



The Path towards Responsible Innovation Implementation in Portuguese Agricultural and Textile SMEs

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Abstract

Title: The Path towards Responsible Innovation Implementation in Portuguese Agricultural and Textile SMEs

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Environmental and social issues are an increasingly pressing reality within the contemporary world. Traditional stakeholders have been replaced by change drivers who demand a better answer to society's and environment's current and future needs. As a result, firms' strategies are pushed in different directions.

Responsible Innovation (RI) has presented firms an option to address these issues while avoiding the rising of new ones. Despite the motivations behind RI implementation, taking that path might mean facing significant challenges. Small and Medium-Enterprises (SMEs) are a particularly interesting context to study such motivations and challenges, which may drive responsible and innovative solutions.

For that purpose, 17 semi-structured interviews were conducted with professionals from Portuguese agricultural and textile SMEs. This study adopted a qualitative content analysis based on Gioia's methodology.

Overall, findings reveal that SMEs have significant motivations to pursue RI, acknowledging its main benefits such as efficiency enhancement or increased competitiveness. However, they often see their initiatives constrained by the lack of public support and financial or human resources. Nonetheless, this study shows that stakeholder engagement in decision-making processes is vital to improve innovation along the way, but mostly to ensure its successful implementation in the end.

This study presents several theoretical contributions and managerial implications. First, SMEs believe that RI value co-creation allows them to efficiently reshape future, innovative products. Second, compliance with certifications' and clients' requirements is key to collaborate with RI-aligned partners. Third, negotiation capacity is essential in stakeholder management, particularly facilitated under common-language, open-minded or family-based contexts.

Keywords: Responsible Innovation, Small and Medium-Enterprises, Textile Industry, Agriculture Sector, Motivations, Challenges, Stakeholder Engagement

Resumo

Título: O Percurso para a Implementação da Inovação Responsável em PME Agrícolas e Têxteis portuguesas

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Os problemas socio-ambientais têm adquirido uma relevância preponderante. Os tradicionais *stakeholders* assumiram-se enquanto agentes de mudança, exigindo uma resposta às necessidades da sociedade e do ambiente, alterando as direções das estratégias empresariais.

A Inovação Responsável (IR) emerge como uma opção para as empresas solucionarem aqueles problemas. Apesar das motivações à IR, percorrer esse caminho pode significar desafios consideráveis. As Pequenas e Médias Empresas (PMEs) são um contexto particularmente interessante ao estudo dessas motivações e desafios, determinantes para soluções responsáveis e inovadoras.

Para esse efeito, foram realizadas 17 entrevistas semiestruturadas com profissionais de PME portuguesas dos setores agrícola e têxtil. O estudo adotou uma análise de conteúdo, baseada na metodologia de Gioia.

No geral, os resultados revelam que as PME têm motivações significativas para implementar IR, reconhecendo os seus benefícios como o aumento da eficiência ou da competitividade. Porém, recorrentemente vêm as suas iniciativas limitadas pela falta de apoio e recursos financeiros ou humanos. Ainda assim, este estudo mostra que o envolvimento de *stakeholders* nos processos de decisão é vital para melhorar continuamente a inovação, mas principalmente para garantir a sua total implementação no fim.

Este estudo apresenta várias contribuições e implicações teóricas. Primeiro, as PME acreditam que a co-criação de valor permite ajustar eficazmente as suas ofertas futuras. Segundo, cumprir os requisitos de clientes e certificações é fundamental para colaborar com parceiros alinhados com a IR. Terceiro, a capacidade de negociação é essencial na gestão dos *stakeholders*, particularmente facilitada em contextos com língua comum, mentalidades mais abertas ou mais familiares.

Palavras-chave: Inovação Responsável, Pequenas e Médias-Empresas, Indústria Têxtil, Setor Agrícola, Motivações, Desafios, Integração de Stakeholders

The research design, sample and data collection strategies, and results presented in this study are originally from the researcher. The use of Artificial Intelligence tools in this dissertation was very limited, and with the sole purposes of clarifying particular concepts or theories from the literature, paraphrasing text excerpts and arranging the data structure.

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List of Abbreviations

CSR	Corporate Social Responsibility
FAO	Food and Agriculture Organization of the United Nations
GSC	Grand Societal Challenges
PES	Proactive Environmental Strategies
R&D	Research and Development
RES	Reactive Environmental Strategies
RI	Responsible Innovation
SMEs	Small and Medium Enterprises
SOI	Sustainability-Oriented Innovation

1. Introduction

The intensification of Grand Societal Challenges (GSC) is pushing firms to adopt more environmentally and socially responsible approaches in their strategy-design processes (Doni & Fiameni, 2024; Luo & Du, 2015; Voegtlin et al., 2022). The emergence of Responsible Innovation (RI) is a turning point in the way firms perceive and prioritize those challenges and their stakeholder relationships (Stilgoe et al., 2013; Waldron et al., 2022; Zahoor et al., 2022). In fact, RI represents a value co-creation strategy to reach significant solutions for GSC, involving several stakeholders in the process while assuring greater living conditions for upcoming generations (Schomberg, 2019; Gutierrez et al., 2022; Halme & Korpela, 2014).

Considering the context-dependence nature of RI (Fisher, 2020; Martinuzzi et al., 2018), an essential line is drawn between large firms and small-medium enterprises (SMEs). Given the latter's common attributes – such as being resource-constrained, and risk-averse (Jarmai, 2020; Junni et al., 2013) – and relevance to the Portuguese national economy (Instituto Nacional de Estatística, 2020; Gabinete de Estratégia e Estudos do MECT, 2024), this study seeks to advance RI research within SMEs' context. In particular, the agricultural and textile sectors emerge as interesting, potential innovation hubs (Abreu et al., 2020; Annosi et al., 2022; Bronson, 2019; FAO, 2022; Moreira et al., 2023; Tolentino-Zondervan & DiVito, 2024), in which further research may help uncover additional drivers and challenges for RI implementation.

Stakeholder engagement is a key dimension in RI and has received minor attention in the literature. Despite the relevance of stakeholder demands and inputs for innovation processes (Gurzawska et al., 2017a; Luo & Du, 2015; Todeschini et al., 2020; Xiao et al., 2021), past research lacks insights on the impacts that their participation in decision-making and innovation-planning settings might have.

This study seeks to identify the main factors that influence RI implementation in Portuguese agriculture and textile SMEs, and specifically the impacts of stakeholder engagement within those processes. Thus, the following research questions aim to address the research gaps presented:

1. *What factors influence RI implementation in Portuguese agricultural and textile SMEs?*
2. *How does stakeholder engagement impact RI implementation processes in Portuguese agricultural and textile SMEs?*

For that purpose, this research has adopted a qualitative research approach. The research design based on semi-structured interviews can largely account for the diverse experiences and insights from the sectors' professionals.

Following the introduction, the second chapter presents a systematic literature review over the path towards RI implementation, allowing to identify the research gaps to be addressed. The third chapter describes the reasons behind the methodological approach adopted for this study, namely the sampling strategy, data collection and analysis. Additionally, the fourth chapter focuses on this study main findings, which are grouped into seven aggregated dimensions. Chapter five focuses on the theoretical and managerial contributions that can be derived from this study, as well as its limitations. At last, chapter six summarizes the main arguments found in this study and respective implications for the study of RI.

2. Literature Review

2.1. Corporate Social Responsibility

Despite their separate roots, corporate responsibility and business sustainability began to move towards the balance of economic, social and environmental considerations at the end of last century (Bansal & Song, 2017). From their convergence, CSR is born in the quickly changing environment of the 1950s, under which firms would suffer pressure to adopt more socially conscious initiatives and integrate them into their core businesses (Carroll & Shabana, 2010; Doni & Fiameni, 2024; Bennink, 2020).

Academics have defined CSR as the set of practices corporations can adopt, beyond their individual interests and current legal standards, to create value for society at large, enhancing social and environmental performance while keeping previous economic levels (Luo & Du, 2015; Yuan et al., 2020). The main purposes behind corporate socially responsible behavior is to develop wide and strong stakeholder networks, enhance the organization's image and reputation, and benefit from new resources and capabilities to seize market opportunities (Bansal & Song, 2017; McWilliams & Siegel, 2001; Hahn et al., 2016).

In the context of shared-value creation through multi-stakeholder engagement, CSR can be a significant source of competitive advantage (Ferauge, 2013; Li & Liu, 2014; McWilliams & Siegel, 2001; Porter & Kramer, 2007; Wen et al., 2022; Yuan et al., 2020), though this reality may differ according to each business setting and industry-specific characteristics (Broadstock et al., 2020; Doni & Fiameni, 2024). However, coordinating differentiated interests and values from a large amount of stakeholders is a great challenge firms face when seeking a strategy that can satisfy them all. Hence, CSR is important for all constituencies from the firm's board who approve the business strategy to the general average consumer that benefits or suffers from it (Scherer & Voegtlin, 2020; Carroll & Shabana, 2010).

Acknowledging significant advantages that result from CSR implementation, academics suggest strong arguments in favour of CSR. First, an argument in favour of CSR relates to the improvement of internal governance and innovation levels. This improvement leads to reducing costs and risks for the firm from the moment stakeholders' demand is addressed (He et al., 2023). Second, academics argue that CSR supports competitive advantage, as socially responsible practices may reshape organizations' business models and strategies. Such efforts will enhance resource efficiency while lowering operational costs (Porter & Kramer, 2011; Zhao et al., 2019). Following these, other arguments suggest a U-shaped relationship between CSR and

companies' financial performance. This is supported on both the competitive effect of CSR and the long-term stakeholder influence capacity of the company (C. Ma & Yasir, 2023; Barnett & Solomon, 2012). Forth, academics defend CSR can elevate the firm's legitimacy and reputation, given the more transparent and responsible processes required by the general public (Chen et al., 2020; van Lieshout et al., 2021). Finally, researchers have found CSR allows for collective value creation, considering the benefits to the stakeholders and the organization (Carroll & Shabana, 2010; Luo & Du, 2015; McWilliams & Siegel, 2001).

2.1.1. CSR as a Business Strategy

There is some criticism around the irreconcilability of profit maximization and social responsibility. Nonetheless, scholars have shown that firms hold the resources, expertise, and even public support needed to successfully implement new initiatives that address social issues, especially when they outweigh governments' ineffective responses (Carroll & Shabana, 2010).

Firms' business strategy conditions their CSR performance from scratch (Yuan et al., 2020). For instance, risk-taking firms might invest more in proactive environmental strategies (PES), allowing them to harvest greater results from CSR. Chan and colleagues (2022) provided a distinction between these and more reactive strategies. In their research, PES are preventive, market-driven strategies that imply fundamental changes to the firm's operational design within unknown contexts. On the contrary, reactive environmental strategies (RES), are regulation-based, control strategies intended to meet the minimum legal requirements to tackle adverse environmental scenarios.

Regardless of the firm's business strategy, the risk-taking level associated with CSR-investments will certainly increase depending on different contingencies. Such contingencies may result from internal factors, such as top-management's conservative perspectives, financing constraints, and factors outside the firm, such as positive market feedback or investor protection mechanisms (Chan et al., 2022; Chin et al., 2013; Luo & Du, 2015). All of these contingencies are intrinsically related with the fact that the foreseen economic benefits will only be received in the long run. As such, the firm and its stakeholders must be aware and accept the initial commitment to invest (Doni & Fiameni, 2024).

2.1.2. Political CSR

Considering the globalization phenomena, corporations are now pushed to support governments perform several public functions and give response to the diversified needs and complex

demands of several constituencies (Margolis & Walsh, 2003; Scherer & Voegtlin, 2020; Wen et al., 2022).

In light of this, Political CSR emerges amidst the corporate governance debate, which not only demands sustainable business models and activities for long-lasting financial performance, but also promotes the ideas of deliberative democracy and democratic accountability (Broadstock et al., 2020; Carroll & Shabana, 2010). This new approach perceives organizations as political actors with agency to contribute, alongside governments, to global regulation and to deliver public goods to society (Scherer & Voegtlin, 2020). Academics argue that companies are taking political responsibilities when they help build institutional environments, engage in public debate, and fill gaps where government resources are limited (Scherer et al., 2016). Therefore, corporations come together to influence policy-making and bend decisions, often changing societal power dynamics. Together, these views show that corporations are not only chasing market goals, but also becoming the aforementioned political actors (Barley, 2010; Di Nardo et al., 2025).

The current shift in the responsibilities of businesses and governments within diverse socio-political scenarios (Scherer, 2018) extends accountability to the private sphere of political-active businesses. If there is some kind of duty for corporations to solve social issues, then a transparent, social deliberative process is essential in tracing the norms, principles and standards that should regulate their operations (Hussain & Moriarty, 2018; Marti & Scherer, 2015). Only when all relevant stakeholders' interests and goals are equally taken into account in the deliberation process, can a firm acquire legitimacy for its discourse and practices (Scherer, 2018; de los Reyes & Scholz, 2023).

2.2. Organizational Innovation

Our society faces GSC, defined as complex, large-scale issues with uncertain consequences and no clear solutions (Voegtlin et al., 2022). Hence, greater innovation efforts are the solution to solve these challenges without raising new ones. Such efforts are supported by stakeholder collaboration, vital for innovations to go beyond compliance, aiming at a better scenario that accounts for the values and needs of everyone, and still sustain competitive advantages (van den Hoven, 2022; Bennink, 2020; Gutierrez et al., 2022).

