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Beyond Business as Usual: Portuguese Enterprises in the Age of Sustainability Megatrends

ABSTRACT

The unprecedented combination of social, environmental and economic challenges, known as the sustainability megatrends, has led to widespread sustainability-driven change across society. These megatrends are having a significant impact across the political, economic and environmental dimensions and are expected to have lasting effects over the coming decades. As a result, organisations are increasingly faced with the need to adapt and manage these transformative forces in order to remain relevant and competitive. This study focuses on Portuguese organisations and their response to sustainability megatrends. A qualitative research methodology, followed by a secondary data set of 101 interviews, revealed that the megatrends are highly relevant for Portuguese organisations. While the majority of organisations are currently implementing sustainable practices in their business strategy and adapting production to become more sustainable, it is evident that there is still progress to be made in order to fully integrate sustainability into their business model.

Keywords: Sustainability, Megatrends, Sustainable business model, Triple Bottom Line, Circular Economy, Portuguese Organisations

1. Introduction and Literature Review

The unprecedented combination of social, environmental and economic challenges, such as climate change, resource scarcity, social inequalities, etc., requires comprehensive and sustainability-oriented changes in key areas of society (Gaudig et. al., 2021). These challenges can also be referred to as megatrends, which can be defined as significant impacts on the political, economic and environmental dimensions that will affect our way of life in the coming decades (Ramos & Isfan, 2020).

Organisations are expected to face an increasing number of megatrends in the near future, many of which are already having an impact (Linthorst & de Waal, 2020). These megatrends are triggering exponential changes in the way organisations operate, and therefore organisations that misjudge the risks associated with these megatrends and fail to adapt may suffer serious long-term consequences (Waard, 2022).

The need for this study is twofold: firstly, sustainability has become increasingly important for organisations to remain relevant and competitive in today's world. It should therefore be an integral part of the development of corporate strategy and, in addition, offers opportunities for future growth (White, 2009). Secondly, as mentioned at a European Council meeting, Portugal is one of the countries most affected by climate change. The country is experiencing a trend towards more extreme weather events, such as heat waves, droughts, floods and forest fires, which have a huge impact on the population, the business sector and the economy (Ramos & Isfan, 2020). It is therefore of the utmost importance to monitor whether sustainable behaviour is actually being integrated into Portuguese organisations.

In an era of rapid environmental, social and economic change, organisations around the world are facing a number of sustainability megatrends. These trends, which include climate change, resource scarcity and social inequalities, are forcing a re-evaluation of traditional business models to ensure resilience and sustainability. This study stems from the critical need to understand how Portuguese companies are navigating this new paradigm, making a significant contribution to both the academic literature and practical application in the field of sustainable business practices.

The unprecedented convergence of global sustainability megatrends demands a thorough examination of their impact on organizational strategies. This study explores how Portuguese

enterprises are navigating these challenges, offering unique insights that are crucial for both academic understanding and practical application in the field of sustainable business practices.

Begum et al. (2022) explore the sustainability implications of the COVID-19 pandemic, highlighting shifts towards environmental, social and economic sustainability. Using secondary data, they identify sustainability challenges and propose innovation as a key driver for sustainable production. The study reveals a significant shift towards sustainable consumer behaviour, particularly in the area of environmental sustainability, prompted by the pandemic. Begum et al. (2022) note the limitations of the study due to its reliance on secondary data and recommend future research through primary surveys. They argue for the integration of Industry 4.0 technologies to increase the resilience of production and meet market demands. The pandemic has forced the manufacturing sector to rethink production and supply chain management, emphasising digital manufacturing to maintain safety and efficiency. Begum et al. (2022) highlight the crisis as an opportunity for systemic reforms in public health and business practices, improving sustainability across all sectors.

Abbass et al. (2023) embarked on a qualitative investigation aimed at assessing the sustainable green financial environment in the aftermath of the COVID-19 pandemic, specifically examining the monetary seismic aftershocks. Using a combination of literature review, primary data collection through one-on-one interviews using a matrix-style questionnaire, and qualitative analysis techniques, the study involved a panel of experts selected through purposive sampling. Interpretive structural modelling (ISM) together with Matrices' Impact Cruise's Multiplication Appliquée a UN Classement (MICMAC) facilitated the assessment, modelling and analysis of the data collected. The study categorised the monetary aftershocks into levels of criticality, with issues such as increased cash requirements and reduced travel costs being less critical, and cumbersome regulations being the most significant concern. Abbass et al. (2023) contribute valuable insights into the structure of the sustainable green financial environment post-pandemic, providing an informative model and classification of critical aftershocks for a wide audience including economists, financial analysts and researchers. Despite methodological and resource limitations, the study's innovative approach presents a novel model for understanding the financial impact of the pandemic, albeit with limited generalisability due to the qualitative nature and scope of the research.

Murshed et al. (2020) conducted a study that focused on the importance of encouraging trade and foreign capital flows to promote the adoption of renewable energy resources in South Asian

countries, including Bangladesh, India, Pakistan and Sri Lanka. Given the partial achievement of the United Nations' 2030 Sustainable Development Goals, the transition from non-renewable to renewable energy sources in these economies emerges as a compelling area of research. The study posits that trade and financial liberalisation policies could be crucial in supporting this transition to renewable energy in the South Asian context. Econometric analysis within the paper suggests that increased trade openness and greater foreign exchange inflows are critical to increasing the share of renewable energy in the region's overall energy consumption mix. Consequently, Murshed et al. (2020) highlight significant policy implications for achieving energy sustainability in South Asia.

The significance of this research is multifaceted. Firstly, it fills a gap in the existing literature by focusing on the Portuguese context, a region uniquely affected by climate change and therefore a valuable lens through which to examine the integration of sustainability into business strategies. Through a qualitative analysis of 101 interviews, this study reveals the nuanced ways in which Portuguese organisations are responding to sustainability megatrends, providing a comprehensive overview that has not been previously explored.

Given the acute impact of sustainability megatrends on economic and environmental dimensions globally, the pertinence of this study lies in its focus on Portugal—a region particularly susceptible to such challenges due to its economic structure and geographic traits. This research fills a vital gap by delineating the adaptive measures Portuguese organizations are undertaking, thus contributing critical locale-specific insights to the global narrative on sustainable business practices.

Furthermore, this research is instrumental in highlighting the novel approaches to sustainability adopted by these organisations. By exploring the strategies used by companies to integrate sustainable practices into their business models, this study not only highlights the current state of sustainability integration in Portugal, but also identifies innovative practices that can inspire companies worldwide.

The results of this research are significant. They reveal a landscape where Portuguese organisations are actively engaging with sustainability megatrends, albeit with room for further integration into their core business models. This underscores a critical insight: while progress has been made, there is an imperative for continued progress towards fully sustainable business practices.

The policy implications of this study are profound. It provides evidence-based insights that can inform policymakers and business leaders alike, offering a roadmap for fostering a more sustainable and resilient business ecosystem in Portugal and beyond. By identifying both the progress made and the challenges that remain, this research paves the way for targeted policy interventions and strategic decisions that support the transition towards sustainability.

This manuscript not only fills a crucial gap in the literature by providing an in-depth analysis of how Portuguese companies are adapting to and incorporating sustainability megatrends, but also serves as a catalyst for future research and policy efforts aimed at enhancing the sustainability of business practices. Through its novel insights and comprehensive exploration, this study makes a significant contribution to the discourse on sustainable development and business strategy, making it an indispensable resource for academics, practitioners and policy makers engaged in the global sustainability agenda.

1.1 Triple Bottom-Line Precedents

The concept of sustainability, which encompasses social, environmental and economic dimensions, has evolved over time, with different precedents and origins shaping its current understanding. The Brundtland Commission's 1987 report is often cited as the foundational document that introduced the term 'sustainable development' into the global discourse Redclift (2005). This report emphasised the need to balance economic growth, social development and environmental protection to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Precedents for sustainability can also be found in the integration of environmental concerns with economic and social considerations. The concept of 'strong sustainability' prioritises environmental quality over social and economic prosperity (Pierie et al., 2015). However, it is increasingly recognised that all three dimensions are interrelated and need to be addressed simultaneously for true sustainability.

In the field of Corporate Social Responsibility, there is a historical precedent for considering social and environmental factors alongside economic objectives. The integration of Corporate Social Responsibility with sustainable development highlights the importance of businesses integrating social and environmental concerns into their operations. This integration reflects a broader trend towards recognising the interdependence of social, environmental and economic systems in achieving sustainability.

Furthermore, an emphasis on community participation and empowerment has been identified as a key factor in promoting sustainability (Kessler, 2007). Engaging stakeholders and fostering a sense of ownership of sustainability initiatives can lead to long-term commitment and programme sustainability (Walsh et al., 2012). This participatory approach is consistent with the principles of sustainable development, which emphasise inclusivity and collaboration across social, environmental and economic spheres.

The antecedents and origins of sustainability lie in historical documents such as the Brundtland Commission Report, the integration of environmental concerns with economic and social factors, and the emphasis on community engagement and empowerment. These foundational elements have shaped the contemporary understanding of sustainability as a holistic approach that balances social, environmental and economic considerations for the well-being of present and future generations.

1.2 Sustainability Megatrends

1.2.1 Economic Sustainability: The Foundation of Long-Term Growth

Economic sustainability, highlighted by the triple bottom line framework, requires operations that ensure financial health and contribute to economic resilience, incorporating KPMG's (2012) insights on sustainability megatrends and their implications for business strategies. This dimension reflects the need for organisations to innovate and adapt, promoting sustainable business models in line with the principles set out by the World Commission on Environment and Development (Seyler, 2020) and Brundtland, G. (1987), who advocated sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

1.2.2 Social Sustainability: Ensuring Equity and Community Well-being

The social pillar emphasises the need for equitable and inclusive operations that enhance the well-being of communities, echoing the concerns about social inequalities highlighted by Ramos & Isfan (2020) and the calls for inclusive growth and development reflected in the principles of sustainable development. This aspect of sustainability is critical as it involves addressing the direct and indirect social impacts of organisational activities, ensuring that economic progress contributes to strengthening the social fabric, as advocated by Baumgartner (2014) and supported by the overarching goals of the United Nations Sustainable Development Agenda.

1.2.3 Environmental Sustainability: Preserving the Planet for Future Generations

Addressing the environmental dimension involves initiatives to minimise the environmental footprint of the organisation's activities, with an emphasis on resource conservation and the sustainable management of natural resources. The urgent need to address climate change, as described by the Intergovernmental Panel on Climate Change (IPCC) (2022) and the World Economic Forum (WEF) (2021), highlights the critical role of environmental sustainability in ensuring the health of the planet for future generations. This commitment to environmental stewardship is essential to balancing economic development with ecological preservation, as demonstrated by the significant environmental challenges and megatrends outlined by Retief et al. (2016) and Deloitte (2021).

1.2.4 Integrating the Triple Bottom Line: A Holistic Approach to Sustainability

The holistic integration of the Triple Bottom Line requires a balanced approach that recognises the interdependence of economic viability, social equity and environmental stewardship. This comprehensive strategy is in line with the insights of Elkington (1997, 2006, 2018), who introduced the Triple Bottom Line concept and urged organisations to measure their impact in terms of people, planet and profit. By embedding sustainability into their core strategies, organisations can address the challenges posed by global megatrends, seize opportunities for sustainable innovation and growth, and contribute to the global sustainability agenda.

According to Linthorst and Waal (2020), the coming years will present significant challenges for organisations caught between striving to meet the United Nations Sustainable Development Goals and navigating the complexities of numerous emerging megatrends and disruptors. A descriptive literature review focused on understanding the expected impact of these megatrends and disruptors, particularly in relation to Goal 8: promoting economic growth and decent work. This review identified thirteen megatrends and one disruptor and analysed their expected impact on organisations. While the academic literature covers megatrends extensively, it offers little on managing disruptors, a gap that is partially filled by the management literature, which provides some strategies for addressing these challenges.

Seyler (2019) explores the intersection of significant global trends and the imperative for sustainability, in the context of their impact on organisations and society as a whole. He identifies several key megatrends, including demographic change, urbanisation, globalisation, resource scarcity and climate change, and outlines their profound impact on our lives and the urgent need for sustainable development in response. Demographic change is highlighted by

the exponential growth of the world's population, which is increasing pressure on resources and requires a sustainable approach to managing the impact. Urbanisation is discussed in terms of the irreversible shift towards urban living, which poses challenges for urban planning and resource management.

Globalisation is examined in terms of its role in increasing economic interdependence, which brings prosperity but also increased resource consumption and environmental degradation. Resource scarcity is highlighted as a critical concern, given the unsustainable rate at which natural resources are being depleted. Climate change is identified as a direct consequence of these trends, with far-reaching implications for environmental stability and human well-being. Seyler (2019) highlights the urgency of integrating sustainability into organisational strategy and decision-making, in order to effectively address the challenges posed by megatrends. She argues for a multifaceted approach to policy-making that supports organisations in their transition to more sustainable practices, highlighting the role of mindfulness, environmental attitudes and user behaviour in driving this change.

The path to sustainability is characterised by the integration of economic, social and environmental considerations, guided by the principles of the triple bottom line framework. This approach not only addresses the urgent challenges highlighted by the sustainability megatrends, but also opens up avenues for innovation and strategic growth in line with the Sustainable Development Goals, ensuring a balanced and prosperous future for all.

