designers, such as sole practitioners and eco-conscious designers, who often have greater autonomy to experiment with innovative sustainability solutions. D-10's focus on passive design methods demonstrates how sustainable design is not limited to material selection but extends into systemic thinking about energy performance and environmental stewardship, reinforcing the broader movement towards energy-conscious interior architecture (GhaffarianHoseini et al., 2019).

Material selection remains a critical factor in sustainable interior design, as noted by D-5 and D-15. Their emphasis on low-impact materials and lifecycle assessments aligns with the broader movement toward circular economy principles (Geissdoerfer et al., 2017). Smaller firms and designers specialising in sustainable interior design (such as D-5's focus on wellness and cruelty-free interiors) tend to integrate lifecycle analysis as a means of ensuring minimal environmental impact. This suggests that while luxury designers may

engage with sustainability as an added feature, designers in smaller or sustainability-focused firms often embed sustainability at a fundamental level.

The link between environmental factors and human health is another significant theme, as noted by D-19, who emphasised the importance of indoor environmental quality, natural ventilation, and non-toxic materials. This reflects a growing movement where sustainability is framed not only in ecological terms but also in terms of occupant well-being, aligning with research on biophilic design and indoor air quality (WELL Building Standard, 2020). Sole practitioners and designers specialising in human-centred design (such as D-19 and D-17) are particularly invested in creating healthy environments, suggesting that sustainability intersects with both environmental and user-centred design philosophies.

Finally, D-21's concern about climate resilience and adaptation points to the increasing importance of future-proofing interior spaces against climate change. This is particularly relevant for designers working in regions vulnerable to extreme weather conditions. Sustainability-focused designers and those working across diverse geographic contexts (such as D-21, D-10, and D-5) are likely to consider long-term environmental risks in their projects, reinforcing the idea that sustainability is evolving from an optional feature to an essential design criterion. This aligns with emerging literature emphasising the need for climate-adaptive interior spaces that mitigate environmental risks while enhancing occupant comfort (Steemers, 2014).

This variation in sustainability adoption reflects broader industry trends, where the role of environmental principles varies depending on market positioning and client expectations. The extent to which environmental principles are embedded in design decisions varies significantly across different segments of the industry, with some designers leveraging sustainability as a competitive advantage, while others perceive it as a costly or secondary concern.

Designers specialising in high-end and bespoke interiors (D-6, D-14, D-15) often integrate sustainability as a premium feature, appealing to clients who seek exclusivity and innovation rather than cost-effectiveness. This positioning suggests that sustainability in luxury interiors is framed as an aesthetic and ethical choice, rather than a financial imperative, reinforcing literature on the intersection of sustainability and high-end design (Wilson and Ko, 2021). The emphasis on site context and environmental integration further

reinforces the idea that in luxury design, sustainability is often customised to fit the unique conditions of a project rather than being applied as a universal standard.

In contrast, sole practitioners (D-10, D-19, D-21), particularly those specialising in biophilic, vegan, and sustainable interiors, demonstrate a deeper commitment to sustainability as a guiding principle. Without the constraints of corporate mandates or client-driven compromises, these designers are able to experiment with innovative materials, passive design strategies, and lifecycle-based decision-making. This group's focus on energy efficiency and indoor environmental quality aligns with broader movements that connect ecological responsibility with occupant well-being (Kellert and Calabrese, 2015).

Designers operating in residential and commercial interior design (D-1, D-2, D-4, D-9, D-12) encounter financial and client-driven barriers that hinder the full-scale adoption of sustainable design. Many clients prioritise affordability and aesthetics over environmental considerations, making it difficult for designers to justify the upfront costs associated with sustainable materials and methods. However, D-5's emphasis on material lifecycle assessments and waste reduction suggests that even within small firms, opportunities exist to integrate sustainable practices by applying circular economy principles. This approach aligns with industry shifts that prioritise longevity and material efficiency as cost-effective sustainability strategies (Geissdoerfer et al., 2017).

The recognition of climate resilience and adaptation, as highlighted by D-21, signals a growing awareness among designers of the need to future-proof interior spaces against environmental risks such as extreme weather conditions, resource scarcity, and climate-related degradation. While this remains a relatively nascent area of concern, its increasing presence in design considerations suggests that sustainability is evolving from a voluntary commitment to an essential design criterion.

The dataset highlights a clear divide in the adoption of environmental principles: sole practitioners and sustainability-focused designers are leading the way, while smaller firms and designers in commercial sectors struggle with financial and client-driven pressures. To broaden the adoption of sustainable practices across all segments of the industry, several key interventions must be considered:

- Education and awareness programs to help designers and clients understand the long-term value of sustainability.

- Financial incentives and policy interventions that reduce the cost burden of sustainable materials.
- Industry-wide sustainability frameworks that encourage climate-adaptive and environmentally responsible practices as a standard rather than an optional feature.

Ultimately, these insights suggest that environmental factors are most readily integrated by designers specialising in sustainability, wellness-focused interiors, and sole practitioners who have the flexibility to implement innovative practices. However, designers working in luxury and bespoke interiors also acknowledge environmental concerns, though often as a value-added feature rather than a baseline requirement. To bridge this gap, policy incentives, increased accessibility of sustainable materials, and education on long-term environmental benefits will be key in ensuring that sustainability becomes a standard practice rather than a selective priority in interior design.

The findings also suggest that for sustainability to become a core element of interior design rather than a niche practice, a combination of education, financial support, and regulatory frameworks will be necessary. Designers who proactively integrate sustainability into their practice—whether in luxury, independent, or commercial settings—are likely to set the foundation for the future of environmentally responsible design.

7.3 Textiles within Interior Design

7.3.1 Textile Specifications

The findings highlight a predominant focus on aesthetic appeal, with only limited engagement with sustainable practices. The majority of designers (16 out of 21) prioritise aesthetic considerations such as texture, pattern, colour, and sheen when specifying textiles. Designers like D-10 and D-14 emphasise the visual and tactile qualities of textiles that contribute to the overall design concept and atmosphere. This focus aligns with traditional interior design values, where aesthetics plays a central role in creating visually appealing spaces (Lawson, 2001).

However, the emphasis on aesthetics often overshadows other important factors such as sustainability and functionality. For example, D-1 and D-13 discuss the importance of how textiles contribute to the ambience and coherence of the design without mentioning

sustainable attributes. This indicates a gap in integrating sustainability into the aesthetic considerations of textile specification.

Nine designers highlighted the importance of functionality, particularly durability, ease of maintenance, and longevity. D-18 and D-2 emphasise the need for textiles that can withstand everyday use, especially in homes with children or pets. D-8 also prioritises robust materials to ensure durability and minimise the risk of failure, drawing from her commercial background. These functional considerations are crucial for ensuring that design solutions are practical and sustainable in the long term (Cairns, 2018).

The perception that sustainable textiles are more expensive acts as a significant barrier to their widespread adoption. D-16 and D-20 noted that budget constraints often dictate textile choices, with sustainable options perceived as cost-prohibitive. This perception persists despite evidence suggesting that sustainable materials can offer long-term cost savings due to their durability and lower environmental impact (Fletcher and Grose, 2012).

The challenge of balancing cost with quality and client expectations is a recurring theme. Designers like D-6 and D-12 underscore the difficulty of meeting budget constraints while maintaining high standards of quality. This tension between affordability and sustainability is a critical issue that needs addressing through industry-wide efforts to make sustainable textiles more accessible and economically viable (Black, 2008).

Only five designers explicitly mentioned sustainability considerations in textile specifications. D-8 and D-16 prioritise eco-friendly materials and practices, emphasising the use of organic fibres, recycled materials, and low-impact dyes. However, other designers, such as D-3, D-7, and D-18, express a lack of knowledge or conscious engagement with sustainable textile options. This limited engagement indicates a gap in education and awareness about sustainable materials and their benefits (Gwilt, 2011).

Designers' acknowledgement of the need to learn more about sustainable textiles suggests a willingness to adopt more sustainable practices if provided with the necessary information and resources. This highlights the importance of continuing education and professional development in promoting sustainability within the industry (Orr, 1992).

Client preferences and budget constraints significantly influence textile specification practices. Designers like D-13 and D-20 highlight the role of client demand in determining textile choices, with many clients prioritising aesthetics and cost over sustainability. D-9 and

D-18 emphasise the importance of aligning textile specifications with the client's vision and practical needs, often at the expense of sustainable options.

The lack of client awareness and demand for sustainable textiles poses a challenge to integrating sustainability into interior design practices. Educating clients about the benefits of sustainable materials and promoting their use as a standard practice can help shift priorities towards more environmentally responsible choices (Manzini, 2015).

Designers working in luxury and bespoke interiors (D-6, D-14, D-15) continue to prioritise aesthetic appeal, aligning with client expectations that emphasise exclusive materials and high-end finishes over sustainability concerns. This aligns with research indicating that luxury markets often frame sustainability as a secondary consideration, prioritising exclusivity and craftsmanship over environmental responsibility (Joy et al., 2012; Kapferer and Bastien, 2017). Luxury consumers tend to associate premium textiles with rarity, heritage, and sensory appeal rather than sustainability, which influences designers' material selection processes (Henninger et al., 2017).

Similarly, commercial and residential designers from small firms (D-1, D-2, D-4, D-9, D-12, D-18) tend to select textiles based on functionality and budget constraints, as their projects often require cost-effective, durable solutions. Research supports that smaller firms prioritise affordability and durability due to financial limitations, making cost-efficiency a dominant factor in the textile specification (Cairns, 2018; Fletcher, 2014). The necessity of balancing performance with budget constraints often leads to the selection of conventional, mass-produced materials over sustainable alternatives (Birtwistle and Moore, 2007).

In contrast, sustainability-driven practitioners (D-10, D-16, D-19)—many of whom operate as sole practitioners—are more likely to integrate eco-conscious textiles, demonstrating a stronger commitment to sustainable design. Studies indicate that independent designers and small-scale sustainability advocates often act as early adopters of eco-friendly materials, prioritising ethical and environmental considerations over mainstream industry practices (Gwilt, 2011; Manzini, 2015).

However, limited client awareness, budget pressures, and industry misconceptions regarding cost continue to hinder the widespread adoption of sustainable textile materials. Sustainability misconceptions, particularly regarding cost and performance, remain persistent barriers to adoption (Black, 2008; Henninger et al., 2017). Clients frequently perceive

sustainable textiles as an expensive niche market, despite evidence suggesting long-term benefits in durability and lifecycle cost savings (Fletcher and Grose, 2012).

The interviews reveal that while aesthetic appeal remains the primary concern for textile specification among interior designers, there is a significant gap in the integration of sustainable practices. Functional considerations such as durability and maintenance are also important but often secondary to aesthetics. The perception of sustainable textiles as costly, coupled with client-driven demands and budget constraints, further limits the adoption of eco-friendly materials.

To bridge this gap, industry-wide efforts must focus on:

- Expanding education and awareness about sustainable textile options
- Developing financial incentives and policy support for sustainable materials
- Enhancing the availability of cost-effective, high-quality sustainable textiles

Promoting collaboration between designers and clients towards sustainability can foster more environmentally responsible interior design practices. By integrating sustainability considerations into both industry standards and client expectations, sustainable textiles can transition from a niche concern to a mainstream practice in interior design.

7.3.2 Textile Sourcing and Supply Chain

The findings reveal a significant gap in the discourse between textile sourcing and its supply chain sustainability, particularly inside the conversation of interior design. Although sustainability has become an increasingly discussed aspect within the field, the interviewed designers have not thoroughly investigated the area of textile sourcing—a critical element of the interior design supply chain.

Most designers provided little detail regarding their sourcing practices. By itself, D-12 talking of "local artisans and ethical textile companies" reflects a few instances in which sourcing practices are directly associated with sustainability. This resonates with literature in supporting local and ethical sourcing as key to sustainable design, too (Fletcher, 2014). However, the overall lack of engagement in discussions about textile sourcing highlights a substantial knowledge gap in the field.

Designers such as D-1 and D-19 described a more pragmatic stance, in which textiles are sourced based on available time, budget, and requirements of the project at hand rather than focusing on sustainability as such. This pragmatic approach is not at all wrong, as it is needed to meet the client's demands and the constraints of the project, but it does tend to give a sense of a schism between the ideals of sustainability and their actual application.

The paucity of supply chain transparency is a significant cause for concern among the designers interviewed. D-17 is an exception since it tries to source textiles from suppliers with transparent and ethical supply chains. This indicates that transparency in the supply chain is one of the primary ways to ensure sustainable and ethical material production, as pointed out by Shen et al. (2017). This is a very crucial gap in sustainable design knowledge and only a few designers value the topic in their priorities.

A scant few, including D-20, recognised the environmental burden associated with textiles and were interested in furthering their knowledge of sourcing sustainably. This evidence the awareness of issues but also attests to a gap in current knowledge and practice. Indeed, the apparel industry has been identified as incurring "considerable ecological and social impacts in terms of pollution, resource use, and labour exploitation" (Allwood et al., 2006). As such, the insufficient attention to these matters indicates an evident gap in knowledge of, and therefore practice in, sustainable design among designers. Practical problems associated with sourcing appropriate sustainable textiles are clearly regarded. An example of this was that he needed to search for sustainable textiles that could meet the needs and requirements of clients for design. This is a common barrier in the textile industry, wherein materials are costlier and less accessible than conventional ones in comparison studies (Fletcher and Grose, 2012). The only way through these obstacles is to take concerted action toward promoting and investing in innovation related to the supply of textiles and their supply chains.

Therefore, there is a real need for education and awareness regarding the sourcing and supply chain practices of sustainable textiles among interior designers. Comprehensive modules on sustainability embedded in design education programs will go a long way in enabling future designers to have knowledge and skills with which they can conduct critical analyses of and improvements in their sourcing. This professional development opportunity would further empower current practitioners with the best and latest practices in sustainable sourcing. Indeed, interior designers showed a massive gap in the attention paid to textile

sourcing and supply chain sustainability. A few designers did show concern for ethical and sustainable sourcing, but most of them were not engaged with these concerns. This aspect is then complicated by the practical challenges of sustainable sourcing, such as availability and cost. Education and awareness need to be enhanced so that these gaps can be filled. This continues to be the provision of comprehensive training in design education and ongoing professional development, giving necessary assurance that practices have been held up to the goals of sustainability. Textile sourcing is an integral part of sustainable interior design.

The extent of this knowledge gap becomes even clearer when analysing how designers currently engage with textile sourcing in practice. The findings indicate that textile sourcing and supply chain transparency remain underdeveloped aspects of sustainable interior design, particularly among designers working within small firms and sole practices. Previous studies highlight that while sustainability awareness is growing, the interior design industry still struggles with fully integrating sustainable procurement strategies due to a lack of standardised frameworks and inconsistent supply chain transparency (Gwilt, 2011; Shen et al., 2017). The lack of explicit engagement with textile sourcing sustainability suggests a broader gap in industry knowledge and prioritisation, reflecting similar findings in sustainable fashion and textile research (Fletcher, 2014; Black, 2008).

Designers such as D-12 and D-17, who actively seek local and ethical textile suppliers, represent a small fraction of practitioners who incorporate sustainability into their material selection processes. D-12's mention of working with local artisans aligns with research advocating for sustainability-driven procurement strategies, which support regional economies while reducing the carbon footprint associated with long-distance transportation (Manzini, 2015; Henninger et al., 2017). Local and ethical sourcing has been identified as a crucial aspect of sustainable design, yet its implementation remains inconsistent due to knowledge gaps and economic barriers (Fletcher and Grose, 2012).

In contrast, the majority of designers (D-1, D-19, D-20) take a pragmatic approach, where availability, budget, and client requirements dictate textile sourcing decisions rather than sustainability concerns. This reflects broader industry trends, where sustainability is often perceived as an additional cost rather than an integrated design criterion (Henninger et al., 2017; Birtwistle and Moore, 2007). D-1's reliance on a mix of local and online suppliers and D-19's prioritisation of project needs over supply chain transparency reflect the economic pressures that shape material choices, particularly among small firms and

independent practitioners. This aligns with studies showing that small and medium-sized enterprises (SMEs) often lack the resources, knowledge, or supply chain leverage to prioritise sustainability in sourcing (Shen et al., 2017; Watson et al., 2017).

Furthermore, D-20's recognition of the environmental burden of textile production points to a growing awareness but a lack of practical solutions. This is consistent with research indicating that while awareness of sustainability issues is increasing, accessibility to sustainable materials remains a key barrier (Fletcher and Grose, 2012; Black, 2008). The high cost and limited availability of sustainable textiles, as noted in previous studies, present ongoing challenges that deter widespread adoption (Allwood et al., 2006). Despite the growing demand for sustainable materials, many designers still struggle to access transparent supply chains that align with sustainability goals (Shen et al., 2017). While D-17 actively seeks transparency in sourcing, the absence of similar initiatives among other designers suggests that ethical considerations in textile procurement remain a niche concern rather than an industry-wide standard.

Overall, the findings underscore the urgent need for greater education and professional development regarding sustainable textile sourcing and supply chain ethics. Integrating sustainability-focused coursework into design education and expanding industry training programs could help bridge knowledge gaps, equipping designers with the necessary tools to make informed and responsible material choices. Additionally, fostering stronger collaboration with sustainable textile manufacturers and implementing financial incentives could accelerate the wider adoption of ethical and eco-friendly textile sourcing practices across the interior design sector.

Addressing these barriers requires a coordinated, industry-wide effort among textile manufacturers, designers, and policymakers. Increased investment in transparent supply chains, standardized certification schemes, and regulatory frameworks could drive broader adoption of sustainable textiles. Without systemic reforms, the current limitations in sourcing sustainable materials risk confining sustainability to a niche practice rather than establishing it as an industry standard.

7.3.3 Collaboration with Textile Designers

The findings indicate that some designers show a willingness to collaborate with textile designers, but such collaborations are limited and somewhat inconsistent. For example, D-8's mention of sporadic collaboration demonstrates the irregular nature of such cooperation. The lack of structured collaboration indicates a lack of a systematic way or established procedures that integrate textile design expertise into interior design projects. D-6's comments that they had never worked with a textile designer and that they prefer total control over the design process further indicate a hesitation or lack of inclination to collaborate or lack of inclination to collaborate. This resistance may be due to a range of factors, such as the desire for creative autonomy, logistic difficulties, or perhaps limited awareness of the potential benefits of collaboration, as suggested by Friedman (2003).

In sustainability-focused interior design, effective collaboration with textile designers can significantly enhance project outcomes. Textile designers bring expertise in materials, fabrication techniques, and even more sustainable practices that an interior designer may take as an essential skill. According to Fletcher (2014), interdisciplinary collaborative often results in novel solutions that neither discipline could achieve alone. These joint efforts may include sourcing sustainable materials, developing custom textiles that meet specific sustainability criteria, or the application of novel techniques that help minimise environmental impacts. Despite these potential gains, the analysis indicates that the benefits accruing from such collaborations are under-realised. In the comment by D-6, who mentions appreciation of textile designers' creativity but adds the preference to keep control, implying a gap in understanding the strategic benefits of collaboration. Although fostering a more integrated industry culture could strengthen partnerships between textile and interior designers, several key barriers remain (Hemmings, 2007).

One of the most prominent challenges, as highlighted by D-6, is the potential for the perceived threat to creative authority. Some interior designers may fear that working with textile specialists could diminish their professional status, compromise their design vision, or add complexity to their workflow. Additionally, logistical constraints—such as scheduling conflicts, misaligned project goals, and communication challenges—serve as further impediments to collaboration (Gray and Malins, 2004). Another critical issue is the lack of formal networks and industry platforms that facilitate such partnerships. The low frequency of collaborations reported in interviews suggests a wider absence of structured avenues for

professionals to connect. Building dedicated networking opportunities and establishing platforms for ongoing collaboration could help bridge this gap (Manzini, 2015).

To fully leverage the advantages of cross-disciplinary collaboration benefits, this industry should cultivate a culture in which collaboration between interior and textile designers is valued and encouraged. One way to achieve this is by integrating collaborative projects into design, allowing students from both disciplines to engage in sustainability-focused team projects. Early exposure to interdisciplinary work can foster an appreciation for collaboration and equip future professionals with the skills needed to navigate team-based design processes. Additionally, professional associations and industry organizations can facilitate closer collaboration by organizing workshops, conferences, and networking events. These initiatives can provide designers with structured opportunities to exchange knowledge, develop joint projects, and explore sustainability-driven design solutions (Bhamra and Lofthouse, 2007).

The interviews also showed a vast potential to use the synergy between interior designers and textile designers regarding the enhancement of sustainability. Although many designers would like to collaborate in these types of partnerships, many practical and perceptual barriers often prevent them from doing so. To address these obstacles and enable more productive ways of working, the benefits of design collaboration need to be made more explicit, networking mechanisms put in place, knowledge-sharing platforms developed, and educational means that facilitate interdisciplinary project working embedded. Establishing interdisciplinary collaboration into educational curricula and professional development programs can create new opportunities for co-innovation, allowing textile specialists to contribute material expertise and sustainability insights in ways that interior designers alone may not fully achieve.

However, despite its recognized potential, collaboration between interior and textile designers remains sporadic, shaped by traditional industry norms and individual work preferences. The findings indicate that while some designers acknowledge the value of collaboration, others prioritize creative independence. Gray and Malins (2004) note that creative autonomy is a key determinant of designers' reluctance to collaborate, particularly in industries where personal artistic authorship is highly valued. D-6’s preference for maintaining full control over project decisions is especially reflective of established practices in luxury and bespoke interior design, where exclusivity and customisation are paramount.

This suggests that high-end designers (D-6, D-14, D-15) may be less inclined to engage with external specialists unless collaboration directly enhances the exclusivity and individuality of their projects (Manzini, 2015).

Conversely, designers with a strong sustainability focus (D-10, D-16, D-19) could greatly benefit from deeper engagement with textile specialists. Fletcher (2014) and Gwilt (2011) highlight that textile designers contribute crucial expertise in material sourcing, lifecycle assessment, and sustainable fabrication, all of which can significantly improve the environmental impact of interior design. D-10, who specializes in vegan and eco-conscious interiors, already integrates sustainable materials, but further collaboration with textile designers could expand their access to innovative fabric solutions. Similarly, D-16, who focuses on fabric resale and circular design, could leverage textile specialists' knowledge to develop material longevity strategies, waste reduction techniques, and repurposing applications (Henninger et al., 2017). These examples illustrate how stronger interdisciplinary partnerships could enhance sustainability-driven design approaches.

Insights from D-8 and D-2, who mention minimal or nonexistent collaboration with textile designers, reflect broader challenges faced by small firms and independent practitioners. Many designers operate under strict project timelines and limited budgets, making it difficult to engage in partnerships that may require additional coordination or resources (Shen et al., 2017; Bhamra and Lofthouse, 2007). This suggests that logistical and financial constraints—rather than a lack of interest—often hinder collaboration. For small firms and independent designers, the additional time and resources required to work with textile specialists may not always be practical without industry-wide support mechanisms.

Given these barriers, targeted industry initiatives could help facilitate stronger partnerships between interior and textile designers. Bhamra and Lofthouse (2007) emphasize that structured networking opportunities, interdisciplinary education programs, and collaborative platforms can play a pivotal role in fostering cross-sector collaboration. These initiatives would be particularly beneficial for commercial designers (D-1, D-4, D-9, D-12), who may not yet perceive textile collaboration as essential to their work but could use such partnerships to improve sustainability and material innovation (Fletcher and Grose, 2012). By integrating textile specialists earlier in the design process, designers across different sectors could expand sustainable design strategies, enhance material performance, and bridge the existing gap in collaborative practices.

7.4 Chapter Conclusion

This chapter has demonstrated that sustainable decision-making in interior design is influenced by a complex interplay of internal values, external pressures, and material availability. While sustainability is gaining importance in design philosophies, its implementation varies significantly across the industry due to factors such as cost constraints, regulatory gaps, supply chain inefficiencies, and client-driven limitations.

The findings reveal that designers who work independently or in small firms tend to have more flexibility in implementing sustainability principles, while those working in larger firms or luxury markets often face greater pressure to prioritise aesthetics and exclusivity over environmental considerations. Additionally, the lack of clear sustainability standards in textile sourcing and specification poses an ongoing challenge, preventing a more structured approach to material selection. The discussion on collaboration with textile designers further underscores the missed opportunities for interdisciplinary partnerships, which could significantly enhance the adoption of sustainable practices.

These insights contribute to a deeper understanding of the sustainability landscape in interior design, providing a foundation for the recommendations and contributions outlined in Chapter 8. By identifying key barriers and opportunities, this chapter informs future research and industry strategies aimed at integrating sustainability more effectively within the interior design profession. Moving forward, the industry must address structural challenges in policy enforcement, accessibility of sustainable materials, and education on sustainability-driven decision-making to ensure that sustainability is not merely an aspirational goal, but a fundamental design principle embedded within mainstream practice.

CHAPTER 8

Contribution and Conclusion

Chapter 8: Contribution and Conclusion

8.0 Introduction to Final Chapter

This concluding chapter synthesises the research findings to state the contribution of this study in sustainable interior design but with a particular focus on textiles within the UK context. Building on the results and discussions in previous chapters, it consolidates the view of how the research will have impacted both sustainable design theory and practice. This will also look toward potential practical applications that could be beneficial to industry professionals, educators, and policymakers by providing actionable pathways and recommendations toward sustainable developments in interior design.

The chapter is structured according to the research objectives, ensuring coherence in presenting the study's key contributions. Section 8.1 provides a recap of the core findings and discusses their implications for sustainable design practices. It highlights how sustainability is currently integrated into interior design (OB1), the internal and external factors influencing designers' decision-making (OB2), challenges and opportunities in the use of sustainable textiles (OB3), criteria guiding textile selection (OB4), and opportunities for improving sustainability literacy and policy support (OB5).

Following this, Section 8.2 explores the practical applications of the findings, focusing on their impact on professional practice, education, and policy development. Section 8.3 presents tools and resources that could support the adoption of sustainability in interior design, including a proposed sustainability toolkit and an online knowledge hub. These resources are designed to help professionals navigate the complexities of sustainable material selection and policy integration.