In line with the vast literature on the topic, innovation refers to the

“production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome” (Crossan & Apaydin, 2010, p. 1155).

In this context, academic research defines a firm’s innovation capacity as its ability to continuously address market demand through the creation and development of new products (Szeto, 2000). This indicator is commonly measured through the dimension of Research and Development (R&D) expenditures and changes in the firms’ technological levels (Broadstock et al., 2020; Doni & Fiameni, 2024).

According to the literature, the ability of firms to explore new strategic directions without compromising pre-existing capabilities is referred to as organizational ambidexterity (Hahn et al., 2016). This concept can be significantly influenced by the external environment (e.g., competitiveness, public relevance of social issues), as well as the stakeholders’ position within that environment (e.g., if they want to assure the best possible corporate social performance)(Hahn et al., 2016).

Following these advancements on innovation research, the open innovation theory, whose main premise is to give stakeholders early access to the innovation process, allows firms to benefit from their insights for decision-making, goal-setting, and to claim their position in markets yet to explore (Voegtlin et al., 2022; van Lieshout et al., 2021). This results from the increasing complexity of innovation processes, which demand organizations to go beyond legal requirements and responsibly govern innovation (Fisher et al., 2024). Hence, appropriate structures and procedures, based on collectively-held values, should be created to address societal challenges through transformative innovations that bring better outcomes in the long-run (Scherer & Voegtlin, 2020; Schomberg, 2013).

In line with this theory, the multidimensional stakeholder relationships that a firm establishes are essential to trigger efficient innovations and attain a higher profit potential. The idea is that pre-existing internal resources are usually complemented by the external knowledge derived from those relations, R&D investments, and other external sources (Xiao et al., 2021; Luo & Du, 2015). Therefore, the short and long-term vision for the innovation at hand will be significantly shaped by partners’ values, experiences and intrinsic characteristics (e.g., expertise, unconventionality, tolerance, network) (Todeschini et al., 2020; Gurzawska et al., 2017b).

2.3. Corporate Responsible Innovation

Organizations face system-wide barriers to innovation (e.g., cultural, legal), deploying their resources and capabilities in the development and implementation of new products and services that address social issues (Scherer, 2018; Adams et al., 2016).

Sustainability has gradually become a top priority for both organizations and their stakeholders – consumers, employees, top-management, investors (Martinuzzi et al., 2018; McKinsey & Co, 2014). Among different concepts suggested in the literature, Sustainability-Oriented Innovation (SOI) is perceived as a business model reliant on new products and services that create social and environmental value beyond current needs, shaping one's behavior in the direction of more sustainable actions (Jarmai, 2020; Adams et al., 2016).

From another perspective, RI is considered a value co-creation strategy focused on the resolution of GSC, involving the different stakeholders in the innovation process, based on future generations' living standards (Stilgoe et al., 2013; Waldron et al., 2022; Zahoor et al., 2022).

SOI and RI both aim at deliberative, transparent processes that balance environmental, economic and social considerations towards long-term sustainable solutions (i.e., products, services, business models) for public issues (van Lieshout et al., 2021; Harsanto et al., 2022; Scherer & Voegtlin, 2020). However, RI particularly approaches the stakeholder engagement impact in shaping companies' business strategy and innovation's direction regarding social and environmental ambitions (Stilgoe et al., 2013; Ehlers et al., 2025; Schomberg, 2013). Such focus makes RI more suitable for the purpose of this research, as it addresses both the outcomes of innovation and the processes and principles that drive it.

Therefore, RI becomes the path for firms to reach significant solutions for environmental and social problems through a new product, service or business model that creates value for all (Halme & Korpela, 2014; Gutierrez et al., 2022). A consensual definition in the literature sets RI as a

“transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products” (Schomberg, 2013, p. 19).

Academics argue that RI may provide firms with legitimacy and public trust by raising social impact and preventing the intensification of social or environmental problems (Gurzawska et al., 2017b; Kang & Hustvedt, 2014). According to Scherer & Voegtlin (2020), RI should meet

several responsibilities, such as do no harm, do good, and govern responsibly. The latter involves establishing institutions, structures, and procedures on multiple levels in order to facilitate innovations that fulfil the first two criteria (Scherer & Voegtlin, 2020, p. 6). Such criteria calls for corporate governance schemes that can assure companies the legitimacy to effectively and efficiently implement their innovation. Corporate governance schemes correspond to formal structures, rules, and decision-making processes which may include stakeholder-inclusive advisory structures, board oversight or even digital solutions that support companies' governance systems. These are pivotal in balancing firms' innovation capabilities with stakeholder expectations in face of complex societal challenges, which ensures legitimacy and trustworthiness at last (Klettner et al., 2025; Sapra et al., 2014; Guerrero-Avenidaño et al., 2023).

Those schemes can counteract public policy and regulatory frameworks that sometimes "kill" the innovation and its socially impactful outcomes. If a multi-stakeholder approach is applied in the RI process, then it might be easier to avoid inflexible and uncompromising obstacles to innovation - social desirability can be met and corporate reputation enhanced (de los Reyes & Scholz, 2023; Waldron et al., 2022; Scherer & Voegtlin, 2020).

RI is a context-dependent concept. Indeed, regulation and other external forces, as well as firm's size, industry activity or culture influence RI. As such, RI's procedures, definitions and outcomes should be adjusted according to the setting of implementation (Fisher, 2020; Martinuzzi et al., 2018). This can be particularly challenging for non-traditional, less developed scenarios that often lack more stable governance and participatory structures, where public acceptance can be harder to attain given the diversity of value-systems (Macnaghten et al., 2014).

Given this context-dependent nature, one of the most relevant dichotomies for the implementation of RI happens between SMEs and large firms. On one side, large firms have more human and capital resources, benefiting from higher investments on R&D and specialized talent, as well as wider economies of scale (Petruzzelli et al., 2018). Regarding the industry insights of innovators, they are keen on pursuing exploration strategies, accepting higher risks along their decisions (Kahn & Candi, 2021). On the other side, SMEs are resource constrained, lacking the external support (e.g., funding sources) and internal structures (e.g., project management plan) to develop their portfolios towards RI (Jarmai, 2020; Kahn & Candi, 2021). As risk-averse and incremental change supporters, these firms often tend to implement an exploitation strategy, requiring stronger reasons for the investment of their few key resources (Junni et al., 2013).

In response to such conditions, SMEs should develop their capabilities to collect, manage and apply external knowledge into internal innovation processes. Building strategic alliances, valuable for RI, can allow a firm to get more useful insights from the external environment, that combined with internal resources may result in meaningful innovation outcomes (Zahoor et al., 2022). This form of value co-creation, and other forms to incentivize innovation, can help overcome the barriers posed by the lack of resources, providing SMEs with a better competitive position (Halme & Korpela, 2014).

2.3.1. Anticipation, Reflexivity, Inclusion, and Responsiveness in RI?

Cutting across almost all literature is Stilgoe and colleagues' (2013) framework for RI. According to the authors, RI requires anticipation, reflexivity, inclusion, and responsiveness from firms in order to succeed.

Anticipation involves systematically thinking about the known and plausible outcomes of the innovation to be implemented, owning up to their unforeseen effects on society. Only then can organizations' resilience grow and new or remaining social and environmental concerns be effectively addressed (Stilgoe et al., 2013; Jarmai, 2020; Lubberink et al., 2017). Equally important, reflexivity refers to firms' self-criticism capacity, in terms of evaluating the impact of their actions and commitments in external entities, as value-systems and frameworks are not homogenous (Stilgoe et al., 2013; Jarmai, 2020; Lubberink et al., 2017). In addition, inclusion of stakeholders in open discussions and other participatory structures is vital to question the purposes and implications, on multiple levels, inherent to the innovation. Thus, the main goal of inclusion is to align everyone's interests and values around the innovation's goals through focus groups, workshops, and other collaborative settings (Lubberink et al., 2017; Stilgoe et al., 2013). Lastly, responsiveness represents the capacity to quickly adjust the innovation's original path in response to stakeholders' insights, new knowledge and other unexpected changes in the environment, demanding a certain collaboration among all to enhance decision-making processes (Lubberink et al., 2017; Stilgoe et al., 2013).

These dimensions allow firms to adjust innovation after it is launched, when risks arise and uncertainties become troublesome, as knowledge inputs are essential for the innovation's improvement. (Fisher, 2020; Lubberink et al., 2017). Particularly, reflexivity ensures that different, decentralized perspectives or insights are considered as the basis for further deliberation on the innovation, opening up space for transparent communication and self-assessment (Voegtlin et al., 2022; Scherer & Voegtlin, 2020).

To successfully implement RI, companies need to foresee its potential future effects and outcomes, fostering broader, inclusive discussions around these issues. Hence, promoting reflection among the stakeholders' network, and making use of its knowledge is essential to re-shape and guide the innovation process responsively (Macnaghten et al., 2014).

2.3.2. Motivations and Challenges when Pursuing RI

Taking into account the complexity of RI processes described above, it's important to reflect both on the motivations behind their adoption and on the challenges that companies may face when implementing them.

In respect to RI drivers, they can be grouped into external and internal motivations. Externally, firms might be influenced, for instance, by market pressures and needs, public opinion, imposed regulation, competitors' behaviors, and available knowledge from other innovators. From the perspective of the firm, examples of RI determinants can be the development of technical and managerial capabilities, the enhancement of organization's reputation and legitimacy, the financial conditions to fund the innovation, and the willingness to reduce costs while increasing productivity levels, namely through economies of scale (Jarmai, 2020; Martinuzzi et al., 2018).

Firms have an important role in creating new products or services that meet socially desired goals and align with public-held values, a concept that academics have coined societal desirability. Effectiveness and efficiency are significant drivers for any firm to implement RI processes, and then achieve long-term competitive advantages (Kokotovich et al., 2021). In particular, the integration and collaboration with stakeholders, as a responsible and transparent form of collaborative value creation and sharing, can be contributory to the success of RI practices (Lehoux et al., 2021; C. Flick et al., 2020). The inflows and outflows of knowledge, resources, and skills derived from this collaborative relations increase governance levels within organizations (Todeschini et al., 2020).

There are several cases of large companies or industries that illustrate these motivations. For instance, the textile industry is under transformation given the internal increasing awareness for more sustainable practices (e.g., ecolabeling, saving energy, reducing emission levels) and the external demand from customers and regulators to have more environmentally-conscious products (Harsanto et al., 2023).

IKEA and Unilever, although operating in different sectors, developed internal plans aligned with RI principles – “People and Planet Positive” and “Sustainable Living Plan”, respectively.

These aimed at sustainable growth, higher efficiency and reputational gains. In the case of IKEA, such goals were achieved through open-communication and sustainably sourced materials (e.g., wood). In the case of Unilever, the similar purpose was attained through the exploration of new market opportunities and efficient resource and risk management, like reducing waste and energy. Both plans are embedded in the companies' cultures and account for the diversity of settings in which they can be applied. Therefore, their main purpose is to reduce environmental impact while improving the livelihood of all those considered in their processes and outcomes (Rangan & Toffel, 2014; Lawrence et al., 2019).

There are other examples of different businesses/sectors that partnered in the pursuit of RI benefits. Parley for the Oceans joined Adidas in the creation of a long-term sustainability program that envisioned the production of shoes and other athletic equipment, with materials made from ocean retrieved plastics (Murfree & Police, 2022). In another case, after moving its business online, Dell invested in cutting-edge technologies for the healthcare sector. Such investment not only widened Dell's business model, developing more sustainable and socially impactful processes and practices, but also provided Dell with a competitive advantage in the technology industry (Ding et al., 2021).

In terms of barriers and risks related with RI implementation, literature identifies several different challenges. First, scholars mention the lack of financial and material resources (Perez-Alaniz et al., 2023; Jaureguy et al., 2023). Secondly, academics highlight the high costs of responsibly innovating (Vivona et al., 2023). Third, the literature refers to uncertainty of public's acceptance and reaction to changes introduced by the innovation (Jarmai, 2020; Jalonen, 2012). Fourth, there are also accounts of challenges in attracting, investing and keeping qualified expertise (Horbach & Rammer, 2022). Fifth, studies reveal companies' lack of knowledge about market gaps (Todeschini et al., 2020). Sixth, there are references to the difficulty in communication with other decision-makers and innovators, and the absence of support and incentives from corporate and political stakeholders (Zahoor et al., 2022). Finally, researchers uncovered high entry barriers for certain innovations, and unfavourable legislation and regulatory frameworks (Todeschini et al., 2020).

A well-known example for some of these challenges is the case of Patagonia, and the textile industry in general. Despite Patagonia's commitment to raising a social and environmental positive impact from its foundation, the company faces different obstacles when searching for long-term, trustworthy partners, managing its supply chain according to core values and goals, or

sharing best practices and know-how with other parties for greater results. Business models need to have purpose-aligned supply chain and decision-making processes, which poses a significant challenge to source quality, yet compliant partners. To be effectively managed, all those involved should not only fit the organization's internal values, but also be aware of the market needs in terms of social and environmental RI. Moreover, the industry may face higher R&D and production costs when trying to innovate, heightened by the lack of financial support and incentives (O'Rourke & Strand, 2017; Harsanto et al., 2023).