Source - Deloitte 2021 Climate Check: Business' Views on Environmental Sustainability

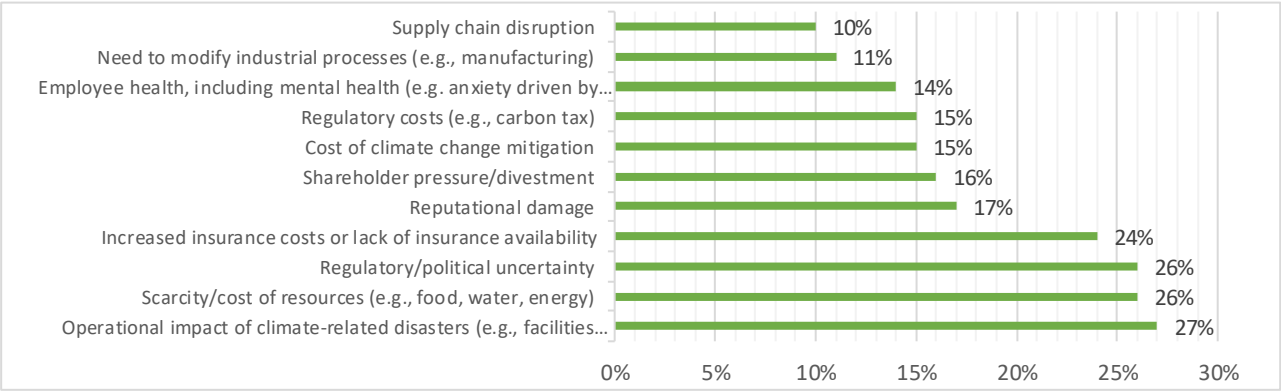


Figure 1. Biggest environmental sustainability issues already impacting or threatening to impact organisations

1.3 Sustainability Performance Frameworks

The triple bottom line framework introduced by Elkington (1994) provides a comprehensive model for assessing sustainability performance across the economic, social and environmental dimensions of corporate activities. This multidimensional approach goes beyond traditional

financial metrics to encompass the broader impacts that organisations have on their stakeholders, including employees, customers, suppliers, communities and the environment (Schaltegger & Wagner, 2006; Fiksel et al., 1999). By integrating these three pillars - people, planet and profit - companies can navigate the complex landscape of sustainability megatrends and meet societal expectations for responsible business practices (Guest, 2010; Burritt & Schaltegger, 2010).

1.3.1 Economic Sustainability: Profit

Economic sustainability refers to an organisation's impact on the economic systems in which it operates. It emphasises the importance of sustainable business practices that contribute to a company's long-term financial performance. Research has shown that companies that integrate environmental and social considerations into their strategies can achieve better financial results, debunking the myth that sustainability hurts profitability (Linnenluecke & Griffiths, 2010; White, 2009; Gimenez et al., 2012).

1.3.2 Social Sustainability: People

The social pillar focuses on the company's practices in relation to labour, human capital and community well-being. It involves conducting business in a way that is not only fair and equitable, but also contributes positively to societal development. However, achieving social sustainability is challenging as organisational strategies often neglect social and environmental aspects in favour of economic gains (Baumgartner, 2014; Winter & Knemeyer, 2013). This highlights the need for a cultural shift within organisations to prioritise social values and employee satisfaction as an integral part of their sustainability agenda (Fonseca, 2015).

1.3.3 Environmental Sustainability: Planet

Environmental sustainability emphasises the need to adopt practices that preserve natural resources for future generations. This dimension has gained prominence in the context of increasing environmental degradation and climate change. However, the effective management of environmental responsibilities remains a challenge for many organisations, often due to the perceived trade-off between environmental responsibility and economic performance (Silvestre & Fonseca, 2020).

1.3.4 Expanding the Triple Bottom Line

The evolution of the triple bottom line framework has led to proposals to expand its scope to include additional dimensions, such as employee well-being (the quadruple bottom line) and

cultural and ethical considerations (the quintuple bottom line) (Lawler, 2014; Avi, 2022). These extensions reflect a growing recognition of the complex interdependencies between organisational practices and their wider impacts on society and the environment.

1.3.5 Implementation Challenges and Opportunities

The widespread adoption of the triple bottom line and related frameworks has not been without its challenges. Organisations face difficulties in measuring and reporting their sustainability performance due to the lack of standardised methodologies and the diversity of available metrics (Slaper & Hall, 2011). Despite these challenges, the diversity of sustainability performance frameworks provides opportunities for organisations to tailor their sustainability strategies to their unique contexts and objectives (BCSD & Coelho, 2021; Loviscek, 2021).

The triple bottom line framework represents a significant advance in the way organisations conceptualise and implement sustainability. By balancing economic performance with social equity and environmental stewardship, companies can contribute to the Sustainable Development Goals and address the critical challenges of our time. As sustainability practices evolve, organisations must continue to innovate and adapt their strategies to meet growing demands for transparency, accountability and meaningful impact (Elkington, 1997; Lawler, 2014; Elkington, 2006).

1.4 Circular Economy

The transition to a circular economy represents a fundamental shift in our approach to production, consumption and waste management, challenging the traditional linear model of 'take, produce, use and dispose' (Demirel & Danisman, 2019). This shift is not only a response to the pressing environmental challenges of our time, but also a strategic move to enhance economic resilience and social well-being. Through the lens of the triple bottom line framework, the multiple benefits of the circular economy can be explored across economic, social and environmental dimensions.

1.4.1 Economic Sustainability: Enhancing Profit through Efficiency and Innovation

The circular economy model promotes economic sustainability by optimising resource use and creating new opportunities for growth and innovation. By encouraging the maintenance, repair, reuse, recycling and remanufacturing of products, the Circular Economy drives the creation of new jobs and business models, contributing to a robust and resilient economy (MacArthur, 2013; Fonseca et al., 2018). Furthermore, the implementation of more efficient supply chain

and product lifecycle management practices not only reduces waste, but also leads to significant cost savings and increased profitability for businesses (Kumar et al., 2019). The transition to renewable energy sources as part of circular economy practices further supports economic sustainability by reducing reliance on fossil fuels and reducing carbon emissions, thereby supporting long-term economic growth (Ghisellini et al., 2016).

1.4.2 Social Sustainability: Fostering People's Well-being and Equity

Social sustainability is inherently supported by the circular economy model through the creation of employment opportunities and the promotion of social equity. The emphasis on repair, reuse and remanufacturing not only contributes to waste reduction, but also promotes skills development and the creation of green jobs, thereby improving the livelihoods and resilience of communities (MacArthur, 2013; Fonseca et al., 2018). In addition, by facilitating greater collaboration across the supply chain, circular economy practices promote a more equitable distribution of value and foster stronger connections between businesses and consumers, ultimately contributing to societal wellbeing.

1.4.3 Environmental Sustainability: Protecting the Planet through Resource Conservation

At the heart of the Circular Economy model is a commitment to environmental sustainability, which is achieved by minimising resource extraction and reducing waste and pollution. Through the efficient use of materials and energy, Circular Economy practices help to slow the over-exploitation of natural resources and reduce environmental degradation (Morgan & Mitchell, 2015; Fonseca et al., 2018). The shift towards a circular economy is also instrumental in promoting eco-innovation, leading to the development of products and processes that have a lower environmental footprint and contribute to the conservation of ecosystems (OECD, 2010; EIO, 2012).

1.4.4 Overcoming Barriers to Circular Economy Implementation

Despite its potential, the transition to a circular economy model faces several barriers, including the high costs associated with changing business practices, the complexity of managing and reporting in a circular system, and existing legal and financial structures that favour linear models (Fonseca et al., 2018; Rizos et al., 2016). Furthermore, achieving a circular economy requires a cultural shift in both business and consumer behaviour, which requires raising awareness and moving away from risk aversion and resistance to change (Ritzén & Sandström, 2017; Piscicelli & Ludden, 2016).

To effectively address these challenges, it is essential to foster a favourable institutional environment that supports the circular economy through appropriate fiscal and regulatory frameworks. In addition, promoting eco-innovation and changing consumer attitudes and patterns are crucial steps towards realising the full potential of the circular economy.

The Circular Economy, viewed through the triple bottom line framework, offers a comprehensive strategy for achieving sustainability across economic, social and environmental dimensions. By redefining our approach to production and consumption, the Circular Economy offers a pathway to a more sustainable, resilient and equitable future.

1.5 Overview of Sustainable Development in Portugal

Portugal's commitment to addressing environmental, social, and economic challenges is evident through its alignment with the European Ecological Pact, the Paris Agreement, and the Sustainable Development Goals. This commitment is manifested in a multi-faceted approach that includes macro, sectoral, and micro level actions, and is highlighted by key policy initiatives and the evolving landscape of sustainability reporting among Portuguese organisations.

1.5.1 Economic sustainability: Profit and Growth

The Circular Economy Action Plan (CEAP), launched in December 2017, represents Portugal's strategic move to mitigate the economic and environmental damage caused by resource inefficiency. By evaluating tax incentives to reduce plastic bag consumption and mapping resource flows in value chains, the plan aims to strengthen productivity and resource efficiency across sectors (Council of Ministers, 2017). In addition, the Roadmap for Carbon Neutrality 2050 (RNC2050) charts a trajectory towards net-zero emissions by 2050, underscoring the commitment to decarbonise the economy and promote sustainable urban development. This trajectory not only supports environmental goals, but also promotes economic growth by encouraging innovation in green technologies and sustainable practices (Council of Ministers, 2019).

1.5.2 Social sustainability: People and communities

Portugal's sustainability policies also emphasise the social dimension, particularly through efforts to integrate circular economy principles at the local and regional level. Initiatives such

as the promotion of industrial symbiosis networks aim to have a systemic impact on society, improving the resilience and well-being of communities. The National Energy and Climate Plan, with its comprehensive set of actions, further illustrates Portugal's commitment to ensuring equitable transitions across the economy, thereby supporting Sustainable Development Goal (SDG) 8: Decent work and economic growth (Council of Ministers, 2019).

1.5.3 Environmental Sustainability: Planet and Conservation

The environmental pillar of Portugal's sustainability strategy is strongly supported by both the APCE and the RNC2050. These plans articulate clear targets for reducing greenhouse gas emissions, promoting sustainable urban development and advancing the circular economy. Through these initiatives, Portugal is taking concrete steps towards achieving SDG 12: Responsible Production and Consumption and SDG 13: Climate Action, thereby contributing to global efforts to combat climate change and preserve environmental resources for future generations (Council of Ministers, 2017; Council of Ministers, 2019).

1.5.4 Challenges in sustainability reporting

Despite progress in policy and planning, sustainability reporting by Portuguese organisations shows room for improvement. A study by BCSD Portugal (2021) highlights a trend towards SDG-aligned reporting, but notes inconsistencies and fragmentation, especially among Small and Medium-sized Enterprises (SMEs). This gap points to the need for enhanced global reporting standards and greater support for all companies, regardless of size, to accurately measure and communicate their sustainability impacts (Ramos et al., 2013; Fonseca & Carvalho, 2019).

Portugal's strategic initiatives reflect a comprehensive approach to sustainability, encompassing economic growth, social equity and environmental protection. However, to fully realise these ambitions, continued efforts are needed to streamline sustainability reporting and ensure inclusive participation across all sectors of the economy. This holistic view of sustainability, based on the Triple Bottom Line framework, underlines the interconnectedness of economic prosperity, social well-being and environmental protection in building a sustainable future.

The significance of this study lies in its comprehensive examination of how Portuguese organisations are integrating sustainability megatrends into their business strategies and operations. This research fills a critical gap in the literature by providing an in-depth analysis

of sustainability practices within a specific geographical context that has been underexplored in previous studies.

This study is distinguished by its methodological approach, which uses structured interviews to collect qualitative data from a wide range of professionals from different sectors in Portugal. Unlike existing research, which relies predominantly on quantitative methods or case studies of individual organisations, this study provides a broader, more nuanced understanding of the sustainability landscape in Portugal. By focusing on multiple sectors and including voices from top management to operational staff, it captures a wide range of perspectives on sustainability integration, providing a richer, more detailed picture than previously available.

For academics, this study provides empirical evidence and theoretical insights into the practical application of sustainability megatrends in business environments. It contributes to the body of knowledge by exploring the intersection of sustainability and business strategy in a way that is grounded in real-world experience and practice. The findings of this research can inform future theoretical models and frameworks for understanding sustainability in business, particularly in the context of Portuguese and similar economies.

For practitioners, the study provides valuable lessons and benchmarks from across the Portuguese business landscape. Organisations can use these insights to enhance their sustainability initiatives, align their practices with global sustainability trends, and address the challenges and opportunities presented by the transition to more sustainable business models. The study's findings can also guide policymakers in designing supportive policies and frameworks that encourage businesses to adopt and excel in sustainable practices.

With the global community facing pressing challenges such as climate change, resource depletion and social inequality, the urgency of addressing sustainability issues has never been greater. This research is timely, as it addresses how organisations can contribute to the UN Sustainable Development Goals through their operations and strategies. By focusing on the sustainability megatrends, the study highlights the role of business in driving progress towards these goals, providing a pathway for sustainable economic growth, environmental stewardship and social well-being.

This study is an important addition to the literature on sustainability and business strategy. Its unique methodological approach, combined with its focus on the Portuguese context, provides new insights into the integration of sustainability practices in business. The study not only

enriches the academic discourse on sustainability, but also serves as a practical guide for companies and policy makers seeking to promote sustainability in their operations and policies.