To position the study within broader academic and professional discourses, Section 8.4 discusses how this research aligns with and extends contemporary discussions in sustainable interior design. This section acknowledges key voices in the field and explains how the study builds upon existing literature while introducing new perspectives on sustainability decision-making.

The chapter then critically reflects on the study's limitations in Section 8.5, acknowledging the scope and constraints of the research and proposing areas for further inquiry. Finally, Section 8.6 provides a closing reflection on sustainability in interior design,

reaffirming the significance of the study's contributions and its potential to influence future research and practice.

By bridging theory and practice, this chapter reinforces the urgency of embedding sustainable strategies within interior design, ensuring they evolve beyond aspirational and theoretical ideals into practical, adaptive, and forward-looking solutions. The study's findings underscore the necessity of sustainability literacy, industry collaboration, and policy integration to create a more resilient and environmentally responsible built environment.

8.1 Recap of Core Findings and Their Implications

This section revisits the key findings of the study, aligning them with the research objectives to demonstrate how this study advances sustainable interior design practices, particularly in textile integration. By exploring sustainability decision-making within the UK context, this study provides industry-specific insights that build upon existing literature (e.g., Vezzoli and Manzini, 2008; Kang and Guerin, 2009) and contribute to the evolving conversation on sustainable materials and practices.

The research provides new insights into the decision-making processes of UK interior designers, exploring the factors that shape their sustainability choices and the practical challenges they encounter.

Thematic analysis of the data identified three overarching themes that structure these findings:

1. Internal Factors influencing sustainability in interior design, including personal values, education, and professional expertise, which shape designers' approaches to sustainable practices.
2. External Pressures, such as client expectations, regulatory frameworks, and material supply chains, which collectively impact the feasibility of sustainable design choices.
3. Textile-Specific Considerations, covering selection criteria, sourcing challenges, and the practical applications of sustainable textiles in interior projects.

These findings provide a comprehensive framework for understanding sustainability decision-making in interior design, offering insights into both systemic barriers and

opportunities for enhancing sustainable practice. Building on these themes, the study was designed around five primary research objectives:

- **OB1 –** To Investigate current sustainable practices among UK interior designers, examining how sustainability is integrated into their design processes.
- **OB2 –** To identify the internal and external factors that influence sustainable decision-making in interior design.
- **OB3 –** To explore the challenges and opportunities that interior designers face in sustainable decision-making, particularly in relation to textiles.
- **OB4 –** To understand the criteria and considerations that guide designers in selecting sustainable textiles for interior projects.
- **OB5 –** To provide actionable insights and recommendations for the industry, education, and policy, fostering a culture of sustainability in interior design.

Through these objectives, this study not only highlights the barriers that designers face in adopting sustainable practices but also identifies strategies and opportunities to enhance sustainability in the sector. The findings contribute to industry discourse by uncovering systemic challenges, mapping decision-making frameworks, and proposing strategies for improving sustainability literacy and material selection. The subsequent section 8.2 further elaborates on how these findings can be applied to professional practice, design education, and policy advocacy.

8.1.1 Integration of Sustainability in Current Design Practices (OB1)

This section consolidates findings on how sustainability is currently integrated into interior design practices in the UK, specifically addressing Objective 1 (OB1): *to investigate the current practices and approaches employed by interior designers when making sustainable choices.*

While existing literature acknowledges sustainability as a growing priority in interior design (McQuillan, 2020; Walker, 2014), limited research has examined how these principles are practically applied by designers in real-world contexts. This section bridges this gap by presenting empirical evidence on the decision-making processes shaping sustainability integration.

Through interviews with UK-based interior designers, five key themes emerged, each demonstrating the ways sustainability principles inform professional practice. These findings expand upon prior literature, offering empirical evidence on the real-world applications and limitations of sustainable design strategies.

The literature suggests that sustainability in interior design is gaining momentum, with increasing emphasis on eco-friendly materials, lifecycle thinking, and policy integration (McQuillan, 2020; Walker, 2014). However, how these principles translate into practice varies considerably across projects, clients, and supply chains. This study provides insights into the barriers and enablers of sustainable practice, highlighting how interior designers embed sustainability in their workflows, the challenges they face, and the role of policy, market forces, and client engagement.

To better understand these dynamics, this study identifies five key themes that illustrate how sustainability is currently embedded in interior design practice, the barriers designers encounter, and the strategies they employ to navigate these challenges. These findings, drawn from both secondary data (literature review) and primary data (interviews), provide a nuanced perspective on the realities of sustainable interior design implementation.

Finding 1: Eco-Friendly Material Selection

The literature suggests that the selection of eco-friendly materials is a cornerstone of sustainable design, with an increasing emphasis on renewable, recycled, and biodegradable materials (McQuillan, 2020; Walker, 2014) (F1.1). As highlighted in Chapter 3 (pp 67-80), designers are encouraged to source materials that comply with recognised environmental certifications, such as the Global Organic Textile Standard (GOTS) and Cradle to Cradle certification, to minimise the ecological footprint of their projects (F1.2). However, despite the growing industry awareness of eco-friendly materials, their practical adoption remains inconsistent, shaped by cost (F1.3), availability, and concerns over greenwashing (F1.4).

Interview findings align with these trends, as designers expressed strong support for eco-certified materials. However, they frequently cited challenges related to:

F1.1 Material preferences and limitations – Designers aim to prioritise biodegradable and non-toxic materials, but report limited design choices or trade-offs in aesthetics and performance.

F1.2 Certification reliability – While designers strive to use certified materials, concerns about greenwashing, inconsistent certification standards, and supplier transparency make material verification a challenge.

F1.3 Cost considerations – Higher upfront costs associated with sustainable materials frequently deter clients, especially in budget-sensitive projects.

F1.4 Supply chain constraints – Difficulties in sourcing reliable, high-quality sustainable materials, especially in specific textile categories, continue to restrict widespread adoption.

To further illustrate these challenges, Table 22 presents a comparison between literature insights and designers' real-world experiences, highlighting key discrepancies and persistent obstacles in sustainable material adoption.

Aspect	Literature Insights	Interview Findings
Material Preferences (F1.1)	Increasing demand for renewable, recycled, and biodegradable materials (Chapter 3, pp. 72-80).	Designers prefer organic fibres, recycled textiles, and low-impact dyes, but availability varies significantly (Chapter 6, pp. 195–202).
Certification Challenges (F1.2)	Certifications like GOTS and Cradle to Cradle are integral to sustainable choices (Chapter 3, pp. 72-80).	Challenges in ensuring supplier accountability and certification reliability (Chapter 7, pp. 230-234).
Cost Constraints (F1.3)	Eco-materials often require higher upfront investments despite long-term cost savings (Chapter 4, pp. 95–98).	Budget constraints often push designers toward less sustainable options (Chapter 7, pp. 224-230).
Supply Chain and Availability (F1.4)	Limited availability of certified materials due to fragmented supply chains (Chapter 4, pp. 98-102).	Designers face difficulties sourcing consistent and reliable sustainable materials (Chapter 7, pp. 230-237).

Table 22: Challenges in Sustainable Material Selection.

Implications and Proposed Solutions: To overcome these barriers, the following actions are recommended:

- **Material Directories and Transparency Initiatives:** Creating a centralised database of certified sustainable materials would simplify sourcing and make eco-friendly options more accessible to designers.
- **Financial Incentives for Sustainable Procurement:** Government or industry-led initiatives, such as subsidies, grants, or tax credits, could help offset the higher costs of sustainable materials, enabling their adoption without straining project budgets.
- **Strengthening Certification Standards and Supply Chain Accountability:** Enhancing collaboration between designers and manufacturers could improve the availability and affordability of certified materials, strengthening the supply chain for sustainable textiles.

By implementing these measures, the industry can move towards a more reliable and accessible sustainable material ecosystem, reducing the friction between sustainability ideals and practical application.

Finding 2 (F2): Sustainability in Interior Design: The Shift from Consideration to Emerging Integration

Sustainability in interior design has transitioned from a secondary consideration to an increasingly integrated framework that informs decision-making. However, its adoption remains inconsistent, influenced by client priorities, supply chain challenges, and regulatory constraints. While some designers embed sustainability at every stage of their projects, others face barriers that hinder full integration. The concept of lifecycle thinking, as outlined by Koskela and Vinnere Pettersson (2018), provides a structured approach to assessing a product's environmental impact from sourcing to disposal. This approach aligns with sustainability goals, but its implementation varies significantly among designers due to differences in expertise, budgetary constraints, and client expectations (Chapter 2, pp. 36–40).

Interviews reinforce this gradual shift toward sustainability as a guiding framework, with three key aspects shaping its adoption:

F2.1 Approaches to Sustainable Integration: Sustainability is increasingly embedded as a fundamental principle guiding material selection, project planning, and

execution. Some designers report that eco-conscious principles drive their creative direction, while others describe sustainability as a project-dependent factor, shaped by budget constraints, client buy-in, or supply limitations.

Designers working independently or within sustainability-focused firms tend to fully integrate sustainability, whereas those in commercial or high-budget sectors often struggle to convince clients to prioritise environmental concerns.

F2.2 Lifecycle Thinking and Environmental Impact Considerations: Lifecycle thinking plays a critical role in how designers evaluate materials, construction processes, and project sustainability. Some designers actively incorporate carbon footprint assessments, end-of-life recyclability, and material longevity, while others lack the tools or knowledge to conduct detailed lifecycle analyses.

While designers support lifecycle-based approaches, cost, limited client demand, and lack of industry-wide incentives make full adoption difficult.

F2.3 Client Influence and the Role of Education: A significant barrier to sustainability adoption is client priorities. While some clients show interest in eco-conscious design, others prioritise cost, aesthetics, or short-term functionality over environmental considerations.

Many designers see themselves as educators, helping clients understand how sustainable choices align with long-term financial and environmental benefits. While the literature assumes that clients increasingly demand sustainability, interview findings suggest that designers still face resistance, requiring persistent efforts to communicate sustainability's value effectively.

Implications and Recommendations: To support the deeper integration of sustainability into interior design, the following actions are recommended:

- Client Education Programs – Industry-led sustainability education initiatives tailored to different client segments can help bridge the gap between eco-conscious aspirations and practical adoption.
- Lifecycle Analysis Tools – Developing accessible digital tools that simplify lifecycle impact calculations would enable more designers to integrate this approach into their decision-making.

- Incentives for Sustainable Choices – Financial incentives such as tax breaks or grants could support designers and clients in prioritising sustainability over cost-driven decisions.

Table 23 provides an overview of how sustainability is integrated into interior design practice, illustrating varying degrees of adoption across different design approaches.

Aspect	Literature Insights	Interview Findings
Sustainability as a Design Philosophy (F2.1)	Sustainability should be a guiding principle rather than an optional feature (Koskela and Pettersson, 2018). (Chapter 2, Section 2.2.2, pp. 61)	Some designers embed sustainability fully, while others face barriers due to client demands and project constraint (Chapter 6, pp. 195–202)..
Lifecycle Thinking and Whole-Life Assessments (F2.2)	Evaluating materials and processes across a project's full lifecycle improves environmental outcomes (Chapter 2, Section 2.1.6, pp. 36–40).	Many designers attempt lifecycle integration, but challenges include cost, knowledge gaps, and lack of client interest (Chapter 6, pp. 200–202).
Client Influence and Decision-Making (F2.3)	Clients' sustainability awareness is increasing, driving eco-conscious design choices (Walker, 2014) (Chapter 3, pp. 72–80).	Many clients still prioritize cost and aesthetics over sustainability, requiring designers to take on an educational role (Chapter 7, Section 7.2.1, pp. 1192).

Table 23: How Sustainability is Integrated into Interior Design Practice.

Finding 3 (F3): Client Awareness and Market Demand

While clients often express interest in sustainable design, a lack of understanding about its practical benefits limits its prioritisation in decision-making. This disconnect between interest and knowledge is highlighted in Chapter 3 (pp. 72-80), which notes that clients frequently prioritise cost or aesthetics over environmental considerations due to insufficient awareness of sustainability's long-term value. Studies such as those by Elkington (1998) and Bhamra et al. (2008) emphasise the importance of effective communication to

bridge this gap, ensuring that clients recognise sustainability as both an environmental and economic asset.

Interviews with interior designers reinforce the literature's findings, highlighting that client awareness remains a significant challenge. Key insights include:

F3.1 Guiding Clients Through Sustainability Options: Interior designers frequently take on the role of educators, guiding clients through sustainability choices. It is noted that while clients often express interest in sustainable design, they lack a clear understanding of its practical benefits. This requires designers to invest additional effort in explaining how eco-friendly materials, energy-efficient designs, and lifecycle considerations align with clients' broader project goals. As discussed in Chapter 7 (pp. 224-230), clients' limited knowledge often makes them hesitant to prioritise sustainability.

Clients' limited knowledge often results in hesitancy to prioritise sustainability, leading to reliance on conventional design choices unless the benefits are clearly demonstrated.

F3.2 Balancing Aesthetics and Cost with Sustainability: While clients appreciate the concept of sustainable design, they often struggle to justify the additional costs associated with eco-friendly materials. Budget constraints, alongside perceptions that sustainable materials are less aesthetically appealing, frequently push clients toward cheaper, non-sustainable alternatives (Chapter 7, pp. 224-230).

While some literature suggests a growing market preference for sustainability, interview data indicate that many clients still prioritise short-term cost savings and aesthetics over long-term environmental impact.

F3.3 Potential for Increased Market Demand: Designers noted that when clients fully understand the financial and environmental advantages of sustainability, they become more willing to invest in eco-conscious choices. Targeted education and effective communication strategies have been shown to shift client perceptions, leading to a stronger market demand for sustainability-driven projects. For example, demonstrating how energy-efficient designs lower operational costs over time has been an effective strategy for client engagement (Chapter 7, pp. 230-234).

Sustainability-driven projects can see higher adoption rates when clients perceive clear economic benefits alongside environmental considerations.

Implications and Recommendations: The findings highlight the importance of enhancing client awareness to drive greater demand for sustainable interior design practices. Designers and industry stakeholders can take proactive steps to address this challenge, including:

- **Client Education Tools:** Provide easily accessible resources such as brochures, case studies, and digital tools to help designers effectively communicate the tangible benefits of sustainability to clients.
- **Sustainability Workshops:** Organise interactive workshops or consultations to engage clients directly, allowing them to explore eco-friendly options firsthand and engage with real-world case studies of sustainable interiors, and understand their long-term value.
- **Demonstrating Long-Term Benefits:** Use cost analyses and visual aids to illustrate long-term financial savings from energy-efficient designs and durable materials, making sustainability a more compelling investment.

Table 24 compares literature insights with interview findings on client awareness and market demand for sustainability.

Aspect	Literature Insights	Interview Findings
Client Understanding of Sustainability (F3.1)	Many client's express interest but struggle to translate this into action due to knowledge gaps (Elkington, 1998; Bhamra et al., 2008).	Designers frequently take on an educational role, guiding clients through sustainability choices (Chapter 7, pp. 224-230).
Prioritisation of Cost and Aesthetics (F3.2)	Cost and aesthetics often outweigh sustainability in decision-making (Chapter 3, pp. 72-80).	Clients tend to choose non-sustainable options unless financial and aesthetic benefits of sustainability are clearly demonstrated (Chapter 7, pp. 224-230).
Potential for Market Growth (F3.3)	Growing awareness can lead to increased demand for sustainable interiors (Walker, 2014).	When clients understand long-term benefits, they become more open to investing in sustainable solutions (Chapter 7, pp. 230-234).

Table 24: Client Awareness and Its Impact on Market Demand for Sustainability.

Finding 4 (F4): Challenges in Textile Sourcing

One of the primary challenges in incorporating sustainability into interior design is sourcing textiles that meet environmental standards while also fulfilling functional and aesthetic requirements. The literature identifies inconsistent certifications and a lack of supply chain transparency as major barriers to selecting verified sustainable materials. These issues are explored in Chapter 4 (pp. 102-110), which highlights the absence of reliable, standardised certifications as a critical obstacle complicating decision-making for designers dedicated to sustainability.

Interviews reveal that sourcing sustainable textiles remains a frustrating and time-consuming process due to systemic gaps. Key findings include:

F4.1 Lack of Standardised Certifications: Interior designers expressed challenges in relying on existing certifications due to their inconsistency and limited scope. Many noted that, in the absence of a universally accepted system, they often had to assess textile sustainability based on personal judgment, increasing the risk of greenwashing. Data from Chapter 6 (pp. 161-168) highlights how the lack of standardised metrics hinders the ability to select verified eco-friendly materials.

F4.2 Transparency Issues in Supply Chains: Interior designers frequently pointed out a lack of supply chain transparency as a significant barrier. For example, some suppliers failed to provide adequate information about material origins, production processes, or certification criteria. As noted in Chapter 6 (pp. 161-168), this lack of clarity complicates efforts to ensure materials meet environmental standards, often requiring additional time to verify claims.

F4.3 Balancing Sustainability with Aesthetics and Functionality: Participants also highlighted that many sustainable textiles failed to meet project requirements for aesthetics or durability, forcing compromises. Data from Chapter 7 (pp. 206-210) suggests that while sustainability is a priority for designers, functionality and client preferences can take precedence when suitable sustainable materials are not available.

The following Table 25 summarises key challenges in sustainable textile sourcing, comparing literature insights with interview findings.

Aspect	Literature Insights	Interview Findings
Lack of Certification Standards (F4.1)	No universal certification system for sustainable textiles, leading to inconsistent claims (Chapter 4, pp. 102-110).	Designers rely on personal judgment due to unclear certification standards, increasing the risk of greenwashing (Chapter 6, pp. 161-168).
Supply Chain Transparency (F4.2)	Limited visibility into sourcing and production makes verification difficult (Chapter 4, pp. 102-110).	Designers struggle to confirm sustainability claims due to supplier opacity (Chapter 6, pp. 161-168).
Material Limitations (F4.3)	Many eco-friendly textiles have aesthetic or functional drawbacks (Chapter 4, pp. 102-110).	Designers report that clients reject sustainable textiles if they do not meet performance or aesthetic expectations (Chapter 7, pp. 206-210).

Table 25: Key Challenges in Sustainable Textile Sourcing.

Implications and Recommendations: To address these systemic barriers, targeted industry-wide improvements are needed in certification consistency, supply chain traceability, and material innovation. The following steps are recommended:

- **Universal Certification Framework:** Establish an industry-wide certification system with standardised criteria for textile sustainability. This would provide clear benchmarks and reduce reliance on supplier self-reporting.
- **Improved Supply Chain Transparency:** Require suppliers to provide detailed sourcing and production disclosures, including third-party verification of sustainability claims. A digital traceability system could enhance accountability and credibility.
- **Investment in Sustainable Textile Innovation:** Encourage material research and development (R&D) to improve durability, performance, and aesthetic qualities of eco-friendly textiles.

- **Centralised Textile Database**: Develop an accessible online platform where designers can search verified sustainable textiles, including certification status, sourcing details, and performance data.

Finding 5 (F5): Policy and Industry Support

Despite increasing awareness of sustainability, the absence of clear policy incentives and industry-wide regulations continues to hinder its widespread adoption in interior design. While sustainability initiatives exist, they are often fragmented, voluntary, or inconsistently enforced, creating significant barriers to large-scale integration. Existing literature highlights the importance of regulatory mechanisms, tax incentives, and certification frameworks in normalising sustainable practices (Walker, 2014; Koskela, 2018). However, inconsistent policy support, weak enforcement mechanisms, and the lack of unified certification standards often result in sustainable design being treated as an optional rather than essential component of interior design processes (Chapter 3, pp. 72-85).

Findings from interviews align with these concerns, reinforcing the need for stronger policy interventions, better financial incentives, and clearer certification frameworks. Key insights include:

F5.1 Lack of Financial Incentives for Sustainable Sourcing: Designers emphasised that financial support is critical in facilitating sustainable material adoption. Many noted that high costs of eco-friendly materials discourage both designers and clients from prioritising sustainability. Without government-backed subsidies, tax breaks, or funding initiatives, sustainable materials often remain cost-prohibitive (Chapter 6, pp. 161–175).

F5.2 Certification Challenges and Unclear Standards: The absence of universally recognised certification standards was identified as a major barrier. Designers reported uncertainty about which certifications to trust, particularly due to conflicting, overlapping, or unreliable sustainability credentials. Many expressed frustration that they must independently verify supplier claims, adding complexity to the material selection process (Chapter 6, pp. 161-175).

F5.3 Weak Enforcement of Sustainability Policies: Although sustainability-related policies exist, they lack enforcement mechanisms, resulting in inconsistent implementation. Designers noted that many sustainability guidelines are voluntary rather than mandatory, leading to low compliance rates across the industry. Without clearer enforcement and incentives, sustainability risks remaining a secondary priority (Chapter 7, pp. 207-220).

F5.4 Disconnect Between Policy and Industry Needs: Participants highlighted the need for greater collaboration between policymakers and industry professionals. They argued that designers, suppliers, and manufacturers should be directly involved in shaping sustainability regulations to ensure that policies align with real-world challenges and industry capacities. Collaboration could facilitate the development of realistic, enforceable sustainability standards that account for material sourcing, supply chain transparency, and cost implications (Chapter 7, pp. 207-220).

Table 26 below outlines key policy and industry-related barriers that hinder the widespread implementation of sustainable interior design practices.

Aspect	Literature Insights	Interview Findings
Lack of Financial Incentives (F5.1)	Policy subsidies can encourage sustainable sourcing (Chapter 3, pp. 72-85).	Designers report that high costs of sustainable materials deter adoption without external financial support (Chapter 6, pp. 161–175).
Inconsistent Certification Standards (F5.2)	A lack of clear, enforced certification guidelines creates uncertainty (Walker, 2014).	Designers feel overwhelmed by conflicting and unreliable certification schemes, making material selection more difficult (Chapter 6, pp. 161-175).
Weak Enforcement of Sustainability Policies (F5.3)	Policy guidelines exist, but enforcement mechanisms remain weak (Koskela, 2018).	Designers highlight that many sustainability regulations are voluntary, leading to inconsistent industry practices (Chapter 7, pp. 207-220).
Industry-Government Disconnection (F5.4)	Stronger collaboration between policymakers and industry could accelerate sustainability adoption (Chapter 3, pp. 72-85).	Designers call for joint initiatives between design professionals, manufacturers, and government bodies to set enforceable sustainability standards (Chapter 7, pp. 207-220).

Table 26: Barriers to Policy Implementation in Sustainable Interior Design.

Implications and Recommendations: To address these systemic issues, the following actions are recommended:

- **Targeted Financial Incentives:** Government agencies should introduce subsidies, tax incentives, or grants for projects that prioritise sustainable materials, reducing cost barriers for designers and clients.
- **Standardised Certification Framework:** Industry-wide sustainability standards should be developed and enforced through a unified certification body, preventing greenwashing and conflicting accreditation schemes.
- **Enforceable Sustainability Regulations:** Policymakers should transition from voluntary guidelines to enforceable sustainability requirements, ensuring compliance across the sector.
- **Industry-Policy Collaboration:** Regular consultations between design professionals, policymakers, and suppliers should be established to ensure that sustainability regulations align with practical industry realities.

The findings in this section provide a detailed account of how sustainability is currently integrated into interior design practices in the UK, revealing both progress and persistent barriers. While literature suggests a growing prioritisation of sustainability within the field, this study highlights the practical realities, challenges, and opportunities that designers encounter in their efforts to implement sustainable principles.

Through both secondary data (literature review) and primary data (semi-structured interviews), five key themes emerged, illustrating the complexity of sustainability adoption. These themes—eco-friendly material selection, sustainability as a core design philosophy, client awareness and market demand, challenges in textile sourcing, and policy and industry support—demonstrate the various forces shaping sustainable decision-making in interior design.

The Table 27 synthesises these findings, outlining the key challenges identified in both the literature and empirical data, while also proposing practical strategies to enhance sustainability integration.

Finding	Key Challenges	Proposed Actions for Enhanced Adoption
F1: Eco-Friendly Material Selection	High costs, limited access, inconsistent certification	Material directories, financial incentives, supply chain partnerships
F2: Sustainability in Interior Design: The Shift from Consideration to Emerging Integration	Lifecycle complexity, policy gaps, client resistance	Client education, lifecycle tools, policy incentives
F3: Client Awareness and Market Demand	Knowledge gaps, cost concerns, aesthetic priorities	Educational resources, workshops, cost analysis tools
F4: Challenges in Sustainable Textile Sourcing	Certification inconsistencies, transparency issues, durability concerns	Standardized certifications, transparent supply chains, textile R&D
F5: Policy and Industry Support	Weak regulations, lack of incentives, fragmented policies	Financial incentives, certification standardization, policy collaboration

Table 27: Summary of key findings and their practical applications.

Objective 1 (OB1) sought to investigate the current practices and approaches employed by interior designers when making sustainable choices. Based on the analysis presented, this study has effectively addressed OB1 by:

- Providing empirical evidence on how UK interior designers engage with sustainability in their projects.
- Highlighting key areas of progress (e.g., the growing use of lifecycle thinking and sustainable material selection).
- Identifying major barriers that limit widespread sustainability adoption (e.g., cost constraints, client hesitancy, inconsistent certifications).

- Offering practical recommendations to improve the feasibility of sustainable design strategies.

While the findings confirm that sustainability is gaining traction within interior design, they also challenge the assumption that sustainable practices are widely embedded across the industry. Instead, sustainability adoption remains contingent on project scope, client priorities, financial constraints, and regulatory support, demonstrating the need for a more structured, industry-wide approach to ensure consistent and meaningful integration.

The following section, 8.1.2 Factors Influencing Sustainable Decision-Making, builds on these findings by further examining the internal and external forces that shape designers' sustainability choices, providing deeper insight into why certain sustainability strategies succeed or fail in real-world practice.

8.1.2 Factors Influencing Sustainable Decision-Making (OB2)

This section examines the internal and external factors that influence sustainable decision-making in interior design, addressing Objective 2 (OB2). While sustainability is increasingly acknowledged as a critical aspect of interior design practice, its implementation varies widely due to a complex interplay of personal, professional, market-driven, and regulatory influences.