Innovation should consider all cost-benefit trade-offs and risks it brings to organizations, since excessive sacrifices might lead innovators and investors to abandon the process. Behind this is the idea that stakeholder engagement can hold back the RI processes, presenting an intriguing paradox. Even though involving multiple stakeholders is essential for RI, it can also bring power imbalances, relevant dilemmas (e.g., to be transparent or to protect exclusive know-how), and sometimes irreconcilable interests to the table. Then, it becomes difficult to reach a consensus and to allocate responsibilities, which may hinder the success of the innovation at last (de Hoop et al., 2016; Iakovleva et al., 2021).

2.3.3. RI within the Context of Agricultural and Textile SMEs

The study of RI can be particularly relevant in SMEs from the agricultural sector and the textile industry, given the different opportunities and challenges they might face when combining business priorities with wider social and environmental desires.

Regarding agriculture, academics suggest that successful RI implementation is based on decision-making mechanisms that account for farmers' and locals' values, preferences and demands (de Boon et al., 2022; Bronson, 2019). Such mechanisms may include advisory structures or oversight systems, which further contribute to early, multi-level discussions on the companies' RI initiatives and their potential impacts to each stakeholder group over time (Annosi et al., 2022). In addition, economic feasibility and limited access to financing are major bottlenecks for SMEs in the agricultural sector (Castillo-Díaz et al., 2025; Beck & Demircuc-Kunt, 2006). In fact, investments in many technologies and sustainable, socially conscious innovations that capture companies' attention at first sight, often end up failing due to the absence of phased financing or other instruments to support the costs borne (Ma et al., 2025; Shahin et al., 2024).

Hence, RI initiatives in the agricultural sector often showcase both stakeholder engagement issues and financial barriers. On the one hand, there is a need for data governance and multi-level approaches that bring different stakeholders' inputs to the decision-making process

(Annosi et al., 2022). On the other hand, there is a lack of financing conditions and economic incentives for the implementation of RI (Castillo-Díaz et al., 2025). This can be particularly seen in the adoption of digital solutions and decision-support data tools (e.g., precision agriculture systems), which remains uneven among agricultural SMEs. However, if they are able to tackle these issues, then resource efficiency and cost-effective benefits should be easier to attain (Gardezi et al., 2022; Bronson, 2019).

The Food and Agriculture Organization of the United Nations (FAO) emphasizes that working closely with local producers, organizations, and other stakeholders will most likely reduce the risks associated with RI adoption and guide the company throughout the process (FAO, 2022). In this regard, public policy can function as a “game changer” in RI implementation. Particularly, in Portugal, the Common Agricultural Policy (CAP) Strategic Plan is focused on agricultural companies’ competitiveness, diversification and action towards social and environmental issues (European Commission, 2025a). The large income support and rural development measures announced for the period between 2023 and 2027 open up the possibility for SMEs to invest in new RI initiatives, reducing their risk-aversion (European Commission, 2025b).

In respect to the textile industry, similar struggles and needs can be identified, although the context is different. In this case, the influence of global value chains and compliance with multiple regulatory frameworks (e.g., for chemicals use, or emissions) force SMEs to address their stakeholders’ demands and expectations, while remaining competitive. Thus, pursuing RI initiatives implies stronger governance capacity, business model innovation, and alignment throughout the supply chain (Di Vaio et al., 2024; Tolentino-Zondervan & DiVito, 2024).

In light of this, textile SMEs have been implementing different RI initiatives that hold both risks and benefits. For example, industry’s digitalization and data-sharing tools may facilitate SMEs compliance with due diligence requirements while advancing their sustainable digital footprint (Tolentino-Zondervan & DiVito, 2024; Rahaman et al., 2024). In addition, literature suggests that water management infrastructures and standards should be co-designed by both private and public actors (e.g., municipal entities, treatment providers). Then, environmental safeguards become shared assets, and SMEs don’t end up compromising their already limited financial capacity (Gomes et al., 2024). Notwithstanding, academics also reinforce that circular offerings and traceable materials fit RI goals, as a path SMEs can follow to achieve enhanced resource efficiency and contribute to positive social and environmental impacts (Bilancia et al., 2025; Moreira et al., 2023).

RI adoption in textile SMEs has been successful due to their capacity to meet stakeholder needs for verified sustainable products, comply with legal requirements, invest in targeted R&D, and engage in collaborations with external partners (e.g., Universities). (Rese et al., 2022; Moreira et al., 2023). If firms are keen on following this path together with suppliers, customers, regulators and other relevant parties, then RI becomes the day-to-day business rather than a side project (Abreu et al., 2020). In fact, the European Strategic Research and Innovation Agenda (European Technology Platform, 2024) sets clear directions for the implementation of safer chemistries, digital tools, skill development, circular materials, and other RI initiatives, all of which allow SMEs to attain better economic and sustainable outcomes.

In Portugal, both the agriculture and the textile sectors are not only strategically relevant for the economy but also dominated by SMEs, offering valuable contexts for the advancement of RI research (Instituto Nacional de Estatística, 2020; Gabinete de Estratégia e Estudos do MECT, 2024). The examples of RI initiatives described above for each sector reveal that little has been uncovered respecting RI implementation drivers and hurdles. Agricultural and textile companies are facing increasing pressure from their stakeholders to balance economic competitiveness with environmental compliance and social performance (Bennink, 2020; Doni & Fiameni, 2024), for which their innovation capacity is vital.

As a consequence, it is urgent to understand not only what type of RI initiatives are being implemented in SMEs from these contexts, but especially how the implementation process is being conducted. Thus, answering the research questions ‘*What factors influence RI implementation in Portuguese agricultural and textile SMEs?*’ and ‘*How does stakeholder engagement impact RI implementation processes in Portuguese agricultural and textile SMEs?*’ will allow to understand both the key motivations and challenges for RI implementation, as well as the stakeholder approaches in place when conducting such initiatives.

3. Methodology

The three main research approaches – quantitative, qualitative or mixed methods – differ significantly from each other (Mulisa, 2022). Even though there is no rule of thumb that can help decide on the most appropriate methodological approach to follow, there are certainly various factors that may guide that same decision. For instance, one can be influenced by either contextual aspects, such as the research setting, or other contingencies that derive from the research itself, like the availability of resources and the abilities to perform the research at hand (Maxwell, 2012).

Considering that the central aim of this research is to understand the behaviours, values, beliefs and other experiences from the perspective of professionals from Portuguese textile and agricultural SMEs concerning RI practices, a qualitative methodology is particularly aligned with such goal. Therefore, the focus here is not on assuring the statistical generalizability of the data that quantitative methods desire (Mulisa, 2022). Instead, qualitative approaches strive to achieve a theoretical saturation point, where the findings are still not only exhaustive, but representative of the complexities under study (Gioia et al., 2013; Mulisa, 2022; Grøgaard et al., 2022).

In regard of this methodological approach, and despite its limitations that are explored later, several advantages can be identified as reasons for its adoption.

One of the greatest strengths brought by qualitative research is that it can help foster new knowledge and develop inductive theorization from the ground up, specifically on noteworthy and complex issues in which little prior research has been performed (Eisenhardt et al., 2016). Given the context of RI adoption within SMEs of the textile industry and the agricultural sector, it seems crucial to explore new territories that have not yet been uncovered. In this way, new patterns and dynamic relationships among the collected data, which would otherwise be neglected, may be found and add or contradict to the existing literature (Bansal et al., 2018).

Furthermore, as stated above, qualitative research grows amidst the environment around the phenomena of interest, benefiting from the visions, attitudes and experiences of its actors or participants, rather than confirming the researcher's biases and his previously formulated conceptions (Mulisa, 2022; Welch et al., 2013). Hence, its interpretative nature allows a better understanding of the problem within reach, as the insights derived by the research are contextually grounded on the trustworthy stories told by those concerned (Maxwell & Reibold, 2015; Mulisa, 2022). This is intimately related to the recognition of subjectivity as part of any qualitative

research, since the reported personal experiences of the interviewed professionals serve as the basis for the researcher's conclusions (Symon et al., 2016; Welch et al., 2013; Maxwell & Reybold, 2015).

Lastly, qualitative research puts an undeniable emphasis on the processes rather than on the outcomes. This is particularly relevant when trying to come up with new theoretical contributions, as in the case of studying the motivations and challenges behind the implementation of RI initiatives within SMEs. Focusing on the processes allows for an in-depth understanding of the diverse factors either supporting or undermining the efforts towards RI in those contexts (Mallett et al., 2019; Maxwell & Reybold, 2015).

3.1. Sample Strategy

For the purpose of creating a sample that could meet the goals of the research, a non-probability sampling method was employed. Opposed to more quantitative random and probability-based sampling methods, non-probability techniques enable the knowledge development about specific real situations of the researcher's interest, rather than looking for generalization ends (Maxwell & Reybold, 2015; Vehovar et al., 2016).

In light of this methods, a purposive sampling strategy was applied to easily reach the final sample. This deliberative process implies that the participants and settings are chosen based on their potential to bring valuable insights into the research discussion, *i.e.* they should be able to provide answers to the researcher's questions (Vehovar et al., 2016; Rapley, 2014). In this sense, the researcher is more prone to obtain data from cases that, under other circumstances, would most likely be harder to reach – this does not mean a lack of diversity among the participants, nor does it mean that they do not reflect the reality under research (Vehovar et al., 2016; Maxwell, 2012).

Therefore, the sample selection followed a four-step plan. At first, the data of all Leader and Excellence SMEs (“*PME Líder*” e “*PME Excelência*”) in 2023 and 2022, respectively, was extracted from the respective lists published by the Portuguese Agency for Competition and Innovation (IAPMEI). Subsequently, the companies were filtered according to the relevant Economic Activity Codes (CAE) of agricultural and textile firms, resulting in the selection of 261 Leader SMEs and 97 Excellence SMEs. Furthermore, the website and other social media (*e.g.*, LinkedIn, Facebook) of each of those enterprises were carefully reviewed. The companies, and their respective representatives, would be selected if they met one of the following criteria:

- 1) The interviewee has worked in a Portuguese textile or agriculture SME for at least two years;
- 2) The interviewee's company has, at least, one RI initiative implemented or a structured plan for implementation within the next year.
- 3) The interviewee has in-depth understanding of RI values¹ and goals;

Finally, seventy-seven emails were sent to the potential interviewees, and later followed by several phone calls reaffirming the invitation to participate in the research. To ensure that interviewees had the experience and knowledge required to answer the interview questions, their role within the company and bond to RI topics was previously verified through their (or the company's) online profiles (e.g., official website, LinkedIn). In addition, and previously to the interview recording, the interviewee's role and link to the company's RI practices and policy was also confirmed.

Following the above mentioned, the participants were chosen as representatives of their respective companies, expanding the analysis to both the individual and the enterprise levels (Rowley, 2012; Symon et al., 2016). Such expansion contributes to an holistic approach to the perceptions on the multifaceted dynamics around RI implementation in SMEs.

The final sample included 17 Portuguese professionals from Portuguese SMEs, 10 of which from the textile industry and the other 7 from the agricultural sector (identified in Appendix 1). It should also be noted that 10 of the interviewees are from Small enterprises, whereas the other 7 are from Medium enterprises. These are all experienced individuals, though in distinct levels or paths in their careers – C-levels, Heads or managers of the Production, Quality or R&D Departments, Sales managers –, which positively contributes to the diversity of the results.

3.2. Data Collection

Despite the preference given by qualitative research to the traditional direct, face-to-face communication, digital data collection methods have conquered ground when it comes to carrying out a qualitative methodology without compromising its benefits and potential. As the access to these digital channels has become more facilitated, the implementation of such strategies emerges as a useful and efficient solution to conduct interviews, equally valuable and reliable (Lobe et al., 2020).

¹ RI values are understood, for this instance, as CSR, sustainability, innovation, environmental or social concerns, positive impact, among others in that same line of thought.

Indeed, video conferencing online softwares, such as Microsoft Teams, hold a wide range of advantages that conventional, non-web interviews or focus groups strategies struggle to offer so easily . In particular, the literature on this topic advances that online interviewing is a more efficient, cost-effective and time-saving data collection solution (Archibald et al., 2019) that allows the researchers to establish a connection with a participant elsewhere in the globe, both with Internet access. With this increased convenience comes a safer data collection and management, and also a larger space for rapport establishment, as potential technical challenges may benefit from a collaborative resolution (Gray et al., 2020).

In this regard, semi-structured interviews were conducted, via Microsoft Teams, with the goal of unravelling the motivations and challenges behind the implementation of RI practices in SMEs from the textile industry and the agricultural sector. Thus, the interviews were guided through a previously prepared protocol (Appendix 2), in which ten open-ended and non-leading questions were organized to cover the following matters: the role of companies when balancing economic, social and environmental dimensions; RI definition and examples; RI implementation processes; Motivations and challenges when pursuing RI initiatives; Stakeholders, their inclusion and negotiation processes; Recommendations to succeed in RI implementation. The semi-structured approach was essential not only to assure the comparability and usefulness of the responses in face of the research questions, but also to perform adjustments to the script along the interviewing process (Rowley, 2012; Maxwell & Reibold, 2015). Such flexibility in shaping the interview questions according to the insights and conceptual references that emerge throughout the process confers internal validity to the study and offers a richer understanding of the issue at the end (Maxwell, 2012; Gioia et al., 2013).