2. Methodology

In order to meet the defined objectives, a qualitative analysis will be carried out. The qualitative method chosen was interviews, which, unlike quantitative methods, are thought to provide a personal perspective while adding context and deepening our understanding of social behaviour (Silverman, 2005).

This study employs a qualitative research methodology, specifically through the use of structured interviews, to delve into the strategic responses of Portuguese enterprises to sustainability megatrends. This approach is particularly pertinent for capturing the complex, context-dependent insights that quantitative methods might overlook. The selection of structured interviews allows for in-depth exploration of the nuanced ways in which organizational leaders perceive and integrate sustainability into their business strategies. Unlike alternative methodologies that might rely on observational or secondary data, structured interviews provide a direct avenue for understanding the intentions, motivations, and strategic thinking of key decision-makers within these organizations.

This method enhances the study's credibility by grounding findings in real-world experiences and direct accounts, thereby offering a richer, more detailed understanding of how sustainability is operationalized within varied business contexts. Furthermore, this approach supports a rigorous analysis of the adaptive measures and innovations implemented, highlighting the practical implications and effectiveness of different strategies in real-time. By employing this methodology, the study not only contributes to the academic literature with empirical evidence but also ensures the practical relevance of its conclusions, aiding policymakers and business leaders in crafting more informed, effective sustainability strategies.

These interviews were uploaded to KH Coder, which provides text mining techniques, i.e. the use of data analysis software that uses natural language processing to transform large amounts of data into structured data suitable for analysis.

This study extracts secondary data from 101 structured interviews with Portuguese personalities. Conducted in 2021 and published in 2022 by ISCTE Executive Education, these interviews bring together important texts from several personalities from numerous sectors of Portuguese public life. The interviewees include CEOs, employees of multinational companies, entrepreneurs, managers, lawyers and university professors, among others, all of whom have

extensive knowledge in the field of sustainability, making these interviews full of important remarks on the subject.

From these 101 interviews, we will be able to extract critical knowledge that will provide individual and personalised answers to our research questions. We will be able to identify a general trend between all the organisations in terms of the measures they are applying, analyse whether they are consistent with the theoretical knowledge acquired in the literature review, and provide a critique of the opportunities and threats for the future of these organisations.

As the analysis consists of a large amount of data, in an effort to be as thorough as possible and to reduce the 'noise' surrounding the interviews, each question asked of the respondents will be analysed separately. Therefore, there will be four separate analyses, each dedicated to its own question, which will allow for a more complete and rigorous view of the information.

In order to structure the analysis of the data and subsequently the conclusions, articles from the literature will be transformed into research questions linked to specific research objectives. Therefore, Table 1 shows the research questions and objectives used.

Table 1. Research questions and objectives

(Author, Year)	Main Issues	Research Question	Research Objective
(Pęciak, 2016)	Explains the essence and relevance of Sustainability Megatrends	**RQ1**: Are Sustainability Megatrends relevant for Organisations?	**RO1:** Exhibit the most pronounced megatrends and understand their implications
(Gaudig et al., 2021)	Explores how different organisations are tackling sustainability Megatrends	**RQ2:** Have Organisations adopted Sustainability measures to tackle Megatrends?	**RO2**: Highlight the primary sustainable practices being incorporated into the organisations' strategy
(Maxell & van der Vorst, 2003) (Hernandez, 2019)	Analysis the method for effective sustainable products and/or service development	**RQ3**: Have Organisations made their production more sustainable?	**RO3**: Derive to the most common sustainable practices applied to production
(Linthorst & de Waal, 2020) (Retief et. al., 2016)	Researches the impact that Sustainability Megatrends will have on Organisations on the future	**RQ4**: What are the major threats and opportunities in the future for Organisations?	**RO4**: Extract personal opinions regarding the future of Organisations and, consequently, the planet

Source – Self elaborated

A detailed flowchart is presented below, summarising the main steps taken during the research process and enabling new studies to apply the same methodological principles.

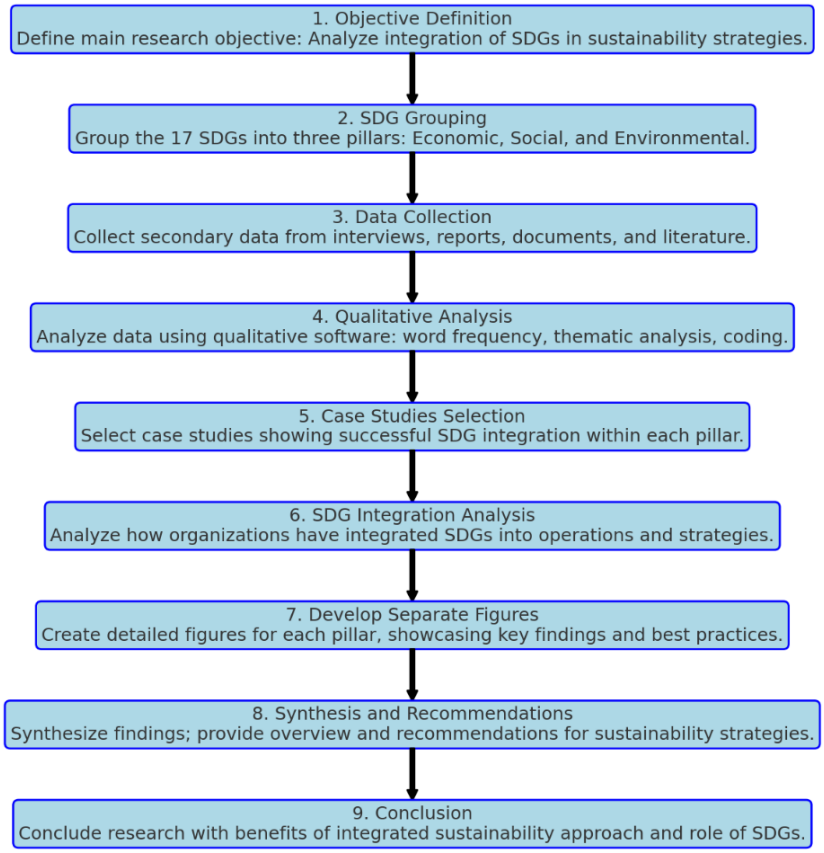


Figure 2: Adjusted methodology flowchart for SDG Integration Analysis

Source – Self elaborated

This methodological choice is driven by the need to provide in-depth insights into how Portuguese organisations are integrating sustainability megatrends into their business models and strategies. The choice of qualitative analysis, particularly through structured interviews, allows for a nuanced understanding of organisational responses to sustainability challenges. This approach enables the extraction of rich, detailed information that quantitative methods may not capture, providing a more personal perspective while adding context and deepening our understanding of social behaviour (Silverman, 2005). The study is based on interviews conducted by ISCTE Executive Education in 2021, incorporating the views of a diverse group of Portuguese professionals, including CEOs, entrepreneurs, managers, lawyers and university professors. This purposive sampling technique ensures that the participants have extensive knowledge in the field of sustainability, enriching the study with invaluable insights.

The superiority of the methodology over alternatives lies in its ability to facilitate a holistic exploration of the interplay between sustainability megatrends and organisational strategies in the Portuguese context. Unlike quantitative approaches that may favour breadth over depth, this qualitative methodology delves into the complexities and subtleties of sustainability integration, providing a grounded understanding of the current landscape and potential future directions.

The use of Interpretive Structural Modelling (ISM) combined with Matrices' Impacts Cruise's Multiplication Appliquée a UN Classement (MICMAC) for data assessment, modelling and analysis strengthens the research design by providing a structured, systematic approach to analysing the qualitative data. This innovative application of ISM and MICMAC in assessing the sustainable green financial environment post-COVID-19, as explored by Abbass et al. (2023), exemplifies the method's ability to uncover the intricate structures and dynamics within the data, providing a robust basis for the study's findings and recommendations. The chosen methodology, with its emphasis on qualitative analysis and the strategic use of interpretive structural modelling and MICMAC, allows for a comprehensive, in-depth examination of the integration of sustainability megatrends in Portuguese organisations. This approach not only distinguishes the study from others by deepening the analytical depth, but also enhances its credibility and rigour, ensuring that the findings are of significant value to academics, practitioners and policymakers engaged in the global sustainability agenda.

3. Results and Discussions

3.1 Are sustainability megatrends relevant for Portuguese organisations?

First, we identified the most frequently used words in the 101 interviews. With the help of the word frequency list and the world cloud, these analyses allow us to get a broad idea of the main themes.

List

#	Word	POS / Conj.	Frequency
1	sustainability	Noun	236
2	climate	Noun	192
3	change	Noun	174
4	planet	Noun	153
5	economic	Adj	145
6	social	Adj	143
7	global	Adj	139
8	environmental	Adj	129
9	world	Noun	125
10	development	Noun	121
11	challenge	Noun	112
12	life	Noun	110
13	society	Noun	106
14	country	Noun	105
15	year	Noun	104
16	sustainable	Adj	102
17	impact	Noun	100
18	company	Noun	98
19	human	Adj	97
20	resource	Noun	96
21	time	Noun	90
22	future	Noun	84
23	people	Noun	84
24	new	Adj	82
25	energy	Noun	79
26	make	Verb	75
27	only	Adv	73
28	action	Noun	69
29	economy	Noun	68
30	megatrend	Noun	68
31	live	Verb	67

Figure 3. Word Frequency List of RQ1
Source – Self-elaborated based on KH Coder 3



Figure 4. World Cloud of RQ1
Source – Pro world cloud

Respondents frequently used words such as 'sustainability', 'climate' and 'change', highlighting the strong link between climate change and sustainability. The interviews revealed that climate change is seen as a core megatrend with far-reaching implications for other megatrends. This sentiment is in line with Retief et. al. (2016), IPCC (2022) and WEF (2021), who highlighted climate change as a key driver influencing other megatrends. The concerns expressed by respondents were reflected in words such as 'challenge', 'impact' and 'risks', highlighting the perceived severity of issues such as climate change, resource scarcity and social inequalities. The triple bottom line dimensions of 'social', 'economic' and 'environmental' were frequently mentioned together, highlighting their interconnectedness and the potential impact of changes in one dimension on the others (Elkington, 2018). The word cloud also included United Nations and Sustainable Development Goals, referring to the 17 Sustainable Development Goals that address major challenges such as poverty, hunger and biodiversity loss. Of all the indicators mentioned, the Sustainable Development Goals were the most familiar to respondents, which is in line with

the findings of BCSD Portugal (2021) that Portuguese companies are increasingly inclined to report on the UN Sustainable Development Goals.

The second method used to further deepen the analysis and begin to connect the concepts was word association. This analysis links a specific word with the most common words associated with it.

Search Entry:

#direct
*megatrends
#none

Result:

N	word	POS	unconditional	conditional	Frequency
1	change	Noun	172 (0.031)	5 (0.069)	5.0000
2	sustainability	Noun	236 (0.043)	5 (0.069)	5.0000
3	analysis	Noun	9 (0.002)	2 (0.028)	2.0000
4	challenge	Noun	112 (0.020)	2 (0.028)	2.0000
5	development	Noun	119 (0.022)	2 (0.028)	2.0000
6	environmental	Adj	128 (0.023)	2 (0.028)	2.0000
7	nothing	Noun	10 (0.002)	2 (0.028)	2.0000
8	social	Adj	143 (0.026)	2 (0.028)	2.0000
9	sustainability-related	Adj	2 (0.000)	2 (0.028)	2.0000
10	acceleration	Noun	5 (0.001)	1 (0.014)	1.0000
11	activity	Noun	39 (0.007)	1 (0.014)	1.0000
12	approach	Noun	10 (0.002)	1 (0.014)	1.0000
13	aware	Adj	14 (0.003)	1 (0.014)	1.0000
14	awareness	Noun	18 (0.003)	1 (0.014)	1.0000
15	business	Noun	63 (0.011)	1 (0.014)	1.0000
16	cause	Noun	14 (0.003)	1 (0.014)	1.0000
17	cautious	Adj	1 (0.000)	1 (0.014)	1.0000
18	concern	Noun	44 (0.008)	1 (0.014)	1.0000
19	constraint	Noun	2 (0.000)	1 (0.014)	1.0000

0000

Figure 5. Word Association of "Megatrends"

Source – Self-elaborated based on KH Coder 3

When identifying the word most associated with 'megatrends', 'change' and 'sustainability' were the most associated words. This can be explained by the fact that almost all respondents manifested the constant changes that sustainability megatrends are having on the world (Ramos & Isfan, 2020). Words such as 'conscious', 'aware', 'cautious' and 'concerned' were also associated with the megatrends, confirming the current distress felt by respondents in relation to this issue and the interest of organisations in addressing these megatrends. Throughout the interviews, it was possible to observe that the fear of megatrends felt by the interviewees stemmed from two main drivers: the fear of reputational damage (Burritt & Schaltegger, 2010) and the social responsibility to minimise the negative impact of the organisations' actions (Guest, 2010). Finally, it is also important to highlight the word 'acceleration' as it serves to confirm the words of Pęciak (2016) when she expressed that due to the complex, uncertain and

systemic nature of megatrends, they tend to accelerate, feed and amplify the effects of other megatrends, provoking consequences in both economic, social and environmental dimensions.