The research identifies five key factors shaping designers' ability to integrate sustainability effectively:

1. Personal Values and Ethical Commitments – The role of designers' personal beliefs and sustainability convictions in driving eco-conscious decision-making.
2. Professional Expertise and Knowledge Gaps – How education, training, and access to sustainability-related knowledge impact design choices.
3. Market Dynamics and Client Preferences – The extent to which client demand, cost considerations, and industry trends encourage or hinder sustainable practices.
4. Supply Chain and Material Accessibility – The availability, affordability, and certification challenges associated with sourcing sustainable materials.
5. Regulatory and Policy Frameworks – The influence of government regulations, incentives, and industry standards in shaping sustainability adoption.

Each of these factors presents both challenges and opportunities. While some designers proactively integrate sustainability based on their values and expertise, others struggle with external constraints such as client reluctance, financial pressures, or unclear policy guidance.

By exploring these intersecting influences, this section provides insight into why some sustainability strategies succeed while others face resistance—offering a more nuanced understanding of the barriers and enablers that shape decision-making in sustainable interior design.

The subsequent subsections will unpack each of these five factors, discussing their implications for design practice and proposing strategic interventions to enhance sustainability adoption across the industry.

Finding 6 (F6): Regulatory and Policy Frameworks

Government policies and regulations serve as both enablers and obstacles in shaping sustainable decision-making within interior design. The literature underscores the importance of clear guidelines, financial incentives, and enforceable sustainability mandates in driving widespread adoption of eco-conscious practices (Chapter 4, pp 87-90 ; Pirasteh, 2018; Koskela, 2018). Policies such as environmental impact assessments and material usage standards direct designers toward sustainable choices, yet inconsistent enforcement and unclear criteria often create significant barriers to effective implementation.

Interview findings reinforce these concerns, revealing that while regulations encourage sustainability, their ambiguous application often hinders practical decision-making (Chapter 7, pp. 237-240). Designers frequently encounter:

F6.1 Unclear sustainability policies, leading to confusion regarding compliance requirements and sustainability benchmarks.

F6.2 Inconsistent regulatory enforcement, making it difficult to integrate sustainable principles uniformly across projects.

F6.3 Limited financial incentives, such as grants, tax reductions, or subsidies for sustainable material use, discouraging widespread adoption.

Implications and Recommendations: To enhance the effectiveness of regulatory frameworks in supporting sustainable decision-making, the following actions are proposed:

- Clarifying Sustainability Regulations – Establishing comprehensive, enforceable sustainability guidelines that provide specific benchmarks for eco-friendly materials, waste reduction, and lifecycle assessments.
- Introducing Economic Incentives – Implementing tax breaks, funding grants, and subsidy programs to reduce financial barriers and encourage sustainable material adoption.
- Strengthening Industry-Government Collaboration – Ensuring policy development involves input from designers, manufacturers, and sustainability experts, bridging the gap between legislation and real-world application.

While sustainability policies exist, their impact is weakened by vague criteria, poor enforcement, and limited financial support. Enhancing regulatory clarity, incentives, and industry-government collaboration can improve adoption. Table 28 outlines key challenges and potential solutions.

Aspect	Literature Insights	Interview Insights	Proposed Actions
Policy Clarity **(**F6.1)	Policies encourage sustainability but lack clear guidelines (Chapter 4, pp. 87-90).	Designers report ambiguity in regulatory implementation (Chapter 7, pp. 237-240).	- Establish comprehensive, clear policies. - Standardize industry guidelines and certifications.
Regulatory Enforcement (F6.2)	Inconsistent enforcement weakens policy effectiveness (Pirasteh, 2018).	Sustainability policies are not uniformly applied across projects (Chapter 7, pp. 237-240).	- Introduce accountability measures and regulatory monitoring. - Implement mandatory sustainability reporting.
Financial Incentives (F6.3)	Tax incentives and grants can drive sustainable adoption (Koskela, 2018).	Lack of financial support limits designers' ability to choose sustainable materials (Chapter 7, pp. 237-240).	- Provide tax incentives, funding schemes, and subsidies for eco-friendly design choices.

Table 28: Regulatory and Policy Barriers in Sustainable Interior Design.

Finding 7 (F7): Client Demand and Expectations

Client demand is a key determinant in the adoption of sustainability within interior design. The literature suggests that clients' awareness, priorities, and financial constraints significantly impact designers' ability to implement sustainable solutions (Alfaro, 2019; Elkington, 1998; Chapter 3, pp. 56-75). While interest in sustainability is growing, findings indicate that cost and aesthetics often take precedence over environmental considerations. This misalignment between sustainability aspirations and practical decision-making presents a barrier to widespread adoption.

Interview findings corroborate these concerns, illustrating that while clients express interest in sustainability, their hesitancy stems from cost concerns, limited awareness of long-term benefits, and lack of familiarity with sustainable alternatives (Chapter 7, pp. 224-230). Key challenges identified in interviews include:

F7.1 Limited Client Understanding – Many clients view sustainability as a desirable but non-essential feature, making it secondary to budget or aesthetic preferences.

F7.2 Perceived Cost and Aesthetic Barriers– Clients often see sustainable options as expensive or less visually appealing. These perceptions continue to limit adoption, even as interest in sustainability grows. Many designers act as educators, helping clients understand cost and aesthetic trade-offs and promoting long-term thinking.

F7.3 Sustainability as an 'Add-On' – Rather than being a core design consideration, sustainability is frequently positioned as an optional upgrade, reducing its integration into projects.

Implications and Recommendations: To bridge the gap between client interest and sustainable decision-making, the following strategies are proposed:

- **Client Education Programs** – Developing digital tools, brochures, and case studies to effectively communicate the benefits of sustainable design.
- **Visual and Cost Analysis Tools** – Using lifecycle cost calculators and material comparison guides to demonstrate the financial and environmental benefits of eco-friendly choices.

- **Sustainability-Driven Marketing** – Repositioning sustainable interior design as a premium, value-driven service, emphasising aesthetics and cost savings alongside environmental responsibility.

While client interest in sustainability is growing, misconceptions about cost, aesthetics, and long-term benefits hinder adoption. Table 29 outlines key client-driven challenges and strategies to bridge the gap between interest and implementation.

Aspect	Literature Insights	Interview Insights	Proposed Actions
Client Awareness (F7.1)	Clients influence demand but lack understanding of long-term sustainability benefits (Chapter 3, pp. 56-75)).	Designers struggle to educate clients on sustainability without clear, accessible resources (Chapter 7, pp. 224-230).	- Develop educational resources for clients (digital tools, brochures, case studies). - Equip designers with structured communication tools for consultations.
Perceived Cost and Aesthetics (F7.2)	Clients prioritize short-term costs and aesthetic appeal over environmental impact (Alfaro, 2019).	Cost remains a major deterrent, with sustainable choices often framed as premium options (Chapter 7, pp. 224-230).	- Use cost-benefit analysis tools to showcase long-term savings. - Market sustainability as an investment rather than an expense.
Sustainability as an Add-On (F7.3)	Sustainability is often treated as an extra feature rather than an industry standard (Elkington, 1998).	Clients tend to view sustainability as a secondary priority, only considered when budget allows (Chapter 7, pp. 224-230).	- Rebrand eco-friendly design as a default, high-value service. - Incorporate sustainability messaging into mainstream design

Table 29: Client Influence on Sustainable Interior Design.

This analysis highlights that while client interest in sustainability exists, a lack of education, financial concerns, and misconceptions about cost and aesthetics hinder adoption. By enhancing communication, providing tangible cost-benefit comparisons, and shifting the perception of sustainability from a luxury to a necessity, designers can increase client buy-in and mainstream sustainable design practices.

Finding 8 (F8): Market Trends and Access to Resources

Market trends and the availability of sustainable materials significantly influence sustainable decision-making in interior design. The literature highlights that while demand for eco-friendly materials is rising, supply chain challenges, cost constraints, and unreliable certification systems continue to limit their accessibility (Chapter 3, pp. 60–75; McQuillan, 2020; Bhamra et al., 2008). These issues create a disconnect between the growing interest in sustainability and the practical ability of designers to implement eco-conscious choices.

Interview findings reinforce these concerns, as designers reported that material costs, availability, and supplier transparency remain some of the most significant obstacles to sustainability adoption (Chapter 7, pp. 224–230). Key issues identified include:

- **F8.1 High Costs of Sustainable Materials** – Many designers struggle to source affordable sustainable materials, making them less viable for budget-conscious projects.
- **F8.2 Limited Market Availability** – A lack of widespread access to eco-friendly materials forces designers to compromise between sustainability, aesthetics, and functionality.
- **F8.3 Supplier Transparency Issues** – Many suppliers fail to provide adequate sustainability credentials, making it difficult for designers to verify material authenticity and avoid greenwashing.

Implications and Recommendations: To address these systemic challenges and improve access to sustainable materials, the following actions are proposed:

- Incentivising Sustainable Suppliers – Offering grants, subsidies, or tax benefits to suppliers investing in sustainable material production, ensuring greater availability.

- Centralised Material Databases – Creating an industry-wide, transparent platform where designers can access verified sustainability data on available materials.
- Standardising Sustainability Certifications – Establishing clear, enforceable certification frameworks to reduce greenwashing risks and ensure reliable verification processes.

Despite growing demand, cost, availability, and transparency issues hinder sustainable material adoption. Policy incentives, centralised databases, and stricter certifications can improve access. Table 30 highlights key barriers and solutions.

Aspect	Literature Insights	Interview Insights	Proposed Actions
Resource Accessibility (F8.1)	Limited affordable eco-materials available (Chapter 3, pp. 60–75).	Designers struggle to source sustainable materials within budget constraints (Chapter 7, pp. 224–230).	- Provide financial incentives for suppliers producing sustainable materials. - Improve affordability through industry partnerships.
Supply Chain Availability (F8.2)	Sustainable materials remain a niche category, limiting mainstream adoption (McQuillan, 2020).	Limited market availability forces designers to compromise between sustainability, aesthetics, and performance (Chapter 7, pp. 224–230).	- Develop a centralized material database for verified sustainability credentials. - Strengthen supply chain collaboration to enhance distribution.
Supplier Transparency (F8.3)	Greenwashing and inconsistent certifications create trust issues (Bhamra et al., 2008).	Designers struggle to verify supplier claims, leading to scepticism in material authenticity (Chapter 7, pp. 224–230).	- Implement standardized certification criteria. - Introduce strict accountability measures for suppliers.

Table 30: Market Trends and Resource Accessibility in Sustainable Interior Design.

Finding 9 (F9): Supply Chain Transparency and Certification Challenges

A transparent and reliable supply chain is crucial for designers striving to make informed sustainable decisions. However, inconsistent certification standards, limited material traceability, and greenwashing pose significant challenges. Literature underscores these concerns, highlighting ambiguities in sustainability certifications, a lack of standardised criteria, and supplier opacity regarding material origins (Chapter 4, pp. 88–95; Bhamra et al., 2008; Winchip, 2020; McDonough and Braungart, 2002).

Interview participants confirmed these frustrations, indicating that the current certification landscape lacks uniformity, making sustainability verification time-consuming and unreliable (Chapter 7, pp. 244–250). Key challenges identified include:

F9.1 Inconsistent certification criteria, where differing standards and conflicting sustainability labels make it difficult for designers to identify reliable certifications.

F9.2 Opaque supply chains, where suppliers often provide limited or misleading sustainability data, leaving designers with insufficient information about material sourcing.

F9.3 Reliance on independent research, as designers frequently have to self-verify sustainability claims, adding time and resource burdens to their projects.

Implications and Recommendations: To enhance supply chain transparency and improve the credibility of sustainability certifications, the study suggests:

- **Standardised Global Sustainability Certifications** – Establishing a unified and enforceable certification framework that sets consistent, industry-wide criteria for sustainable materials.
- **Enhanced Supplier Reporting and Verification** – Introducing mandatory third-party audits and transparent reporting to ensure that sustainability claims are verifiable and accountable.
- **Open-Access Sustainable Material Database** – Developing a digital platform where designers can access independently verified data on certified sustainable materials and suppliers, streamlining material selection.

Without reliable certifications and transparent supply chains, designers struggle to verify sustainable materials. Addressing these challenges requires systemic reforms, stronger certification governance, and greater supplier accountability. Table 31 highlights key barriers and strategies for improving supply chain transparency and certification reliability

Aspect	Literature Insights	Interview Insights	Proposed Actions
Certification Consistency **(**F9.1)	Inconsistent certifications complicate material selection (Chapter 4, pp. 88–95).	Designers struggle with unreliable certifications (Chapter 7, pp. 244–250).	- Standardize certifications. - Develop transparent supply chains. - Create a verified supplier database.
Supply Chain Transparency (F9.2)	Material sourcing often lacks transparency, creating uncertainty around sustainability claims (Winchip, 2020).	Suppliers provide vague or misleading sustainability data, making it difficult to verify material origins (Chapter 7, pp. 244–250).	- Mandate third-party sustainability audits. - Require suppliers to disclose full lifecycle impact reports.
Burden on Designers (F9.3)	The responsibility for verifying material sustainability falls largely on designers, increasing research time and costs (McDonough and Braungart, 2002).	Designers rely on personal research rather than consistent industry standards, which is inefficient and unsustainable (Chapter 7, pp. 244–250).	- Create an open-access sustainable materials database. - Develop industry-wide supplier verification platforms.

Table 31: Barriers to Supply Chain Transparency and Certification Reliability.

Finding 10 (F10): Designer Values and Professional Expertise

Sustainability decisions in interior design are deeply influenced by designers' personal values and professional expertise. Research suggests that designers with sustainability-focused training are significantly more likely to advocate for and implement eco-conscious practices in their work (Bhamra et al., 2008; Walker, 2014; Chapter 3, pp. 75-85). However,

gaps in sustainability education and professional development often hinder the widespread adoption of sustainable principles.

Interview findings reinforce these insights, highlighting the ways in which personal commitment, expertise, and career stage impact sustainable decision-making (Chapter 7, pp. 211-218). Key findings include:

F10.1 Sustainability Expertise and Training – Limited sustainability training creates barriers, leaving some designers uncertain about how to evaluate certifications, navigate material sourcing, or comply with sustainability regulations.

F10.2 Career Stage and Generational Influence – Generational and career stage differences exist in sustainability adoption. Younger and emerging designers are more inclined toward sustainable innovation, while more established professionals often adhere to traditional practices, citing familiarity, industry norms, and perceived reliability.

F10.3 Role of Personal Commitment – Designers who prioritise sustainability tend to be proactive in sourcing eco-friendly materials, applying lifecycle thinking, and advocating for responsible design choices.

Implications and Recommendations: To enhance sustainability expertise within interior design, the study suggests the following strategic initiatives:

- **Sustainability in CPD (Continuous Professional Development)** – Establishing mandatory sustainability-focused CPD programs to ensure designers stay updated on best practices, evolving regulations, and new eco-materials.
- **Embedding Sustainability into Interior Design Education** – Integrating sustainability as a core element in university-level curricula, ensuring emerging designers enter the profession with strong sustainability literacy.
- **Sustainability Mentorship Networks** – Developing mentorship programs where experienced sustainable designers guide early-career professionals, facilitating knowledge transfer and industry-wide best practices.

This finding underscores that while sustainability is gaining traction, professional expertise and values significantly shape its adoption. Addressing educational gaps, career-stage differences, and training limitations will be critical in accelerating sustainable integration within the interior design profession. Table 32 below summarises the impact of designer expertise and values on sustainability decisions.

Aspect	Literature Insights	Interview Insights	Proposed Actions
Sustainability Expertise and Training (F10.1)	Designers with sustainability training are more likely to adopt eco -conscious practices (Bhamra et al., 2008). (Chapter3, pp. 75-85)	Many designers lack specialized sustainability training , limiting their confidence in certifications, material selection, and regulation compliance (Chapter 7, pp. 211–218).	- Mandatory CPD sustainability training . - Industry partnerships for sustainability education .
Career Stage and Generational Influence (F10.2)	Emerging designers are more sustainability - conscious , while experienced professionals may be less inclined to deviate from traditional practices (Walker, 2014).	Younger designers actively seek sustainable solutions , while established professionals often prioritise familiar methods due to reliability concerns (Chapter 7, pp. 211–218).	- Mentorship programs connecting experienced and early - career designers . - Incentives for experienced professionals to engage in sustainability training .
Role of Personal Commitment (F10.3)	Designers who personally prioritize sustainability are more proactive in integrating it into their workflow (Bhamra et al., 2008).	Individual values drive sustainability adoption , with self-motivated designers leading eco-conscious efforts (Chapter 7, pp. 211–218).	- Industry -wide recognition for sustainability leadership . - Sustainability - focused design competitions and grants .

Table 32: The Influence of Designer Expertise and Values on Sustainability.

Findings indicate that internal motivations alone are not sufficient to drive widespread sustainability adoption. Even designers who are committed to sustainability frequently encounter barriers such as cost constraints, limited material availability, and unclear or

weakly enforced regulations. Without stronger policy support, reliable certification systems, and market incentives that favour sustainable materials and practices, designers remain limited in their ability to implement sustainability beyond an aspirational ideal.

To address these structural limitations, the study suggests:

- Enhancing regulatory clarity and financial incentives to support sustainability adoption across all project scales.
- Developing client education initiatives to bridge knowledge gaps and shift sustainability from an ‘optional upgrade’ to a fundamental design consideration.
- Expanding sustainability-focused professional development through CPD programs, mentorship, and curriculum integration in design education.
- Improving supply chain transparency to reduce greenwashing risks and ensure designers can access verified sustainable materials.

By recognising the interdependencies between these internal and external influences, this research contributes to a more systemic understanding of how sustainability can be integrated into mainstream interior design practice. Moving forward, addressing both knowledge-based and structural barriers will be essential to bridging the gap between sustainability ambition and practical application.

Table 33 summarises the key influences shaping sustainable decision-making, highlighting challenges and opportunities. The following section, 8.1.3, builds on this by examining how these factors specifically impact the selection, sourcing, and integration of sustainable textiles—a critical aspect of sustainability in interior design.

Type	Finding	Key Challenges	Proposed Actions for Enhanced Adoption
External	**Regulatory and Policy Frameworks (F6)**	Lack of clear policies, inconsistent enforcement, limited financial incentives	Strengthen sustainability regulations, introduce tax breaks and funding grants, improve policy-industry collaboration
External	**Client Demand and Expectations (F7)**	Low awareness, cost concerns, aesthetic preferences	Develop client education tools, use cost-benefit analysis, market sustainability as a desirable feature
External	**Market Trends and Access to Resources (F8)**	High costs, limited availability, inconsistent sustainability certifications	Provide incentives for suppliers, create centralized material databases, standardize certifications
External	**Supply Chain Transparency and Certification Challenges (F9)**	Unverified claims, unreliable certifications, greenwashing risks	Standardize global certifications, improve reporting transparency, develop an open-access material database
Internal	**Designer Values and Expertise (F10)**	Lack of formal sustainability training, resistance to change	Expand CPD training, embed sustainability in design education, establish mentorship programs

Table 33: Summary of Key Influences on Sustainable Decision-Making.

8.1.3 Challenges and Opportunities in Sustainable Textile Use (OB3)

This section addresses Objective 3 (OB3) by examining the barriers and opportunities related to integrating sustainable textiles into interior design. While sustainability has gained traction within the industry, the widespread adoption of eco-friendly textiles remains constrained by issues such as certification inconsistencies, cost implications, performance limitations, and knowledge gaps.

Sustainable textiles have the potential to significantly reduce the environmental impact of interior spaces, but their successful integration depends on overcoming systemic challenges that limit their availability, affordability, and practicality. Without addressing these barriers, sustainability efforts in interior design will remain fragmented, preventing eco-friendly textiles from becoming a mainstream option rather than a niche alternative.

To explore how these challenges influence adoption, this section identifies four key findings that highlight both the obstacles and the potential interventions that can facilitate industry-wide change. By implementing these strategic solutions, designers, manufacturers, and policymakers can drive greater accessibility, usability, and acceptance of sustainable textiles, ultimately making them a default choice rather than an exception in interior design practice.

Finding 11 (F11): Certification and Transparency Challenges

A major obstacle to sustainable textile adoption is the lack of standardised, transparent certification systems. The literature highlights inconsistent certification standards, vague sustainability claims, and limited supply chain transparency, all of which make it difficult for designers to confidently assess textile sustainability (Bhamra et al., 2008; Winchip, 2020; Chapter 4, pp. 88–95). While various eco-certifications exist—such as Global Organic Textile Standard (GOTS), OEKO-TEX®, and Cradle to Cradle—the absence of a unified industry framework leads to fragmentation, confusion, and potential greenwashing.

Interview findings align with these concerns, with designers frequently citing frustrations regarding certification reliability and supply chain transparency (Chapter 7, pp. 244-250). However, the responsibility for addressing these issues extends beyond designers and policymakers—manufacturers and suppliers must play an active role in ensuring certification credibility and transparent sourcing practices.

Key challenges identified include:

F11.1 Inconsistent Certification Criteria – Different certifying bodies apply varying and sometimes conflicting sustainability criteria, making it difficult for designers to compare textiles objectively.

F11.2 Opaque Supply Chains – Many manufacturers fail to disclose critical details about material origins, production methods, and end-of-life impacts, limiting transparency and trust in sustainability claims.

F11.3 Supplier-Driven Greenwashing – Some suppliers intentionally or unintentionally misrepresent their products as eco-friendly, forcing designers to conduct independent research, which adds to project complexity and costs.

Industry Responsibility and the Role of Manufacturers:

While designers are responsible for making sustainable material selections, manufacturers and suppliers play a pivotal role in shaping material transparency and credibility. Without full disclosure of supply chain practices, designers lack the necessary data to make informed sustainability decisions. To improve transparency, industry-wide action is needed from textile producers:

- Manufacturers must standardise sustainability data reporting, ensuring that environmental claims are supported by verifiable third-party audits.
- Suppliers should be held accountable for full material traceability, making data on fibre sourcing, chemical processes, and labour practices readily available.
- Industry-wide collaboration is required to establish a centralised database where designers can access verified sustainability credentials for textiles and suppliers.

Proposed Solutions: To enhance transparency and accountability, this study recommends the following actions:

- **Establish a Global Textile Certification System** – A standardised eco-certification tailored for interior textiles would provide clear benchmarks for environmental compliance, reducing confusion and greenwashing risks.
- **Mandate Comprehensive Supply Chain Disclosure** – Regulatory requirements should compel manufacturers to provide full lifecycle information, including sourcing, processing, and disposal impact.
- **Develop a Centralised Sustainable Textile Database** – A publicly accessible platform where designers can verify supplier claims, compare certification standards, and track material origins would streamline decision-making and improve industry accountability.

Finding 12 (F12): Cost and Accessibility Barriers

High costs and limited accessibility remain significant barriers to the widespread adoption of sustainable textiles. The literature indicates that sustainable materials are often priced at a premium due to factors such as:

- Ethically sourced raw materials that require more expensive, labour-intensive production methods.
- Rigorous certification processes that add compliance costs to manufacturers.
- Lower production volumes, leading to higher per-unit costs compared to mass-produced conventional textiles (McQuillan, 2020; Koskela and Pettersson, 2018; Chapter 3, pp. 60–75).

Interview findings reinforce these concerns, as designers frequently cited cost constraints as a critical factor limiting the use of sustainable textiles (Chapter 7, pp.224 – 230). Three primary cost-related barriers emerged:

F12.1 Premium Pricing of Sustainable Textiles – Many eco-friendly fabrics cost significantly more than conventional materials, making them harder to justify within budget-conscious projects.

F12.2 Limited Market Availability and Higher Procurement Costs – Sustainable textiles are often only available from niche suppliers, leading to longer lead times, higher transportation costs, and minimal bulk-order discounts.

F12.3 Client Reluctance Due to Cost Concerns – Many clients hesitate to approve sustainable textile selections due to a lack of awareness about long-term savings, such as improved durability and reduced waste.

Beyond financial concerns, consumer perceptions of sustainable textiles as a niche or inferior to conventional materials also hinder adoption. Clients often assume that eco-friendly options come with trade-offs in performance, durability, or luxury appeal, reinforcing the belief that sustainability is an "ethical" but not necessarily high-end choice.

Marketing and Branding Strategies to Shift Perceptions:

- **Reframing Sustainability as a Premium Feature:** Industry-wide efforts to position sustainable textiles as high-performance, mainstream materials—rather than niche ethical alternatives—could help increase demand.

- **Consumer Education on Cost vs. Long-Term Value:** Campaigns that highlight the durability, maintenance benefits, and long-term cost savings of sustainable textiles would help counter the perception that they are expensive with no added benefit.
- **Luxury and High-Profile Collaborations:** Partnering with high-end designers, hospitality brands, and commercial projects can increase visibility and credibility, demonstrating that sustainable textiles can meet both functional and aesthetic expectations.
- **Retail and Supplier Marketing Strategies:** Mainstream retailers and textile suppliers should integrate sustainable options as standard offerings, rather than presenting them as premium or exclusive choices.
- **Storytelling and Transparency:** Consumers increasingly value authentic, traceable sourcing information. Branding that highlights the origins, ethical production methods, and performance features of sustainable textiles could help overcome scepticism and drive interest.

Industry Responsibility and the Role of Manufacturers and Suppliers:

While designers must advocate for sustainability, manufacturers and suppliers must take greater responsibility in reducing cost barriers through pricing strategies, economies of scale, and bulk purchasing incentives.

- Scaling up production can drive down costs, making sustainable textiles more financially viable without compromising quality.
- Bulk-order discounts and supplier partnerships can encourage designers to source larger quantities of sustainable materials at reduced rates, improving accessibility.
- Manufacturers must integrate sustainable textiles into mainstream supply chains, ensuring they are as widely available as conventional alternatives.

Proposed Solutions: To address cost-related barriers and improve accessibility, this study recommends:

- **Government Incentives and Financial Support** – Introducing tax credits, grants, and subsidies for sustainable textile production would encourage scaling up manufacturing, reducing cost burdens for both designers and clients.