Given the density and relevance of the information discussed, all the interviews were recorded and later transcribed, each of them with a length between 20 minutes and 71 minutes (average of 37 minutes). Notwithstanding, proper consent was obtained after informing all participants about the purpose of the recording and assuring the confidentiality, anonymity and security of the disclosed data – these represent required ethical standards of any research (Gray et al., 2020; Lobe et al., 2020; Gurzawska, 2021; Auer & Jarmai, 2018).

3.3. Data Analysis

Qualitative analysis can be performed in different directions, depending on the goals of the researcher. For instance, coding the qualitative data into analytical categories may increase the comparability degree among the different sets, providing a deeper understanding of the themes,

narratives and concepts under study. However, on the other side, it can also make the researcher neglect relevant relationships that could otherwise be observed (Maxwell, 2012; Babbie, 2013).

Considering the complexity of analysing qualitative data, the researchers are responsible for interpreting, with an open and critical mindset, a large set of information derived from the participants' insights. By doing so, they will be able to draw important conclusions that all-together form a puzzle of different ideas and concepts around the phenomena of interest (Roulston, 2014). In this case, the data analysis was developed following the Gioia's method, which builds the bridge between the raw/untreated data and a grounded theory model or newly discovered concepts, that shall reflect the conclusions of the study (Gioia et al., 2013).

According to this holistic approach, participants shall be perceived as “knowledgeable agents” that construct their reality and can explain its dynamics. Researchers, on the opposite side, are conceived as the “glorified reporters”, free of preconceptions, that are responsible, from the beginning, to give voice to the stories and experiences of the first group (Gioia et al., 2013; Kelle, 2014). As held by the approach's proposition to “get in there and get your hands dirty” (Gioia et al., 2013, p. 19), the researcher should retain the information brought by the participants and get lost in the data searching for new patterns and relationships that can support its conclusions.

As suggested by the vast literature on this topic (Gehman et al., 2017; Gioia et al., 2013; Magnani & Gioia, 2023), the first step is, then, to gather all the relevant data from the interviews into first order concepts. The researcher should do this without trying to exclude much of the information discussed, but rather attempting to trace similarities and divergences between those categories, *i.e.* the experiences and visions of the participants about the topics of interest. At a second-level analysis, after labelling the previously delimited categories (preferably with participants' own terminology), the focus of the researcher turns to the emergent themes (research-based “second-order themes”) that can be related to the previously approached literature. Once the a “theoretical saturation point” is reached, and no more second order themes can be extracted, the final set of concepts and themes should converge on what the authors call aggregated dimensions – at last, the data structure is built.

Consequently, as the researcher graphically represents that structure, it is important to assess the dynamic relationships between the different concepts and themes in an attempt to generate a grounded theory model, which can either support pre-existing knowledge or represent new

conception for the same problem (Gioia et al., 2013; Magnani & Gioia, 2023; Braun & Clarke, 2006; Altintas et al., 2022).

4. Findings

Following the 17 semi-structured interviews conducted, the goal of this chapter is to present both the diverse themes and key dimensions identified throughout the content-analysis process. Figure 1, as shown in next page, summarizes the data gathered and organized in three different levels (Appendix 3), according to the previously described Gioia's methodology.

First-order concepts (375 in total) represent the main quotes directly selected from each interview under analysis, considering their relevance for the study. These concepts were later grouped into the second-order themes (55 in total), which respect the main ideas shared by different interviewees. Finally, these themes were structured into 7 aggregated dimensions: perceptions of RI; examples of RI initiatives; market context and pressures; main motivations for RI implementation; main challenges and barriers to RI implementation; stakeholder engagement and management within RI context; and planning RI.

4.1. Perceptions of RI

Evidence suggests that RI is increasingly seen as essential for companies' foreseeable plans. However, balancing economic, social and environmental goals still emerges as a challenge. Interviewees pointed out the struggle between sustainability goals and financial health, stating that “[it] is not possible to be 100 percent environmentally friendly. Otherwise, we would have to close doors.” (P). As a result, companies “can implement sustainability, but in a way that makes it profitable” (M), which may indicate that economic viability often comes before social and environmental desires.

Nonetheless, companies understand the harm they are causing the environment, in particular the textile business which “was considered the most polluting industry” (J). Interviewees are aware of the need to “create products and have more environmentally sustainable processes” (D), with “innovation and sustainability [going] hand in hand, as the backbone of the entire activity” (G) and their long-term strategies. This is certainly shaped by society's demands for greater innovation capacity from eco and socially aware players. In light of this, companies believe that if RI “is a path that can be taken, then we [they] must do it, and only then can things change” (L).

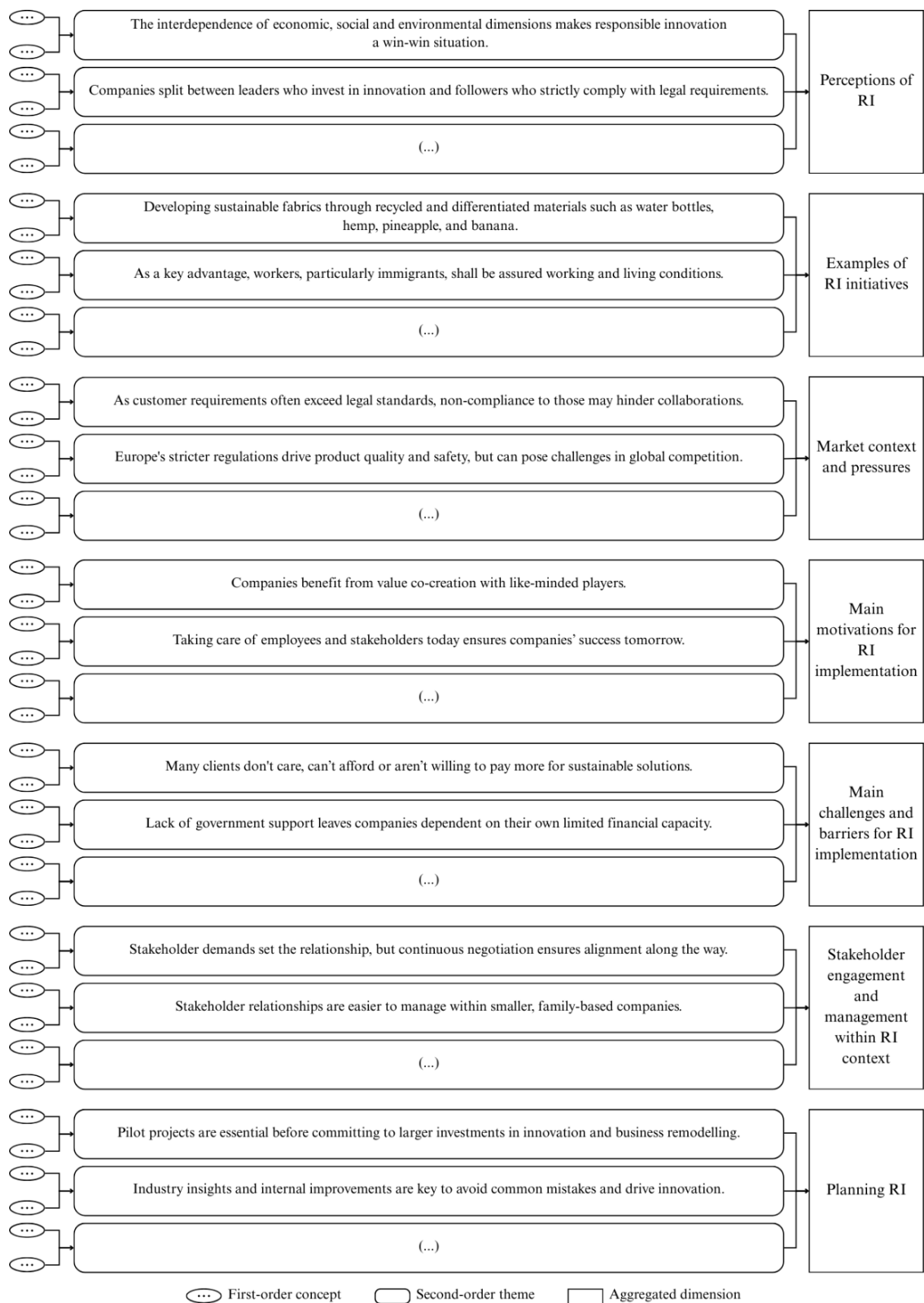


Figure 1: Overview of the content analysis, based on Gioia's methodology (2013). Own illustration of the data structure represented in Appendix 3.

In spite of this, not all the companies adopt the same approach towards RI. While some invest and are keen in innovating, others are solely rule-abiders and followers of industry trends. This gap differentiates those who want “to stay ahead of others” from those who “do it practically out of obligation (...) if they want to work” (M). In this regard, RI is largely influenced by financial constraints, considering that “[the economic, social and environmental dimensions] are interdependent.” (A). At the end of the day, RI can be perceived as a win-win game, bringing benefits to all as “the economic aspect will be the outcome of the two most important practices, which are social and environmental” (G).

4.2. Examples of RI initiatives

Interviewees identified several examples of RI initiatives or practices implemented throughout their companies, which hold both social and environmental impacts.

Firstly, companies are trying to minimize the use of pesticides and chemical fertilizers in favour of more natural alternatives. These include animal’s manure that “help[s] fertilization” (L), preservation of weeds which allows “better drainage, [and] less compactisation of the soil” (Q), or replacing pesticides with the biological control. Similarly, this approach can be also detected in either zero emissions or zero waste projects, where companies are focused in diminishing their environmental impact. Thus, companies are not only trying to “minimize as much as possible the use of phytopharmaceuticals that are aggressive” (H), but also to “lower emissions (...) and to measure the energy spent in each operation” (I).

Second, companies are implementing water management practices in order to make better use of natural resources and cut down their waste. From enhanced irrigation mechanisms to water recirculation or wastewater treatment plants, there are different techniques and equipment companies are adopting to optimize their water consumption. In addition, as they are seeking to “reduce the energy consumption from the power grid” (A), LED lights and investment in solar panels emerge as the most common solutions aligned with such goal.

Additionally, interviews revealed that certifications like GOTS, OCS, GRS, Oeko-Tex, among others are essential to “guarantee the quality of our [their] services (...), but also assure an environmental performance as well as proper occupational safety and health conditions” (J). These are not only acting as market differentiators, but they are also key for entering certain business partnerships – “If they (...) cannot secure the certification, we don’t want to work with companies like that” (N).

Those certifications may arise, for instance, from the sustainable sourcing and creation of recycled fabrics from “pineapples, hemp, bananas and that type of materials (...) to make a more sustainable, more ecological innovation” (K). Such creative processes are incentivized by research, whether internal (e.g., R&D departments) or external (e.g., Universities), which provides useful “inputs so that we [the company] can work on what we will eventually sell in 2 years” (D).

Lastly, besides companies’ willingness to “ensure that [their] workers, especially immigrants are living in decent conditions” (B), there is also a significant investment in training and task diversification. Recognizing their workers as a competitive advantage, companies benefit from “the know-how and experience that we [the company] already have from some employees to create products with greater added value.” (E).

4.3. Market context and pressures

The interviews clarified that SMEs are working in a challenging, fast-changing market that asks them to be more innovative, while staying competitive as a condition for survival. Companies are forced to quickly address the diversified market needs, as if “the day we [they] don’t give an answer to the market, the company ceases to be viable” (A). This implies that customer expectations are rooted in the strategy-building and product-conception processes, given that they “are the ones we [they] want to see most satisfied” (O).

In light of this, companies are constantly facing tighter regulations, client audits and other requirements, which altogether impose a cost pressure, forcing them to “find some alternatives” (C) in their day-to-day operations. Considering that the “standard [type of client] has been changing” (F), client requirements are often exceeding the legal standards, meaning that “failure to comply with certain environmental, technical, and social guidelines simply does not work” (E) as it may compromise the whole relationship.

Finally, these regulations appear to be stricter within the European context, for instance in terms of both labor and environmental standards. Even though this might add to the product’s quality and safety, it also means that “these international producers can use these active substances [genetically modified organisms] that have been banned here and unfairly place their products on the market” (I). However, it is also from abroad that a lot of insights and “new machinery, certifications, [or] new fruit varieties” (B) come from, which proves useful in shaping companies practices and improving their innovation capacity.

In particular, and despite all ethical and social issues, Asian and North African producers create fierce price-based competition, namely for European textile firms – “the end customer does not care if they were 12-year-old (...), they buy because it’s cheaper 2, or 3 or 4 Euros a piece” (N).

4.4. Main motivations for RI implementation

Interviewees identified a set of social, environmental and economic aspects that motivate them to implement RI, which can be split in seven different categories as follows: growing awareness, benefits of value co-creation, improved efficiency, product differentiation and quality enhancement, workers’ wellbeing and productivity, risk mitigation and trust-building in local communities, and increased competitiveness. These are mostly strategic reasons that are pushing companies in the direction of socially and environmentally conscious practices from which they can obtain, among other benefits, a greater competitive advantage.