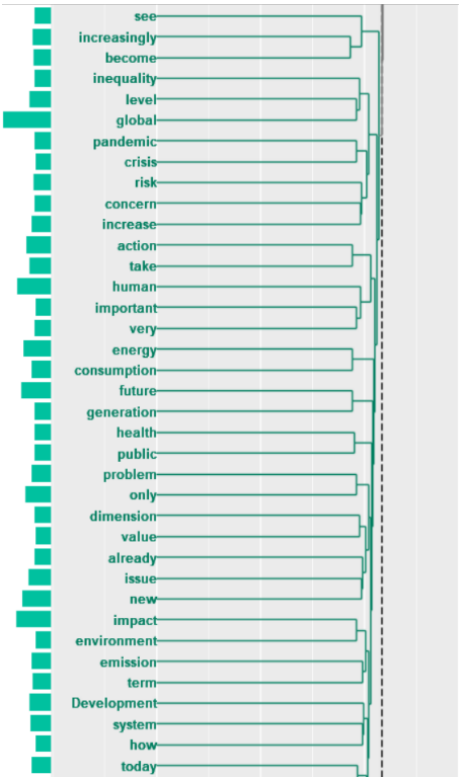


Figure 6. Hierarchical Cluster pt2.

Source – Self-elaborated based on KH Coder

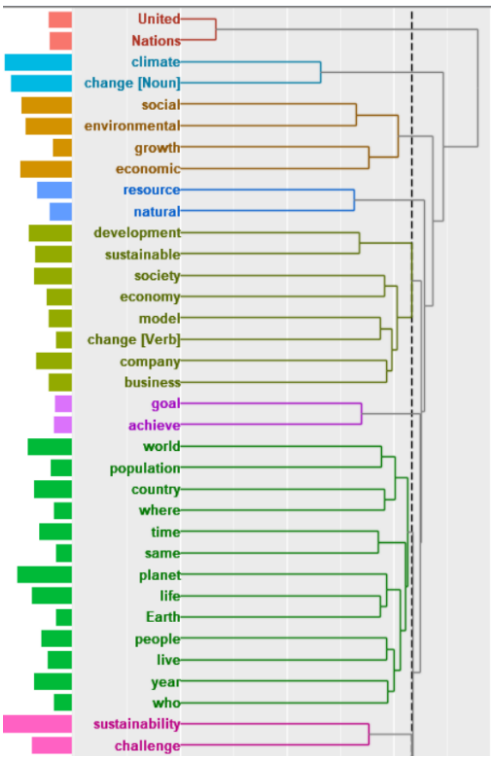


Figure 7. Hierarchical Cluster pt1.

Source – Self-elaborated based on KH Coder

In order to continue our investigation and retrieve relevant information, a hierarchical cluster analysis was carried out, which allows us to see which combinations of groups of words have similar patterns of occurrence.

As mentioned above, climate change was the environmental issue most frequently raised by respondents, represented by two of the words in the blue area of Figure 6. It was clearly perceived as the greatest threat to humanity, in line with the WEF (2021) and IPCC (2022). The high level of global inequality and the scarcity of natural resources were also megatrends mentioned in the interviews (KPMG, 2012). The words 'global', 'level' and 'inequality' in the teal area are related and therefore often mentioned together, and the same could be said for the words 'natural' and 'resource' in the blue area.

The words 'United' and 'Nations' in the red section are linked and mentioned very often. While the interviewees stressed the importance of the Sustainable Development Goals, they also pointed

out the risk of not achieving the goals by 2030. Halkos & Gkampoura (2021) shared the same concerns, concluding that while there has been some progress in certain areas, such as the economic pillar, the world is not on track and still has a long way to go to achieve the goals set. The recent pandemic was also mentioned several times in the interviews, as evidenced by the combination of the words 'pandemic' and 'crisis' in the teal section. Interviewees felt that the Covid-19 pandemic had exacerbated the difficult situation the world was already in and made it even more difficult to achieve the sustainable path that had been set.

Finally, the yellow area contains the words 'social', 'environmental', 'economic' and 'growth', which make up the 3 dimensions of the Triple Bottom Line. As the analysis progresses, the words 'social' and 'environmental' are linked, as are the words 'economic' and 'growth'. These specific links are justified because several interviewees expressed that society currently has a narrow vision, focusing mainly on economic growth and ignoring environmental and social growth. This idea confirms the words of, for example, Winter & Knemeyer (2013), Baumgartner (2014) and Silvestre & Fonseca (2020), when they mention that when organisations try to implement a triple bottom line approach, social and environmental growth are often overtaken by economic growth.

3.2 Have Organisations adopted Sustainability measures?

#	Word	POS / Conj.	Frequency
1	sustainability	Noun	171
2	company	Noun	157
3	sustainable	Adj	140
4	social	Adj	112
5	climate	Noun	101
6	challenge	Noun	100
7	sector	Noun	100
8	change	Noun	87
9	energy	Noun	87
10	new	Adj	85
11	environmental	Adj	84
12	impact	Noun	80
13	more	Adj	77
14	more	Adv	75
15	business	Noun	73
16	development	Noun	72
17	global	Adj	71
18	make	Verb	71
19	emission	Noun	68
20	economic	Adj	67
21	carbon	Noun	65
22	level	Noun	64
23	PORTUGAL	ProperNoun	64
24	country	Noun	60
25	society	Noun	60
26	year	Noun	58
27	world	Noun	56
28	value	Noun	55
29	policy	Noun	54
30	promote	Verb	54
31	area	Noun	53

Bar chart | Enable Filter when Search | P100 | N100

Figure 8. Word Frequency List of RQ2

Source – Self-elaborated based on KH Coder 3



Figure 9. Word Cloud of RQ2

Source – Pro world cloud

The second question asked how the respondent's organisation/context had adapted to these megatrends. Looking at the word frequency and world cloud analysis, as in the previous question, the words 'social', 'environmental' and 'economic' appeared frequently in these responses, but the frequency with which they were used differed. In the first set of responses, respondents mentioned the three dimensions with relatively equal frequency, whereas in this set of responses there is a greater disparity between the three dimensions, with the word 'economic' being used less frequently. In general, the responses showed that these organisations have been slowly incorporating Environmental, Social, and Governance principles, demonstrating greater attention to developing social, environmental and governance initiatives in their business models, such as diversity and inclusion in the workplace, gender equality, mental health in the workplace, energy transition, etc. This observation contradicts the assertion that these organisations have been slowly incorporating ESG principles, demonstrating a greater attention to developing social, environmental and governance initiatives in their business models. This observation contradicts the assertion of Winter & Knemeyer (2013), who argue that the social and environmental dimensions are often overlooked.

The word 'promote', 'make' and 'more' is relevant because the interviews revealed that the respondents' organisations were either promoting sustainable practices or intended to implement practices in the near future. In addition, many organisations focused on innovation, which explains the presence of the word 'new'. This is in line with Gaudig et al. (2021) who stated that with the growing global social and environmental challenges, sustainability-oriented innovations are urgently needed.

The words 'schools' and 'education' appear in the World Cloud. The interviewees believe that the science and education sectors not only have an important role to play in identifying and addressing the consequences of megatrends, but also in equipping the younger generation with the necessary knowledge to address these issues in the future. This is a pertinent point of view, in line with Nasibulina's (2015) reflections on the need for education to provide a social and environmental intellectual base for the implementation of sustainable development principles in the future.

Table 2. Bigram

No.	N-gram	Frequency	Probability	Strength
1	sustainable development	43	0.28	1.07
2	has been	41	0.22	0.83
3	climate change	39	0.43	1.59

4	we have	39	0.15	0.54
5	social and	38	0.3	1.09
6	we are	29	0.11	0.37
7	have been	28	0.16	0.52
8	more than	27	0.18	0.6
9	and social	27	0.02	0.05
10	there are	25	0.32	1.03
11	these megatrends	25	0.18	0.58
12	carbon neutrality	24	0.35	1.12
13	challenges these	24	0.31	0.99
14	but also	24	0.25	0.8
15	for example	24	0.07	0.23
16	more sustainable	21	0.14	0.43
17	and environmental	19	0.01	0.03
18	and economic	18	0.01	0.03
19	associated with	17	0.81	2.29
20	circular economy	17	0.74	2.09

Source = Self-elaborated based on N-Gram generator

The next text mining techniques used were the bigram and the trigram, as this can sometimes convey a more detailed meaning than analysing a single word. Figure 8 shows the bigram table. The most common bigram was 'sustainable development', which was expected as respondents were talking about how their own organisation/sector promotes sustainable development behaviour. The bigrams 'carbon neutrality' and 'circular economy' are the two most common practices that respondents said their organisation was trying to implement. Starting with carbon neutrality, many respondents explained how their organisation had followed the European Commission's proposal and committed to a decarbonisation plan to reduce greenhouse gas emissions by 45% by 2030 and ultimately achieve carbon neutrality by 2050. Regarding the commitment to a circular economy, some showed interest in implementing a circular business by: managing natural resources efficiently, minimising waste generated, extending the life of products, using renewable and recycled materials, and promoting synergies and cooperation throughout their value chain. These efforts are evidence of the implementation of the Action Plan for the Circular Economy and the Roadmap for Net Neutrality 2050 imposed by the Council of Ministers (2019).

Table 3. Trigram

No.	N-gram	Frequency	Probability	Strength
1	challenges posed by	30	0.39	1.33
2	the challenges posed	30	0.01	0.04
3	posed by these	24	0.73	2.31
4	by these megatrends	24	0.1	0.31
5	the creation of	18	0.01	0.02
6	the development of	18	0.01	0.02
7	in order to	17	0.02	0.05

8	in addition to	17	0.02	0.05
9	on the other	16	0.06	0.16
10	the united nations	16	0.01	0.02
11	the other hand	15	0.01	0.02
12	in terms of	14	0.01	0.04
13	the transition to	14	0.01	0.01
14	according to the	13	0.62	1.59
15	social and environmental	13	0.1	0.26
16	the european union	13	0	0.01
17	social and economic	12	0.09	0.23
18	the need to	12	0	0.01
19	the use of	12	0	0.01
20	greenhouse gas emissions	11	0.85	2.03

Source – Self-elaborated based on N-Gram generator

Moving on to Figure 9, the trigram table, a line of thought can be created with the trigrams 'the creation of', 'the development of', 'the transition to', 'the use of' and 'the need for'. Respondents used these trigrams to express the type of sustainable behaviour they apply in their own organisations. Obviously, due to the variety of sectors represented in the interviews, each respondent had very heterogeneous answers, reflecting the reality of their own organisation/sector. However, there were some common themes in most of the responses: driving digital transformation, developing circular economy models, using energy efficiently and reducing waste, raising awareness of the need for sustainable behaviour, and tackling social inequalities. The transition to a carbon neutral organisation was also strongly mentioned in the responses, as evidenced by the frequent use of the 'greenhouse gas emissions' trigram. The 'United Nations' trigram appears moderately. Some respondents mentioned that their organisations use the UN Sustainable Development Goals as a benchmark (BCSD, 2021). Nevertheless, it's important to highlight that the majority of respondents did not mention whether their organisation does any kind of sustainability reporting, which leads us to agree with BCSD & Coelho (2021), Ramos et al. (2013) and Fonseca & Carvalho (2019) when they argued that Portuguese companies present moderate sustainability reporting. This can be attributed to the lack of standardised global reporting guidelines for medium and small companies (BSCD & Coelho, 2021), which represent the majority of Portuguese companies.

3.3 Have organisations made their production more sustainable?

List

#	Word	POS / Conj.	Frequency
1	sustainability	Noun	157
2	company	Noun	136
3	sustainable	Adj	125
4	product	Noun	108
5	energy	Noun	103
6	make	Verb	94
7	new	Adj	91
8	impact	Noun	90
9	project	Noun	90
10	promote	Verb	88
11	sector	Noun	88
12	waste	Noun	86
13	year	Noun	83
14	climate	Noun	81
15	area	Noun	80
16	example	Noun	79
17	reduce	Verb	79
18	social	Adj	79
19	business	Noun	77
20	create	Verb	77
21	economy	Noun	76
22	action	Noun	74
23	challenge	Noun	72
24	management	Noun	72
25	change	Noun	71
26	develop	Verb	71
27	development	Noun	70
28	solution	Noun	69
29	environmental	Adj	67
30	model	Noun	65
31	way	Noun	64

Bar chart | Enable Filter when Search | P100 | N100

Figure 10. Word Frequency List of RQ3

Source – Self-elaborated based on KH Coder



Figure 21. World Cloud of RQ3

Source – Pro world cloud

The third question asked in the interviews was what the respondent's organisation had done specifically in terms of products and services to address the challenges mentioned.

When analysing the word frequency list and the world cloud, the top 3 most frequently used words coincide with the most frequently used words from the analysis of the previous question and the same reasoning applies to this set of responses. Looking at the other words mentioned, the word 'energy' was also used frequently throughout the interviews. Most of the interviewees mentioned the implementation of energy efficiency measures in their organisations, namely the reduction of energy consumption and the use of energy from renewable sources (Fonseca et. al., 2018). Almost all of the interviewees' organisations have plans to achieve carbon neutrality and zero net greenhouse gas emissions in the next 5-10 years, but they are not yet fully dependent on renewable energy.