- **Industry Collaboration to Increase Production** – Partnerships between manufacturers and design firms can improve supply chain efficiency, increase production volumes, and drive down costs through economies of scale.
- **Supplier Pricing Strategies and Bulk Discounts** – Textile suppliers should offer tiered pricing structures, reducing per-unit costs for designers purchasing sustainable textiles in larger volumes.

While the high cost of sustainable textiles presents a significant barrier, government intervention through targeted incentives has proven effective in other industries where sustainable alternatives faced similar cost challenges. Successful policies in the sustainable construction and energy sectors offer potential models for incentivising sustainable textile adoption.

Lessons from Other Industries: How Policy Can Drive Cost Reduction

Sustainable Construction Materials (EU and UK Regulations):

- The UK's Green Homes Grant and EU Energy Performance of Buildings Directive (EPBD) subsidise energy-efficient building materials to encourage long-term cost savings and carbon reduction.
- Similar subsidies could be applied to sustainable textiles, encouraging manufacturers to scale production and designers to specify eco-friendly materials without financial risk.

Energy-Efficient Products (US and EU Tax Incentives):

- Programs like the US Energy Star tax credits and EU Eco-design Directive provide financial benefits to manufacturers and consumers adopting energy-efficient products.
- Applying this model to sustainable textiles could incentivise both production and consumer adoption, ensuring cost reductions at multiple points in the supply chain.

Global Policy Models That Could Be Adapted for Textiles

EU Sustainable Textiles Strategy (2022):

- The EU aims to make textiles longer-lasting, easier to recycle, and free of hazardous chemicals through mandatory eco-design standards and producer responsibility policies.

- A similar regulatory framework could ensure uniform sustainability benchmarks for textiles worldwide.

France's Extended Producer Responsibility (EPR) for Textiles:

- This initiative requires textile producers to finance waste collection and recycling programs, shifting responsibility away from consumers and local governments.
- Expanding EPR policies to more countries could force manufacturers to internalise sustainability costs, rather than passing them onto designers and clients.

Why Government Intervention Is Essential in Textile Supply Chains

- Unlike private industry-driven innovations, large-scale shifts in textile production require systemic incentives to compete with conventional alternatives.
- Without policy-driven financial support, sustainable textiles will remain cost-prohibitive for mainstream adoption.
- Government regulation and investment can drive economies of scale, lowering costs for sustainable textiles just as they have for renewable energy, low-carbon transportation, and green building materials.

Finding 13 (F13): Balancing Sustainability with Performance and Aesthetic Appeal

While sustainability is becoming an increasingly important consideration in interior design, textiles must also meet essential performance and aesthetic requirements to be widely adopted. Literature suggests that interior designers and clients prioritise factors such as durability, colour stability, ease of maintenance, and material versatility, often leading to trade-offs between sustainability and functionality (Bhamra et al., 2008; McDonough and Braungart, 2002; Chapter 4, pp. 87–93).

A key challenge is that some sustainable textiles fail to match the performance and aesthetic standards of conventional materials, limiting their applicability in high-use environments. Designers often struggle to specify sustainable textiles that are both aesthetically desirable and functionally resilient, leading to hesitancy in adoption, particularly in commercial and luxury interiors.

Findings from interviews reinforce these concerns, with designers identifying three key barriers to balancing sustainability with performance and aesthetics (Chapter 6, pp. 140–150; Chapter 7, pp. 206-210):

F13.1 Durability and Longevity Concerns

- Some natural sustainable textiles (e.g., organic cotton, hemp, and linen) have lower abrasion resistance compared to synthetic alternatives, making them less suitable for high-traffic commercial spaces.
- Biodegradable or recycled fabrics may degrade faster, leading to more frequent replacements, which paradoxically increases material consumption over time.
- Some plant-based or untreated textiles lack the stain resistance, water repellency, or structural integrity required for high-performance applications.

F13.2 Limited Aesthetic Versatility

- Sustainable textiles often have restricted colour palettes and pattern options, limiting their suitability for high-end, customised interior applications.
- Some natural dyes fade faster than synthetic alternatives, making them less desirable for projects requiring long-lasting vibrancy.
- Designers noted that certain textural inconsistencies in eco-friendly fabrics (e.g., rougher weaves, irregular fibres) can make them difficult to integrate into contemporary or luxury design schemes.

F13.3 Functionality and Maintenance Trade-Offs

- Many sustainable textiles require specialised care, such as hand washing, air drying, or delicate handling, making them impractical for commercial settings where frequent cleaning is necessary.
- Some fire-retardant treatments used in conventional textiles are missing in sustainable options, limiting their usability in public spaces requiring strict safety compliance.
- Clients often prioritise practicality over sustainability, especially in hospitality, healthcare, and office environments where durability and maintenance efficiency are essential.

A critical distinction must be made between performance issues that are inherent to natural materials and those that stem from technological gaps that could be addressed through innovation (see Table 34):

Category	Example Materials	Key Limitations	Potential Solutions
Inherent Natural Material Constraints	Organic cotton, hemp, wool, linen	Lower abrasion resistance, fading dyes, textural variations	Use in low-traffic areas, improve fibre blends for enhanced durability
Technological Gaps in Sustainable Textiles	Recycled polyester, bioengineered fabrics, plant-based leather	Limited fire resistance, colour consistency issues, poor moisture resistance	Investment in R&D, development of advanced coatings and treatments

Table 34: Inherent vs. Solvable Limitations in Sustainable Textiles.

Implications and Recommendations: To bridge the gap between sustainability, performance, and aesthetics, several targeted strategies should be pursued:

Investment in Advanced Sustainable Textiles

- Expand R&D into fibre innovation, blended materials, and bioengineered performance textiles (e.g., lab-grown fibres, bacterial-dyed fabrics).
- Develop hybrid materials that combine the sustainability of natural fibres with the durability of engineered solutions (e.g., organic cotton blended with reinforced recycled polyester).

Designer-Industry Collaboration

- Encourage co-creation between designers and textile manufacturers, ensuring that new materials balance sustainability with functional and aesthetic flexibility.
- Conduct real-world material testing to validate performance in high-use environments before market introduction.

Advancements in Natural Dyeing and Finishing Techniques

- Invest in low-impact dyeing technologies, such as bacterial or plant-based pigments, to expand colour and pattern options for sustainable textiles.
- Improve the UV stability of natural dyes, reducing fading and extending material lifespan.

Lifecycle-Based Textile Ratings

- Introduce performance scoring systems for sustainable textiles to help designers make informed choices about how materials balance longevity, environmental impact, and aesthetic flexibility.
- Develop sustainability benchmarking tools that assess textile durability alongside eco-certifications, reducing the risk of unintended trade-offs.

While sustainable textiles face performance and aesthetic limitations, many of these challenges can be mitigated through technological innovation, industry partnerships, and strategic investment in material research. Differentiating between inherent natural material constraints and solvable technological gaps will allow designers to make more informed trade-offs, ensuring that sustainability does not come at the expense of functionality or design quality. By expanding R&D, strengthening supply chains, and fostering collaboration between designers and manufacturers, the industry can accelerate the adoption of high-performance, aesthetically versatile sustainable textiles.

Finding 14 (F14): Limited Industry Awareness and Training

Despite the increasing demand for sustainability in interior design, many designers lack structured training in sustainable textile selection, evaluation, and sourcing. The literature highlights that sustainability education is often inconsistent across design programs, leaving professionals to navigate this complex field through independent research (Walker, 2014; Koskela, 2018).

Interview findings reinforce this concern, revealing that gaps in formal education and training create significant challenges for designers attempting to implement sustainability in material selection (Chapter 7, pp. 211–218). The following key issues emerged:

F14.1 Knowledge Gaps in Textile Sustainability

- Designers struggle with understanding material properties, end-of-life impact, and certification reliability.
- The lack of accessible comparative data on sustainable vs. non-sustainable textiles makes it difficult to make informed trade-offs in terms of cost, performance, and sustainability.

F14.2 Deficiencies in Formal Education

- Sustainability is often treated as a theoretical concept rather than an applied skill in design curricula.
- Limited exposure to real-world sustainable material applications during education leaves emerging professionals ill-prepared to make sustainability-driven choices in practice.

F14.3 Challenges in Professional Development

- CPD training is not standardised across the industry, and most existing programs focus on general sustainability principles rather than textile-specific challenges.
- Many designers rely on self-directed learning, which is often time-consuming and fragmented due to the lack of centralised, credible resources.

Implications and Recommendations: To address these educational gaps and enhance sustainability literacy in textile selection, the study recommends:

- **Embedding Sustainable Textile Education into Design Curricula** – Universities and design schools should integrate textile sustainability as a core module in interior design programs, covering material properties, lifecycle assessment, and ethical sourcing.
- **Developing Centralised Learning Platforms** – Creating open-access online courses, webinars, and material comparison tools will support self-guided education, ensuring designers have easy access to reliable, up-to-date knowledge.
- **Collaboration Between Academia and Industry** – Strengthening partnerships between design schools, textile manufacturers, and professional bodies to bridge the gap between theoretical sustainability education and practical, real-world application.
- **Industry-Led CPD Training for Practising Designers** – Professional organisations should offer targeted, standardised CPD programs focusing on:

- Sustainable textile selection and sourcing. Evaluating sustainability claims and avoiding greenwashing.
- Understanding certifications, regulations, and industry benchmarks.

The findings in this section demonstrate that several interrelated barriers hinder the widespread adoption of sustainable textiles in interior design. While eco-friendly materials offer clear environmental advantages, issues such as inconsistent certification systems, high costs, aesthetic limitations, and knowledge gaps have slowed their industry-wide acceptance.

However, these challenges are not insurmountable. By implementing targeted certification reforms, financial incentives, advancements in material innovation, and enhanced professional education, sustainable textiles can transition from an aspirational concept to a practical reality.

- Addressing these barriers will have far-reaching implications, including: Reducing the environmental footprint of interior design projects by ensuring that more textiles meet verified sustainability standards.
- Making sustainable textiles more financially viable through government incentives and industry collaborations that enhance affordability and availability.
- Bridging the performance gap between sustainable and traditional textiles by investing in R&D to improve durability, versatility, and aesthetic appeal.
- Enhancing designer expertise and decision-making by embedding sustainability education into both formal training and professional development programs.

By tackling these key barriers, the industry can normalize the use of sustainable textiles, ensuring they are widely accessible, cost-effective, and competitive with conventional materials. This will drive their adoption at scale, making sustainability an integral part of mainstream interior design rather than a selective feature.

The following Table 35 presents a structured summary of the key challenges identified; alongside proposed actions aimed at facilitating the broader adoption of sustainable textiles.

Finding	Key Issues	Proposed Actions for Enhanced Adoption	Responsible Stakeholders	Timeframe
Finding 11: Certification and Transparency Challenges	Inconsistent sustainability certifications, lack of supply chain transparency, risk of greenwashing	- Develop a globally recognized certification system for sustainable textiles with uniform criteria and third-party verification. - Mandate full supply chain disclosure through traceability regulations requiring manufacturers to provide sourcing, processing, and end-of-life data. - Create an open-access sustainable textile database where designers can access verified material sustainability information, certifications, and supplier compliance data.	- International regulatory bodies (e.g., EU, UN Textile Initiative) - National governments and policy organizations - Textile certification bodies (e.g., GOTS, OEKO-TEX®) - Independent sustainability research institutions	- Medium-term (3–5 years) for certification standardization - Short-term (1–2 years) for supply chain transparency policies - Long-term (5+ years) for global textile database implementation
Finding 12: Cost and Accessibility Barriers	High costs, limited availability, budget constraints for clients	- Introduce financial incentives such as tax credits, grants, and government subsidies to encourage sustainable textile production and lower costs for designers. - Scale up production through industry collaborations, fostering economies of scale and reducing per-unit pricing. - Develop bulk pricing structures and tiered incentives to encourage wider adoption among designers and commercial clients. - Raise client awareness of long-term savings through cost-benefit analysis tools	- National governments (tax incentives, grants) - Textile manufacturers (scaling up production, pricing models) - Interior design industry associations (educational campaigns)	- Short-term (1–2 years) for financial incentives - Medium-term (3–5 years) for scaled production increases - Ongoing (immediate and long-term) for client education

Finding	Key Issues	Proposed Actions for Enhanced Adoption	Responsible Stakeholders	Timeframe
Finding 13: Balancing Sustainability with Performance and Aesthetic Appeal	Limited durability, restricted design options, colour and pattern constraints	- Expand R&D into fibre innovation, advanced coatings, and bioengineered textiles (e.g., lab-grown fibres, blended materials for improved durability). - Enhance collaboration between designers and textile manufacturers to co-develop sustainable materials that meet both aesthetic and functional needs. - Invest in sustainable dyeing and finishing innovations, improving colour longevity and increasing pattern variety while reducing environmental impact. - Develop lifecycle-based textile performance ratings to help designers assess durability alongside sustainability.	- Textile manufacturers (investment in R&D, material improvements) - Government-funded research initiatives (grants for textile innovation) - Interior designers and industry groups (testing and validation of materials)	- Medium-term (3–5 years) for material innovation - Short-term (1–2 years) for collaborations between designers and manufacturers - Ongoing improvements in dyeing technologies
Finding 14: Limited Industry Awareness and Training	Lack of formal sustainability education, reliance on independent research, absence of CPD programs	- Integrate sustainable textile education into university design curricula, ensuring graduates understand material sustainability, lifecycle assessment, and sourcing. - Expand CPD training with structured modules on textile certifications, supplier transparency, and functional sustainability (e.g., practical application of sustainable materials in real projects). - Develop digital learning platforms and open-access sustainability knowledge hubs where designers can access up-to-date research, case studies, and material databases.	- Universities and design schools (curriculum development) - Interior design industry associations (CPD training development) - Government agencies and NGOs (funding for educational platforms)	- Short-term (1–2 years) for CPD expansion - Medium-term (3–5 years) for curriculum integration in design schools - Ongoing (long-term) for industry knowledge-sharing platforms

Table 35: Summary of Key Challenges and Opportunities in Sustainable Textile Use.

8.1.4 Criteria Guiding Sustainable Textile Selection (OB4)

This section addresses Objective 4 (OB4) by identifying the key criteria that interior designers use when selecting sustainable textiles. The findings indicate that textile selection is not solely based on sustainability credentials but is shaped by a complex interplay of environmental, functional, aesthetic, economic, and trust-related factors. Interior designers must navigate competing priorities, balancing performance, aesthetics, and affordability while ensuring that materials align with sustainability goals.

By establishing clear selection criteria, this study provides a structured approach to decision-making in sustainable textile adoption. These criteria help designers make informed choices, mitigating risks related to greenwashing, functional limitations, and cost constraints. Addressing these considerations is essential for overcoming existing sustainability barriers and ensuring that environmentally responsible textiles become mainstream choices in interior design rather than niche alternatives.

Finding 15 (F15): Environmental Impact Assessments

One of the most critical factors in sustainable textile selection is evaluating the environmental impact across the material's lifecycle. The literature highlights lifecycle assessments (LCAs) as essential tools for understanding a textile's sustainability credentials, measuring factors such as energy consumption, water usage, greenhouse gas emissions, and chemical treatments (Chapter 3, pp. 60–68). Certifications such as OEKO-TEX, GOTS, and Cradle to Cradle offer benchmarks for assessing compliance with sustainability standards, yet their application varies across projects and geographic regions.

Interview data supports this perspective, with designers emphasising the importance of LCAs in guiding textile choices (Chapter 7, pp. 218–221). However, they also highlighted significant challenges in conducting accurate environmental assessments:

F15.1 Lack of Accessible LCA Tools – While LCAs are valuable, many designers lack easy-to-use, industry-specific tools that allow them to compare materials efficiently.

F15.2 Variability in Certification Criteria – Designers expressed concerns about inconsistent certification benchmarks, making it difficult to verify sustainability claims.

F15.3 Challenges in Balancing Sustainability with Cost and Functionality – While designers prioritise sustainability, budget limitations and client demands sometimes force them to compromise when an environmentally superior option is unavailable or unaffordable.

F15.4 Trade-Offs in Environmental Impact Assessments: Designers often face conflicting priorities when weighing environmental impact against other criteria. For instance:

- In commercial projects, durability may take precedence over material sustainability if a longer lifespan results in lower long-term environmental impact.
- In residential projects, some clients prioritise natural materials but resist higher costs or maintenance requirements, pushing designers toward conventional alternatives.

Without standardised decision-making frameworks, designers must navigate case-by-case trade-offs, often relying on personal judgment rather than consistent industry guidance.

Implications and Recommendations: To strengthen environmental assessment practices in sustainable textile selection, this study proposes:

- **Developing User-Friendly LCA Tools** – Creating digital tools tailored for interior designers, allowing them to quickly compare textile options based on lifecycle impact, cost, and performance.
- **Standardising Sustainability Certifications** – Aligning certification standards internationally to improve consistency and reliability in sustainability claims.
- **Industry Guidelines for Prioritising Sustainability in Material Selection** – Establishing best-practice frameworks to help designers navigate trade-offs when sustainability conflicts with cost, durability, or aesthetics.

These measures enhance informed decision-making, ensuring that environmental impact remains a primary criterion in textile selection without compromising practical project requirements.

Finding 16 (F16): Durability and Functionality

While sustainability is a key driver in textile selection, durability and functionality remain non-negotiable priorities for interior designers. The literature emphasises that eco-

friendly materials must also meet essential performance standards such as wear resistance, ease of maintenance, and longevity to be viable options in design projects (Chapter 4, pp. 92–96). Many sustainable textiles face scrutiny due to concerns about durability, cleaning requirements, and suitability for high-traffic spaces, leading some designers to opt for more conventional alternatives despite their environmental impact. These concerns are further compounded by external factors such as supply chain limitations and client preferences, as discussed in Chapter 6 (pp. 181–185, 190–193).

Interview participants reinforced this dilemma, highlighting how clients frequently prioritise performance and ease of maintenance over sustainability (Chapter 7, pp. 244–247). Designers identified three primary durability-related challenges when working with sustainable textiles:

F16.1 Shorter Lifespan of Some Natural Fibres – While materials such as organic cotton, hemp, and linen are praised for their sustainability, they often have lower abrasion resistance compared to synthetic alternatives, making them less suitable for commercial and high-use environments.

F16.2 Higher Maintenance Requirements – Some natural and biodegradable textiles require delicate handling, such as hand-washing or air-drying, which can be impractical in hospitality, healthcare, or office settings where frequent cleaning is necessary.

F16.3 Functionality Trade-Offs in High-Performance Applications – Many sustainable textiles lack the fire resistance, water repellency, or structural integrity required for public spaces, limiting their usability despite their environmental benefits.

Trade-Offs Between Durability and Sustainability:

Designers often face difficult choices when durability conflicts with sustainability goals:

- In commercial interiors, designers may prioritise synthetic blends over fully natural textiles due to their enhanced stain resistance, fireproofing, and extended lifespan, even if they have a higher environmental impact.
- In residential projects, clients sometimes accept slightly lower durability in exchange for sustainability, but cost and maintenance concerns still influence final selections.

- In high-traffic public spaces, functional performance takes priority, with designers often compromising on sustainability to meet safety, hygiene, and longevity requirements.

Without clear industry standards balancing durability and sustainability, many designers rely on personal judgment and project-specific considerations, making consistent adoption of sustainable textiles difficult.

Implications and Recommendations: To integrate durability as a core sustainability factor in textile selection, this study suggests the following:

- Investment in Sustainable Performance Textiles – R&D should focus on developing hybrid materials, such as blended natural fibres reinforced with recycled synthetics, to improve abrasion resistance, stain repellency, and lifespan.
- Advancing Sustainable Fabric Treatments – Expanding eco-friendly finishing processes, such as plant-based waterproofing, biodegradable flame retardants, and nanotechnology coatings, can enhance durability without compromising sustainability.
- Industry-Wide Performance Benchmarking – Introduce standardised performance ratings for sustainable textiles, ensuring designers can compare durability, maintenance needs, and functional attributes alongside environmental impact.
- Sustainable Procurement Guidelines for Public Spaces – Governments and industry bodies should establish criteria for balancing sustainability and performance, similar to sustainable building certification programs.

These measures ensure that durability remains central to sustainability discussions, helping designers navigate trade-offs more effectively while maintaining high-performance standards.

Finding 17 (F17): Aesthetic and Design Versatility

While sustainability is increasingly prioritised in textile selection, aesthetic appeal and design flexibility remain key decision-making factors in interior projects. The literature indicates that sustainable textiles often face challenges in matching the design versatility of conventional materials, particularly in high-end and commercial applications where colour vibrancy, texture uniformity, and customisation options are essential (Chapter 4, pp. 92-–96).

Interview participants confirmed this concern, emphasising that clients often hesitate to approve sustainable textiles if they feel that design choices are compromised (Chapter 7, pp. 244–247). These concerns are further compounded by external factors such as supply chain limitations and client preferences, as discussed in Chapter 6 (pp. 181–185, 190–193). Three primary barriers emerged in relation to aesthetic and functional trade-offs:

- **F17.1 Limited Colour and Pattern Options** – Many sustainable textiles rely on natural dyes, which can result in fading, limited colour range, and inconsistencies between batches, making them less desirable for projects requiring long-lasting vibrancy and precise colour matching.
- **F17.2 Perceived Quality and Luxury Constraints** – Some clients associate sustainable textiles with rougher textures, uneven weaves, or a lack of sophisticated finishes, leading to concerns about whether they align with high-end interior aesthetics.
- **F17.3 Customisation Challenges** – Designers reported that many sustainable textiles are available only in standard finishes with limited options for custom weaves, surface treatments, or specialty prints, reducing their suitability for luxury and bespoke projects.

Trade-Offs Between Aesthetic Appeal and Sustainability:

Designers frequently struggle to balance sustainability with visual and tactile expectations, particularly in commercial and luxury interiors:

- In high-end residential and hospitality projects, clients prioritise luxurious textures and vibrant colours, often favouring conventional textiles over sustainable alternatives if the latter fail to meet aesthetic expectations.
- In retail and branding environments, businesses prefer textiles that allow for bold customisation, which some sustainable options lack due to technical limitations in printing and dyeing.
- In budget-conscious projects, designers sometimes opt for more visually appealing but less sustainable materials, as clients may not be willing to compromise on the overall look of the space.

Without greater investment in design-driven sustainability, sustainable textiles may continue to be viewed as a niche or alternative choice rather than a mainstream option.

Implications and Recommendations: To enhance the design versatility of sustainable textiles, the following actions are recommended:

- **Advancing Sustainable Dyeing and Finishing Technologies** – Investment in low-impact dyeing methods (e.g., bacterial dyes, bio-based pigments) and eco-friendly finishing treatments could expand colour, pattern, and textural options.
- **Hybrid Material Innovation** – Developing textile blends that combine the sustainability of natural fibres with the durability and texture flexibility of engineered materials can improve both appearance and longevity.
- **Sustainability-Driven Design Competitions** – Encouraging collaboration between designers, textile manufacturers, and researchers through innovation grants and competitions could accelerate the development of aesthetically superior sustainable textiles.
- **Industry-Led Branding and Marketing Strategies** – Positioning sustainable textiles as premium, high-performance options, rather than eco-compromises, could reshape consumer perceptions and drive wider adoption.
- **Eco-Labelling and Certification for Aesthetic Quality** – Introducing design-centred sustainability certifications (e.g., assessing dye longevity, textural richness, and customisation potential) could help clients and designers make informed choices without sacrificing design flexibility.

These strategies bridge the gap between sustainability and aesthetics, ensuring that sustainable textiles can compete with conventional materials in both design and functionality.

Finding 18 (F18): Certification and Trustworthiness

Certifications play a crucial role in guiding designers toward sustainable textile choices, yet inconsistencies, unclear criteria, and supplier transparency issues often undermine their reliability. The literature highlights that certifications like OEKO-TEX, GOTS, and Cradle to Cradle provide sustainability benchmarks, but the lack of a unified, enforceable certification system results in uncertainty and scepticism (Chapter 3, pp. 79–80).

Interview findings reinforce these concerns, with designers reporting that some certifications do not account for full lifecycle sustainability, while others lack proper verification mechanisms (Chapter 7, pp. 247–250). The reliability of certifications is further complicated by supply chain opacity, as explored in Chapter 6 (pp. 190–193). The following key issues were identified:

F18.1 Unclear Certification Standards and Lack of Enforcement

- Multiple sustainability certifications exist, but the criteria vary widely, making it difficult to compare textiles and assess which meet the highest sustainability standards.
- Some certifications focus only on raw material sourcing but fail to address energy consumption, production waste, and recyclability.
- Weak monitoring and enforcement mechanisms allow greenwashing, where suppliers misrepresent their textiles as more sustainable than they actually are.

F18.2 Reliance on Supplier Claims Due to Certification Gaps

- Designers reported difficulty verifying sustainability credentials because many certifications do not require full supply chain transparency.
- When certifications lack clarity, designers must rely on manufacturers' claims, which may be biased, incomplete, or misleading.
- Some designers spend extra time conducting independent research, leading to delays in project timelines and increased sourcing costs.

F18.3 Market and Client Perception Issues

- Clients often do not understand the differences between various sustainability certifications, making it harder for designers to justify eco-premium pricing.
- Unreliable certifications contribute to low consumer trust in sustainable textiles, reinforcing the perception that sustainability is an optional rather than a required feature.
- In contrast, industries with strong, standardised eco-certifications (e.g., FSC certification for wood, Fairtrade for agriculture) have improved market trust and adoption rates.

Trade-Offs: Certification vs. Market Accessibility:

Designers face difficult trade-offs when certification criteria, accessibility, and client expectations clash:

- In residential projects, clients often trust brand marketing rather than certification labels, leading designers to prioritise supplier reputation over formal sustainability credentials.
- In large-scale commercial projects, developers may demand certified materials, but cost and availability may push designers toward uncertified but seemingly sustainable options.
- In budget-sensitive projects, designers may opt for less-certified materials that still align with sustainability goals but lack full traceability or third-party verification.

This fragmented certification landscape creates barriers to industry-wide adoption of sustainable textiles and slows down the transition to eco-standardised procurement practices.