First, growing awareness for social and environmental responsibilities such as “climate change, (...) working and living conditions of our [their] people” (B) is reinforcing companies’ ambition “to become socially, environmentally and economically responsible and sustainable” (H). As a result, they are continuously trying to find “new, greener and more sustainable solutions” (C) that align with RI’s rationale.

Second, there are several players who share this vision on RI, and whose ideas and collaboration are helpful in “prov[ing] the market that it is possible to have fibers and products with which we [they] can compete with national products” (G). The “constant contact with (...) entrepreneurs, partners, customers, suppliers” (K) promotes significant synergies among stakeholders. Therefore, SMEs are highly interested in co-creating innovative solutions with their partners, especially considering that “as many people as those who can add and generate value in these business models should be engaged” (G).

Third, new technologies and other responsible practices allow companies to improve their “process efficiency, producing more with fewer defects and less waste” (J), while reducing their environmental damage and raising a greater social impact. Such improvements can be observed in both the textile and agricultural sectors. On the one hand, textile SMEs are investing, for instance, in fully automatic chemicals’ kitchen that facilitate dyeing processes and prevent workers’ direct contact with the paints. On the other hand, agricultural SMEs are implementing new methods and tools that assure the “ability to have data (...) to understand what I [they] produce in each square meter” (I). Besides optimized resource allocation, the introduction of

low-consumption machines and precision or regenerative agriculture systems, as an example, “create conditions for the maintenance of the surrounding fauna” (B).

Fourth, such efficiency boost brought by companies’ innovation capacity is responsible for product differentiation and quality enhancement, resulting in more revenues that “by the conventional model we [they] are not able to achieve” (I). Consequently, this larger income can be reinvested in people and technology to speed up innovation and stay ahead of market trends.

Fifth, interviews show that companies are striving to take care of their workers’ wellbeing, since they consider that “the better we [they] have our [their] employees, the better our future results will be” (Q). Given the “open and relaxed relationship [between the company and its employees]” (P), a bridge between the workers’ wellbeing and the company’s future success emerges as a main motivation to pursue RI objectives. Essentially, providing their employees with good work and living conditions will later improve their productivity – “making ours grow and develop, because if they don’t, the company will not grow tomorrow” (A).

Sixth, more than raising a social influence, companies are causing a local impact in their communities and regions through trust-building and risk mitigation. The awareness on their “employment capacity and the economic dynamics it [they] will leverage” (D) reflect companies’ efforts in “hiring local people” (L) and helping third organizations around them.

Seventh, introducing differentiated, added-value solutions is a strategic way for companies to assert their position and expand their market reach through differentiation and increasing competitiveness. Notwithstanding the fact that “sustainability also has many costs” (O), companies should keep “improving something that we [they] already do (...) or seeing a path for something where we [they] can do better and differently than others” (Q). Only then can companies stand out in competitive markets “where the rules are completely different (...) imply[ing] that we [they] had to be constantly innovating and differentiating ourselves, while being sustainable at the same time” (G). At the end, RI is perceived as a strategic need to acquire market credibility in uncovered segments rather than an optional path to follow.

4.5. Main challenges and barriers to RI implementation

The findings reveal that companies face different interconnected challenges when implementing RI, which can be structured into six different categories. Essentially, lack of governmental support and financial incentives, limited clients’ acceptance of RI, the investment risk,

affordability of innovative solutions, excessive bureaucracy, and human resources shortage are only a few of the main barriers to those who seek to implement RI.

First, interviewees identified a lack of governmental support and financial incentives that could boost their RI initiatives. This contrasts with the time when “the government had an interventional role in the sense of supporting production” (H), whereas nowadays “things have to be done according to the [financial] results at the end of the year” (A). In face of their limited financial capacity, companies enforce that the state should “look at their [companies’] accounts and see if they are economically viable” (N), because that seems to be the only way “they can understand that there is not way for companies to evolve with the tax burden they have” (P).

Intimately related with this context is the fact that RI “costs are not always easy to ensure” (E), taking into account that new technologies and socially conscious practices often require significant upfront costs whose returns are usually seen later in time. Therefore, companies “have to have financial capacity” (F) if they want to invest in technological enhancements, certifications, new machinery and other RI initiatives that meet rising social and environmental expectations.

Second, findings suggest that there are clients who either don’t care, cannot afford or are not willing to pay more for solutions derived from RI initiatives. On the one hand, some clients do not prioritize social or environmental issues, considering they are not “open to hear about sustainability when there are more critical and serious things to solve” (D). On the other hand, not only “management feels (...) there may not be acceptance by the client” (C) to pay more for a product, but also there are “clients who (...) are looking for a basic product” (F) that does not have to match RI goals. There are also clients who “want the company to be sustainable, to have several certifications (...) but in the end they don’t want to pay the price” (N) for it. Ultimately, “even if they [clients] wanted to, liked or thought it would be good to pay for something better, they can’t do it” (I) because there is an affordability issue at the core of eco and socially friendly solutions. This problem forces companies to balance RI implementation with staying competitive on price-driven markets.

Third, adopting new solutions driven by RI principles means companies will have to bear the financial risk of the innovations in case they don’t go as planned. Hence, companies shall rethink their cost structure in order to avoid incurring serious losses, considering the “adaptation phase until we [they] get a reward for these new charges” (O). This approach goes hand in hand with companies’ carefulness when taking larger investments. They recognize that they have to cautiously evaluate the costs and impacts of their innovations, as “there are things that have to

be very well studied before they go from paper to practice” (P). This means that each step should be taken “with the awareness that we [they] made the right decision without rushing into it” (O), “so that the company’s financials would not get too worn out” (F).

Fourth, interviews point out that higher RI costs make it difficult for companies to charge clients more for products that “will take time until they scale and come to normal market prices” (D). As companies “can’t pass these costs on to them [clients]” (B), they end up discouraged to invest so much in RI initiatives. In particular, certifications require a large investment every year “not only to apply (...) but also to maintain the conditions” (K).

Fifth, companies complain about the “amount of bureaucracy, of obstacles they have on a daily basis” (F) relating to certifications. If the paperwork and requirements are not diminished, it is possible to start seeing different companies abandoning these processes in the meantime, as they are both costly and time-consuming. Despite the need of certain certifications in the establishment of business partnerships, the administrative and financial challenges may seem too demanding sometimes.

Sixth, interviewees revealed that “the shortage of human resources is very significant” (Q) in both the textile industry and the agricultural sector. As described, “the industry itself is not very appealing to young people” (J), pointing towards a young talent recruitment and retention problem related with the fact that “the industry does not offer them what they often want” (O). In this regard, having an older, close-minded team may raise barriers to RI implementation in those contexts, since “we [they] need people with us [them] to support it” (N).

4.6. Stakeholder engagement and management within RI context

The findings indicate that companies perceive their rather complex relationships with stakeholders as vital for the successful implementation and management of RI initiatives.

According to the different semi-structured interviews conducted, it is possible to group the diverse types of stakeholders into three main groups. Firstly, companies identified their internal stakeholders as their “employees” (P), “sales [or] technical teams” (G) and internal “venture capital[s]” (G). Secondly, companies delimited their local stakeholders as community’s locals, “neighbour” (A) companies and organizations, “parishes (...) [or] schools” (A). Lastly, it’s possible to name their business stakeholders as the “suppliers” (C), “entrepreneurs, partners, customers” (K), “distributors” (L) and public institutions (e.g. “City Council, APA, ACT, IEFPP” (J)). For each of these groups, companies “have already delimited what we [they] are going to

do for each of them, to meet their needs and expectations” (J), showcasing the importance of stakeholder management.

In this regard, companies perceive that insights from their internal stakeholders are as valuable as others from external parties. Given that “even internally, our [their] teams (...) permanently challenge us [them] with new ideas, with new products” (G), considering everyone’s inputs represents extremely relevant impacts “on the actions we [they] want to take (...), very relevant indeed” (Q). Thus, companies are constantly open to listen their stakeholders’ inputs coming from “their innovation departments (...) who also give us [them] some drivers of trends” (D) which support the decision to test the RI initiative. This means that the different partnerships established will help companies “scale their ideas so that [they] can, together, crease these business models” (G) strongly influenced by social and environmental desires.

Concerning stakeholders’ management, there are several aspects identified by interviewees that describe their way of accommodating and addressing their needs and expectations. First, the different needs from each stakeholder group are managed “over time” (P), throughout the RI implementation process, regarding the “scenarios that have to be idealized to understand the impacts that the new measures can bring in the short and long term” (O). Second, and in line with this, continuous negotiation is what ensures the alignment between companies and their stakeholders along the way. Despite the fact that “80% of the requirements (...) are considered right from the beginning” (K), “negotiation regarding the deadline, price, and (...) the quality that must be maintained” (E), as it is needed to manage expectations and interests from side to side. Third, companies feel that stakeholder engagement is facilitated the more transparent and trustworthy their relationship is. This is particularly achieved with local, Portuguese stakeholders with whom “dialogue is always very easy to maintain” (C), considering their proximity and common language. Lastly, stakeholder relationships are easier to manage within smaller, family-based companies where “there is a lot of direct contact, it’s a little more intimate” (P), making them understand “each other’s needs very well (P).

Finally, findings show that getting stakeholders involved in RI not only takes a lot of time, but is also made harder by reluctance and profit-driven mindsets. There is resistance to new working methods among some workers, especially older ones. They “have been in this industry (...) for many years” (C), so to them “this [RI] is not profitable, it is more expensive and, therefore, it is not worth it” (M). As a result, building strong stakeholder relationships becomes a “stone-

breaking job” (D), essential to open the path for organizational change through collaborative RI implementation.

4.7. Planning RI

If companies want to implement RI initiatives that can raise both an environmental and social impact, there is a set of good practices and previous considerations that they should account in order to proceed with their plan.

Interviews reveal that companies acknowledge that RI implementation “processes are all a little time-consuming” (J), especially considering that the harder task “is to find the solutions that works” (K). Nonetheless, the findings outline three common time periods that are needed from the design of the idea to its full execution. If there are some companies taking less than one year to implement their RI projects, others are taking more than five years, and the rest usually manages to do it in between those periods. These timings obviously depend on the dimension of the RI initiative in hand, though companies should “start with baby steps, one at a time, to monitor, evaluate, and adapt” (A).

In this perspective, interviewees admitted that shifting to sustainable business models needs gradual testing to ensure a successful implementation of RI concepts. Companies are grabbing traditional technologies to make a product that can be comparable, but with this other vision: zero water, zero chemicals, zero discharges, green energy” (G). In this line, they should “worry about how they are producing and what impacts they have on societies.” (J), which implies that tests should be performed so that they can obtain stage-specific, enriching insights on their innovations.

Therefore, if companies are seeking to implement RI processes, then “it’s essential to take one step at a time” (N), considering that “starting directly with sustainability is not easy” (O). Hence, pilot projects end up being a small solution, which anticipate a larger financial commitment to showcase tentative results that later contribute to the design of “a solid, long-term business model around all of this” (G).

Under this regard, industry insights and internal improvements are key to avoid common mistakes and drive innovation. Taking into account that companies should “understand whether or not it [their innovation] will work economically” (L), it is essential to check if there is “someone in the market or in the sector who has already found a solution” (A). Thus, outlining the current state of the art allows them “not only to understand what we [they] can still do, but also what

we should not do in light of the mistakes and advice of others.” (P) – at the end, these are opportunities to address potential inefficiencies and improve pre-existing RI processes still in place.

Finally, and wrapping interviewees’ recommendations for future RI initiatives, companies should structure potential action plans “with deadlines, with tasks, with costs” (K), and also with “all the potential benefits” (C). Such plans are responsible for companies’ successful implementation of their initiatives, making them less likely to face last-minute surprises that usually drag considerable financial constraints with them.

5. Discussion

5.1. Theoretical and Managerial Contributions

The majority of the findings of this study aligns with ideas and main theories that are already described in the literature. However, there are eleven novel insights that emerged in this research that are worth highlighting. The following subsections present those contributions for each of the research questions, so that literature gaps can be specifically addressed.

5.1.1. Agricultural and Textile SMEs and their Motivations and Challenges in RI Implementation

In addition to the set of motivations previously identified, such as growing awareness, improved efficiency, product differentiation and quality, and increased competitiveness, evidence collected reveals other factors which motivate SMEs to follow RI.

First, the idea of RI as a value co-creation strategy (Stilgoe et al., 2013; Carroll & Shabana, 2010; Waldron et al., 2022; McWilliams & Siegel, 2001; Zahoor et al., 2022) is widened in this study. According to the interviews, strategic partnerships with R&D units or Universities prove highly effective in enhancing SMEs' business models and current offers. One example includes sustainable sourcing of recycled materials in the textile industry. Some SMEs are developing high-quality circular and traceable materials (e.g., with hemp, pineapple, banana), which are often brought to them by suppliers to perform a "proof of concept". Therefore, the inclusion of different stakeholders in the RI implementation process may bring helpful inputs for further adjustments to what SMEs might be selling later in time.