One of the most frequently mentioned practices applied to products and services in the responses was to reduce the materials consumed and the waste generated by the organisation's activities, to increase the recycling of materials, to promote the reuse, repair, remanufacturing and recycling of waste/products, and to increase the life cycle of products (Fonseca et. al., 2018). It is for this reason that words such as 'product', 'waste', 'recycling' and 'reduce' appear

as highly mentioned words. These are clearly attempts to build a more circular economy that can reduce resource use and emissions, while improving the company's competitive position and minimising risks (Fonseca et. al., 2018).

The words 'innovation' and 'new' were also frequently used by interviewees, with many acknowledging that their organisations had made several investments to develop innovative solutions for their products, services or overall way of working. This drive for innovation is in line with Zhang et. al. (2019), Jesus & Mendonça (2018) and OECD (2010) when they argued that technological innovations not only play a central role in transforming the traditional linear model of production/consumption into a circular model, but also improve the performance of organisations and thus their financial performance (MacArthur, 2013) (Kumar et. al., 2019).

Result:

N	word	POS	unconditional	conditional	Jaccard
1	technology	Noun	60 (0.014)	7 (0.071)	0.0464
2	challenge	Noun	72 (0.017)	6 (0.061)	0.0366
3	creation	Noun	16 (0.004)	4 (0.041)	0.0364
4	business	Noun	76 (0.018)	6 (0.061)	0.0357
5	product	Noun	106 (0.025)	7 (0.071)	0.0355
6	model	Noun	65 (0.015)	5 (0.051)	0.0316
7	introduce	Verb	7 (0.002)	3 (0.031)	0.0294
8	adapt	Verb	8 (0.002)	3 (0.031)	0.0291
9	example	Noun	79 (0.018)	5 (0.051)	0.0291
10	buy	Verb	9 (0.002)	3 (0.031)	0.0288
11	skill	Noun	10 (0.002)	3 (0.031)	0.0286
12	promote	Verb	88 (0.020)	5 (0.051)	0.0276
13	generation	Noun	15 (0.003)	3 (0.031)	0.0273
14	customer	Noun	19 (0.004)	3 (0.031)	0.0263
15	problem	Noun	26 (0.006)	3 (0.031)	0.0248
16	implementation	Noun	28 (0.007)	3 (0.031)	0.0244
17	opportunity	Noun	30 (0.007)	3 (0.031)	0.0240
18	addition	Noun	31 (0.007)	3 (0.031)	0.0238
19	create	Verb	77 (0.018)	4 (0.041)	0.0234
20	sustainable	Adj	123 (0.029)	5 (0.051)	0.0231
21	world	Noun	43 (0.010)	3 (0.031)	0.0217
22	production	Noun	50 (0.012)	3 (0.031)	0.0207
23	organic	Adj	4 (0.001)	2 (0.020)	0.0200
24	paradigm	Noun	4 (0.001)	2 (0.020)	0.0200
25	academic	Adj	5 (0.001)	2 (0.020)	0.0198

Figure 12. Word Association of "New"

Source – Self-elaborated based on KH Coder 3

Result:

N	word	POS	unconditional	conditional	Jaccard
1	life	Noun	41 (0.010)	9 (0.085)	0.0652
2	service	Noun	61 (0.014)	7 (0.066)	0.0437
3	recycle	Verb	33 (0.008)	5 (0.047)	0.0373
4	new	Adj	89 (0.021)	7 (0.066)	0.0372
5	sustainable	Adj	123 (0.029)	8 (0.075)	0.0362
6	sell	Verb	9 (0.002)	4 (0.038)	0.0360
7	thus	Adv	26 (0.006)	4 (0.038)	0.0313
8	packaging	Noun	37 (0.009)	4 (0.038)	0.0288
9	reduce	Verb	79 (0.018)	5 (0.047)	0.0278
10	rather	Adv	6 (0.001)	3 (0.028)	0.0275
11	useful	Adj	8 (0.002)	3 (0.028)	0.0270
12	extend	Verb	11 (0.003)	3 (0.028)	0.0263
13	range	Noun	12 (0.003)	3 (0.028)	0.0261
14	make	Verb	92 (0.021)	5 (0.047)	0.0259
15	design	Noun	15 (0.003)	3 (0.028)	0.0254
16	cycle	Noun	17 (0.004)	3 (0.028)	0.0250
17	raw	Adj	20 (0.005)	3 (0.028)	0.0244
18	environmental	Adj	67 (0.016)	4 (0.038)	0.0237
19	food	Noun	34 (0.008)	3 (0.028)	0.0219
20	need	Noun	35 (0.008)	3 (0.028)	0.0217
21	production	Noun	50 (0.012)	3 (0.028)	0.0196
22	circular	Adj	54 (0.013)	3 (0.028)	0.0191
23	eco-design	Noun	3 (0.001)	2 (0.019)	0.0187
24	resell	Verb	3 (0.001)	2 (0.019)	0.0187
25	electronic	Adj	4 (0.001)	2 (0.019)	0.0185

Figure 33. Word Association of "Product"

Source – Self-elaborated based on KH Coder 3

Finally, the word 'packaging', which appears in the word cloud, is also worth mentioning. With packaging currently accounting for 40% of annual waste generation and set to increase (OECD, 2022), respondents have invested heavily in eco-packaging. To minimise the negative environmental impact of packaging, some organisations have used biodegradable, compostable and recyclable materials, as well as reducing the overall amount of packaging used.

A word association analysis was carried out for the words 'product' and 'new'. As the word 'product' is the subject of the analysis for this question, it is relevant to examine it. Respondents and their organisations focus on extending the life of their products to reduce waste and conserve resources, with an emphasis on recycling and reduction to minimise environmental damage. Efforts towards circularity are evident, as indicated by the associated words 'life', 'recycle', 'reduce' and 'circular'. Investments in 'packaging' to reduce waste are in line with this objective.

As for the word 'new', it was chosen for exploration because innovation was one of the most discussed topics in the interviews. Respondents stressed the importance of making changes to their 'products'/services to improve sustainability. They recognised the role of 'technology' in achieving resource efficiency, citing the digital transition as an important measure. This shift towards digitalisation enabled dematerialisation, improved material and energy efficiency and promoted digital inclusion, transparency and accountability. The focus on words such as 'create', 'customer' and 'business' indicates the potential for new markets and revenue streams through sustainable transformation, echoing MacArthur (2013) who mentioned that circular economy business models can create new employment opportunities and new products and services. By aligning their offerings with sustainability and cost-effectiveness, organisations can target customers who are looking for these qualities. These actions reflect a change in the 'business model', highlighting the need for organisations to adopt models that have a positive impact on the world and create value for stakeholders.

3.4 What are the major threats and opportunities for the future?

Figure 14 shows a co-occurrence network or mind map. Through this diagram it was possible to analyse the link between concepts and the line of thought that the interviewees had in relation to this question. The diagram is divided into seven subgraphs, which will be analysed individually.

Starting the analysis with subgraph 02, the interviewees stressed that climate change is a major threat to the planet and should be a priority for mitigation (Retief et al., 2016), (IPCC, 2022), (WEF, 2021). But in this threat lies a great opportunity for organisations. The connection and proximity of the words 'threat' and 'opportunity' are clear indications of this perspective. Virtually all respondents were optimistic that Portugal has a unique opportunity to rebuild the country in a sustainable and responsible way. This presents an opportunity for organisations to

implement a series of measures that will not only have a positive impact on the future, but will also give them a competitive advantage. This line of thinking is in line with Linnenluecke & Griffiths (2010), White (2009) and Gimenez et al. (2012), who argue that a company's commitment to social and environmental responsibility can improve its performance and lead to financial gains.

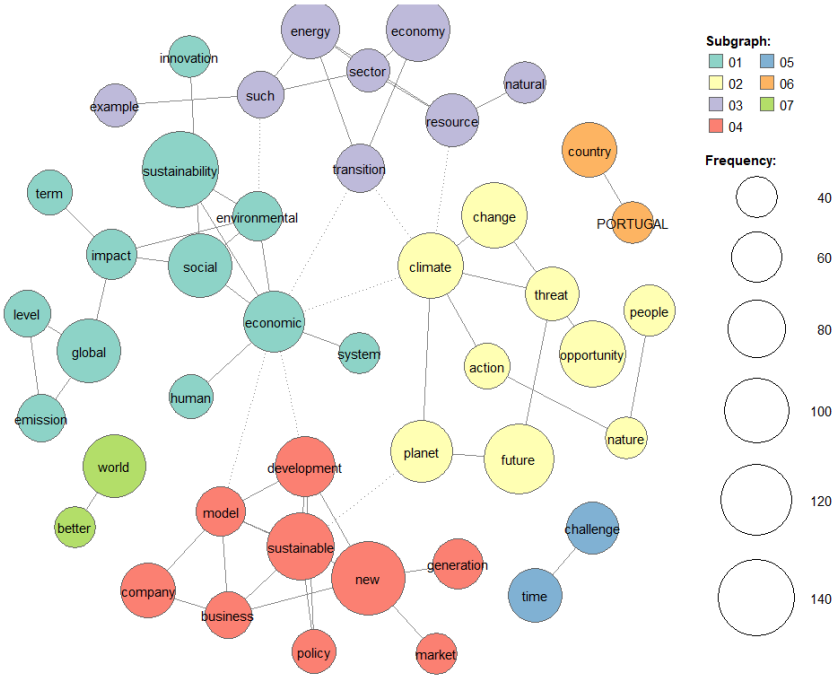


Figure 44. Co-occurrence network

Source – Self-elaborated based on KH Coder

Moving to subgraph 04, respondents expressed the opportunity to rethink the current business models of most organisations, which are mostly focused on economic growth. Instead, they called for the creation of new sustainable business models that prioritise resource and energy efficient use, innovation, decarbonisation, circular economy, digitalisation, etc. (Fonseca et. al., 2018). The association of the words 'new', 'sustainable', 'development', 'model', 'business' and 'enterprise' supports this view. This shift towards sustainability can attract a new market composed of customers who value conscious choices, especially the younger generation, which is known for its growing interest in sustainable attitudes (Yamane & Kaneko, 2021), hence the presence of the words 'market' and 'generation'. Respondents placed their hopes for the future on the younger generation to mitigate the damage already done. The word "policy" is also very important, with respondents stressing the need for ambitious sustainable policies, including taxes, subsidies and incentives to encourage conscious choices. Regulations on emissions, energy and resource efficiency, waste management standards and transparent reporting are seen

as crucial for consistent and stable regulation. This view echoes that of Rizos et al. (2016) and Fonseca et al. (2018), who argued that the existing regulatory framework is firmly rooted in a linear economic model, resulting in insufficient government support for businesses to adopt a circular economy model.

Subgraph 06 reflects the respondents' focus on the future of Portugal, indicating their concern to explore the specific threats and opportunities facing the country. Subgraph 07, on the other hand, reveals a global perspective among the respondents, recognising megatrends as a worldwide phenomenon that requires a coordinated global effort for effective mitigation.

Subgraph 01, the most complex subgraph, consists of 12 words and, like subgraph 04, can be seen as both a threat and an opportunity. With the appearance of words such as 'global', 'level', 'emission' linked to the word 'impact', it is clear that respondents were concerned about the high level of greenhouse gas emissions. Furthermore, the word 'impact' is associated with the words 'social', 'environmental' and 'economic', which represent all the dimensions affected by climate change. As expected, the word 'sustainability' was mentioned several times and the link with all three dimensions is clear. In order to mitigate the high global levels of greenhouse gas emissions and reduce the impact on the economic, social and environmental scales, respondents stated that sustainability-related innovations will be essential, justifying the appearance of the word 'innovation' associated with the word 'sustainability' (Zhang et al., 2019) (Jesus & Mendonça, 2018) (OECD, 2010).

In subgraph 03, respondents mentioned the need to strengthen the energy transition in the market. In their view, the decarbonisation of the economy is essential to combat climate change and preserve our natural resources. Respondents therefore called on every company to integrate sustainability principles into its existing processes and organisational culture in order to achieve a cultural shift towards energy transition (Fietz & Gunther, 2021). Finally, Figure 6 expresses a threat that most respondents feared when talking about the future of our planet, namely the small window of opportunity that humanity has to reverse the effects of climate change.

3.5 Results Analysis in the Three Main Pillars of Sustainability

In exploring how Portuguese organisations navigate the complex terrain of sustainability and articulate their journey across the economic, social and environmental dimensions, as framed by the Sustainable Development Goals, we analysed the different approaches organisations are taking to embed sustainability deeply into their operational ethos, according to the data collected:

- Economic sustainability is central, showcasing organisations' efforts to weave the principles of the Sustainable Development Goals on economic growth directly into their strategic fabric. This section of the study vividly illustrates how Portuguese companies are pioneering innovation, channeling investment into sustainable infrastructure (SDG 9), championing inclusive economic growth (SDG 8) and leading the way in responsible consumption and production (SDG 12). The case studies detailed in the text illustrate the transformative economic impact of these sustainability practices. For example, one highlighted initiative, in which a textile company revolutionised its production process to not only reduce waste but also significantly lower production costs, demonstrates the practical benefits of embedding SDG principles into business operations, thereby enhancing economic sustainability.
- Social sustainability emerges with compelling narratives that reflect organisations' commitment to aligning with the Sustainable Development Goals, which aim to address critical social issues. The study delves into various programmes and initiatives that have contributed to improving the well-being of communities, ensuring the health of employees and promoting inclusivity. It discusses in detail the strategic implementation of health and education programmes, driven by SDG 3 and SDG 4, within corporate frameworks to promote a healthier, more educated workforce and, by extension, the community. It examines the progress made in reducing inequalities (SDG 10) through active policy-making and cultural change within organisations, such as the adoption of more inclusive hiring practices that have expanded opportunities for underrepresented groups, thereby strengthening the social fabric of the company and its surrounding community.
- Environmental Sustainability is rich in detail, highlighting the proactive steps that organisations are taking to protect the environment. Through engaging narratives, the manuscript outlines successful green initiatives, from extensive water conservation projects (SDG 6) to the integration of renewable energy sources (SDG 7) and ambitious climate action plans (SDG 13). One outstanding example is a company's transition to 100% renewable energy use, significantly reducing its carbon footprint and setting a benchmark for environmental responsibility. These stories not only highlight the commitment of Portuguese organisations to environmental sustainability, but also illustrate the tangible impact of such initiatives in preserving natural resources for future generations.