Implications and Recommendations: To improve certification reliability, industry trust, and supply chain transparency, the following actions are recommended:

- Develop a Global Standardised Textile Certification System
    - A single, industry-wide certification framework should consolidate existing systems, ensuring uniform sustainability benchmarks across the textile sector.
    - Certifications should cover entire lifecycle assessments, including resource extraction, production emissions, durability, and end-of-life recyclability.
- Strengthen Certification Oversight and Accountability
    - Introduce mandatory third-party auditing for sustainability claims to reduce greenwashing risks.
    - Establish penalties for misleading sustainability claims, similar to existing false advertising laws in consumer goods sectors.
- Increase Certification Accessibility and Industry Awareness
    - Launch educational initiatives to help designers and clients better understand what each certification represents.

    - Create an online open-access certification database, where designers can compare textile certifications, supplier credentials, and third-party sustainability scores.
- Use Policy Models from Other Industries
    - Implement eco-labelling initiatives similar to the EU's Energy Labelling Directive, which ranks products based on sustainability criteria.
    - Apply lessons from sustainable architecture certification programs (e.g., LEED and BREEAM) to develop procurement guidelines for sustainable textiles.
    - Encourage government-backed sustainable procurement policies, where publicly funded projects must use certified sustainable textiles to drive industry-wide adoption.

Finding 19 (F19): Cost Considerations

Cost remains one of the most significant barriers to the widespread adoption of sustainable textiles in interior design. The literature highlights that eco-friendly materials often come with a higher upfront cost due to:

- Ethically sourced raw materials, which require labour-intensive and environmentally responsible production processes.
- Strict sustainability certifications, adding compliance costs for manufacturers.
- Lower production volumes, which prevent sustainable textiles from achieving the economies of scale seen in conventional mass-produced fabrics (McQuillan, 2020; Koskela and Pettersson, 2018; Chapter 3, pp. 74–75).

Interview findings reinforce these challenges, as designers reported that cost constraints often force them to prioritise affordability over sustainability, particularly in budget-sensitive projects (Chapter 7, pp. 224–230). These financial constraints are further shaped by broader market conditions and client expectations, as examined in Chapter 6 (pp. 181–185). Three primary cost-related barriers emerged:

F19.1 Premium Pricing of Sustainable Textiles

- Sustainable textiles are priced significantly higher than conventional alternatives, making them difficult to justify in projects with strict budget constraints.
- Cost barriers are especially pronounced in commercial and large-scale projects, where material selection is heavily influenced by financial considerations.

F19.2 Limited Market Availability and Higher Procurement Costs

- Sustainable textiles are not as widely available as conventional materials, leading designers to source from niche suppliers that charge higher prices due to lower production volumes.
- Limited bulk-order discounts increase per-unit costs, making eco-textiles even less competitive in large-scale interior projects.

F19.3 Client Reluctance Due to Cost Concerns

- Even when clients express interest in sustainable materials, they hesitate to approve selections due to perceived cost disadvantages.
- Some clients view sustainable textiles as luxury or niche options, rather than mainstream materials with long-term financial and environmental benefits.

Addressing Cost Barriers: Policy and Industry Strategies:

While financial incentives (e.g., tax credits and subsidies) are necessary, they alone will not resolve the cost gap. A combination of policy reforms, industry-scale collaborations, and awareness campaigns is needed to make sustainable textiles economically viable.

- **Policy Incentives and International Best Practices**
  - EU Sustainability Directives: The European Union has successfully implemented eco-labelling schemes (e.g., the EU Ecolabel for textiles) and mandatory corporate sustainability reporting, which could be adapted for global textile markets.
  - US Tax Incentives: In the United States, LEED (Leadership in Energy and Environmental Design) provides tax benefits to projects that incorporate sustainable materials, a model that could be applied to interior design.

- Sustainable Public Procurement Policies: Governments could introduce mandatory sustainability criteria for publicly funded projects (e.g., government offices, schools, hospitals) to normalise eco-friendly textile adoption.

- **Industry-Level Strategies Beyond Subsidies**
  - Scaling Up Sustainable Textile Production: Manufacturers should be incentivised to increase production volumes, reducing per-unit costs and making eco-friendly textiles more financially competitive.
  - Bulk Purchasing and Supplier Incentives: Industry organisations could establish collaborative procurement models, where designers collectively purchase sustainable textiles at discounted rates, reducing costs for smaller firms.
  - Eco-Labeling and Consumer Awareness: Brands that prioritise sustainable textiles should receive marketing incentives, positioning them as high-performance, cost-effective alternatives rather than niche or premium products.

The selection of sustainable textiles is influenced by multiple intersecting factors, including environmental impact, durability, aesthetic flexibility, certification reliability, and cost considerations. By prioritising clear sustainability criteria, designers can make informed, balanced decisions that align with both environmental responsibility and industry demands.

Addressing the challenges outlined in this section enhances the long-term viability of sustainable textiles in the interior design sector. By improving certification transparency, investing in high-performance eco-materials, and introducing financial incentives, sustainable textiles can become widely accessible and functionally competitive with conventional materials.

These findings reinforce Objective 4 (OB4) by demonstrating that establishing robust selection criteria strengthens sustainable decision-making, helping to mainstream eco-friendly textiles in interior design practices. By ensuring that sustainability is evaluated alongside performance, cost, and aesthetics, these criteria provide a structured framework for integrating sustainability into everyday material choices.

Table 36 summarises key findings and proposed actions for sustainable textile selection.

Finding	Supporting Literature	Interview Insights	Proposed Actions for Enhanced Adoption	Responsibility	Timeframe
F15	Lifecycle assessments for energy, water, and emissions (Ch. 3, pp. 68–75).	Designers prioritize LCAs to evaluate sustainability (Ch. 7, pp. 172–174).	Develop accessible LCA tools tailored to interior designers; Offer CPD training on LCA use.	Industry organizations, policymakers, academia	Short-term (training), Medium-term (tool development)
F16	Durable textiles minimize waste and align with sustainability goals (Ch. 4, pp. 87–93).	Designers and clients value performance alongside sustainability (Ch. 7, pp. 174–176).	Promote durability as a key sustainability factor in design education and CPD programs; Develop new blended sustainable fibres to improve longevity.	Manufacturers, industry researchers, educators	Medium-term (education), Long-term (fiber R&D)
F17	Sustainable textiles face design and aesthetic limitations (Ch. 4, pp. 87–93).	Designers struggle to balance aesthetics and sustainability (Ch. 7, pp. 174–176).	Invest in R&D for enhanced colour, texture, and print quality in sustainable textiles; Incorporate client and designer feedback into textile development.	Manufacturers, R&D institutions, textile suppliers	Long-term

Finding	Supporting Literature	Interview Insights	Proposed Actions for Enhanced Adoption	Responsibility	Timeframe
F18	Certifications like GOTS and OEKO-TEX guide selection but lack consistency (Ch. 3, pp. 70–72).	Designers find certifications inconsistent and unreliable (Ch. 7, pp. 172–174).	Standardize global textile certifications; Improve transparency in certification criteria and supply chain data.	Policy bodies, certification agencies, industry coalitions	Short-term (policy reforms), Medium-term (implementation)
F19	High costs limit sustainable textile use (Ch. 3, pp. 68–75).	Budget constraints force compromises on sustainability (Ch. 7, pp. 174–176).	Introduce tax incentives and subsidies; Encourage industry collaborations to scale up production and reduce costs.	Government policymakers, manufacturers, trade associations	Short-term (incentives), Medium-term (scaling production)

Table 36: Key Findings and Proposed Actions for Sustainable Textile Selection.

8.1.5 Opportunities for Enhancing Sustainability Literacy and Policy Support (OB5)

This section addresses Objective 5 (OB5) by exploring strategies to improve sustainability literacy and strengthen policy support within the interior design industry. While sustainability has gained recognition as a key design consideration, designers often struggle with limited access to relevant education, unclear regulatory frameworks, and fragmented industry collaboration.

By addressing gaps in knowledge, regulatory barriers, and weak industry engagement, the interior design profession can move towards making sustainability a core standard rather than an optional practice. This section outlines three key areas of opportunity and provides targeted recommendations for fostering sustainability literacy and improving policy mechanisms.

Finding 20 (F20): Gaps in Sustainability Literacy

Sustainability literacy is a crucial enabler of sustainable design practices, yet findings indicate that many interior designers lack specialised knowledge in sustainable material selection, lifecycle assessments, and regulatory compliance. Without structured sustainability education, designers struggle to integrate environmentally responsible practices into their projects effectively.

Both literature and interview data highlight that while sustainability is increasingly emphasised in design education, the depth and consistency of training remain inadequate. This gap limits designers' ability to make evidence-based sustainability decisions, contributing to inconsistent adoption of sustainable practices.

Key Issues Identified:

Insufficient Integration of Sustainability in Interior Design Education

- Literature suggests that sustainability is often treated as an elective rather than a core requirement in interior design programs (Chapter 6, pp. 167–170).
- Many university curricula fail to include applied sustainability training, focusing instead on theoretical discussions rather than practical, industry-relevant skills. The lack of structured sustainability education also reflects broader gaps in sustainable decision-making, as discussed in Chapter 4 (pp. 98–99).
- Interview participants expressed frustration with the lack of standardised sustainability education, stating that most formal training focuses on aesthetics and functionality rather than environmental impact (Chapter 7, pp. 211–215).

Gaps in Key Knowledge Areas

Interview findings indicate that designers frequently struggle with the following aspects of sustainability:

- Lifecycle Assessments (LCA) – Many designers lack training in using LCA tools, which are essential for assessing the environmental footprint of materials and products.
- Sustainable Material Sourcing – Limited knowledge about certification schemes, supplier transparency, and material traceability makes it difficult to verify sustainability claims.
- Regulatory Compliance – Many designers are unfamiliar with sustainability legislation, certification frameworks, and policy incentives, leading to hesitant adoption of sustainable materials.
- Waste Reduction and Circular Design – Few designers receive training on end-of-life textile management, circular economy strategies, and upcycling methods.

Other design-related industries have successfully integrated sustainability literacy into both education and professional training:

- **Sustainable Architecture** – Architecture programs have compulsory sustainability modules covering energy efficiency, material selection, and green certifications such as BREEAM and LEED. CPD programs also offer specialised training in passive design, embodied carbon, and lifecycle thinking.
- **Product Design and Industrial Design** – Many product design courses now embed sustainability in every stage of the design process, teaching material science, eco-labelling standards, and ethical manufacturing as core skills.
- **Textile and Fashion Design** – Leading institutions are introducing circular design principles, ethical sourcing guidelines, and low-impact production methods to align with global sustainability targets.

In contrast, interior design training often lags behind, treating sustainability as a secondary consideration rather than a core competency. This discrepancy suggests that interior design education must evolve to meet the industry's growing sustainability demands.

Implications and Recommended Actions:

Addressing sustainability literacy gaps in interior design requires systematic improvements at both the educational and professional development levels. While

architecture and product design have successfully embedded sustainability training, interior design lags behind, leaving many professionals without the necessary tools to navigate sustainable material selection, regulatory compliance, and lifecycle assessments. To bridge this gap, the following targeted actions are recommended:

Action Area	Proposed Solution	Stakeholders Responsible	Timeframe
University-Level Education Reform	Integrate mandatory sustainability modules into interior design programs, covering LCA, sustainable material sourcing, and circular design.	Design schools, accreditation bodies, policymakers	Medium-term
CPD Training for Practicing Designers	Offer specialized CPD courses in sustainability, focusing on material selection, certification literacy, and regulatory compliance.	Professional organizations (e.g., BIID, IIDA), sustainability consultancies	Short-term
Cross-Disciplinary Collaboration	Establish partnerships between interior design, architecture, and product design disciplines to share sustainability education strategies.	Industry associations, universities, policymakers	Long-term
Online and Open-Access Sustainability Resources	Develop an open-access knowledge hub offering guides, toolkits, and webinars on sustainable design best practices	Industry stakeholders, sustainability NGOs, research institutions	Short-term

Table 37: Strategies for Enhancing Sustainability Literacy in Interior Design.

Finding 21 (F21): Limited Policy Support and Advocacy

Government policies and industry regulations play a pivotal role in shaping sustainable practices in interior design. However, both literature and interview findings indicate that existing policies lack clarity, financial support, and enforceability, making it difficult for interior designers to consistently apply sustainable principles in practice. While some industries, such as construction and fashion, have benefited from targeted sustainability policies, interior design remains underrepresented in regulatory discussions.

This section examines the current policy gaps and identifies best practices from other industries that could be adapted to interior design. Table 38 provides a comparison of policy models from construction, fashion, and product design, highlighting their relevance for sustainable interior textiles. Table 39 presents recommended policy actions, outlining specific steps policymakers, industry leaders, and advocacy groups can take to drive sustainable practices in interior design.

Gaps in Policy Implementation:

The literature highlights that while various sustainability policies exist, their impact is limited due to:

- Lack of financial incentives: Unlike sustainable construction, where tax credits and subsidies encourage eco-friendly materials, sustainable textiles remain largely unsupported (Chapter 3, pp. 76–78).
- Inconsistent enforcement: Policies encouraging sustainability in interior design often function as voluntary guidelines rather than mandatory standards, leading to uneven adoption across the industry. The challenges associated with policy implementation are further compounded by financial constraints and regulatory uncertainty, as examined in Chapter 6 (pp. 191–194).
- Fragmented certification systems: Unlike sectors such as architecture and product design, where internationally recognised certifications (e.g., BREEAM, LEED, Cradle to Cradle) guide material selection, interior design lacks a unified sustainability certification framework.

Interview Findings: Policy Barriers for Interior Designers:

Interviews reveal that designers recognise the potential of policy-driven sustainability but struggle with unclear regulations and the absence of advocacy platforms (Chapter 7, pp. 232–236). Key challenges include:

- Unclear sustainability criteria: Many designers reported that government policies lack specific guidance on how to integrate sustainability into interior projects, creating uncertainty.
- Absence of financial support: Unlike industries such as fashion and construction, where government funding programs support material innovation, sustainable interior textiles remain cost-prohibitive without financial incentives.
- Lack of designer representation in policy discussions: Several participants noted that policymakers rarely consult interior designers, resulting in regulations that fail to reflect industry realities.

Policy Lessons from Other Industries:

Several industries have successfully used policy interventions to drive sustainability adoption. Interior design could benefit from adapting these international best practices (see Table 38):

Industry	Policy Model	Key Takeaways for Interior Design
Sustainable Construction	BREEAM (UK), LEED (USA)	Establishing mandatory sustainability certification systems encourages widespread adoption of eco-friendly materials.
Fashion Industry	EU's Circular Economy Strategy for Textiles	Government-led waste reduction targets and extended producer responsibility (EPR) schemes could incentivize interior textile manufacturers to adopt sustainable sourcing.
Product Design and Manufacturing	EU Ecolabel, Cradle to Cradle Certification	Transparent eco-labelling systems increase consumer confidence and encourage sustainable purchasing decisions.

Table 38: Policy Models from Other Industries and Their Relevance to Interior Design.

These examples demonstrate how clear policy interventions can drive sustainable material adoption and enhance industry accountability. Adapting such frameworks to interior design could significantly strengthen sustainability efforts.

Implications and Recommended Actions: To enhance policy effectiveness in promoting sustainability within interior design, the study recommends the following targeted interventions, outlined in Table 39.

Action Area	Proposed Solution	Stakeholders Responsible	Timeframe
Adoption of Best Practices from Other Industries	Adapt policies from sustainable construction (e.g., BREEAM), fashion (e.g., EU Circular Textiles Strategy), and product design (e.g., Ecolabel initiatives) to interior design.	Policymakers, industry regulators, sustainability consultants	Medium-term
Financial Incentives for Sustainable Textiles	Implement tax incentives, grants, and funding schemes similar to EU's Green Public Procurement (GPP) guidelines to encourage sustainable textile use.	Government agencies, trade associations, policymakers	Short-term
Mandatory Sustainability Standards and Certifications	Establish clear, enforceable guidelines requiring sustainability assessments and transparency in material sourcing, modelled after LEED and BREEAM frameworks.	Regulatory bodies, certification organizations, industry stakeholders	Long-term
Industry-Led Advocacy and Collaboration	Create platforms where designers, manufacturers, and policymakers can collaborate on realistic sustainability regulations and enforcement mechanisms.	Professional associations, sustainability NGOs, government task forces	Ongoing

Table 39: Recommended Policy Actions for Sustainable Interior Design.

By adapting successful policy frameworks from other industries, the interior design sector can benefit from proven sustainability strategies, making eco-friendly textiles more accessible, affordable, and widely adopted. To achieve meaningful policy impact, collaboration between policymakers, industry leaders, and designers is essential in developing enforceable standards, financial incentives, and clear sustainability criteria.

Through financial support, certification reforms, and advocacy initiatives, sustainable textiles could shift from a niche offering to an industry standard, ensuring long-term environmental and economic benefits for both designers and clients.

Finding 22 (F22): Opportunities for Cross-Sector Collaboration

Cross-sector collaboration is essential for advancing sustainability literacy and strengthening policy support within the interior design industry. The literature emphasises that effective partnerships between designers, manufacturers, policymakers, and academic institutions can accelerate the adoption of sustainable materials, best practices, and regulations (Chapter 4, pp. 97–100). However, current collaboration efforts remain fragmented, limiting the widespread implementation of sustainability initiatives.

Interview findings reinforce these concerns, as designers expressed enthusiasm for industry collaboration but struggled to identify suitable partners (Chapter 7, pp. 237–241). Many participants noted that siloed industry structures and limited networking opportunities create barriers to effective knowledge exchange and joint sustainability projects. These collaboration challenges are further influenced by structural barriers within the industry, as explored in Chapter 6 (pp. 195–198).

This section explores collaboration challenges, highlights successful cross-sector partnerships from related industries, and presents actionable strategies for strengthening collaboration in sustainable interior design. Table 40 outlines potential partnership models, while Table 41 details specific collaborative initiatives that could drive sustainability efforts forward.

Challenges in Establishing Cross-Sector Collaboration:

Despite the growing recognition of sustainability's importance, cross-sector collaboration in interior design faces several challenges:

- Lack of coordinated industry efforts – Unlike architecture and product design, interior design lacks formalised sustainability coalitions, making it difficult to establish widespread sustainability initiatives.
- Limited engagement between policymakers and industry leaders – Designers report minimal consultation in regulatory decision-making, leading to misaligned policies that do not reflect industry needs.
- Insufficient academic-industry partnerships – Universities and research institutions play a key role in sustainability innovation, but few formal collaborations exist between academia and interior design professionals.

Interview Findings: Barriers to Collaboration:

Designers recognise the value of collaboration but struggle to engage with relevant stakeholders (Chapter 7, pp. 167–170). Key barriers include:

- **Limited networking platforms** – Many designers lack access to sustainability-focused networks where they can engage with policymakers, manufacturers, and researchers.
- **Disconnect between academia and industry** – Several participants emphasised that sustainability research does not always align with practical design needs, making it difficult to apply academic findings in real-world projects.
- **Lack of shared knowledge platforms** – Designers noted the absence of centralised digital resources where they could access sustainability research, certification updates, and material innovations.

Lessons from Successful Cross-Sector Collaborations:

Several industries have successfully leveraged collaborative partnerships to advance sustainability goals. Interior design could adapt these models to bridge the gap between research, regulation, and practice (see Table 40).

Industry	Collaboration Model	Key Takeaways for Interior Design
Sustainable Architecture	LEED (Leadership in Energy and Environmental Design	Industry-wide coalition that standardizes sustainability benchmarks, promoting eco-friendly design choices.
Textile and Fashion Industry	Ellen MacArthur Foundation's Circular Textiles Initiative	Collaboration between designers, brands, and policymakers to establish a circular economy model for textiles.
Sustainable Product Design	Cradle to Cradle Certified® Partnership	Industry-wide standard where manufacturers and designers collaborate to create closed-loop material systems.

Table 40: Cross-Sector Collaboration Models and Their Relevance to Interior Design.

These collaborations demonstrate how formalized partnerships between industry leaders, researchers, and policymakers can create clear sustainability frameworks and drive systemic change.

Implications and Recommended Actions: To maximize the impact of cross-sector collaboration, formalized partnerships, knowledge-sharing platforms, and industry-wide coalitions are necessary. Table 41 outlines specific initiatives to facilitate effective collaboration within interior design.

Action Area	Proposed Initiative	Stakeholders Responsible	Timeframe
Industry-Wide Sustainability Coalition	Establish a sustainability-focused organization for interior design (similar to LEED in architecture) to set certification standards and advocacy strategies.	Industry associations, policymakers, sustainability NGOs	Long-term
Academic-Industry Research Partnerships	Develop joint sustainability research projects between universities, manufacturers, and design firms to address practical sustainability challenges.	Universities, research institutions, manufacturers, design firms	Medium-term
Sustainability Knowledge-Sharing Platform	Create a centralized digital platform where designers can access sustainability research, policy updates, and material innovations.	Professional organizations, sustainability consultants, government agencies	Short-term
Policymaker-Designer Engagement Forums	Organize annual summits where designers and policymakers can collaborate on sustainable regulations that reflect industry needs.	Trade associations, government bodies, design professionals	Ongoing

Table 41: Recommended Collaborative Initiatives for Sustainable Interior Design.

Cross-sector collaboration presents a critical opportunity for advancing sustainability in interior design. By learning from successful models in architecture, textiles, and product design, the interior design sector can establish structured partnerships that bridge the gap between research, regulation, and practical implementation.

Through formalised coalitions, knowledge-sharing platforms, and industry-academia partnerships, sustainability in interior design can transition from a fragmented effort to a unified movement, ensuring long-term environmental and economic benefits.

By improving sustainability literacy, strengthening policy support, and fostering collaboration, interior design can transition from a voluntary sustainability approach to an industry-wide standard.

1. Enhancing sustainability literacy through CPD programs, university integration, and research partnerships will equip designers with the knowledge to prioritise sustainability in decision-making.
2. Strengthening policy frameworks through financial incentives, regulatory reforms, and sustainability-driven procurement policies will increase the accessibility and affordability of sustainable materials.
3. Encouraging cross-sector collaboration by creating sustainability networks, industry-wide coalitions, and designer-policymaker engagement platforms will ensure shared accountability for achieving long-term sustainability goals.

These initiatives will help move sustainability from a fragmented effort to an integrated practice, ensuring that interior designers are empowered to lead the industry's sustainability transformation. To provide a structured overview, Table 42 summarises the key findings and proposed actions, specifying the responsible stakeholders and expected implementation timelines.

Finding	Key Issues Identified	Proposed Actions	Responsible Stakeholders	Implementation Timeline
Finding 20: Addressing Gaps in Sustainability Literacy	Limited access to structured sustainability training; outdated curricula in interior design programs	Expand CPD training to include lifecycle assessments, material sourcing, and regulatory compliance	Design associations, universities, CPD providers	Short-term
		Integrate sustainability as a core subject in interior design education	Universities, accreditation boards, professional bodies	Medium-term
		Develop joint sustainability research projects between academia and design firms	Universities, research institutions, design firms	Long-term
Finding 21: Strengthening Policy Support and Industry Advocacy	Insufficient financial incentives for sustainable materials; lack of regulatory enforcement	Introduce tax credits, grants, and subsidies to make sustainable materials more affordable	Government agencies, policymakers, industry organizations	Medium-term
		Establish mandatory sustainability procurement guidelines for public and corporate interior design projects	Government bodies, professional organizations	Long-term
		Create platforms for policy-industry collaboration to co-develop	Trade organizations, policymakers,	Short-term

Finding	Key Issues Identified	Proposed Actions	Responsible Stakeholders	Implementation Timeline
Finding 22: Opportunities for Cross-Sector Collaboration	Lack of formal collaboration between designers, manufacturers, and sustainability experts	Establish a sustainability-focused coalition for interior design, similar to LEED in architecture	Industry associations, policymakers, NGOs	Long-term
		Develop joint research partnerships between universities and industry stakeholders	Universities, textile manufacturers, interior designers	Medium-term
		Launch a centralized digital sustainability knowledge hub for the interior design industry	Sustainability organizations, government agencies, research institutions	Short-term
		Organize annual sustainability summits where policymakers and designers align sustainability regulations	Trade associations, professional organizations, government bodies	Ongoing

Table 42: Summary of Key Opportunities for Enhancing Sustainability Literacy and Policy Support.

8.2 Practical Applications of Sustainable Knowledge

This chapter translates the findings from Chapter 7 into practical applications, addressing the key challenges identified in sustainable interior design practice, education, and policy. Throughout the research, designers identified key challenges in adopting sustainable

practices, including gaps in sustainability literacy, a lack of industry-wide standards, and limited policy support. These barriers hinder the effective integration of sustainability into interior design decision-making.

The practical applications outlined in this section aim to bridge these gaps by:

- Enhancing industry standards through the adoption of eco-certifications, lifecycle analysis tools, and improved supply chain transparency (Findings from Chapter 7, pp. 244-250).
- Strengthening sustainability education through curriculum reform, CPD (Continuous Professional Development) programs, and mentorship initiatives (Findings from Chapter 7, pp. 211-218).
- Advocating for policy interventions that provide financial incentives, promote transparency, and standardise sustainability benchmarks (Findings from Chapter 7, pp. 230-237).

By linking these proposed actions to real-world industry challenges, this section demonstrates how sustainability can shift from an optional consideration to an essential practice in interior design. The following subsections explore how professional standards, educational initiatives, and policy advocacy can work together to drive long-term sustainability improvements in the field.

8.2.1 Professional Contexts and Industry Standards

The integration of sustainability into professional interior design practice requires clear industry standards, reliable decision-making tools, and stronger regulatory enforcement. Findings from Chapter 7 (pp. 244–250) -as the section on Textile Sourcing and Supply Chain and Collaboration with Textile Designers aligns with this discussion- highlight that designers increasingly seek structured sustainability benchmarks to guide material selection, reduce environmental impact, and improve accountability within supply chains. However, achieving consistency and widespread adoption remains a challenge due to:

- Fragmented certification systems, leading to inconsistencies in sustainability criteria.
- Limited adoption of Lifecycle Analysis (LCA) tools, primarily due to cost, complexity, and lack of industry-wide training.