Second, this study redirected past research focus on how firms should account for their workers' needs (Annosi et al., 2022; Bronson, 2019; Stilgoe et al., 2013; de Boon et al., 2022; Jarmai, 2020). SMEs believe that investing in their employees' working and living conditions can enable a greater financial performance. Therefore, they are keen on providing diverse trainings and allocating workers to value-added tasks that can increase their know-how, skills and experience. In accordance with interviews, if companies' workers are treated and trained better, their productivity levels will increase, and later more financial results will be achieved.

Third, the interviews go beyond the almost political role SMEs should have in engaging their stakeholders in deliberative processes (Barley, 2010; Broadstock et al., 2020; Hussain & Moriarty, 2018; Margolis & Walsh, 2003; Wen et al., 2022). SMEs are highly interested in promoting a local impact in their communities and leveraging economic dynamics in their regions through

trust-building and risk mitigation. In fact, firms mentioned the priority given to hiring locals and support third organisations around them when needed (e.g., firefighters, other firms from their sector).

Additionally, this study complements challenges to RI implementation previously identified in the literature, like the financial constraints and risks, and the human resources shortage.

First, in spite of public policy's role in supporting RI adoption (FAO, 2022; European Commission, 2025a, 2025b), interviews recognize a lack of support and incentives from governmental institutions. Considering SMEs' perception that the government has long left its interventional role, today's public policies and financial incentives, especially for the agricultural sector, don't seem to be enough. Given that firms' usually bear the whole financial risk of the investment in RI (Castillo-Díaz et al., 2025; Jauregui et al., 2023; Ma et al., 2025; Perez-Alaniz et al., 2023), such support could be helpful in successfully implementing innovative projects. Therefore, SMEs call for governments' greater attention to their day-to-day operations and needs.

Second, this study delves deeper into the uncertainty of public's acceptance and reactions to RI (Jarmai, 2020; Jalonen, 2012). According to the interviews, SMEs may encounter three type of clients besides those who enjoy and invest in RI. Firstly are those who do not care about social and environmental issues, nor the respective solutions brought by RI. Secondly, there are clients who don't want to pay more for a RI-verified product, or that are simply searching for a basic alternative. Finally are those who cannot afford eco and socially friendly conditions, even if they relate to RI goals. Altogether, these type of clients can considerably impact SMEs' decision-making processes on RI adoption.

Third, as RI implementation represents higher costs (e.g., R&D, production)(Vivona et al., 2023; Harsanto et al., 2022; O'Rourke & Strand, 2017), interviews reveal the difficulty to pass them on to the clients. As a result, SMEs often end up planning RI according to their year-end results, and thus prioritizing pilot projects over greater financial commitments. The fact SMEs are generally aware of their constraints showcases the context-dependence nature of RI (Fisher, 2020; Macnaghten et al., 2014; Kahn & Candi, 2021; Martinuzzi et al., 2018; Petruzzelli et al., 2018).

Fourth, despite unfavourable legislation, clients' requirements and regulatory frameworks that SMEs face constantly (Todeschini et al., 2020; van Lieshout et al., 2021; Waldron et al., 2022), this study reveals the key role of compliance in developing beneficial collaborations. SMEs

acknowledge that not complying with certain requirements established by certifying bodies or clients often hinders the partnership with RI-aligned stakeholders.

Fifth, the previous challenge gains momentum considering that, in accordance to interviews, not only are client requirements exceeding the legislation in some cases, but also that these frameworks are usually more demanding under European contexts. However, SMEs might be able to transform this barrier into an opportunity for RI implementation. Following the interviews, PES are increasingly adopted by SMEs, especially within the textile industry. This means that they might be more easily prepared to compete in external, fierce-price competitive markets like Asia or North-African countries.

5.1.2. Stakeholder Engagement Impacts in RI Implementation

In particular, the study of stakeholder engagement also provides significant contributions to past research, which is mainly focused on multi-level, participatory structures for stakeholders (Gurzawska et al., 2017b; Lehoux et al., 2021; Flick et al., 2020; Sapra et al., 2014).

First, following open-innovation theory (Voegtlin & Scherer, 2017; van Lieshout et al., 2021), this study reveals that SMEs derive significant benefits from including their stakeholders, namely international, in RI implementation processes the earliest possible. In fact, many SMEs believe that stakeholders' contributions and sector-specific insights are essential in the innovation's planning or potential redesign, as well as the different techniques and machinery they can import from successful, foreign contexts of RI.

Second, this study provides a partial solution to the stakeholder paradox presented in the literature (de Hoop et al., 2016; Iakovleva et al., 2021; O'Rourke & Strand, 2017). SMEs reveal that negotiating deadlines, price, or quality, for example, is key in managing stakeholder needs and expectations throughout the RI implementation process. This allows SMEs to keep performing adjustments along the way, while effectively addressing potential power imbalances or interests' irreconcilability that may arise.

At last, according to the interviews, stakeholder relationships are easier to manage in particular contexts, when compared to others. For instance, SMEs suggest Portuguese/common-language, open-minded and often young-dominated contexts or smaller, family-based firms are few of the settings where they feel more free to directly engage with their stakeholders.

5.2. Limitations and Further Research

Notwithstanding this study's theoretical and managerial contributions, it's important to acknowledge its different limitations so that future research on RI can collect enriching insights as well.

First, the adoption of a non-probability, purposive sampling strategy creates limitations to the study's external validity. The fact this is an exploratory research, particularly justified in the methodology chapter, limits considerably the sample representation of other settings, and thus compromises the results generalisability (Vehovar et al., 2016; Maxwell & Reibold, 2015). This study is specifically focused on Portuguese agricultural and textile SMEs, which is a very particular context to research, in spite of its relevance better described in previous sections. Therefore, future research could focus on this study's results and try to confirm some of the insights with larger samples that may bring representative and generalisable results.

Second, this study's findings result from the insights of 17 professionals from Portuguese agriculture and textile SMEs. Despite the benefits that their diverse backgrounds may represent to the study conclusions (Rowley, 2012; Symon et al., 2016), they are still a limited number of interviewees from similar contexts of research, given both time and resource constraints (Archibald et al., 2019). Future researchers may broaden the sample and conduct more interviews, namely to professionals from other geographies or to relevant stakeholders for RI implementation (e.g., public institutions). Such steps will not only enrich this study's results, but will also allow to have comparative perspectives on the issues at hand.

Third, although the semi-structured interviews conducted assure high internal validity to this study, they also allow for biased questions and interpretations. To overcome this potential issue, several measures were adopted. First, the interview protocol was carefully designed and examined to avoid leading questions. Second, the data collection process included recording and fully transcribing the interviews to ensure the researcher was as close as possible to what was referred in interviews. Third, the researcher adopted a rigorous data analysis method (Gioia et al., 2013; Roulston, 2014). Following these procedures reduced the potential biases. Nonetheless, future research can opt for quantitative methods, contributing to the external validity of the study and the objectivity of its results.

Lastly, despite providing a holistic view of the research topic, this study is based on insights for RI implementation as of September 2025. Considering that innovation is an ever-evolving concept, the results of this study can gradually become less relevant for the study of RI. If upcoming

research wants to critically analyse the long-term effects of some influential factors for RI implementation, as well as potential over time impacts of long-lasting stakeholder relationships, then the study should have a longitudinal approach.

6. Conclusion

Environmental and social concerns are more important than ever, namely in corporate spheres. As such, RI is born in the context of a fast-paced world, in need for innovative solutions that can bring long-lasting value for all, without intensifying current GSC.

In result, the typical stakeholder expectations and demands have been changing, and with them the ability of firms to neglect both internal and external pressures to address them. So the questions arise: What are the reasons for firms to not implement new initiatives that address those concerns and demands? How can stakeholder engagement help or hinder those processes? This study contributed for a better understanding of the factors behind RI implementation in Portuguese agricultural and textile SMEs, as well as the impacts of stakeholder engagement in pursuing such initiatives.

Overall, the findings show that SMEs are highly motivated to pursue RI implementation, given the benefits it brings (e.g., efficiency gains, differentiation, competitiveness). However, they often lack the financial or human resources to fully execute their initiatives, as well as the governmental or clients' support needed. In addition, this study reveals that stakeholder engagement can significantly improve RI implementation if SMEs apply multi-level approaches. This means that when companies extend decision-making and innovation-planning processes to their internal and external stakeholders, their insights can prove extremely useful in the successful implementation of RI.

In this regard, there are several theoretical and managerial contributions this study brings to RI research. First, SMEs believe that RI value co-creation helps them enhance their business models and offers before full implementation. Second, findings draw a positive relationship between investment in their workers' wellbeing and the company's financial performance. Additionally, SMEs are interested on leveraging their regions' economy while impacting its local people. Fourth, firms are calling for more governmental support and financial incentives for RI. Fifth, findings have grouped clients into those who invest in RI, those who don't care about it, those who are not willing to pay more, and those who cannot afford it. Moreover, SMEs often opt for pilot projects and phased RI implementation in face of their financial constraints. Seventh, SMEs identify certifications and compliance with clients' requirements as vital to join RI-aligned partners. In addition, findings reveal that client requirements are increasingly more demanding, and regulatory frameworks are stricter in Europe than in Asian or North African contexts. Ninth, SMEs believe they can import significant knowledge and technologies through

stakeholder engagement, namely with international partners. Tenth, findings highlight negotiation capacity as central in managing stakeholder expectations and needs throughout RI implementation. At last, findings suggest that stakeholders are more easily managed under common-language, open-minded or family-based contexts.

In short, RI appears as a context-dependent concept that can be analysed from multiple perspectives. This study findings conclude on the different factors that influence RI implementation, and the positive impacts that stakeholder engagement holds, within the defined research context. However, SMEs remain in need of more sophisticated understanding of their circumstances, either from the research community or governments themselves. Only then can academically raised concepts be widely applied.

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Appendix 1: Interviews' Codes and Participants

Code	Company size	Sector	Interviewee's Role
A	Medium	Agriculture	CTO
B	Small	Agriculture	Commercial Manager
C	Medium	Textile	Head of Production Department
D	Medium	Textile	CEO
E	Small	Textile	Managing Partner
F	Small	Textile	Commercial Manager
G	Medium	Textile	Chief Sustainability Officer
H	Small	Agriculture	CEO
I	Medium	Agriculture	Head of R&D Department
J	Small	Textile	Sales Manager
K	Small	Textile	Head of Human Resources
L	Medium	Agriculture	Sales Manager
M	Small	Textile	Head of Quality Department
N	Small	Textile	Commercial Manager
O	Small	Textile	Quality Department Manager
P	Small	Agriculture	Sales Manager
Q	Medium	Agriculture	Head of Production Department

Appendix 2: Semi-structured Interviews Protocol

Original version (in Portuguese)

Neste momento, estou a escrever a minha tese de mestrado sobre a implementação de processos de inovação responsável, focando-me nas oportunidades e desafios para pequenas e médias empresas no setor da agricultura e na indústrias têxtil. Nessa linha, a minha pergunta de partida é “Quais são as motivações e os desafios que influenciam a implementação da inovação responsável em PME’s portuguesas agrícolas e têxteis?”. Adicionalmente, também tenho o interesse em perceber o impacto do envolvimento de grupos relevantes nos processos de inovação. O presente estudo está a ser desenvolvido apenas para propósitos académicos, pelo que esta e as demais entrevistas são parte da minha revisão metodológica.

Preparei esta entrevista semi-estruturada para não demorar mais de 45 minutos. Considere a sua participação totalmente voluntária, na medida em que a pode interromper a qualquer momento durante a entrevista. Além disso, não há respostas certas ou erradas, não estando antecipados quaisquer riscos inerentes à sua contribuição, que é aliás bastante apreciada. Tendo em conta a natureza da minha investigação, agradeço a sua autorização para a gravação da nossa conversa, que deverá ser devidamente destruída após a sua transcrição. Esta gravação e todo o respetivo conteúdo será estritamente confidencial, e a anonimidade dos seus dados será também totalmente assegurada. Não obstante, estou inteiramente disponível para, assim que o processo estiver concluído, enviar-lhe uma cópia da minha dissertação. Tem alguma questão ou esclarecimento que entende necessário ser feito? Aceita estes termos?

[Confirmar dados da empresa e do entrevistado: Pequena/média empresa? Posição ocupada na empresa?]

Assim sendo, posso iniciar a gravação?

Questões

1. [Introdução à empresa ou pessoa] Pode contar-me um pouco sobre essa [sua] experiência?
2. Qual é o papel que acha que as empresas têm ao tentar equilibrar aspetos económicos com outros sociais e ambientais?
3. De acordo com a sua experiência, como é que definiria a inovação responsável?
Apenas de referência, a inovação responsável é definida como o conjunto de soluções para problemas de ordem social e ambiental, permitindo a criação de valor para todos.
4. Neste âmbito, que exemplos têm, dentro ou fora da sua empresa, de processos de inovação responsável?
 - 4.1. Consegue explicar-me um pouco de como esses processos surgem e são implementados ao longo do tempo?
5. Quais são as principais motivações à implementação da inovação responsável?

6. Em que fase é que é possível ou razoável incluir inputs, tanto internos como externos, de grupos cujas exigências são relevantes para o processo?

6.1. Quem é que são esses grupos?

São exemplos atores políticos, clientes, empregados, investidores.