The integrated approach to sustainability links these dimensions and shows how initiatives under one pillar of sustainability can symbiotically support and enhance efforts in other areas. This analysis reveals the interconnectedness of sustainability efforts, showing, for example, how investments in renewable energy not only serve environmental goals, but also lead to economic benefits through reduced operating costs and social benefits through the creation of green jobs. The data suggests that Portuguese organisations are synthesising these diverse sustainability efforts into a coherent, integrated strategy that aligns with the global SDG framework. The data collected not only highlights the importance of a balanced approach to sustainability, but also demonstrates the tangible benefits of such an approach, including enhanced corporate reputation, improved stakeholder engagement, and fostering a resilient, sustainable business model that is positioned for future success.

The study presents a landscape of sustainability in Portugal, providing critical insights and practical examples of how organisations in different sectors are successfully addressing the sustainability challenge. It provides a rich tapestry of initiatives and strategies that collectively contribute to a sustainable future, serving as an invaluable resource for businesses, policy makers and researchers alike in the pursuit of sustainable development.

4. Findings and Contributions

This chapter addresses the questions posed at the outset of our research, exploring the relevance, adoption and operationalisation of sustainability megatrends within Portuguese organisations. It draws on a variety of sources, including the seminal works of Ramos & Isfan (2020), Retief et al. (2016), and the IPCC (2022), to situate our findings within the broader discourse on sustainability.

4.1 Economic Sustainability Insights

In addressing the first research question on the relevance of the sustainability megatrends to organisations, the research revealed a unanimous recognition among participants of the pressing importance of these trends. This recognition is closely aligned with the perspectives presented by Ramos & Isfan (2020), where the call for sustainability-driven change within organisations is seen not just as a strategic move, but as a necessary evolution in response to global challenges. The dialogue within the research consistently highlighted a collective awareness and caution among organisations, suggesting a deep-seated recognition of the stakes involved in navigating the sustainability megatrends.

Digging deeper, the analysis revealed how organisations are actively integrating the Sustainable Development Goals, which promote innovation, economic growth and responsible consumption, into their strategic frameworks. This integration is not simply an exercise in compliance, but a fundamental reorientation towards economic sustainability that seeks to reconcile the often competing demands of profitability and environmental stewardship. The findings illustrate a sophisticated balancing act by organisations where sustainability initiatives are carefully weighed against their economic outcomes. This strategic balancing act, underpinned by a commitment to sustainability, echoes the findings of Burritt & Schaltegger (2010) and Guest (2010). In particular, they highlighted how organisations are increasingly required to navigate the complex landscape of reputational risks and competitive pressures. By embedding sustainability into their core strategies, organisations are not only addressing the immediate threats posed by these megatrends, but also seizing the opportunity to redefine their value proposition in a rapidly evolving global marketplace.

This section of the analysis therefore not only highlights the critical nature of the sustainability megatrends, but also the proactive measures that organisations are taking to align their operations and strategies with the broader goals of sustainable development. Through this lens, the research sheds light on the emerging paradigm in which economic sustainability becomes a central axis around which organisations pivot to embrace a future in which profitability and sustainability coexist harmoniously.

4.2 Social Sustainability Revelations

In addressing the second research question, the study meticulously unravelled organisations' dynamic engagement with Environmental, Social and Governance principles, revealing a pronounced tilt towards the social and environmental facets of sustainability. This research highlighted the profound impact of educational initiatives as a key tool in fostering a culture of sustainability and inclusivity in organisations. Drawing on the findings of Nasibulina (2015), the research explores how educational programmes designed to educate both employees and the wider community about sustainability practices serve as a cornerstone in the pursuit of a more sustainable and inclusive operational ethos.

The narrative unfolds to reveal a growing consensus among organisations towards a more holistic approach to sustainability, one that transcends the traditional triple bottom line model by incorporating elements that emphasise cultural and organisational development. This shift represents a deeper, more integrated commitment to sustainability, suggesting that organisations are increasingly looking beyond financial performance to a broader set of values that include social equity, environmental stewardship and cultural enrichment. Such a paradigm shift is emblematic of organisations' efforts to weave sustainability into the very fabric of their operational and strategic frameworks, thereby challenging Winter & Knemeyer's (2013) previously held notions regarding the often overlooked importance of social and environmental dimensions in corporate sustainability efforts.

By highlighting the transformative role of education and the emerging trend towards an expanded triple bottom line, the research underscores the evolving landscape of corporate sustainability. It highlights a shift towards more comprehensive sustainability models that not only prioritise environmental and social outcomes, but also foster cultural and organisational growth. This nuanced approach to sustainability, characterised by a proactive embrace of Environmental, Social and Governance principles and a commitment to educational outreach, sets a new benchmark for organisational development - one that balances profitability with social responsibility and environmental integrity. Through this in-depth analysis, the study highlights the pathways organisations can take to achieve a sustainable future, and underlines the importance of integrating sustainability into the core of corporate culture and strategy.

4.3 Developments in environmental sustainability

Addressing the third research question, the study meticulously charts the journey of organisations as they intricately integrate environmental sustainability into their operational ethos, using circular economy principles as a profound demonstration of their commitment to both innovation and sustainability. This narrative, richly augmented with references to the seminal work of Zhang et al. (2019) and Jesus & Mendonça (2018), explores the advocacy for a significant shift in production models towards practices that are not only sustainable, but regenerative by design. These models challenge the traditional linear approach of 'take-make-dispose' and instead propose a system in which resources are reused, recycled and conserved, highlighting a transformative vision for the future of production that is both economically viable and environmentally responsible.

The data underlines the critical role of technological innovation as the engine driving this transformative journey. By embracing cutting-edge technologies, organisations are able to pioneer novel solutions that significantly reduce their environmental footprint while improving efficiency and driving economic growth. This alignment with the calls for environmental stewardship as outlined by the OECD (2010) underscores a global movement towards more sustainable business practices that prioritise the health of the planet alongside corporate profitability.

The research reveals the myriad ways in which organisations are not only embracing, but actively promoting circular economy principles, demonstrating a commitment that goes beyond mere compliance to a genuine investment in the future of our planet. This commitment is manifested in a range of innovative practices, from designing products for longevity and recyclability, to adopting renewable energy sources and implementing waste reduction strategies. Through these actions, organisations are setting new standards in environmental sustainability and contributing to a more sustainable and resilient global economy.

This detailed examination of how organisations are weaving environmental sustainability into their very fabric, harnessing the transformative power of the circular economy and technological innovation, offers a compelling narrative of progress and opportunity. It highlights the central role of business in driving the transition to a more sustainable future, aligning business objectives with the urgent need for environmental protection and stewardship. Through this exploration, the study not only contributes to the academic discourse on sustainability, but also provides practical insights for businesses seeking to navigate the complexities of environmental sustainability in an increasingly interconnected world.

4.4 Futuristic Perspectives on Sustainability

The analysis of the fourth research question highlights the dual nature of climate change as both a formidable challenge and a catalyst for strategic transformation. This discussion is anchored in the observations of Retief et al. (2016) and the IPCC (2022), which highlight the urgent need for organisations to pivot towards eco-innovation, decarbonisation and circular economy models. This section captures the emerging narrative of sustainability as a competitive advantage and the need for a cultural shift towards sustainability within organisations, a theme that resonates with the insights of Fietz & Gunther (2021).

The chapter culminates in a synthesis of the nuanced findings, providing a panoramic view of sustainability practices in Portuguese organisations. It not only highlights their contributions to the Sustainable Development Goals, but also underlines the need for an integrated sustainability strategy. The concluding section champions the role of business in leading the way towards sustainable development, advocating a holistic approach that seamlessly combines economic viability with social equity and environmental responsibility.

4.5 Integrating Sustainability into European Business Practices: A Focus on Portugal

The evolving landscape of business sustainability in Europe, particularly in Portugal, has increasingly acknowledged the importance of integrating sustainable practices across various sectors. This shift is propelled by a potent combination of regulatory frameworks, burgeoning consumer demand, and the imperative for businesses to adapt to a shifting economic landscape. The European Union's steadfast implementation of policies aimed at fostering sustainability underscores this movement, most notably through the ambitious European Green Deal, which aspires to make Europe the first climate-neutral continent by 2050. This goal is bolstered by initiatives designed to encourage businesses to adopt sustainable practices, integrating Environmental, Social, and Governance criteria into their operations, thereby enhancing corporate accountability and environmental stewardship (Camelo & Nogueira, 2024; Amaral et al., 2024).

In Portugal, the commitment to sustainability is prominently displayed in the agri-food sector, where companies have been proactive in adopting sustainable practices. These initiatives not only meet rising consumer expectations but also contribute significantly to environmental stewardship, positioning businesses as key drivers of sustainable development. The Portuguese government supports these efforts through incentives like tax benefits and grants, which are particularly crucial for small and medium-sized enterprises (SMEs) that might otherwise struggle to implement such practices due to resource constraints (Kholijah, 2024; Asbullah, 2024). Moreover, Corporate Social Responsibility has proven to be a pivotal element in enhancing business sustainability, with studies indicating a positive relationship between Corporate Social Responsibility activities and sustainable business performance. This is particularly evident in Portugal's tourism industry, where sustainable practices are essential for minimizing environmental and social impacts, thus promoting long-term sustainability (Danish et al., 2024; Santos & Castanho, 2024).

5. Conclusions

Addressing sustainability megatrends is essential for organisations worldwide, with Portugal being particularly vulnerable due to its susceptibility to extreme weather events and the impacts of climate change. The integration of sustainability into organisational strategy and operations in Portugal has been analysed through a qualitative study involving 101 interviews, with the aim of assessing the extent of integration of sustainable behaviour in Portuguese organisations.

This study makes distinctive contributions to the ongoing scholarly conversation on sustainability in business. By employing a qualitative research methodology that incorporates a comprehensive analysis of 101 interviews with leaders across various sectors, the research provides a nuanced understanding of how sustainability is integrated into corporate strategies in Portugal. Unlike existing research, which predominantly focuses on quantitative assessments or limited industry scopes, this study offers a broader, more detailed exploration of strategic adaptations to sustainability pressures.

This study uniquely contributes to the academic field by focusing explicitly on the Portuguese context, which has been underexplored in sustainability literature. Unlike previous studies that primarily address sustainability in larger economies or through broad, multinational lenses, this research offers detailed insights into how specific sustainability challenges and megatrends affect Portuguese enterprises across various sectors. Moreover, this study expands the methodological scope by integrating a qualitative analysis of 101 structured interviews with senior leaders, providing rich, firsthand perspectives on the integration of sustainability into business strategies. This approach not only fills a significant gap in geographical and thematic coverage but also provides a nuanced understanding of the strategic adaptations businesses are making in response to global sustainability pressures. Therefore, this study not only enriches the existing body of literature with its focused examination but also provides a critical foundation for further research and policy-making specific to Portugal and similar regional economies.

By highlighting innovative approaches and strategic responses to sustainability megatrends, this research contributes to shaping informed, effective, and forward-thinking policies and business models that are crucial for achieving long-term sustainability goals.

5.1 Economic sustainability: Profit

The analysis shows that Portuguese organisations are actively integrating sustainable practices into their business strategies to improve their economic sustainability. The majority are adapting their production processes to be more sustainable, integrating circular economy principles to reduce environmental impacts while ensuring economic viability (Gaudig et al., 2021; Pal & Gander, 2018). However, this study suggests that sustainability should not be viewed as an isolated initiative, but rather as a core aspect of an organisation's ethos and processes. Future research could benefit from exploring the adoption and implementation of sustainable business models in specific sectors, such as the textile industry, which has a significant impact on the Portuguese economy.

5.2 Social sustainability: People

Social sustainability in Portuguese organisations focuses on the well-being of individuals and communities affected by their activities. The qualitative analysis revealed a growing emphasis on implementing sustainable practices that not only address environmental concerns, but also promote social well-being and equity. The study highlights the need for policies that promote sustainability education and training, embedding sustainability in educational curricula and providing professional development opportunities in sustainable management and innovation. This approach aims to cultivate a workforce and society that values and practices sustainability, contributing to the broader social fabric.

5.3 Environmental sustainability: Planet

The environmental dimension of sustainability is particularly critical for Portugal, given its vulnerability to climate change. The study highlights the efforts of Portuguese organisations to reduce their environmental footprint, in line with the European Ecological Pact, the Paris Agreement and the 17 Sustainable Development Goals. Key initiatives include the Circular Economy Action Plan and the Roadmap for Carbon Neutrality 2050, which set ambitious targets to reduce greenhouse gas emissions and promote sustainable urban development. Policies that promote circular economy practices, product longevity, reuse and recycling are essential to advancing these goals.