- Weak enforcement of supply chain transparency, causing designers to rely on unverifiable sustainability claims.

To address these challenges, this section outlines key strategies to strengthen sustainability standards, improve decision-making tools, and ensure regulatory compliance, aligning with Objective 5 (OB5) of this research.

Standardising Eco-Certifications for Greater Credibility

Eco-certifications such as Global Organic Textile Standard (GOTS), OEKO-TEX, Cradle to Cradle (C2C), and LEED (Leadership in Energy and Environmental Design) play a crucial role in verifying the sustainability credentials of materials. These certifications enhance supply chain transparency and offer designers a structured approach to material selection, ensuring compliance with environmental and ethical standards.

However, inconsistencies across certifying bodies and regional variations in sustainability criteria create significant challenges for interior designers. Designers expressed scepticism about certification consistency (Chapter 7, pp. 244–247), underscoring the need for a centralised certification system to enhance reliability and trust. As highlighted in Chapter 7 (pp. 244-250), these discrepancies lead to confusion, reliance on supplier claims, and increased risks of greenwashing. One designer explained:

"*We often have to take a supplier's word for it, as verifying sustainability claims across different materials is nearly impossible with the current certification landscape."* (Interview with D-16, 2023).

Why is Certification Standardisation Necessary?

Currently, eco-certification schemes remain fragmented, leading to a lack of universal criteria for sustainable textiles. This makes it difficult for designers to verify material authenticity and compare certifications across markets. Without global alignment and regulatory enforcement, sustainability verification remains unreliable and inconsistently applied. Interior Designers also face the challenge of contradictory certification requirements across different regions, making global compliance difficult; the lack of digital verification tools, forcing designers to rely on supplier-provided claims; and the prevalence of greenwashing, increasing scepticism toward sustainability labels and making it harder to identify genuinely sustainable materials.

Best Practice: Cross-Sector Certification Standardisation

Several industries have successfully implemented standardised sustainability certification models that could serve as a blueprint for textile certification in interior design. The Forest Stewardship Council (FSC) sets internationally recognised sustainability standards for timber, ensuring traceability and responsible sourcing. Similarly, the Building Research Establishment Environmental Assessment Method (BREEAM) provides a unified sustainability framework for buildings, widely adopted in architecture and construction. Additionally, the Textile Exchange's Preferred Fibre and Materials Matrix offers an industry-recognised classification system for sustainable textiles, categorising fibres based on their environmental and social impact.

Organisations such as BIID (British Institute of Interior Design), RIBA (Royal Institute of British Architects), and USGBC (U.S. Green Building Council) have set important benchmarks for sustainability in design, but their enforcement role remains limited. Learning from successful models like FSC (Forest Stewardship Council) for timber and BREEAM (Building Research Establishment Environmental Assessment Method) for buildings, similar global textile certification standards could improve credibility and accessibility. Moving beyond voluntary adoption, these bodies must take an active role in certification compliance and sustainability training:

- BIID and RIBA should integrate sustainability certification into accreditation requirements for professional designers, ensuring that sustainability literacy is a core competency.
- Collaboration with policymakers is necessary to align certification adoption with government procurement policies, ensuring that certified sustainable materials become the industry standard.
- Development of digital verification tools that allow designers to track material sustainability claims in real time, reducing reliance on supplier-provided data.

  Recommended Actions:

  - Short-Term (1–3 years): Develop a centralised database consolidating verified sustainable materials and certifications for industry-wide accessibility.
  - Medium-Term (3–6 years): Establish globally recognised certification criteria to ensure consistency and prevent greenwashing.

- Long-Term (6+ years): Implement mandatory certification compliance policies, requiring all textiles used in interior design to meet verified sustainability benchmarks.

However, ensuring the credibility of sustainability certifications is only one part of the solution. To further support data-driven decision-making, interior designers must also integrate Lifecycle Analysis (LCA) tools into their workflows.

Enhancing Lifecycle Analysis (LCA) for Data-Driven Material Selection

Why is LCA Adoption Crucial in Interior Design?

While Lifecycle Analysis (LCA) tools are widely adopted in architecture and construction, they remain underutilised in interior design. Despite their potential to provide quantifiable sustainability metrics, findings from Chapter 7 (pp. 218–221; Knowledge and Expertise) indicate that many firms do not integrate LCA tools into their workflows due to:

- **Cost barriers**: LCA software licenses and detailed environmental impact assessments require significant financial investment.
- **Time constraints**: Conducting LCA assessments adds complexity to the design process, making it difficult to integrate within tight project timelines.
- **Limited awareness and CPD training**: Many professionals lack formal CPD training on LCA tools, limiting their ability to use these systems effectively.
- **Lack of perceived ROI**: Firms hesitate to invest in LCA tools due to uncertain financial returns, despite long-term benefits such as waste reduction, sustainability compliance, and operational cost savings.
- **Regulatory Ambiguity:** Unlike in architecture, where LCAs are increasingly linked to sustainability certifications, there are no mandatory LCA reporting requirements in interior design—reducing incentives for adoption.

To encourage widespread LCA adoption, industry associations and software developers should focus on making LCA tools more accessible, cost-effective, and user-friendly. Existing Digital Solutions for LCA Integration include:

- **Building Information Modelling (BIM) software**: Programs such as One Click LCA and Tally allow designers to assess carbon footprints, compare material choices, and track recyclability metrics at the material level.
- **Streamlined LCA Databases:** Efforts to develop industry-wide digital repositories of pre-verified environmental impact data can reduce the need for manual LCA assessments.
- **Related Circular Economy Initiatives:** Material Passport Systems complement LCA tools by documenting material composition, recyclability, and reuse potential, facilitating circular economy strategies in the built environment. These initiatives ensure that material lifecycles are extended, providing a framework for traceability and sustainable sourcing. By integrating Material Passport Systems into design workflows, interior designers can access reliable data on material performance and environmental impact, reinforcing transparency across the supply chain.

Recommended actions for expanding LCA adoption:

- Short-Term (1–3 years):
  - Develop simplified LCA tools tailored to interior designers, reducing technical complexity and financial barriers.
  - Introduce pilot programs within design firms to demonstrate practical applications and encourage early adoption.
- Medium-Term (3–6 years):
  - Expand CPD training programs on LCA software through BIID and RIBA.
  - Promote software incentives, such as government subsidies for LCA tool adoption, to lower financial barriers.
- Long-Term (6+ years):
  - Mandate LCA reporting as a requirement for sustainability certifications, similar to energy performance assessments in architecture.
  - Establish policy frameworks linking LCA adoption to procurement guidelines, requiring material-level LCA data in large-scale commercial projects.

However, improving material transparency is not just about certifications and LCAs—ensuring accountability in supply chains is equally critical.

Strengthening Supply Chain Transparency through Collaboration

Collaboration among designers, manufacturers, and policymakers is critical to improving material transparency and eliminating greenwashing risks. Findings from Chapter 4 (pp. 85–90) highlight that fragmented supply chains make it difficult for designers to verify sustainability claims, often forcing them to rely on unverified supplier data. One successful initiative addressing this challenge is the Textile Exchange's Preferred Fibre and Materials Matrix, which categorises textiles based on independently verified sustainability data. Such models highlight how industry-wide transparency initiatives can provide designers with credible sustainability information. These transparency and collaboration challenges are further compounded by supply chain issues, as discussed in Chapter 6 (pp. 191–194). The industry's fragmented structure and the lack of standardised certification systems create significant barriers to effectively integrating sustainability across the design and manufacturing process.

Proposed industry collaborations for greater transparency include cross-sector partnerships connecting designers with verified material suppliers, digital transparency platforms for tracking material origins, and blockchain-based verification systems ensuring real-time authentication of sustainability claims.

Emerging Technologies: Blockchain for Transparency: Blockchain technology has gained traction as a potential solution for real-time verification of supply chain data. However, its implementation remains challenging due to adoption costs and the need for industry-wide cooperation. While promising, more research is needed on its large-scale feasibility in the interior design sector.

Recommended Actions:

- Short-Term (1–3 years): Establish traceable material sourcing agreements through industry partnerships.
- Medium-Term (3–6 years): Develop ethical sourcing standards, requiring verified sustainability data from textile suppliers.
- Long-Term (6+ years): Implement mandatory sustainability reporting policies, ensuring all textile producers disclose full lifecycle data.

The following Table 43 summarises the key actions needed to implement these strategies, detailing their intended impact, responsible stakeholders, and projected implementation timelines.

Component	Description	Intended Outcome	Responsible Stakeholder(s)	Timeframe
Standardised Certifications	Adoption of recognized eco-certifications (GOTS, OEKO-TEX, LEED) as sustainability benchmarks.	Reduces greenwashing risks and improves material transparency.	BIID, RIBA, Policy Makers	Medium-Term (3–6 years)
Lifecycle Analysis (LCA) Tools	Integration of LCA software into design workflows, enabling designers to assess carbon footprint, water use, and recyclability.	Supports data-driven material selection, promoting long-term sustainability outcomes.	Interior Designers, Software Developers	Short-Term (1–3 years)
Collaborative Supply Chain Transparency	Partnerships between designers, manufacturers, and policymakers to create verified material sourcing databases.	Improves supply chain accountability and sustainability verification.	Industry Associations, Manufacturers, Government Agencies	Long-Term (6+ years)

Table 43: Practical Applications for Professional Contexts.

8.2.2 Educational and Developmental Frameworks for Designers

Expanding sustainability literacy among interior designers is essential to aligning the profession with global sustainability objectives. Findings from Chapter 6 (pp. 140–150) highlight that while designers recognise the importance of sustainability, their ability to implement it effectively is often hindered by gaps in formal education, limited CPD opportunities, and a lack of interdisciplinary collaboration. Interview participants expressed concerns over the absence of structured sustainability training, particularly regarding

lifecycle assessments (LCAs), ethical material sourcing, and regulatory compliance. These challenges indicate that sustainability is not yet fully embedded as a professional standard in interior design practice.

To address these gaps, this section outlines four key strategies for enhancing sustainability literacy: (1) integrating sustainability into formal design education, (2) expanding CPD opportunities for practising designers, (3) developing mentorship and peer learning networks, and (4) fostering interdisciplinary collaboration. By embedding sustainability into both academic training and ongoing professional development, the interior design sector can ensure that sustainability shifts from being an optional specialisation to a core industry competency.

Integration of Sustainability in Design Education

Literature strongly supports the comprehensive integration of sustainability into interior design curricula, moving beyond basic environmental awareness to cover material sourcing, lifecycle assessments, and waste management. Chapter 3 (pp. 54–60) emphasises that interior design education often treats sustainability as a supplementary topic rather than a core pillar of training. To ensure that graduates are equipped with the skills required for sustainability-driven decision-making, design programs should embed sustainability principles across all stages of education, from foundational courses to advanced specialisation modules.

Best practices from related disciplines, such as architecture and product design, illustrate how sustainability can be successfully embedded in formal training. For example:

- Sustainable Architecture: The Royal Institute of British Architects (RIBA) mandates that accredited programs include climate literacy training, integrating carbon analysis and material impact assessments, and energy-efficient design strategies.
- Sustainable Fashion: Universities implementing circular economy modules in fashion design programs train students in supply chain transparency and zero-waste principles, demonstrating a transferable model for interior design education.

A similarly structured approach in interior design curricula would ensure that students graduate with strong sustainability competencies, enabling them to evaluate material choices critically, integrate lifecycle assessments, and adhere to ethical sourcing standards.

Recommended Actions: To strengthen sustainability education in interior design, a structured and comprehensive approach should be pursued. One key strategy is to develop a dedicated Sustainable Interior Design Curriculum, integrating in-depth modules on Lifecycle Assessments (LCAs), eco-certifications and regulatory frameworks, ethical sourcing, and circular design strategies. These components will equip designers with the necessary expertise to make informed, environmentally responsible decisions, ensuring that sustainability principles are embedded into their professional practice from the outset.

Additionally, sustainability coursework should become a mandatory requirement for accreditation, aligning with established models such as RIBA's climate literacy framework. By embedding sustainability training as a core component of accredited interior design degrees, educational institutions can ensure that future professionals are equipped with the knowledge and skills to navigate evolving environmental challenges and industry standards.

Beyond formal education, expanding interdisciplinary training opportunities is essential for broadening designers' perspectives on sustainability. Collaborations with environmental scientists, material engineers, and policymakers can provide valuable insights into material selection, lifecycle impacts, and policy-driven sustainability initiatives. Establishing these cross-disciplinary connections will enable designers to develop more holistic, evidence-based approaches to sustainability, ultimately fostering a more resilient and responsible design industry.

The Role of Continuous Professional Development (CPD) for Practising Designers

Beyond formal education, continuous professional development (CPD) is crucial for keeping practising designers informed about emerging sustainability trends, certifications, and evolving materials. Interview findings (Chapter 7; pp 211–218; Educational Backgrounds and Training Experiences) indicate strong demand for CPD programs that align with real-world industry needs. Currently, many designers rely on self-directed learning, which is often time-consuming and fragmented due to the lack of centralised, high-quality sustainability training. To make sustainability literacy a professional standard, CPD programs should be formally integrated into accreditation requirements, ensuring that sustainability knowledge is continuously updated rather than learned once and forgotten.

To enhance accessibility and engagement in sustainability education, professional bodies such as BIID, RIBA, and their international counterparts should expand online

Continuing Professional Development (CPD) programs through digital learning platforms, AI-driven tools, and interactive industry discussions.

First, virtual learning platforms should provide self-paced courses covering emerging sustainability standards and tools, ensuring that designers can integrate evolving best practices into their work. Additionally, AI-driven sustainability assessment tools could be developed to offer interactive training modules, allowing designers to simulate sustainability impact assessments and apply Lifecycle Assessment (LCA) principles in practical contexts. Finally, webinars and industry roundtables featuring material scientists, policymakers, and sustainability experts would facilitate knowledge exchange and critical discussions, ensuring that designers remain actively engaged with advancements in sustainable design methodologies.

Recommended actions:

- Integrate sustainability-focused CPD programs into professional accreditation and licensing renewal requirements (BIID, RIBA, LEED).
- Expand digital CPD platforms, ensuring equitable and global accessibility for practising designers.
- Develop AI-driven LCA training tools to enhance interactive learning and real-world application of sustainability principles.

Mentorship and Peer Learning Networks

Effective mentorship programs offer a structured way to bridge the gap between theoretical knowledge and applied practice, allowing less experienced designers to navigate sustainability complexities with expert guidance. Existing initiatives, such as the Sustainable Furnishings Council (SFC) mentorship program, have successfully demonstrated how structured mentorship can facilitate the adoption of sustainable practices. Interview findings (Chapter 7, p.250) reveal a lack of opportunities for collaborative learning, though designers value sharing experiences with peers, despite strong interest in collaborative learning models. Establishing mentorship programs where experienced designers guide peers can promote knowledge-sharing, foster a supportive community, and encourage continuous growth in sustainable practices.

The Sustainable Furnishings Council (SFC) runs mentorship programs pairing early-career designers with sustainability experts, allowing knowledge transfer through real-world project collaboration.

By implementing formal mentorship programs in interior design, professional organisations can strengthen peer learning, foster industry-wide sustainability adoption, and support emerging professionals in making informed material choices.

Recommended Actions:

- Establish mentorship frameworks where experienced designers guide peers in sustainable design adoption.
- Leverage professional associations (e.g., BIID, RIBA) to formalise peer learning platforms.
- Encourage cross-generational knowledge exchange, ensuring that sustainability expertise is transferred across career stages.

Cross-Disciplinary Learning and Collaborative Programs

Sustainability challenges in interior design do not exist in isolation—they require collaboration with experts in environmental science, materials engineering, and supply chain management. Findings from Chapter 4 (pp. 88–93) suggest that interdisciplinary partnerships provide designers with data-driven insights beyond supplier claims. This approach can help designers make more informed and holistic decisions. One interview participant (D-6) emphasised this by stating: *"Working with environmental scientists helped us select materials with verified sustainability credentials rather than relying solely on supplier claims".* This highlights the value of interdisciplinary collaboration in supporting evidence-based decision-making, ensuring designers have access to scientific data rather than marketing claims. In sustainable architecture, partnerships between engineers and designers have led to innovations such as passive cooling techniques and zero-carbon building materials. Similarly, sustainable fashion collaborations between textile scientists and designers have led to bio-fabricated leather alternatives. These cross-sector partnerships demonstrate how interior design could benefit from structured collaborations with material scientists and policy experts.

Recommendations for Implementation: To address these gaps in sustainability literacy, a multi-layered approach is needed.

1. **Introduce a Sustainable Interior Design Curriculum:**
   Develop a dedicated curriculum for design education programs that includes in-depth modules on sustainability topics such as material impact analysis, LCAs, eco-certifications, and ethical sourcing. Embedding these concepts in foundational training will prepare future designers to address the complex environmental, economic, and social dimensions of sustainability.

2. **Establish CPD Programs on Sustainability with Industry and Regulatory Support:**
   Professional organisations such as the British Institute of Interior Design (BIID) and the Royal Institute of British Architects (RIBA), in collaboration with sustainability experts and regulatory bodies, should develop structured CPD programs tailored to the evolving needs of interior designers. These programs should focus on:

   - Lifecycle Assessments (LCAs): Training designers on evaluating environmental impact across the material lifecycle.
   - Sustainable Material Standards and Certifications: Educating professionals on assessing material claims and avoiding greenwashing.
   - Regulatory Compliance and Policy Updates: Providing insights into national and international sustainability policies relevant to interior design.
   - Digital Tools for Sustainability Assessment: Introducing AI-driven tools and Building Information Modelling (BIM) sustainability modules to streamline sustainable decision-making.

   To ensure accessibility, these CPD programs should be offered through a combination of online platforms (webinars, self-paced courses), in-person workshops, and accredited certification programs. Making sustainability training a mandatory requirement for professional accreditation and license renewal (as seen in the LEED AP certification process) would further integrate sustainability as a core industry standard rather than an optional skill.

3. **Establish Mentorship and Peer Learning Networks:**
   Create a mentorship framework where experienced designers can guide peers in

adopting sustainable practices. Professional associations or educational institutions can support peer learning networks, providing platforms for designers to share insights, strategies, and best practices in sustainable design projects.

4. **Promote Cross-Disciplinary Learning Opportunities:**
   Encourage collaborations with experts in fields such as environmental science, engineering, and supply chain management. Partnering with universities, non-profits, and private organisations can provide designers with diverse perspectives and solutions, fostering more well-rounded and sustainable decision-making.

To consolidate these insights, the following Table 44 presents an overview of key educational strategies, outlining their objectives and anticipated impact on sustainability literacy in interior design.

Educational Component	Description	Intended Outcome	Responsible Stakeholder(s)	Timeframe
Sustainable Design Curriculum	In-depth modules covering LCAs, certifications, ethical sourcing, and material impacts.	Prepares students to integrate sustainability comprehensively into design practice.	Universities, Accreditation Boards (e.g., BIID, RIBA)	Short-Term
CPD Programs	Continuous learning on sustainability trends, certifications, and emerging materials.	Keeps designers updated on advancements, enhancing informed material choices.	Professional Bodies, CPD Providers	Medium-Term
Mentorship and Peer Learning	Experienced designers guide others, sharing best practices and sustainability insights	Fosters collaborative learning and supports professional growth.	Industry Associations, Design Firms	Medium-Term
Cross-Disciplinary Collaboration	Partnerships with experts in related fields such as environmental science and engineering.	Expands designers' perspectives on sustainability, enabling holistic decision-making.	Universities, Research Institutions, Industry Experts	Long-Term

Table 44: Summary of Key Strategies for Advancing Sustainability Education in Interior Design.

By embedding sustainability into design education, formalising CPD programs, fostering mentorship networks, and promoting interdisciplinary learning, the interior design industry can equip professionals with the skills and knowledge needed to implement sustainability effectively. These strategies ensure that sustainability literacy becomes a professional standard, allowing designers to make evidence-based, ethical, and environmentally responsible decisions in their daily practice.

With industry-wide adoption of these educational frameworks, sustainability can transition from a specialised interest to an integral part of interior design.

8.2.3 Influencing Policy and Advocacy for Industry Transformation

The research highlights the pivotal role of policy interventions and advocacy in advancing sustainable practices within the interior design industry. Both primary and secondary findings emphasise the need for policies that incentivise sustainable material use while enforcing transparency and accountability in material sourcing and reporting. As noted in Chapter 7 (pp. 230–237), interview participants frequently stressed the importance of government support—such as tax incentives, subsidies, and grants—to offset the initial costs of sustainable practices. Without such support, designers often face economic barriers that limit their ability to prioritise eco-friendly solutions.

Government Incentives and Tax Benefits:

Primary data reveals strong support among designers for government-led financial incentives to make sustainable options more affordable for their clients and projects. For instance, in the construction sector, tax incentives for using energy-efficient materials under the EU Energy Performance of Buildings Directive have significantly increased the adoption of sustainable building solutions. A similar approach could be applied to interior design materials, ensuring sustainability goals align with financial feasibility. Interview participants highlighted that tax credits or rebates for sustainable design projects could significantly increase adoption rates by easing the financial burden. Secondary literature supports this view, suggesting that monetary incentives are among the most effective tools for driving industry transformation (Chapter 4, pp. 87–90). Such measures would help bridge the gap between the higher upfront costs of sustainable materials and the long-term environmental

benefits, enabling designers to implement eco-friendly solutions even within tight budget constraints.

Mandatory Transparency in Material Sourcing and Sustainability Reporting:

Both primary and secondary findings underscore the need for mandatory transparency in material sourcing. Chapter 7 (pp. 237–240) highlights challenges faced by designers in verifying material sustainability due to inconsistent supply chain practices and concerns over greenwashing. Establishing regulatory frameworks that require comprehensive sustainability reporting would provide designers and clients with reliable information about the environmental impact of materials. Mandatory transparency would also discourage greenwashing by holding manufacturers accountable for their claims, ensuring that advertised sustainability credentials reflect reality.

Establishing Industry Standards through Policy:

Secondary data emphasises the importance of policy in creating universal sustainability standards for the interior design industry. While certifications like GOTS and OEKO-TEX offer valuable guidance, the lack of consistent regulatory standards leads to fragmented practices. Policymakers can address this by implementing standardised criteria that require adherence to verified sustainability benchmarks. Findings from Chapter 4 (pp. 87–90) highlight that without unified standards, sustainable practices remain inconsistent and hinder widespread adoption.

Collaboration between Designers, Industry Associations, and Government Bodies:

The research indicates that collaboration between designers, industry associations, and government bodies is critical for effective policy development and implementation. Interview participants noted that policies developed without industry input often fail to address the practical challenges designers face. Creating a platform for ongoing dialogue among policymakers, designers, and stakeholders would bridge these gaps, ensuring that policy initiatives are grounded in the realities of design practice. This collaborative approach would make policies more practical and impactful in driving sustainable transformation across the industry.

Application Recommendations:

1. **Advocate for Policy Reforms with Financial Incentives:**
   Collaborate with government bodies to introduce tax incentives, subsidies, or grants for projects that prioritise sustainable materials. These financial incentives would help offset the initial costs of sustainable practices, making eco-friendly options more accessible to a broader range of clients and designers.

2. **Develop Transparency and Reporting Mandates:**
   Work with governmental agencies to establish policies requiring transparency in material sourcing, including mandatory sustainability reporting. These mandates would standardise reporting practices, promote accountability, and reduce greenwashing by ensuring that sustainability claims are accurate and reliable.

3. **Establish Industry-Wide Sustainability Standards:**
   Partner with policymakers to create standardised sustainability criteria aligned with certifications such as GOTS and OEKO-TEX. These benchmarks would provide the industry with a cohesive framework, enabling designers to make informed choices and uphold consistent sustainable practices.

4. **Foster Cross-Sector Collaboration:**
   Encourage collaboration among designers, regulatory bodies, and industry associations to ensure that policy development addresses real-world challenges. Establishing an advisory panel with representatives from each sector could create a platform for ongoing dialogue, helping shape policies that effectively support designers in adopting sustainable practices.

Table 45 summarises how these findings translate into actionable strategies, aligning with the broader goals of sustainability integration in professional practice.

Policy Initiative	Description	Intended Outcome	Responsible Stakeholder(s)	Timeframe
Financial Incentives	Tax credits, rebates, and grants for sustainable design projects	Offsets higher costs of sustainable materials, increasing accessibility and adoption rates	Government bodies, industry associations, policymakers	Short to Medium Term (1–3 years)
Transparency and Reporting Mandates	Mandatory sustainability reporting and sourcing transparency for materials	Promotes accountability and reduces greenwashing, ensuring reliable information on material sustainability	Government bodies, regulatory authorities, industry stakeholders	Medium Term (2-4 years)
Standardised Industry Criteria	Development of industry-wide standards aligned with recognised eco-certifications	Provides consistent benchmarks for sustainable practices across the industry, promoting credibility and trust	Policymakers, certification bodies, industry associations	Long Term (3-5 years)
Cross-Sector Collaboration	Establish an advisory panel for ongoing dialogue among designers, policymakers, and associations	Ensures policies are practical, feasible, and aligned with the realities of design practice	Designers, industry associations, policymakers, government bodies	Ongoing (initial setup within 1–2 years)

Table 45: Policy Initiatives for Advancing Sustainability in Interior Design.

8.3 Development of Tools and Resources for Sustainable Interior Design

Developing specialised tools and resources is essential to advancing sustainable practices in the interior design profession, particularly when it comes to integrating sustainable textiles. This research highlights two key resource needs that could address existing gaps in knowledge and application: a **Comprehensive Sustainability Toolkit** and an

Online Sustainability Resource Hub. Both are designed to equip designers with accessible information on sustainable materials, best practices, and regulatory guidelines, drawing from insights gathered in both primary and secondary data.