6.2. Como é que percebe a relação entre si ou a sua empresa e esses mesmos grupos?

7. Já experienciou algum tipo de obstáculos na implementação dessas iniciativas? No fundo, quais considera serem os desafios a este tipo de processo?

8. Que recomendações daria a outras empresas que procuram implementar iniciativas semelhantes?

Encerramento

Penso já ter reunido todas as ideias necessárias à continuação da minha análise. Tem alguma questão ou comentário final que gostaria de fazer?

Nesse caso, ficaria bastante agradecido se me conseguisse sugerir algum profissional nesta área que eu pudesse entrevistar mais tarde.

Muito obrigado pelo seu tempo e contribuição, que irá definitivamente ajudar do desenvolvimento do restante do meu estudo. Por favor, não hesite em contactar-me por email caso surja alguma questão.

Translated version (in English)

I am currently writing my thesis on the adoption of responsible innovation processes, focusing on the opportunities and challenges for small and medium enterprises (SMEs) in the agriculture, textile, and energy sectors. The main research question is “What are the motivations and challenges to RI implementation in Portuguese agricultural and textile SMEs?”. In addition, I am also interested in understanding the impact of stakeholder engagement in the innovation processes. The present study is directed strictly for academic purposes. I am conducting this and other interviews as part of my methodology review, under which I will analyse the diverse contributions on this matter.

I have prepared this semi-structured interview to last no longer than 45 minutes. Please consider your participation is voluntary, and you shall discontinue it at any time during the interview. There are not right or wrong questions, and I cannot foresee any associated risks to your contribution, which is highly valued. To facilitate the note-taking process, and given the nature of my research, I would appreciate your approval for the recording of our conversation. This recording and all the content from this interview will be strictly confidential. Once the information is transcribed, the recording will be duly destroyed. I will not only assure the anonymity of all data derived from this interview, but I'll also provide you a copy of the dissertation as soon as it is finished. Are there any questions or topic you didn't understand? Do you accept these terms?

[Confirm company's and interviewee's data: Small/medium enterprise? What is the role within the firm?

Can I start the recording?

Questions

1. [Introduction to the company or interviewee particular experience] Can you tell me a little bit more about it?

2. What role do you think companies have when balancing economic with social and environmental aspects?

3. From your experience, how would you define responsible innovation?

For your reference, responsible innovation is understood as the different solutions that address both environmental and social problems, creating value for society.

4. What examples do you have of responsible innovation processes implemented either in your organization or in another setting?

4.1. Could you explain how those processes arise and are implemented throughout time?

5. Given that, what would you say are the main motivations behind the implementation of responsible innovation?

6. At what stage do you usually include external or internal inputs from groups whose demands are relevant to the process?

6.1. Who are they?

Examples can be political actors, customers, employees, investors.

6.2. What can you tell about the relationship between you and those same groups?

7. Did you ever experienced trouble in implementing these initiatives? How so?

8. Which recommendations would you give to other companies that are trying to implement similar processes?

Ending notes

I think I have gathered all the insights needed to proceed with my analysis. Do you have any questions for me or a final comment?

I would be truly glad if you could provide me any suggestions of professionals in the responsible innovation field that I could also interview. Thank you so much for your time and contribution, which will definitely help advance knowledge in this field. Do not hesitate to contact me via email, should you have any other questions.

Appendix 3: Interview Content Analysis using Gioia’s Methodology

First Order Concepts	Second Order Themes	Aggregated Dimensions
I “there has to be a balance between what was the ideal and what is possible in the short term (...). (...) I also have the problem of balancing what is a highly effective company in environmental and social terms but with no financial return, as the economic sustainability component gets lost.”	Economic sustainability often clashes with social and environmental ambitions in SMEs.	Perceptions of RI
K “If we innovated in terms of sustainability as we should, we would not be economically sustainable.”		
M “We can implement sustainability, but in a way that makes it profitable. And what [company's name] tries to do is to add the sustainability rationale to the equation – as a business we always want to be more profitable, but because we invest in responsible and sustainable projects, which are increasingly important for everyone.”		
A “at the end of the year there has to be a positive result that allows us to be healthy and sturdy (...). This is economic stability, which is always at the forefront, of course.”		
I “The first is always the economic view of the problem”		
P “Sometimes, it's not easy [to balance the economic part with social and environmental ambitions]. (...) it is not possible to be 100 percent environmentally friendly. There are always things that go against and that you can't really get around, otherwise we would have to close doors.”		
Q “We are very careful with the environment, with the staff, with all that. However, in the majority of situations, we have an economic and financial rationale behind that.”		
A “Environmental sustainability, "yes Sir". Social sustainability, "yes Sir". But economic sustainability always comes first”		
J “There is an interest in following these trends of innovation and sustainability, on the one hand, because it is intrinsic to us, but on the other because it is the future of the business”	Innovation and sustainability are increasingly the backbone of companies’ long-term strategies.	
J “The granddaughters of the founders are young people who want to continue with the family business, so it makes perfect sense to invest in technology and think about these aspects”		
Q “Sustainability either brings a benefit or people abandon it in the medium run: no one will be investing just to be good (...) as long as that rationale is not in everyone's mind, the world won't change to sustainability.”		
E “We are forced to think about the future, (...) about future generations that will obviously have more difficulties if we do not consider the sustainability factors in the present.”		
Q “We are farmers. Therefore, we have to live with sustainability in our mindset. If we deplete the earth's resources, we will no longer be able to farm.”		
A “all decisions made on a daily basis are focused on the company's existence 50 years from now.”		
G “There is no strategic decision that is taken that is not based on these pillars [sustainability and innovation]. (...) Our collective strategy has innovation and sustainability hand in hand, as the backbone of the entire activity.”		
O “To be a more sustainable company, to look to the future as an integral part of our responsibility, to always have a product that is ahead, to always have new things to offer our customers.”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
I "a project that is called the Farm of the year 2050. And therefore, based on these assumptions of low emissions, good environmental accommodations and reduced use of agrochemicals, etc., we have to see what will be the agriculture that society is asking us for 2050 (...). (...) It is a model that obliges us every year, every time there is an emerging technology in any part of the world that will tend to respond to society's challenges, to test those same solutions."		
A "the market, for example, also requires environmental certifications and we have an environmental certification that is the MPS (...) which evaluates only environmental parameters. (...) We plan in the next 2/3 years to move to a Global GAP certification, (...) which also accounts the labor and social parts."	Society is demanding responsible innovation, so companies see it as the only way forward.	
I "It is clear that society wants this [responsible innovation] from its suppliers, its industrialists and, therefore, we have no doubt that this is the way forward and it is a matter of time."		
L "If this is a path that can be taken, then we must do it, and only then can things change."		
F "We know that this is sustainability, this is the way, and we have to go this way."		
I "It is this digital, technological agriculture that is giving me comfort to make this progress and attempt to evolve towards a model that may be one today, but that in 10 years will be another, a model that represents the path of society until the year 2050"		
L "Our whole intention is to really spread the knowledge, to be an inspiration through transparency. We take action with a commitment to change the old ways of doing things."		
N "Nowadays, as it should have been a long time ago, this is everyone's duty, so there are no options left but to comply with this."		
O "Therefore, we want to be responsible for the change, and increase our value with that, while we differentiate ourselves from others."		
C "Right now we are all very aware of the environmental changes, the climate changes that we are all going through. (...) We as the textile industry, which is a very polluting industry, one of the main ones at least in our country, has to be aware that a few years ago things were very different. Therefore, not only can we, but we must move towards a much more sustainable, green footprint so that our processes are also shorter, more economical, more environmentally friendly."	Companies feel they must move towards a more sustainable footprint.	
D "The textile industry was ranked in the second place of the biggest polluter almost in the world, (...) causing global warming and things like that through textile waste, end-of-life processes and things that are not recycled, that are thrown away (...). Now we are aware that we really have to create products and have more environmentally sustainable processes."		
I "Any economic activity always creates impacts and faces problems, whether environmental or social. The model that we are using (...) - reducing footprint, avoiding unskilled labor, being able to generate good salaries for employees, having good shareholder remuneration for our shareholders - asks even more from us, because all the progress of a company lives on this innovation and not feeling satisfied with what it has."		
J "The textile industry was considered the most polluting industry, so there is a need to reorganize and review the sector."		
P "I think that if the world has evolved, we have to evolve with it."		
A "[The economic, social and environmental dimensions] are interdependent. At least it's our way of seeing things. And the truth is that without economic sustainability, we can't do anything next, right?"		

First Order Concepts	Second Order Themes	Aggregated Dimensions		
E “Nowadays, those who don't think about it [about balancing their economic sustainability with other environmental and social aspects] don't think about the future. (...) Sustainability is something that companies have to take into account in decision-making (...) – in any type of investment that the company may consider, the sustainability factor has to be present. Obviously, environmental and social sustainability.	environmental dimensions makes responsible innovation a win-win situation.			
G “Sustainability is not just one factor, it is both social and environmental sustainability, which together result in political sustainability and economic sustainability. For me, the economic aspect will be the outcome of the two most important practices, which are social and environmental.				
I “We dared to look at those 3 feet of sustainability, but the economic is what drinks from them all because it flows into a more interesting income, in the short and long term				
C “We all have to win – the society around us, us, our customers and our suppliers.				
L “We can consider [what we do as] responsible innovation because we are doing it responsibly, really thinking about the world and ourselves.				
N “It ends up being a cake that helps everyone – socially, environmentally and economically.				
D “There is a group here in Europe of entities and laboratories, people and brands that are committed to innovation, and the others are what we call followers, who follow the trend. They don't invest in what's new, but they like to know what others have because they want it too.	Companies split between leaders who invest in innovation and followers who strictly comply with legal requirements.			
M “In textiles, sustainability arose because practically all companies were obliged. Then, some, like us, took advantage of this as a method to stay ahead of others, that is, as a sales strategy – they want to be and have more and better. The others, on the other hand, do it practically out of obligation, as customers demand x standard and they have to do it if they want to work.				
H “Basically, to do more than what the legislation requires, because I think that what the legislation requires is not enough				
K “We comply with the legal requirements, and if any of our employees have a problem, management is very receptive to listening to them and often helps them in a very personal way.				
A “then we want to be on the crest of the wave, not wanting to be left behind there in these processes				
G “We need to differentiate ourselves, be competitive, yesterday. What for? So that we can have traction in the market, so that we can get results, since we have no chance to compete with them in terms of price.				
M “On the one hand, these are trends and initiatives that are starting to appear little by little, so it is the desire not to be left behind, since we want to be able to compete and compete with those who, like us, want to do things in a different way				
Q “We have to be more aggressive, more innovative, and we have to focus on innovation, process improvement, and image enhancement in order to sell more expensive products. In other words, we need to be at a price level where there is less competition.”				
A “We started on this issue of pesticide reduction 7 or 8 years ago, so at the moment we already use few pesticides, it is already very much based on biological control.”			Minimizing pesticides and fertilizers on behalf of natural alternatives like manure,	Examples of RI Initiatives
C “We try to use chemicals with less potential for damage to the environment (...) so it will be much easier to treat the water without causing any harmful act for the environment”				

First Order Concepts	Second Order Themes	Aggregated Dimensions
D “Choosing more sustainable processes is extremely important: renewable energies, reducing the carbon footprint and using materials in our products that are biodegradable or sustainable, and that come from more environmentally friendly productions, that use less water, that do not use pesticides or chemicals.”	weeds and biological control.	
L “We have cows, donkeys, chickens, sheep, which will help in the natural fertilization of the soil, minimizing the need for mechanical control and the external elements. (...) they help fertilization, so as weeds do, thus we completely stopped using chemicals in the soil.”		
Q “Our vineyard is full of grasses. It is not one of those vineyards where you see an immaculate ground (...). (...) They have roots that, when we cut through the grass, dry up, and open a little hole in the earth that allows the oxygenation of the vine's roots not only allowing better drainage, but less compactisation of the soil while the grass is still to be cut.”		
Q “Given the proximity we have to the village, we try to use fertilizers that are less aggressive, both in smell and contamination, in the fields closest to the city.”		
A “This all goes together: as we work with living beings, we cannot give excessive amounts of water, otherwise we end killing the plants; On the other hand, we need to have quality water, for which we also have to take care of the aquifers, as we cannot be contaminating them with pesticides or fertilizers”	Companies are adopting wastewater treatment plants (WWTP) and precise irrigation as part of their water management strategies.	
A “In 2023 we started to do the first tests for water recirculation, that is, we irrigate, capture the irrigation water and we will introduce it back into the irrigation circuit. Therefore, water is not lost, it is reused.”		
C “[Company's name] has a WWTP right connected to the factory and where we recover some of our treated water, to enter the factory again, in the new dyeing processes.”		
D “Choosing more sustainable processes is extremely important: renewable energies, reducing the carbon footprint and using materials in our products that are biodegradable or sustainable, and that come from more environmentally friendly productions, that use less water, that do not use pesticides or chemicals.”		
E “it is essential for the company to have a WWTP to be able to treat and send this treated wastewater, properly controlled. (...) The person in charge of the company has to be aware that he has wastewater that he cannot discharge anywhere.”		
G “We want to have 0 percent discharges to the environment, we have used only and exclusively bioproducts, we do not want to use petrochemicals, we want to have water in an internal closed circuit, and we want, with this, to have our carbon emissions at 0”		
H “Watering only when it is necessary and in the strictly necessary quantity, this is an environmental management tool.”		
I “We started 20 years ago to develop water and energy efficiency, which were the number 1 limiting factor”		
L “Here the focus is on biodynamics. (...) we wanted the reduction of irrigation and restoration of soils. Therefore, we stopped irrigating. We only do it when there are really high temperatures”		
N “Although it is in these processes that a lot of water enters, there are already machines that have their own water consumption, having a super reduced consumptions, and I have also heard comments from those who are trying to do these processes without water”		
O “The same [taking a step with awareness that it is the right decision] should happen, in two years, when we manage to eliminate water from a significant part of our processes”		