5.4 Recommendations for Policy Development

The study makes a number of recommendations for policy makers to promote sustainable business practices and environmental management in Portugal:

a. Government support: Provide fiscal incentives and technical assistance to organisations that integrate sustainability into their core models.

b. Sustainability education and reporting: Mandating the adoption of sustainability reporting standards and embedding sustainability in education programmes to increase transparency and knowledge.

c. Collaborative Innovation: Encourage collaboration between business, academia and government to drive sustainable practices and circular economy innovation.

d. Climate Resilience: Develop policies that support infrastructure resilience, water and energy efficiency, and sector-specific adaptation strategies to climate-related risks.

e. Inclusive policy development: Engage a wide range of stakeholders in policy development to ensure practical, well-informed policies with broad support.

By implementing these policies, Portugal can address the challenges posed by the sustainability megatrends and lay the foundations for a resilient, competitive and sustainable economy. The findings of the study provide valuable insights for policy makers and organisations alike, highlighting the importance of a comprehensive and integrated approach to sustainability that balances economic growth, social equity and environmental protection.

5.5 Recommendations for companies and organizations: Foster organizational changes based on stakeholder insights about the future.

This recommendation emphasizes the critical importance of incorporating diverse perspectives and expertise from all levels of stakeholder involvement—ranging from employees and customers to industry experts and community leaders. By engaging stakeholders in meaningful dialogue, organizations can gain a richer, more nuanced understanding of the emerging trends and expectations that will shape the future of sustainability. This inclusive approach not only helps organizations to anticipate and adapt to future challenges more effectively but also ensures that the strategies they develop are robust, responsive, and aligned with broader societal values and needs. Ultimately, leveraging stakeholder insights can drive innovative changes in organizational practices and strategies, fostering a culture of resilience and adaptability that is crucial for long-term sustainability success.

5.6 Integrate sustainability into core business strategies

Organisations should fully integrate sustainability into their core business strategies, ensuring that sustainable practices are not isolated initiatives but central to their operations and organisational ethos. This includes aligning business models with the principles of sustainable development to ensure economic viability without compromising the ability of future generations to meet their needs.

5.7 Promoting economic sustainability through innovation and efficiency

Businesses should focus on economic sustainability by promoting innovation and efficiency. This includes optimising resource use, investing in sustainable infrastructure and adopting circular economy principles to reduce environmental impacts. In addition, companies should explore the adoption of sustainable business models that prioritise resource and energy efficiency, decarbonisation and digitalisation.

5.8 Improve social sustainability by promoting inclusivity and well-being

Organisations should prioritise social sustainability by improving the well-being of their communities and ensuring the health of their employees. This includes implementing health and education programmes, promoting inclusivity and diversity in the workplace, and actively working to reduce inequalities. Engaging in social sustainability practices not only contributes to a fairer society, but also strengthens the social fabric of the organisation.

5.9 Driving environmental sustainability through stewardship and innovation

To advance environmental sustainability, organisations should commit to environmental stewardship by reducing their environmental footprint through initiatives such as water conservation, renewable energy integration and climate action plans. In addition, investing in eco-innovation and sustainable product design can significantly reduce environmental impact and help preserve ecosystems.

5.10 Take a holistic approach to sustainability

Organisations should adopt a holistic approach to sustainability, recognising the interconnectedness of economic viability, social equity and environmental responsibility. By integrating these dimensions into a coherent strategy, companies can navigate the complexities of sustainability megatrends, meet societal expectations and contribute to the global sustainability agenda.

5.11 Engage in collaborative innovation and policy development

Collaboration between business, academia and government is essential to drive progress towards sustainable practices and technologies. Organisations should actively participate in policy development processes, engage with a wide range of stakeholders and advocate for policies that support sustainability initiatives.

5.12 Focus on education and awareness

Improving education and awareness on sustainability is essential. Policies should focus on embedding sustainability in educational curricula at different levels and providing continuous professional development opportunities in sustainable management and innovation.

Table 4. Mapping of Policy Implications to Research Objectives

Research Objectives (RO)	Policy Implications
RO1: Exhibit the most pronounced megatrends and understand their implications	5.1 Economic sustainability: Profit - Policies to enhance economic resilience to megatrends.
	5.4 Recommendations for Policy Development: Develop responsive policies that address the impacts of megatrends.
RO2: Highlight the primary sustainable practices being incorporated into the organisations' strategy	5.2 Social sustainability: People - Policies to promote social aspects of sustainability in business strategies.
	5.6 Integrate sustainability into core business strategies: Encourage the integration of sustainable practices at strategic levels.
	5.10 Take a holistic approach to sustainability: Encourage comprehensive integration of sustainability dimensions.
RO3: Derive the most common sustainable practices applied to production	5.3 Environmental sustainability: Planet - Support policies that foster environmental stewardship in production.
	5.7 Promoting economic sustainability through innovation and efficiency: Incentivize sustainable production technologies.
	5.9 Driving environmental sustainability through stewardship and innovation: Enhance support for eco-innovative production practices.
RO4: Extract personal opinions regarding the future of Organisations and, consequently, the planet	5.5 Recommendations for companies and organizations: Foster organizational changes based on stakeholder insights about the future.
	5.8 Improve social sustainability by promoting inclusivity and well-being: Policies to enhance workforce well-being and inclusivity in response to future trends.
	5.11 Engage in collaborative innovation and policy development: Strengthen stakeholder collaboration to shape future-oriented sustainability policies.
	5.12 Focus on education and awareness: Enhance awareness programs that prepare organizations for future sustainability challenges.

Source – Self-elaborated

By following these recommendations, companies and organisations can make significant progress towards sustainable development, address the critical challenges posed by the

sustainability megatrends and lay the foundations for a resilient, competitive and sustainable economy.

7. Limitations

During the course of this research, a number of limitations were identified. Firstly, the concept of megatrends and sustainability and its application in organisations is very broad, which initially posed a challenge to keep the objectives congruent without excluding other relevant aspects. In addition, although the interviews were able to show a macro trend between all the Portuguese sectors represented, this had two limitations: not every sector was represented in the interviews, and we could only get a broad idea of what the majority of organisations were implementing, which was not very detailed.

Another limitation was the size and nature of the interviews. As the majority of the interviews were quite lengthy and very personal to the respondent's organisation, many insightful points shared during the interviews were not adequately reflected in the images provided by KH Coder due to the low frequency of certain words.

References

Abbass, K., Fu, W., Niazi, A. A. K., Zhang, H., Basit, A., & Qazi, T. F. (2023). Assessment of sustainable green financial environment: The underlying structure of monetary seismic aftershocks of the COVID-19 pandemic. Environmental Science and Pollution Research, 30(22), 61496–61510. https://doi.org/10.1007/s11356-022-20178-1

Amaral, M., Willerding, I., & Lápolli, É. (2024). ESG Practices: The Key to Organizational Sustainability. Concilium, 24(7), 84-107. https://doi.org/10.53660/clm-3227-24g16

Asbullah, M. (2024). Sustainability Practices in Small Business Ventures: Assessing the Integration of Environmental and Social Responsibility in Entrepreneurial Ventures. International Journal of Business Law and Education, 5(2), 1609-1619. https://doi.org/10.56442/ijble.v5i2.683

Avi, M. S. (2022). The quintuple bottom line: Sustainability as told by academics and as experienced by companies in the european union and the u. S. A. https://iris.unive.it/handle/10278/5007700

Barbosa, J. A., Bragança, L., & Mateus, R. (2014). New approach addressing sustainability in urban areas using sustainable city models. International Journal of Sustainable Building

Technology and Urban Development, 5(4), 297–305. https://doi.org/10.1080/2093761X.2014.948528

Baumgartner, R. J. (2014). Managing corporate sustainability and CSR: A conceptual framework combining values, strategies and instruments contributing to sustainable development. Corporate Social Responsibility and Environmental Management, 21(5), 258–271. https://doi.org/10.1002/csr.1336

BCSD & Coelho, V. A. (2021). Diretrizes da Sustentabilidade | Reporting - BCSD Portugal. https://bcsdportugal.org/diretrizes-da-sustentabilidade-reporting [Accessed on 10th of April 2022]

BCSD Portugal. (2021). Um Ano de Sucessos em Cooperação. Relatório e Contas 2021. https://bcsdportugal.org/wp-content/uploads/2022/04/BCSD_RC_2021_VF-compactado.pdf [Accessed on 10th of April, 2022]

Begum, H., Abbas, K., Alam, A.S.A.F., Song, H., Chowdhury, M.T. and Abdul Ghani, A.B. (2022), Impact of the COVID-19 pandemic on the environment and socioeconomic viability: a sustainable production chain alternative, Foresight, Vol. 24 No. 3/4, pp. 456-475. https://doi.org/10.1108/FS-02-2021-0053

Berardi, U. (2011). Beyond sustainability assessment systems: upgrading topics by enlarging the scale of assessment. International Journal of Sustainable Building Technology and Urban Development, 2(4), 276-282. https://doi.org/10.5390/susb.2011.2.4.276

Bond, A., Morrison-Saunders, A., & Pope, J. (2012). Sustainability assessment: the state of the art. Impact Assessment and Project Appraisal, 30(1), 53-62. https://doi.org/10.1080/14615517.2012.661974

Brundtland, G. (1987). Our Common Future: The Report of the World Commission on Environment and Development. *Oxford University Press*

Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: Fad or trend? Accounting, Auditing & Accountability Journal, 23(7), 829–846. https://doi.org/10.1108/09513571011080144

Butler, P., Larsen-Hallock, L., Lewis, R., Glenn, C., & Armstead, R. (2011). Metrics for integrating sustainability evaluations into remediation projects. Remediation Journal, 21(3), 81-87. https://doi.org/10.1002/rem.20290

Camelo, G. & Nogueira, M. (2024). The ESG Menu: Integrating Sustainable Practices in the Portuguese Agri-Food Sector. Sustainability, 16(11), 4377. https://doi.org/10.3390/su16114377

Chen, L., Olhager, J., & Tang, O. (2014). Manufacturing facility location and sustainability: a literature review and research agenda. International Journal of Production Economics, 149, 154-163. https://doi.org/10.1016/j.ijpe.2013.05.013

Clark, B. and Button, C. (2011). Sustainability transdisciplinary education model: interface of arts, science, and community (stem). International Journal of Sustainability in Higher Education, 12(1), 41-54. https://doi.org/10.1108/14676371111098294

Cole, D. (2004). Exploring the sustainability of mining heritage tourism. Journal of Sustainable Tourism, 12(6), 480-494. https://doi.org/10.1080/09669580408667250

Council of Ministers (2019). Roadmap for Carbon Neutrality 2050 (RNC2050). Long-term strategy for carbon neutrality of the Portuguese economy by 2050. https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=%3D%3DBAAAAB%2BLCAAAAAAABACzMDexBAC4h9DRBAAAAA%3D%3D [Accessed on 11st of April 2022]

Danish, R., Ali, M., Baker, M., & Islam, R. (2024). Influence of Corporate Social Responsibility, Green Practices and Organizational Politics on Sustainable Business Performance: The Importance of Employee Pro-Environmental Behavior. Social Responsibility Journal, 21(1), 54-77. https://doi.org/10.1108/srj-10-2023-0548

De Jesus, A., & Mendonça, S. (2018). Lost in transition? Drivers and barriers in the eco-innovation road to the circular economy. Ecological Economics, 145, 75–89. https://doi.org/10.1016/j.ecolecon.2017.08.001

Deloitte (2021). Climate Check: Business' Views on Environmental Sustainability. https://www.deloitte.com/global/en/services/risk-advisory/research/2021-climate-check-business-views-on-environmental-sustainability.html [Accessed on 11st of April 2022]

Demirel, P., & Danisman, G. O. (2019). Eco-innovation and firm growth in the circular economy: Evidence from European small- and medium-sized enterprises. Business Strategy and the Environment, 28(8), 1608–1618. https://doi.org/10.1002/bse.2336

EIO. (2012). The Eco-Innovation Gap: An economic opportunity for business. Eco-Innovation Observatory. Funded by the European Commission, DG Environment, Brussels.

Elkington, J. (1994). Towards the sustainable corporation: Win-win-win business strategies for sustainable development. California Management Review, 36(2), 90–100. https://doi.org/10.2307/41165746

Elkington, J. (1997). Cannibals with Forks: The Triple Bottom Line of 21st Century Business. *Journal of Business Ethics*, 23 (2), 229-231. https://doi.org/10.1023/a:1006129603978

Elkington, J. (2006). Governance for sustainability*. Corporate Governance: An International Review, 14(6), 522–529. https://doi.org/10.1111/j.1467-8683.2006.00527.x

Elkington, J. (2018). 25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It. Harvard Business Review.

Fietz, B., & Günther, E. (2021). Changing organizational culture to establish sustainability. Controlling & Management Review, 65(3), 32–40. https://doi.org/10.1007/s12176-021-0379-4

Fiksel, J., Mcdaniel, J., & Mendenhall, C. (1999). Measuring Progress towards Sustainability Principles, Process and Best Practices. Battelle Memorial Institute.