8.3.1 Comprehensive Sustainability Toolkit

A comprehensive sustainability toolkit could become an invaluable resource, empowering interior designers to adopt sustainable practices with confidence and efficiency. Findings from primary data, particularly semi-structured interviews, emphasise the need for a centralised toolkit that offers step-by-step guidance on sustainable material selection, supplier evaluation, and adherence to eco-certifications such as OEKO-TEX and GOTS. Designers expressed that such a resource would simplify decision-making and reduce the burden of independent research, particularly for those with limited time or resources to navigate the complexities of sustainability standards (Chapter 7, pp. 160–165).

Secondary data supports the toolkit's potential, highlighting how a structured approach can help designers manage the complexities of sustainable material selection and implementation. Studies indicate that a well-designed toolkit would bring clarity and direction to designers, particularly when dealing with diverse certifications, regulatory requirements, and lifecycle impacts. By providing clear benchmarks and practical tools, the toolkit would support designers in meeting sustainable goals consistently across projects while aligning with best practices and verified industry standards (Chapter 4, pp. 87–90).

Key Components of the Comprehensive Sustainability Toolkit

To address these needs effectively, the toolkit would include several components designed to create a robust support system for sustainable interior design:

1. Materials Database: A curated database of sustainable, pre-vetted materials would include detailed information on eco-certifications such as GOTS, OEKO-TEX, and third-party verifications. This database would allow designers to quickly identify and source materials that meet sustainability criteria, eliminating the need for exhaustive independent verification. Regular updates would ensure the database remains a reliable and transparent resource for accessing the latest certified materials.

2. Sustainability Checklists: Project-phase-specific checklists (conceptualisation, design, sourcing, and installation) would guide designers in consistently integrating sustainability throughout a project's lifecycle. These checklists could include:

- **Design phase:** Guidelines on energy-efficient layouts and renewable material specifications.
- **Sourcing phase:** Steps for selecting eco-certified suppliers.
- **Installation phase:** Recommendations for minimising waste and recycling.

By standardising sustainable actions, the checklists would serve as a quality control tool, ensuring sustainability goals are met at every stage.

3. Lifecycle Assessment (LCA) Guidelines: Simplified LCA guidelines would offer step-by-step instructions for evaluating materials based on their environmental impact from production to disposal. These tools would enable designers to compare materials on metrics like carbon footprint, water usage, and waste generation, promoting informed and sustainable choices. This component encourages long-term planning and emphasises the importance of assessing a material's full lifecycle impact.

4. Compliance and Certification Guide: This guide will provide an overview of major eco-certifications (e.g., GOTS, OEKO-TEX, Cradle to Cradle, FSC), outlining their criteria and relevance to sustainable interior design. Designers could use this guide to align materials with project-specific sustainability goals and educate clients about the value of certified materials. Insights on navigating certifications and understanding their alignment with global sustainability standards would add clarity and confidence to material selection processes.

5. Best Practice Case Studies: Real-world examples of successful sustainable projects would illustrate how sustainability principles have been effectively implemented. Case studies could include diverse project types—residential, commercial, and institutional—and showcase innovative solutions, such as modular components to reduce waste or locally sourced materials to cut emissions. These examples would inspire and guide designers in applying proven strategies to their own projects.

6. Supplier Evaluation Toolkit: A supplier evaluation toolkit would help designers assess suppliers based on sustainability practices, including environmental reporting, ethical labour practices, and transparency. By using this tool, designers could promote responsible sourcing and reduce dependence on unsustainable suppliers. This component would also encourage accountability across the supply chain, fostering a more eco-conscious industry.

Benefits and Impact of the Comprehensive Sustainability Toolkit

The toolkit would act as a centralised, actionable resource, offering the following benefits:

- **Consistency and Standardisation:** By providing clear guidelines for material selection and supplier evaluation, the toolkit would enable designers to adopt consistent sustainability practices across all projects, reducing variability and uncertainty.
- **Time Efficiency:** With pre-vetted materials, structured checklists, and simplified LCAs, the toolkit would streamline decision-making, saving designers time while maintaining quality.
- **Enhanced Accountability:** The toolkit's focus on verified certifications and transparency would help designers effectively verify sustainability claims, reducing the risk of greenwashing and improving supplier accountability.
- **Knowledge Accessibility:** By consolidating information on certifications, LCAs, and best practices, the toolkit would make sustainability knowledge accessible to both experienced professionals and those new to sustainable design.

By incorporating these components, the comprehensive sustainability toolkit could bridge critical gaps in knowledge and practice, empowering designers to create more eco-conscious interiors while aligning with industry standards and global sustainability objectives (see Table 46).

Component	Description	Intended Outcome
Materials Database	A curated list of certified, sustainable materials with eco-certification details	Enables informed material choices and quick identification of eco-friendly options
Sustainability Checklists	Phase-specific checklists covering design, sourcing, installation, and end-of-life considerations	Ensures consistent sustainable practices across project phases, supporting quality control
LCA Guidelines	Simplified lifecycle assessment steps for evaluating environmental impacts	Facilitates evidence-based, long-term sustainable decision-making in material selection
Compliance and Certification Guide	Overview of major certifications (GOTS, OEKO-TEX, FSC) with criteria and case studies	Assists in understanding certification standards, reducing greenwashing and improving credibility in sustainable choices
Best Practice Case Studies	Real-world examples of sustainable design projects showcasing various sustainability strategies	Provides practical insights and inspiration, helping designers visualise successful sustainable practices
Supplier Evaluation Toolkit	Criteria for assessing suppliers based on environmental and ethical standards	Supports responsible sourcing by promoting partnerships with eco-friendly suppliers

Table 46: Key Components of the Comprehensive Sustainability Toolkit for Interior Designers.

As outlined in Table 46, these components work together to provide a structured approach to sustainable interior design. To better understand the structure and components of the Comprehensive Sustainability Toolkit, the following Figure 28 provides a visual representation of how each element connects and supports sustainable design practices.

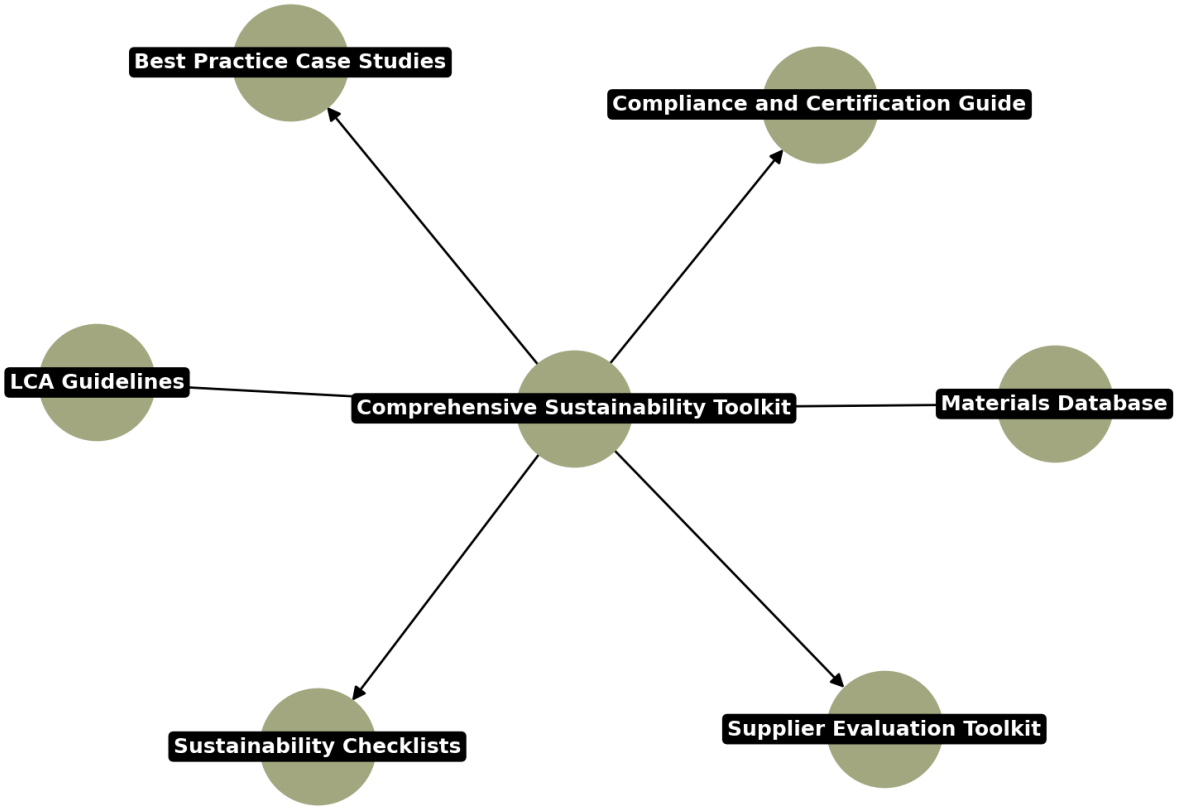

Figure 28: Comprehensive Sustainability Toolkit Structure.

Incorporating Designer Feedback:

While the Comprehensive Sustainability Toolkit and Online Sustainability Resource Hub are designed to meet the needs of interior designers, it is crucial to incorporate real-world feedback from the designers themselves to ensure these tools are truly useful and practical. The following insights, drawn from interviews with interior designers, provide a deeper understanding of how these tools could be utilised and what concerns may arise.

1. Designer Concerns and Preferences:
   Many designers noted the overwhelming complexity of sustainability standards and

certifications, especially when juggling multiple projects. One designer (D-3, p. 164) expressed:

"I often find it hard to navigate the certification maze. Having a central hub that clearly outlines certification criteria and updates would save a lot of time and confusion." This feedback emphasises the need for a clear and concise Certification Guide within the toolkit, which would help streamline material selection processes.

2. Practicality in Everyday Use:
   Several participants highlighted the need for tools that are not only comprehensive but also user-friendly and easily integrated into existing workflows. As D-5 (p. 166) shared:
   "It's one thing to have all the information available, but we need tools that fit into our day-to-day work without adding to our workload. A simple checklist or material database that's easy to search would be a game changer." This feedback suggests that a searchable materials database with user-friendly navigation will be essential for adoption.

3. Time Efficiency and Decision-Making:
   Designers consistently pointed to time constraints as a major challenge when selecting sustainable materials. D-2 (p. 160) explained:
   "Sustainability is important, but we are often working on tight deadlines. If these tools help me find eco-friendly materials faster without compromising quality, I'd use them more often." This underscores the need for quick-access tools, such as a curated list of pre-vetted materials and phase-specific checklists to aid designers in making faster, informed decisions.

4. Concerns About Overload:
   Some designers raised concerns about information overload, where too many features or excessive detail could discourage engagement. As D-4 (p. 167) noted:
   "I would love a toolkit, but it shouldn't be overwhelming. It needs to be clear, focused, and easy to navigate." This feedback suggests the importance of designing a toolkit that is streamlined and focused, with clear categorisations to avoid overwhelming users.

By integrating these insights, the toolkit and resource hub can be fine-tuned to address real-world challenges and better meet the needs of interior designers. Feedback from the

design community ensures that these tools will be relevant and practical, ultimately encouraging greater adoption.

Implementation and Long-Term Use:

While the Comprehensive Sustainability Toolkit and Online Sustainability Resource Hub are designed to empower interior designers with practical, accessible resources, ensuring their long-term relevance and use is crucial to maintaining their effectiveness. Over time, sustainability standards, materials, and certifications will evolve, and these tools must adapt accordingly.

1. **Continuous Updates and Feedback Loops:** To keep the toolkit and hub current, a process for regular updates will be necessary. Designers should be encouraged to provide feedback on their experiences using the tools, which could then be used to inform future updates. A feedback loop from the user community, as well as ongoing consultation with sustainability experts, would ensure that the resources stay aligned with emerging trends and evolving certifications.
2. **Integration with Evolving Standards:** As sustainability certifications and materials continue to advance, the toolkit and hub must be able to integrate these changes. For example, when new eco-certifications are introduced or when new materials become available, the Materials Database and Certification Guide should be updated regularly to incorporate these innovations. An automated update feature within the hub, where users are notified of changes in certification standards or new materials, would ensure that designers always have access to the most relevant and up-to-date information.
3. **Long-Term Access and Sustainability**: For the toolkit and resource hub to continue being useful over time, it's important to offer long-term access. This could involve a subscription model that ensures continuous updates, or the toolkit could be housed on a cloud-based platform where new versions are automatically made available to users. Additionally, partnerships with educational institutions or sustainability organisations could help secure funding for ongoing development and updates, keeping the resources free or low-cost for designers.

By ensuring regular updates, integration with new standards, and long-term access, these tools can evolve alongside the profession, supporting the continued growth of sustainable practices in interior design.

Evaluation of Effectiveness:

While the Comprehensive Sustainability Toolkit and Online Sustainability Resource Hub are presented as key resources for supporting sustainable design practices, their long-term success will depend on how effectively they are used in the field. To ensure that these tools meet their intended goals, it is crucial to evaluate their impact on designers' practices and their contribution to broader sustainability objectives.

1. **User Feedback and Surveys**:
   A key method for evaluating the effectiveness of both tools is through user feedback. After using the toolkit or hub, designers can provide feedback on their experiences via surveys or interviews. These surveys could include questions on ease of use, the quality of information, and whether the resources helped them make more sustainable design decisions. Feedback from a diverse range of users will provide valuable insights into the strengths and weaknesses of these tools.

2. **Before-and-After Comparisons**:
   To measure the impact of the tools on real-world projects, before-and-after comparisons could be conducted. Designers could document their sustainability practices before using the toolkit or hub, and then compare them after using the resources. This comparison could include factors such as the adoption of eco-certifications, the sourcing of sustainable materials, and the overall environmental impact of their projects. Quantitative data, such as reductions in carbon footprint or waste, could help demonstrate the tools' effectiveness in achieving sustainability goals.

3. **Periodic Updates and Reviews**:
   Regular evaluation reviews should be conducted to assess how well the tools are keeping up with changing industry standards, certifications, and sustainability trends. These reviews could involve both internal assessments (by the developers or academic researchers) and external feedback (from industry professionals and experts). Incorporating findings from these evaluations would allow for the continuous improvement and updating of the tools, ensuring they remain relevant and effective over time.

4. **Partnerships for Independent Evaluation**:
   Collaborating with sustainability-focused organisations or academic institutions could

provide independent evaluations of the tools' impact. These partners could conduct studies that assess how the tools are used in real-world projects and the extent to which they contribute to achieving industry sustainability goals. Independent evaluation could add credibility to the toolkit and hub, increasing their adoption by the design community.

By implementing these evaluation mechanisms, the effectiveness of the toolkit and hub can be assessed, ensuring they are not only useful but also impactful in advancing sustainable design practices.

8.3.2 Online Sustainability Resource Hub

The creation of an Online Sustainability Resource Hub marks a transformative step in addressing the need for a centralised digital platform to help interior designers stay informed about sustainable practices and industry advancements. Chapter 6 (pp. 140–150) highlights that designers frequently struggle with limited access to reliable, up-to-date information on sustainability trends, certifications, and best practices. This resource hub would provide a dynamic, real-time platform where designers can efficiently access essential insights, updates, and networking opportunities, supporting sustainable interior design in an accessible and streamlined way.

By consolidating diverse resources, the hub would not only encourage knowledge sharing among designers but also serve as a vital platform for all stakeholders in the design ecosystem, including manufacturers, clients, and policymakers. Real-time updates would eliminate the need to rely on fragmented, outdated information, offering comprehensive, accurate, and actionable guidance aligned with current industry trends.

Core Components of the Online Sustainability Resource Hub

To ensure its maximum effectiveness, the resource hub would incorporate several key components, each designed to address specific needs in sustainable interior design:

1. Knowledge Base of Best Practices

The hub’s knowledge base would act as a continually updated repository of sustainable design practices, covering topics such as eco-friendly material sourcing, waste reduction strategies, and energy-efficient installations. This resource would provide designers

with practical guidance for integrating sustainability across all stages of their projects. For example, it could include step-by-step guides on incorporating renewable materials, optimising layouts for energy efficiency, or minimising construction waste. As new trends and innovations emerge, the knowledge base would be regularly updated to ensure designers have access to the most current methodologies.

2. Case Study Library

A comprehensive case study library would showcase detailed examples of successful sustainable interior design projects, highlighting strategies, challenges, and solutions. These case studies would span a range of project types—residential, commercial, and institutional—offering valuable insights into how sustainability is implemented in different contexts. For instance, one case study might demonstrate how recycled materials were used to achieve a low-waste project, while another could focus on reducing carbon emissions through locally sourced materials. Designers could draw inspiration and practical ideas from these real-world examples to inform their own projects.

3. Regulatory Update Feed

To help designers keep pace with the ever-changing landscape of environmental regulations and certifications, the hub would include a regulatory update feed. This feature would provide real-time alerts on new policies, updates to eco-certifications, and emerging industry trends. For example, if a government introduces stricter environmental reporting requirements, designers would be notified immediately, enabling them to adapt their practices proactively. By staying informed about regulatory changes, designers can ensure compliance and maintain a high standard of sustainability in their work.

4. Community Forum

A community forum would create a collaborative space for designers to connect, share insights, and seek advice on sustainability challenges. This peer-driven platform would encourage knowledge exchange, allowing designers to discuss trends, share experiences, and explore solutions together. Moderated Q&A sessions with industry experts could also provide targeted advice on complex topics. By fostering a sense of community and support within the profession, the forum would promote peer-to-peer learning and inspire innovative approaches to sustainable interior design. Thus, enriching the knowledge base with diverse perspectives and fostering a more collaborative approach to sustainable interior design.

5. Webinars and Training Modules

The hub would offer periodic webinars and training modules, led by experts in sustainable design, to help designers deepen their knowledge of critical topics. Sessions could focus on lifecycle assessments, material certifications, and advanced eco-friendly construction methods. Designers would have the opportunity to engage directly with experts and learn about the latest tools and techniques. Recorded sessions could be stored in the hub for on-demand access, making it easy for designers to learn at their own pace and revisit training as needed.

6. Supplier Directory and Review System

An integrated supplier directory would list verified suppliers of eco-friendly materials, complete with peer reviews and ratings. This feature would allow designers to make informed decisions about suppliers, based on both certifications and feedback from other professionals. Organised by material types—such as textiles, flooring, or finishes—the directory would make it easy to locate sustainable options for specific project needs. By integrating a review system, designers can benefit from the shared experiences of others, promoting transparency and accountability within the supply chain.

Why These Components Matter: Benefits and Impact of the Online Sustainability Resource Hub

The **Online Sustainability Resource Hub** would offer a range of valuable benefits by consolidating essential resources into a single, accessible platform. This would not only provide a centralised platform for knowledge and tools but also foster collaboration and innovation within the interior design community. With these core components, the hub would:

- **Streamlined Access to Information:**
  Designers would have a centralised resource for all sustainability-related knowledge, eliminating the need to search across multiple, fragmented sources. This would save time and ensure access to reliable, up-to-date information on materials, certifications, and best practices.
- **Enhanced Knowledge Sharing and Community Support:**
  Features like the community forum and case study library would encourage peer-to-peer learning and collaborative problem-solving. Designers could share experiences,

exchange ideas, and find innovative solutions to sustainability challenges with the support of a broader professional network.

- **Increased Responsiveness to Regulatory Changes:**
  Real-time updates on certifications and regulations would enable designers to stay ahead of policy changes and quickly adapt their practices. This ensures projects remain compliant and environmentally responsible, even as industry standards evolve.
- **Professional Development and Continued Learning:**
  Webinars and training modules would provide opportunities for designers to expand their expertise in sustainable practices. By staying informed about the latest tools, techniques, and advancements, designers could enhance their skills and professional growth.
- **Supply Chain Transparency and Supplier Accountability:**
  The supplier directory with peer reviews would empower designers to make more informed sourcing decisions. This feature promotes transparency within the supply chain and holds suppliers accountable for ethical and sustainable practices.

Transformative Potential

By integrating these benefits into a single platform, the Online Sustainability Resource Hub would not only support individual designers but also drive collective progress within the interior design industry. It would streamline sustainable design processes, encourage collaboration, and help align the profession with global sustainability goals.

As shown in Table 47, the hub's core components—such as the Knowledge Base of Best Practices, Case Study Library, Regulatory Update Feed, and Supplier Directory—work together to provide designers with a comprehensive, real-time resource that enhances their ability to make informed, sustainable decisions. These components ensure that the hub meets the evolving needs of the industry while fostering a collaborative and informed design community.

Hub Component	Description	Intended Outcome
Knowledge Base of Best Practices	Repository of sustainable design techniques and strategies	Provides a reliable reference for sustainable methods, ensuring best practices are easily accessible
Case Study Library	Collection of real-world sustainable design projects with solutions to common challenges	Offers practical insights and inspiration, demonstrating how others achieve sustainability in diverse contexts
Regulatory Update Feed	Real-time alerts on changes in regulations, certifications, and trends	Keeps designers informed, enabling proactive compliance with industry standards
Community Forum	Collaborative space for designers to discuss challenges, share insights, and connect	Fosters a supportive community, promoting knowledge-sharing and peer-to-peer learning
Webinars and Training Modules	Expert-led sessions on advanced sustainable practices and certifications	Supports continued professional development and builds expertise in complex sustainability topics
Supplier Directory and Review System	Directory of eco-friendly suppliers with peer reviews	Informs designers' sourcing decisions, promoting transparency and accountability within the supply chain

Table 47: Core Components of the Online Sustainability Resource Hub for Interior Designers.

Adoption Process of the Toolkit and Resource Hub

After presenting the key components of the Comprehensive Sustainability Toolkit and the Online Sustainability Resource Hub, it is important to understand how designers can adopt and integrate these tools into their practice. Figure 29 below provides a step-by-step visual representation of the adoption process. It illustrates how designers can begin using these tools for material selection, regulatory updates, and ongoing collaboration, ensuring that sustainable practices are embedded throughout their projects.

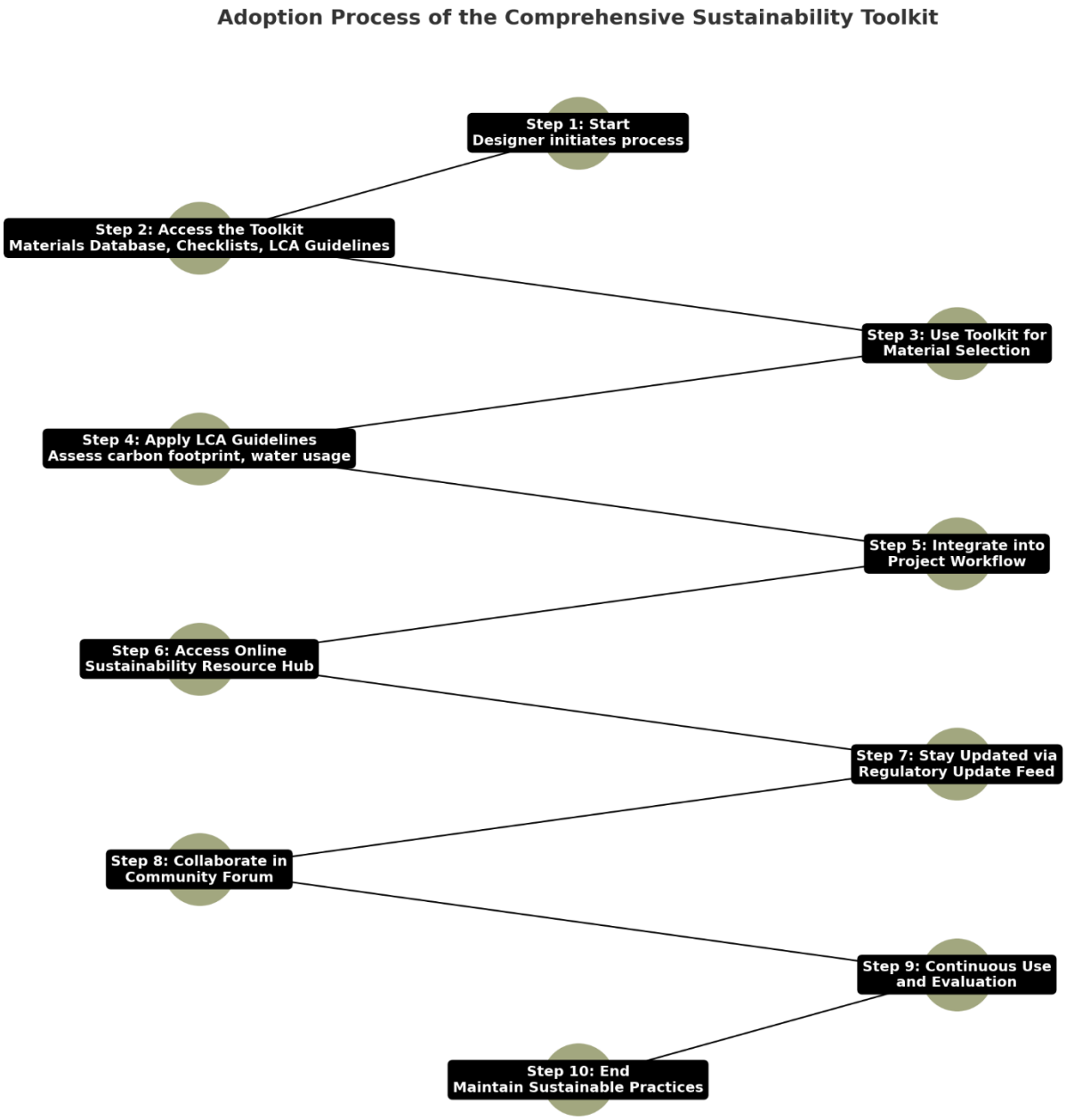

Figure 29: Adoption Process of the Comprehensive Sustainability Toolkit and Online Sustainability Resource Hub.

Adoption Challenges and Strategies for Overcoming Them

While the Comprehensive Sustainability Toolkit and Online Sustainability Resource Hub offer substantial benefits for designers, their adoption may face several challenges. These challenges could include resistance to new tools, difficulty integrating the resources with existing workflows, and financial constraints, particularly for smaller firms or freelance designers. Addressing these barriers is crucial to ensuring the widespread implementation of these tools.