Fonseca, L. M. (2015). Strategic drivers for implementing sustainability programs in portuguese organizations–let's listen to aristotle: From triple to quadruple bottom line. Sustainability: The Journal of Record, 8(3), 136–142. https://doi.org/10.1089/SUS.2015.29004

Fonseca, L. M., Domingues, J. P., Pereira, M. T., Martins, F. F., & Zimon, D. (2018). Assessment of circular economy within portuguese organizations. Sustainability, 10(7), 2521. https://doi.org/10.3390/su10072521

Fonseca, L., & Carvalho, F. (2019). The reporting of sdgs by quality, environmental, and occupational health and safety-certified organizations. Sustainability, 11(20), 5797. https://doi.org/10.3390/su11205797

Gaudig, A., Ebersberger, B., & Kuckertz, A. (2021). Sustainability-oriented macro trends and innovation types—Exploring different organization types tackling the global sustainability megatrend. Sustainability, 13(21), 11583. https://doi.org/10.3390/su132111583

Ge, Y., Lou, I., Zheng, H., & Wang, Z. (2015). Regional sustainable development assessment for an air quality index system: a case study of the macau special administration region., 63-72. https://doi.org/10.2495/sd150061

Geipele, I., Kauškale, L., Lepkova, N., & Liias, R. (2014). Interaction of socio-economic factors and real estate market in the context of sustainable urban development.. https://doi.org/10.3846/enviro.2014.117

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. Journal of Cleaner Production, 114, 11–32. https://doi.org/10.1016/j.jclepro.2015.09.007

Gimenez, C., Sierra, V., & Rodon, J. (2012). Sustainable operations: Their impact on the triple bottom line. International Journal of Production Economics, 140(1), 149–159. https://doi.org/10.1016/j.ijpe.2012.01.035

Guest, R. (2010). The economics of sustainability in the context of climate change: An overview. Journal of World Business, 45(4), 326–335. https://doi.org/10.1016/j.jwb.2009.08.008

Halkos, G., & Gkampoura, E.-C. (2021). Where do we stand on the 17 Sustainable Development Goals? An overview on progress. Economic Analysis and Policy, 70, 94–122. https://doi.org/10.1016/j.eap.2021.02.001

Hernandez, R. J. (2019). Sustainable product-service systems and circular economies. Sustainability, 11(19), 5383. https://doi.org/10.3390/su11195383

http://www.ibrc.indiana.edu/ibr/2011/spring/article2.html

Intergovernmental Panel On Climate Change (IPCC). (2023). Climate change 2022 – impacts, adaptation and vulnerability: Working group ii contribution to the sixth assessment report of the intergovernmental panel on climate change (1st ed.). Cambridge University Press. https://doi.org/10.1017/9781009325844

Kessler, C. (2007). Motivating farmers for soil and water conservation: a promising strategy from the bolivian mountain valleys. Land Use Policy, 24(1), 118-128. https://doi.org/10.1016/j.landusepol.2005.11.001

Khalfan, M. (2015). Perceptions towards sustainable construction amongst construction contractors in state of victoria, australia. Journal of Economics Business and Management, 3(10). https://doi.org/10.7763/joebm.2015.v3.313

Kholijah, S. (2024). Analysis of Economic and Environmental Benefits of Green Business Practices in the Hospitality and Tourism Sector. IIJB, 1(1), 60-74. https://doi.org/10.62569/iijb.v1i1.7

KPMG. (2012). Expect the Unexpected: Building business value in a changing world. https://assets.kpmg/content/dam/kpmg/pdf/2012/08/building-business-value-part-1.pdf

Kumar, V., Sezersan, I., Garza-Reyes, J. A., Gonzalez, E. D. R. S., & AL-Shboul, M. A. (2019). Circular economy in the manufacturing sector: Benefits, opportunities and barriers. Management Decision, 57(4), 1067–1086. https://doi.org/10.1108/MD-09-2018-1070

Lawler E. (2014). Sustainable Effectiveness and Organization Development: Beyond the Triple Bottom Line. University of Southern California. Centre for Effective Organisations

Lidstone, L., Wright, T., & Sherren, K. (2015). Canadian stars-rated campus sustainability plans: priorities, plan creation and design. Sustainability, 7(1), 725-746. https://doi.org/10.3390/su7010725

Linnenluecke, M. K., & Griffiths, A. (2010). Corporate sustainability and organizational culture. Journal of World Business, 45(4), 357–366. https://doi.org/10.1016/j.jwb.2009.08.006

Linthorst, J., & De Waal, A. (2020). Megatrends and disruptors and their postulated impact on organizations. Sustainability, 12(20), 8740. https://doi.org/10.3390/su12208740

Linthorst, J., & De Waal, A. (2020). Megatrends and disruptors and their postulated impact on organizations. Sustainability, 12(20), 8740. https://doi.org/10.3390/su12208740

Loviscek, V. (2021). Triple bottom line toward a holistic framework for sustainability: A systematic review. Revista de Administração Contemporânea, 25(3), e200017. https://doi.org/10.1590/1982-7849rac2021200017.en

MacArthur, E. (2013). Towards the Circular Economy Vol. 2: Opportunities for the Consumer Goods Sector. *Ellen MacArthur Foundation.* https://ellenmacarthurfoundation.org/towards-the-circular-economy-vol-2-opportunities-for-the-consumer-goods [Accessed on 12nd of April 2022]

Mahmood, S., Hemdi, A., Saman, M., & Noordin, M. (2013). Fuzzy logic approach for assessing sustainability: methodology development for hollow fiber membrane module. Advanced Materials Research, 845, 579-583. https://doi.org/10.4028/www.scientific.net/amr.845.579

Maletič, M., Dahlgaard, J., Dahlgaard-Park, S., & Gomišček, B. (2015). Effect of sustainability-oriented innovation practices on the overall organisational performance: an empirical examination. Total Quality Management & Business Excellence, 27(9-10), 1171-1190. https://doi.org/10.1080/14783363.2015.1064767

Maxwell, D., & Van Der Vorst, R. (2003). Developing sustainable products and services. Journal of Cleaner Production, 11(8), 883–895. https://doi.org/10.1016/S0959-6526(02)00164-6

Meadows, D. H., Meadows, D. L., Randers, J, Behrens, W. (1972). The Limits to Growth a Report for the Club of Rome's Project on the Predicament of Mankind. *New York: Universe Books*

Mitchell, P., & Morgan, J. (2015). Employment and the circular economy Job creation in a more resource efficient Britain. Green Alliance. https://doi.org/10.13140/RG.2.1.1026.5049

Murshed, M., Abbass, K., & Rashid, S. (2021). Modelling renewable energy adoption across south Asian economies: Empirical evidence from Bangladesh, India, Pakistan and Sri

Lanka. International Journal of Finance & Economics, 26(4), 5425–5450. https://doi.org/10.1002/ijfe.2073

Nasibulina, A. (2015). Education for sustainable development and environmental ethics. Procedia - Social and Behavioral Sciences, 214, 1077–1082. https://doi.org/10.1016/j.sbspro.2015.11.708

OECD. (2010). Eco-Innovation in Industry: Enabling green growth. Organisation for Economic Co-operation and Development. OECD Publishing. https://www.oecd.org/sti/ind/eco-innovationinindustryenablinggreengrowth.htm [Accessed on 13r April 2021]

OECD. (2022). Global plastics outlook: Policy scenarios to 2060. OECD. https://doi.org/10.1787/aa1edf33-en

Oehmke, J., Tsukamoto, S., & Post, L. (2007). Can health care services attract retirees and contribute to the economic sustainability of rural places?. Agricultural and Resource Economics Review, 36(1), 95-106. https://doi.org/10.1017/s1068280500009473

Pal, R., & Gander, J. (2018). Modelling environmental value: An examination of sustainable business models within the fashion industry. Journal of Cleaner Production, 184, 251–263. https://doi.org/10.1016/j.jclepro.2018.02.001

Pęciak, R. (2016). Megatrends and their implications in the globalised world. Horyzonty Polityki / Horizons of Politics, 21, 167–184. https://doi.org/10.17399/HP.2016.072106

Peters, J., & Simaens, A. (2020). Integrating sustainability into corporate strategy: A case study of the textile and clothing industry. Sustainability, 12(15), 6125. https://doi.org/10.3390/su12156125

Pierie, F., Someren, C., Benders, R., Bekkering, J., Gemert, W., & Moll, H. (2015). Environmental and energy system analysis of bio-methane production pathways: a comparison between feedstocks and process optimizations. Applied Energy, 160, 456-466. https://doi.org/10.1016/j.apenergy.2015.09.066

Piscicelli, L., and Ludden, G. (2016). The potential of Design for Behaviour Change to foster the transition to a circular economy, in Lloyd, P. and Bohemia, E. (eds.), Future Focused Thinking - DRS International Conference 2016, 27 - 30 June, Brighton, United Kingdom. https://doi.org/10.21606/drs.2016.489

Ramos, P. B. & Isfan, T. M. (2020). Megatendências Globais. Prospetiva Estratégica: Como focar um mundo de mudança. Presidência do Conselho de Ministros. Secretaria-Geral. https://www.sg.pcm.gov.pt/media/49578/megatrends_16_abril_2020.pdf [Accessed on 13rd April 2021]

Ramos, T. B., Cecílio, T., Douglas, C. H., & Caeiro, S. (2013). Corporate sustainability reporting and the relations with evaluation and management frameworks: The Portuguese

case. Journal of Cleaner Production, 52, 317–328. https://doi.org/10.1016/j.jclepro.2013.03.002

Redclift, M. (2005). Sustainable development (1987–2005): an oxymoron comes of age. Sustainable Development, 13(4), 212-227. https://doi.org/10.1002/sd.281

Retief, F., Bond, A., Pope, J., Morrison-Saunders, A., & King, N. (2016). Global megatrends and their implications for environmental assessment practice. Environmental Impact Assessment Review, 61, 52–60. https://doi.org/10.1016/j.eiar.2016.07.002

Ritzén, S., & Sandström, G. Ö. (2017). Barriers to the circular economy – integration of perspectives and domains. Procedia CIRP, 64, 7–12. https://doi.org/10.1016/j.procir.2017.03.005

Rizos, V., Tuokko, K., & Behrens, A. (2017). The Circular Economy: A review of definitions, processes and impacts. *Circular Economy PS Papers*, 12440, Centre for European Policy Studies

Santos, R. & Castanho, R. (2024). Tourism and Sustainable Landscapes: A Portuguese Case. https://doi.org/10.5772/intechopen.112690

Schaltegger, S., & Wagner, M. (2006). Integrative management of sustainability performance, measurement and reporting. International Journal of Accounting, Auditing and Performance Evaluation, 3(1), 1. https://doi.org/10.1504/IJAAPE.2006.010098

Seyler, J. N. (2020). Sustainability and the Occupant - The Effects of Mindfulness and Environmental Attitudes on Real Estate User Behaviours. *Springer Fachmedien Wiesbaden*.

Seyler, N. (2020). Megatrends and Sustainability. In: Sustainability and the Occupant. Essays in Real Estate Research, vol 17. Springer Gabler, Wiesbaden. https://doi.org/10.1007/978-3-658-27390-3_2

Silverman, D. (2005). Doing qualitative research: A practical handbook. London: SAGE Publications Ltd.

Silverman, D. (2005). Doing qualitative research: A practical handbook. Sage Publications.

Silvestre, W. J., & Fonseca, A. (2020). Integrative Sustainable Intelligence: A holistic model to integrate corporate sustainability strategies. Corporate Social Responsibility and Environmental Management, 27(4), 1578–1590. https://doi.org/10.1002/csr.1906

Slaper, T.F. and Hall, T.J. (2011) The Triple Bottom Line: What Is It and How Does It Work?

Torres-Machí, C., Chamorro, A., Pellicer, E., Piqueras, V., & Videla, C. (2015). Sustainable pavement management. Transportation Research Record Journal of the Transportation Research Board, 2523(1), 56-63. https://doi.org/10.3141/2523-07

Waard, C. (2022). How megatrends like climate change are shaping the future of business and careers in sustainability. Available at: https://study.uq.edu.au/stories/how-megatrends-climate-change-are-shaping-future-business-and-careers-sustainability [accessed on 20th of May 2022]

Walsh, J., Hebert, A., Byrd-Bredbenner, C., Carey, G., Colby, S., Brown-Esters, O., … & White, A. (2012). The development and preliminary validation of the behavior, environment, and changeability survey (becs). Journal of Nutrition Education and Behavior, 44(6), 490-499. https://doi.org/10.1016/j.jneb.2012.05.002

White, P. (2009). Building a sustainability strategy into the business. Corporate Governance: The International Journal of Business in Society, 9(4), 386–394. https://doi.org/10.1108/14720700910984936

Winter, M., & Knemeyer, A. M. (2013). Exploring the integration of sustainability and supply chain management: Current state and opportunities for future inquiry. International Journal of Physical Distribution & Logistics Management, 43(1), 18–38. https://doi.org/10.1108/09600031311293237

World Economic Forum. (2021). The Global Risks Report 2021. 16th Edition, World Economic Forum, Cologny. http://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf [accessed on 20th of May 2022]

Yamane, T., & Kaneko, S. (2021). Impact of raising awareness of Sustainable Development Goals: A survey experiment eliciting stakeholder preferences for corporate behavior. Journal of Cleaner Production, 285, 125291. https://doi.org/10.1016/j.jclepro.2020.125291

Zhang, Y., Khan, U., Lee, S., & Salik, M. (2019). The influence of management innovation and technological innovation on organization performance. A mediating role of sustainability. Sustainability, 11(2), 495. https://doi.org/10.3390/su11020495