1. **Resistance to New Tools:** Some designers may be hesitant to adopt new resources due to unfamiliarity or concerns about changing their established practices. To encourage adoption, it is important to provide training programs and ongoing support to help designers understand how to integrate these tools into their existing workflows. Additionally, offering incentives, such as free access for a trial period or discounts for early adopters, could ease the transition and motivate designers to try the tools.

2. **Integration with Existing Workflows:** Integrating the toolkit and resource hub into established design processes could be a challenge, especially if designers are already using other software or systems. To address this, the toolkit could offer compatibility with common design software, or create simple plug-ins or downloadable formats that can easily integrate with current tools. A well-documented user guide and instructional videos could further assist designers in using the tools efficiently.

3. **Financial Constraints:** For smaller firms, the financial cost of implementing these tools could be a concern, particularly if they need to invest in new software or training. To mitigate this, the resource hub could be offered as a tiered subscription model, where smaller firms can access a basic version for free, with the option to upgrade for more advanced features. Furthermore, government grants or tax incentives for sustainability-focused initiatives could be explored to support the adoption of these tools.

4. **Accessibility:** Accessibility is key for ensuring that all designers, regardless of their experience or resources, can benefit from the tools. To improve accessibility, the toolkit and hub should be designed with user-friendly interfaces and low-barrier entry points, such as downloadable guides or mobile-friendly versions. Moreover, the tools

should provide localised content, catering to different regulatory frameworks in various regions or countries, to make the resources applicable to a global audience.

By addressing these challenges head-on, these tools could become indispensable resources in the sustainable interior design process, driving greater adoption and facilitating more consistent, eco-friendly practices across the industry.

Connection to Broader Sustainability Movements

While the Comprehensive Sustainability Toolkit and Online Sustainability Resource Hub are tailored specifically to interior designers, their potential impact extends beyond individual practices. By linking these resources to broader sustainability movements, these tools can become powerful enablers of systemic change within the interior design industry.

1. Alignment with Government Sustainability Initiatives:
   These tools are aligned with global and local policy frameworks aimed at fostering sustainable development. Many governments, including those in the EU and the UK, have introduced sustainability policies and green building standards, such as the UK Green Building Council's Framework for Sustainable Building and the EU's Green Deal. The toolkit and resource hub could help designers stay informed and comply with these regulations by offering up-to-date guidelines on eco-certifications and materials selection that align with government incentives and tax credits aimed at promoting sustainability.

2. Integration with International Design Standards:
   As interior designers increasingly work in a globalised market, their practices need to reflect international sustainability standards. The toolkit's Certification Guide and the resource hub's Knowledge Base of Best Practices can help designers align with recognised global sustainability frameworks such as LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method), and Living Building Challenge. These frameworks emphasise transparency, material selection, and energy efficiency, all of which are core elements of the toolkit and resource hub.

3. Supporting Global Sustainability Movements:
   Beyond compliance with specific policies or certifications, these tools support global

sustainability movements, such as the United Nations' Sustainable Development Goals (SDGs), particularly Goal 12 (Responsible Consumption and Production) and Goal 13 (Climate Action). By making sustainability accessible and actionable, the toolkit and resource hub help designers contribute to global efforts to reduce resource consumption, minimise waste, and promote a circular economy. These tools, therefore, not only support local and national efforts but also enable designers to play a role in addressing global environmental challenges.

4. Collaboration with Industry Stakeholders:
   To further enhance their impact, these tools can facilitate collaboration between designers, policymakers, and industry associations. By creating a centralised platform for knowledge sharing and real-time updates on sustainability trends, the hub can become an essential tool for aligning the interior design profession with ongoing sustainability dialogues. This collaborative approach would allow for more cohesive and coordinated efforts toward achieving industry-wide sustainability goals, ensuring that designers are not working in isolation but as part of a larger, systemic change toward sustainability.

8.4 Contribution to Contemporary Discourse and Acknowledgement of Field Voices

Overview of Contribution to Contemporary Discourse

This thesis makes a significant contribution to the evolving discourse on sustainable interior design, with a particular focus on the role of textiles in shaping sustainable decision-making processes in the UK. While sustainability in interior design has been widely discussed in relation to material efficiency, circular economy models, and energy-conscious practices, the specific role of textiles has received comparatively less attention. This research fills this critical gap by emphasising how textile selection, certification, and supply chain transparency influence sustainable design outcomes.

By engaging with established sustainability frameworks such as the Triple Bottom Line (Elkington, 1994) and Design for Sustainability (Vezzoli and Manzini, 2008), this study extends these models by foregrounding the material-specific challenges of textile sustainability. The research also incorporates the Quadruple Bottom Line (Walker, 2017,

p.45), which adds a cultural dimension to sustainability discourse—an aspect often overlooked in discussions of sustainable materials and design practice. This study demonstrates that aesthetic preferences, cultural narratives, and ethical sourcing concerns are integral to designers' sustainability choices, making the case for a more holistic sustainability framework that accounts for both functional and cultural factors in material decision-making.

Furthermore, the study provides a practice-driven perspective, integrating insights from interior designers and industry professionals who actively engage with sustainability challenges in real-world contexts. The findings highlight three key barriers to sustainable textile use: lack of transparency in material sourcing, absence of clear industry standards, and limited accessibility of certified sustainable textiles. By incorporating both theoretical perspectives and industry voices, this thesis offers a comprehensive analysis that bridges academia and professional practice, reinforcing the need for collaborative solutions between designers, policymakers, and textile suppliers.

This research also contributes to ongoing policy and educational discourse by advocating for regulatory interventions, industry-wide sustainability standards, and enhanced sustainability literacy in design education. The proposed strategies—such as a standardised sustainability certification system, an open-access database for vetted textile suppliers, and curriculum updates integrating sustainability literacy—aim to provide actionable pathways for industry transformation.

Through these contributions, this thesis not only expands theoretical sustainability models but also delivers practical recommendations that support systemic change in the interior design industry, ensuring that sustainability is integrated into professional practice, regulatory frameworks, and educational structures.

Aligning with Established Sustainability Models

This study aligns with established sustainability models by exploring the internal and external factors influencing sustainable practices. In particular, it reflects elements of the Quadruple Bottom Line model, which incorporates a cultural dimension alongside the traditional environmental, social, and economic pillars of sustainability. Introduced by Walker (2017) in the context of design for sustainability, the cultural dimension is evident in

the thesis findings, which emphasise the significance of aesthetics and cultural appropriateness in material selection (Chapter 7, pp. 160–176).

By integrating this cultural perspective, the research extends the understanding of sustainability in interior design, highlighting how material choices are influenced not only by functional and environmental considerations but also by their alignment with cultural values and aesthetic preferences.

Acknowledging Field Voices in Sustainable Interior Design

This thesis draws on perspectives from active professionals in interior design, offering valuable insights into the real-time challenges they face. Interview participants emphasised the need for streamlined access to sustainable materials and the establishment of clearer industry standards (Chapter 6, pp. 140–150). These practical concerns are central to the study's exploration of sustainable practices.

By integrating professional insights with academic literature, the thesis contributes to a holistic understanding of sustainability. It captures the nuances of sustainability in the UK while also reflecting on broader design landscapes. This bridging of theory and practice underscores the importance of continual dialogue between academia and industry, emphasising collaboration as essential to refining and advancing sustainable interior design practices.

Implications for Policy and Education

The findings of this thesis contribute to ongoing discourses surrounding policy and advocacy by emphasising the need for regulatory support to drive sustainable practices across the interior design industry (Chapter 4, pp. 87–90). The study offers actionable recommendations, including tax incentives and transparency regulations, which align with calls from both policymakers and design professionals advocating for systemic change through government intervention (Bhamra and Lofthouse, 2007; Stone, 2019).

One of the primary barriers to implementing sustainability in interior design is the lack of unified industry standards for sustainable textiles. While various certification schemes exist, their fragmentation leads to confusion and inhibits widespread adoption. This thesis

proposes a structured approach where professional organisations such as the British Institute of Interior Design (BIID) and the Royal Institute of British Architects (RIBA) collaborate with regulatory bodies to establish a standardised framework for textile sustainability. This framework could include a tiered certification system distinguishing between essential and advanced sustainability criteria, making sustainable choices more accessible to both small and large firms. Additionally, the development of an open-access database listing verified sustainable textile suppliers could improve transparency and support informed decision-making in the industry. A phased approach, beginning with voluntary adoption, followed by tax incentives, and culminating in mandatory regulatory integration, would foster a gradual yet lasting industry-wide transformation.

Beyond regulatory interventions, the findings also highlight the need to cultivate sustainability literacy within interior design education, ensuring that future designers are equipped to navigate these evolving standards. By addressing gaps in sustainability literacy and advocating for curricula that prepare students to navigate regulatory and industry standards, the thesis provides a pathway for embedding sustainable practices into the foundation of design education. This intersectional approach—linking policy advocacy and educational reform—strengthens the broader push for sustainability within the design profession.

The following Table 48 provides a structured summary of the key contributions of this research, linking the core areas of impact with relevant theoretical frameworks. By positioning sustainable textile use within broader sustainability models, industry practices, policy recommendations, and educational advancements, this thesis highlights its interdisciplinary contribution to both academic discourse and professional practice.

Contribution Area	Key Insight	Related Literature
Frameworks for Sustainability	Emphasis on the role of textiles and certifications	Triple Bottom Line (Elkington, 1994); Quadruple Bottom Line (Walker, 2017)
Industry Standards and Practices	The practical need for clear and accessible sustainability standards	Vezzoli and Manzini (2008); Sustainable Textiles (McDonough and Braungart, 2002)
Policy and Advocacy	Recommendation for government incentives and regulations	Bhamra and Lofthouse (2007); Stone (2019)
Educational Implications	Proposal for curriculum updates to include sustainability literacy	Vezzoli et al. (2018); McQuillan (2020)

Table 48: Contribution to Contemporary Discourse and Acknowledgement of Field Voices in Sustainable Interior Design.

8.5 Limitations of the Research and Directions for Future Inquiry

This research provides valuable insights into sustainable interior design and textile use in the UK; however, several limitations must be acknowledged to present a balanced and contextualised understanding of the findings.

1. Limited Scope of Cultural Sustainability

The study focuses primarily on the environmental and economic dimensions of sustainability, dedicating less attention to cultural sustainability. This emphasis was intentional, as the study sought to address pressing material and policy-related challenges in sustainable interior design. However, as cultural narratives increasingly shape material selection and consumer preferences, future research should investigate the role of cultural sustainability in influencing both design choices and industry regulations. Cultural values, traditions, and ethical considerations play a crucial role in shaping sustainable outcomes,

particularly in diverse contexts (Walker, 2017, p.45). Future studies could address this gap by exploring how cultural sustainability influences interior design practices and aligns with broader sustainability goals.

2. Lack of Interdisciplinary Perspectives

The research adopts a design-centred approach, drawing on sustainability concepts but without significant interdisciplinary integration. Sustainable practices often require insights from multiple fields, such as sociology, urban planning, and environmental science (Beatley, 2016). Incorporating these perspectives could provide a more holistic understanding of the challenges and opportunities in sustainable interior design, enabling more comprehensive strategies.

3. Emphasis on Theoretical Over Empirical Data

While primary data from semi-structured interviews contributes to the study, it lacks robust empirical evidence regarding the long-term impacts of sustainable practices in interior design projects. This focus was necessary given the scope of this research, which aimed to establish a conceptual and policy-driven foundation for sustainable interior design. However, future studies should complement these findings with empirical assessments to evaluate how proposed strategies translate into measurable outcomes in professional practice. Greater reliance on empirical research—such as field studies, lifecycle analyses, and post-implementation evaluations—would offer deeper insights into practical applications and support data-driven refinements of sustainable strategies (Boland et al., 2020).

4. Limited Consideration of Social Equity

Social equity, a vital component of sustainability, is not extensively addressed in this research. Topics such as social justice, inclusion, and equitable access to sustainable design resources remain underexplored. Future research should investigate how interior design practices can promote social equity, particularly for marginalised communities, through responsible and inclusive design choices (Couch, 2014).

By acknowledging these limitations, this research highlights areas for further exploration, paving the way for a more comprehensive and interdisciplinary understanding of sustainability in interior design. Addressing these gaps in future studies could significantly enrich the discourse and contribute to more equitable and culturally responsive sustainable design practices.

Directions for Future Research

1. Exploration of Cultural Dimensions in Sustainable Design

Future research should go beyond environmental and economic dimensions by exploring the cultural aspects of sustainability in interior design. Investigating how local cultural values, traditions, and heritage influence sustainable outcomes can lead to a more inclusive framework that respects diversity. Such studies could highlight the role of cultural sustainability in shaping design practices that are both contextually relevant and globally impactful.

2. Incorporation of Interdisciplinary Research Models

To enhance the understanding of sustainable interior design, future studies could adopt interdisciplinary research models. Integrating insights from sociology, environmental science, architecture, and urban planning could yield innovative and comprehensive solutions to sustainability challenges. Collaborative approaches across these fields would allow for context-sensitive design practices that address both functional and social aspects of sustainability.

3. Expansion of Empirical Studies and Real-World Applications

Empirical research, including case studies, lifecycle assessments, and quantitative analyses, is essential for strengthening the practical foundations of sustainable design. Future studies should focus on analysing real-world projects to evaluate the long-term effectiveness of sustainable materials and methods. This approach would help bridge the gap between theoretical frameworks and practical applications, offering data-driven insights to refine sustainable practices.

4. Advancing Social Equity and Inclusivity in Sustainable Design

Exploring the role of sustainable interior design in advancing social equity and inclusivity is a critical area for future research. Studies could investigate how design can foster inclusive spaces, promote environmental justice, and ensure equitable access to sustainable resources. Incorporating diverse voices, particularly from underrepresented communities, would provide valuable perspectives on how design practices can address societal inequalities while contributing to broader sustainability goals.

Future research addressing these limitations would benefit from a multi-method approach. For instance, studies on cultural sustainability could incorporate ethnographic research and participatory design methodologies, ensuring that diverse cultural perspectives inform material selection. Likewise, interdisciplinary studies could integrate life-cycle assessments and urban planning models to create more holistic sustainability frameworks for interior

design. Expanding empirical research through longitudinal studies would help capture the evolving impact of sustainable design choices over time, providing a more data-driven understanding of best practices.

These directions for future research aim to deepen the understanding of sustainable interior design while addressing its cultural, interdisciplinary, empirical, and social dimensions. By expanding the scope of investigation, future studies can contribute to more holistic and impactful design practices that align with the evolving needs of both the industry and society.

Table 49 summarises the key limitations of this research and outlines potential directions for future inquiry. By systematically addressing these gaps, future studies can refine sustainability discourse in interior design, ensuring that emerging research is not only theoretically robust but also practically applicable within professional and policy frameworks.

Limitation	Description	Future Research Direction
Limited Scope of Cultural Sustainability	Focuses mainly on environmental and economic dimensions, less on cultural aspects	Research cultural implications of sustainable practices and the influence of local values
Lack of Interdisciplinary Perspectives	Lacks integration with fields such as sociology and urban planning	Conduct interdisciplinary studies for a comprehensive approach to sustainability
Emphasis on Theoretical Over Empirical Data	Limited empirical evidence on the long-term impact of sustainable design practices	Increase field studies and lifecycle assessments to strengthen empirical foundations
Limited Consideration of Social Equity	Does not extensively address social justice or equitable access to sustainable resources	Investigate how sustainable design can foster social equity and inclusivity

Table 49: Limitations of the Research and Directions for Future Inquiry in Sustainable Interior Design.

8.6 Final Reflections on Sustainability in Interior Design

This research underscores the growing significance of sustainability in interior design, with a particular focus on textile selection and use. As designers increasingly recognize the environmental and social implications of their material choices, the industry is undergoing a paradigm shift. Sustainability is no longer perceived as an optional enhancement but is becoming a fundamental component of design practice. This shift requires professionals to navigate the delicate balance between aesthetics, functionality, and environmental responsibility, positioning sustainability as both an ethical necessity and a driver of innovation in the field.

The findings of this study highlight the dual responsibility of designers: meeting client expectations while contributing to broader environmental goals. As evidenced in Chapters 6 and 7, interviewees emphasized the increasing commitment to sustainability despite persistent barriers such as cost constraints and limited material availability (see pp. 161–175, 207–220). Additionally, the literature on sustainable textiles reinforces the need for clear industry standards and policy interventions to enhance material transparency and accessibility (see pp. 72–85, 87–90). These challenges illustrate the importance of regulatory support in facilitating the widespread adoption of sustainable materials.

A key contribution of this research is its recognition of interior designers as pivotal agents in sustainability transformation. Through their material choices, they hold the capacity to influence resource efficiency, ecological integrity, and ethical sourcing. This thesis offers practical recommendations, including the development of a sustainability toolkit and an open-access resource hub, aimed at bridging knowledge gaps and equipping designers with the necessary tools to make sustainable choices more effectively. These initiatives serve as essential mechanisms to support designers in aligning their practices with evolving sustainability standards.

Additionally, the study identifies the importance of interdisciplinary collaboration between academia, industry professionals, and policymakers. Addressing the fragmentation of sustainability frameworks and certification systems requires coordinated efforts across sectors. The key findings summarised in Table 50 illustrate how research insights translate into practical applications and broader industry implications.

Key Findings	Practical Applications	Broader Implications
Emphasis on eco-friendly textile sourcing	Development of a materials toolkit and resource hub	Supports systemic change towards eco-conscious industry standards
Demand for regulatory clarity and policy support	Advocacy for government-led incentives and transparency requirements	Promotes an industry-wide shift toward sustainable accountability
Need for sustainability literacy among designers	Integration of sustainability modules in educational and CPD programs	Aligns industry practices with global sustainability goals and prepares future designers

Table 50: Key Findings, Practical Applications, and Broader Implications in Sustainable Interior Design.

This thesis provides a comprehensive understanding of the interconnected factors shaping sustainable interior design, offering a structured approach to embedding sustainability into practice. By addressing critical challenges such as material transparency, regulatory gaps, and the need for enhanced sustainability literacy, this research contributes to both academic discourse and professional practice.

Looking ahead, ongoing research and engagement with emerging sustainable technologies, innovative materials, and evolving regulatory policies will be essential to sustaining progress in this area. As the interior design industry continues to adapt, it has the potential to play a proactive role in addressing pressing environmental challenges. A commitment to sustainability will not only reflect industry best practices but will also shape a more responsible and resilient future for interior design as a whole.

APPENDICES

Appendix 1

Participant information sheet

Interior Design Textiles and Sustainability

For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection

I am a PhD researcher at ImaginationLancaster, Lancaster University and I would like to invite you to take part in a research study that aims to obtain a better understanding of sustainability in interior design, particularly in decisions about textiles.

Please take time to read the following information carefully before you decide whether or not you wish to take part.

What is the study about?

The aim of this research is to explore how interior designers consider sustainability in their interior design projects, particularly in decisions about textiles. This study also addresses interior-design-related textiles-based knowledge with respect to sustainability.

Why have I been invited?

I have approached you because of your expertise in interior/textile design. I hope to exchange some knowledge and understanding about sustainability in the textile and interior design industry in the UK more generally.

I would be very grateful if you would agree to take part in this study.

What will I be asked to do if I take part?

If you decided to take part, this would involve the following: an online or face-to-face interview of approximately 30 to 60 minutes.

What are the possible benefits from taking part?

I hope that this process will become an exchange of knowledge and will further our understanding in this area.

Do I have to take part?

No. It's completely up to you to decide whether or not you take part. Your participation is voluntary. You are free to stop the interview at any time, without giving a reason and may choose not to answer any of the questions I ask.

What if I change my mind?

If you change your mind, you are free to withdraw at any time during your participation in this study and within 2 weeks after taking part in the study, without giving any reason. If you want to withdraw, please let me know, and I will extract any ideas or information (=data) you contributed to the study and destroy them. However, it is difficult and often impossible to take out data from one specific participant when this has already been anonymised or pooled together with other people's data. Therefore, you can only withdraw up to 2 weeks after taking part in the study.

What are the possible disadvantages and risks of taking part?

It is unlikely that there will be any major disadvantages to taking part. If any part of the research project to provoke discomfort and strong feelings, you may decide to withdraw from the research without reason and your contributions will be removed as described above.

Will my data be identifiable?

After the interview, only myself and my supervisors at Lancaster University will have access to the ideas you share with me.

I will keep all personal information about you (e.g., your name and other information about you that can identify you) confidential, that is I will not share it with others. I will remove any personal information from the written record of your contribution. All reasonable steps will be taken to protect the anonymity of the participants involved in this project.

If you agree to take part face-to-face, then I would like to record the interview in audio form to transcribe the interview for data analysis. However, if you agree to take part online, then I would like to record the interview in video form to transcribe the interview for data analysis. No direct audio or video will be used in the PhD thesis or any publication outputs, only anonymized transcriptions will be used. The audio and video will be kept on university encrypted storage devices and Microsoft OneDrive.

How will we use the information you have shared with us and what will happen to the results of the research study?
I will use the information you have shared with me only in the following ways:

I will use it for research purposes only. This will include my PhD thesis and other publications such as journal articles. I may also present the results of my study at academic conferences or reports.

When writing up the findings from this study, I would like to reproduce some of the views and ideas you shared with me. I will only use anonymised quotes (e.g. from my interview with you), so that although I will use your exact words, all reasonable steps will be taken to protect your anonymity in **our publications.**

How my data will be stored

Your data will be stored in encrypted files (that is no-one other than me, the researcher will be able to access them) and on password-protected computers. I will store hard copies of any data securely in locked cabinets in my office. I will keep data that can identify you separately from non-personal information (e.g. your views on a specific topic). In accordance with Lancaster University guidelines, I will keep the data securely for a minimum of ten years.

What if I have a question or concern?

If you have any queries or if you are unhappy with anything that happens concerning your participation in the study, please contact myself y.sumer@lancaster.ac.uk **or contact my supervisors:**

Professor Judith Mottram: judith.mottram@lancaster.ac.uk
Dr Lisa Thomas: l.thomas@lancaster.ac.uk
If you have any concerns or complaints that you wish to discuss with a person who is not directly involved in the research, you can also contact my head of department:

Professor Alan Marsden (Head of Department for LICA): a.marsden@lancaster.ac.uk

This study has been reviewed and approved by the Faculty of Arts and Social Sciences and Lancaster Management School's Research Ethics Committee.

For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage:
www.lancaster.ac.uk/research/data-protection

Thank you for considering your participation in this project.

Appendix 2

CONSENT FORM

Project Title: Interior Design Textiles and Sustainability
Name of Researcher: Yagmur Sumer
Email: y.sumer@lancaster.ac.uk
Please tick each box

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time during my participation in this study and within 2 weeks after I took part in the study, without giving any reason. If I withdraw within 2 weeks of taking part in the study, my data will be removed.	☐
3. I understand that my name/my organisation's name will not appear in any reports, articles or presentations without my consent.	☐
4. I understand that the face-to-face interviews will be audio-recorded and the interviews through Microsoft Teams/Zoom will be video-recorded and transcribed, and that data will be protected on encrypted devices and kept secure.	☐
5. I understand that data will be kept according to Lancaster University guidelines for a minimum of 10 years after the end of the study.	☐
6. I agree to take part in the above study.	☐

_____ _____ _____
Name of Participant Date Signature

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent_____ **Date** _____ Day/month/year

One copy of this form will be given to the participant and the original kept in the files of the researcher at Lancaster University.

V18-9-19

Appendix 3

Questions for Interior Designers

1. Could you tell me about your background?

2. Could you tell me about the way a project develops from initial brief to delivery?

3. What is the driving force behind design decisions in your design for interiors?

4. How important is sustainability to you as a designer?

5. Has consideration of sustainability been part of your interior design process?
   Then if it's a 'yes' answer:

   5.1. At which points in your design process is sustainability considered?

   5.2. Do you consider the sustainability of material?

      5.2.1. Are sustainable material prices affordable?

   5.3. Has any organisation or resources been helpful?
      Then if it's a 'yes' answer:

      5.3.1. How has it been helpful?

6. Do you think clients think about sustainability?
   6.1. Are your clients sometimes more interested in luxury or economy over sustainability?

7. Is there any relation between the price and the sustainability level of the interiors?
   7.1. How to define prices?

8. Did you use any textiles of any sort in your design projects?
   Then if it's a 'yes' answer:

   8.1. How do you specify textiles for interiors?

8.2. How do you source textiles?

8.3. Did you consider sustainability in relation to textiles?
Then if it's a 'yes' answer:

8.3.1. Are there any barriers/challenges to sustainability in textile choices for interior design?

9. Do you ever work closely with textile designers?
Then if it's a 'yes' answer:

9.1. Has this cooperation ever taken sustainability into account/ever focused on sustainability?

9.2. What was the outcome of the collaboration?

10. Do you think that the cooperation of interior designers with textile designers might contribute to interior textile practices and sustainability decisions?

11. Is there anything you would like to see happen in the interior design sector about sustainability?

Questions for Textile Designers

1. Could you tell me about your background?

2. Could you tell me about the way a project develops from start to finish?

3. What is the driving force behind design decisions in your textile designs?

4. How important is sustainability in your projects?

5. Has consideration of sustainability been part of your design decisions?
Then if it's a 'yes' answer:

5.1. Have you considered the sustainability of the yarns, dyes or any other elements of the process?

5.2. What sort of decisions guided your sustainability choices in your textile designs?

5.2.1. Are sustainable choices affordable?

5.3. Has any organisation or resources been helpful?
Then if it's a 'yes' answer:

5.3.1. How has it been helpful?

5.4. Are there any barriers/challenges to sustainability in textile designs?

6. Do you think clients think about sustainability?
   6.1. Are your clients sometimes more interested in luxury or economy over sustainability?

7. Is there any relation between the price and the sustainability level of the textile design?
   7.1. How to define prices?

8. Do you ever work closely with interior designers?
   Then if it's a 'yes' answer:

   8.1. Has this cooperation ever taken sustainability into account/ever focused on sustainability?

   8.2. What was the outcome of the collaboration?

9. Do you think that the cooperation of textile designers with interior designers might contribute to interior textile practices and sustainability decisions?

10. Is there anything you would like to see happen in the textile design sector about sustainability?

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