First Order Concepts	Second Order Themes	Aggregated Dimensions		
P “We try to manage, for example, the irrigation. We even have a device that controls the expenses we have for water in the greenhouses and everything”				
Q “For many years we have had moisture probes in the earth to understand where the water is, if we have to water more, or if we have to water fewer hours.”				
A “we installed a reasonable area of solar panels (...) to reduce the energy consumption from the power grid.”	Renewable energy and efficiency measures, such as solar panels and LED lighting, help lower energy use and costs.			
C “We also have photovoltaic panels”				
D “Choosing more sustainable processes is extremely important: renewable energies, reducing the carbon footprint and using materials in our products that are biodegradable or sustainable, and that come from more environmentally friendly productions, that use less water, that do not use pesticides or chemicals.”				
E “I have to generate energy from renewable sources, around 40% of my consumption.”				
F “We are going to change the roof of the warehouse (...) - a thermal regulation followed, most likely, by the installation of solar panels.”				
H “it starts with renewable energies, which is basically trying our best to use photovoltaic solar panels in areas where we have roofs”				
I “In addition, we are self-sufficient in energy”				
M “we don't have a light bulb that isn't LED”				
O “We now have a project to install solar panels”				
P “we are building a new warehouse (...) created with sustainability and energy saving in mind, because we are going to have panels”				
Q “We produce energy [in 7 photovoltaic plants] corresponding to about 61 to 62 percent of what we consume”				
B “We, for example, are starting a zero waste project – thus not using agrochemicals in our processes – and sometimes it is difficult to understand how to fully implement this plan.”			Zero emissions and zero waste projects are pursued through the exclusive use of bioproducts instead of chemicals.	
G “We want to have 0 percent discharges to the environment, we have used only and exclusively bioproducts, we do not want to use petrochemicals, we want to have water in an internal closed circuit, and we want, with this, to have our carbon emissions at 0”				
H “minimize as much as possible the use of phytopharmaceuticals that are aggressive, so that our crops can be as zero waste as possible.”				
I “In the 2000s, we also established a rationale that is: whenever the company makes technical progress, it has to lower emissions. We started to measure emissions (...) and to measure the energy spent in each operation”				
P “We have to treat our herbs and at the moment we do everything with zero waste – we don't do anything with substances that have chemicals.”				
Q “And we rationalize the use of herbicides, we use the minimum necessary.”				
M “Regarding environmental and social aspects, we currently need to have some types of certifications to sell to any brand.”				

First Order Concepts	Second Order Themes	Aggregated Dimensions
J “By keeping our certifications, not only we guarantee the quality of our services in all processes, but also assure an environmental performance as well as proper occupational safety and health conditions, given the requirements to be met.”	Certifications (e.g., GOTS, OCS, Oeko-Tex) assure that companies' processes and products are eco-friendly and/or socially responsible.	
H “When we launch a variety, it has to match 3 major criteria: it has to perform good in our seeding nursery (...); it must also respond to the requirements in production at European level (...); and it has to be very good in terms of conservation.”		
O “We only work with dyeing plants that have certified dyeing, and our dyeing factory only works with dyes that are sustainable”		
E “we have to hold a stock, for example, an inventory of products with ZDHC MRSL level 3 certification (...) which are properly controlled and environmentally friendly products”		
F “Within the scope of certifications, we are GOTS and OCS certified, and we also have Oeko-Tex Class 1 certification.”		
J “We have this [Oeko-Tex certification] that only looks at the composition of the fabrics, the chemical formulas for treating the material – (...) it checks that they are not harmful to human health and that they are eco-friendly or too toxic for the environment”		
J “the GOTS certification, (...) which was born to basically encourage the production of organic cotton. (...) It does not use pesticides in its cultivation, nor genetically modified seeds. (...) it covers the entire textile supply chain”		
J “we have another certificate, which is the European Flax, which is a certificate for ecological linen that guarantees the respect for social responsibility standards, etc.”		
K “We started to be certified as Oeko-Tex a few years ago (...). Then in 2020, we also became certified with GOTS, OCS and GRS. And in 2023 we made the SMETA certification.”		
N “We have Oeko-Tex certificate, which is the basic. We have GOTS, Supima, GRS. (...). (...) certifications such as GOTS or Supima work by points (...). If they don't have the points, (...) and cannot secure the certification, we don't want to work with companies like that either.”		
O “We have the GRS certification, which functions here for the implementation of water and energy saving measures, the conditions of the employees.”		
Q “we have certified ourselves by that new ESG benchmark from ViniPortugal, its national sustainability reference. Therefore, it delves deep in the human resources, the relationships with stakeholders, both environmental and economic.”		
K “In addition to the yarn, there has to be internal knowledge here that allows us to understand how to knit, in particular the percentage of a certain material that a yarn can have, or not.”		
L “What has to be done internally is to try to understand, to do studies.”		
I “We now have a research department that is funded by the company's own profits.”		
A “Everything that is innovation or alternative solutions is not tested, it is not prepared for our needs, for our reality. (...) We have to be the ones to do the whole process of research, of study. Sometimes it would be useful to have universities here to collaborate, to come to us or open their doors.”		
D “It is the department [of innovation and development] that will seek the inputs so that we can work on what we will eventually sell in 2 years. (...) Basically, it is about developing partnerships, analysing new raw materials that are emerging on the market, and helping to develop this”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
G “We have new people, people who come from the scientific part and who discover things, at the level of universities, and that we can take advantage of.”		
I “We work a lot with universities, precisely to drink from their knowledge, though much of it is now produced by us”		
L “We have our consultants for all these processes. (...) in this case on the ground/in the market, to be able to help as well. (...) to know exactly what there is, what we have and what we can do for the future.”		
K “When we start looking for pineapples, hemp, bananas, and that type of materials, the idea is really a way to make a more sustainable, more ecological innovation.”	Developing sustainable fabrics through recycled and differentiated materials such as water bottles, hemp, pineapple, and banana.	
M “We also have recycled knitted yarn without recycled plastic, but made from leftover fibers (...). Everything that is knitted yarn leftovers – what is defective, those ends we take away, the cut-out ones – we take it to knitwear recycling companies and they recycle it.”		
O “We have a 100% recycled polyester. (...) made from water bottles, which are melted and are transformed into thread, into yarn.”		
A “Fortunately, there are still no robots, there is no mechanization to do this work we do (...) we may lose one of the competitive advantages, which is our workforce.”	As a key advantage, workers shall be assured working and living conditions.	
P “We don't invest much in machinery, in things that take a lot of manpower, so that we can have staff to work.”		
B “We seek to ensure that our workers, especially immigrants, are living in decent conditions.”		
E “on the issue of social sustainability in creating working conditions so that employees can feel, obviously, comfortable here at the company, and can give what the company also requires”		
H “[Sweet potatoes] are a crop that, despite being highly mechanized, is a crop that fixes populations (...), because it also requires labor. (...) this has an impact here for the area and now that there is so much talk about immigration and that Portugal has no need for immigrants, (...) I start to think a little about what the existence of our company would be like if we didn't have the manpower we have available?”		
K “Then help them and make employees feel supported and secure here, particularly in all financial matters.”	Investment in training and task diversification enhance workers' skills and know-how.	
A “We have some immigrant workers and in order to better integrate them, we promote, for example, Portuguese classes. (...) For those who are Portuguese speakers, we have English classes in the same regime.”		
B “We also have some training courses, which ultimately qualify our people further.”		
E “creating innovative manufacturing processes, combining techniques and products, obviously providing training in these areas so that they can achieve better results (...) and using the know-how and experience that we already have from some employees to create products with greater added value.”		
J “The company is committed to innovation in manufacturing processes and automation of manufacturing processes with the aim of eliminating fatigue and monotony for employees (...) and thus an employee ends up doing work, both in auxiliary sections and in sample development, (...) where we can obviously assign more responsibility to the employee—value-added tasks.”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
J “develop and update our machinery park and other technologies to make the sector more attractive (...). (...) If we can minimize the exposure of workers, give them better working conditions, this is also very important so that later, in the future, we can attract employees and people to work in the company.”		
A “always try to work with new varieties that are being introduced on the market”	Companies strive to meet market needs and customer demands while overcoming challenges.	Market Context and Pressures
A “The market is always vital. The day we don't give an answer to the market, the company ceases to be viable”		
B “We need to respond to that [the idea that this type of transformation is necessary]”		
H “There are these types of market niches that emerge, so we also try to accommodate their needs.”		
K “We always try to adapt to the needs of the market and be a little further ahead. We know that we are not the first in line, but we are certainly not in the middle or the last on the list.”		
A “to respond to a challenge here in production, given the demands of our customers”		
F “The real concern is selling. To sell, we have to adjust to the market and that implies acting in this field”		
H “We will also try to develop the market so that we can better exploit our varieties (...). (...) We have to find solutions to problems which, at the end, corresponds to this task of exploring the market's potential to the fullest, in all its applications.”		
M “On the other hand, it is the various customers and suppliers that we want to see satisfied and those that we still have to conquer. (...) It also allows you to expand the business and thus acquire greater recognition.”		
D “We have a client that is a renowned French brand (...) that is auditing us here. And the audit is not even a product audit, it is a social audit. They come to see if we have workers, how they are, if they are legalized, if they are paid properly, if they are well treated, they interview them, and see the conditions under which they work.”	Audits, legislation, and client requirements set tight boundaries on how companies operate.	
F “The standards that we have to assure are very clear. We have several clients' sets of specifications and, within that, we try to make it as normal as possible in the company - once implemented, it should not surpass what has been requested.”		
J “We basically have to align ourselves with these sustainability requirements, either on an environmental or social level.”		
F “The constant changes that the standards are undergoing, being even tighter than before, demand more and more things from us, which I hope we will always be able to meet.”		
G “The rules are very tight. We can't use the funds we want, we can't use the water we want, we can't dump the waste where we want.”		
C “Often also by laws, because these begin to limit the use of some chemicals in the processes, and so we have to find some alternatives”		
J “Nowadays, not only there is a matter of laws, but also of what we are obliged by the company to comply with - this is above all what customers demand, that we can create conditions that are more friendly to the environment and obviously, to the people we work with.”		
F “There have been more requirements lately, more care and greater concerns at various levels on the part of customers to which we have had to adapt.”		
J “Businesses today are receiving strong pressure from customers”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
P “Having this certificate makes us reach many places that others can't because they don't have them.”		Asian and North African producers create fierce price-based competition for European textile firms.
E “The company is in the competitive market on a global scale. We have Turkey, which is our great competitor, we have the Asian countries and North Africa with Morocco.”		
G “how we managed to have a t shirt delivered to our home for 5 Euros, from Shein. (...) buying cotton for which I know the certificate of origin, put it in Portugal, knit, dye, cut, weave, and pack – this is not 5 Euros ex-factory, you simply can't do this when complying with all the rules.”		
N “[Regarding imports from China,] the end customer does not care if they were 12-year-old or 10-year-old boys or girls, what conditions they live in (...). (...) focused on their profit, they buy because it's cheaper 2, or 3 or 4 Euros a piece – buy, it doesn't matter.”		
D “In fact, with the phenomenon of globalization, the problem of the arrival of yarns from Asia or Turkey arose, 25/30 years ago, which were much cheaper and of good quality.”		
H “The supply chain is not always properly stabilized. There are, for example, threats from countries outside the European Union that are able to produce raw materials much cheaper.”		
N “We have competitiveness, which I think is very aggressive and that can end up having implications not only for the company but also for its people.”		
B “Most [of the people who are important to take into account when we are implementing processes] are our customers”	Companies focus on customer expectations when designing their strategies.	
M “Basically, those who really shape our processes are the customers.”		
N “dealing with customers, which has been generated over the years”		
O “Our customers are the ones we want to see most satisfied.”		
F “20 years ago, there was a standard type of customer, a type of commercial business to who everything was all the same and anything would fit. That standard has been changing.”	As customer requirements often exceed legal standards, non-compliance to those may hinder collaborations.	
M “Those who work with us must have met at least the same criteria as us, which implies that companies are certified.”		
E “In the textile sector, failure to comply with certain environmental, technical, and social guidelines simply does not work. It is not the government, nor the laws, nor what is implemented or mandated by law alone - (...) the customer's requirements are higher than what is required by law.”		
J “We are, of course, adopting these production standards, but essentially because of customer demand. Our industry itself is not under any legal pressure to implement these measures.”		
D “We are in such a competitive and problematic market in terms of labour, so if we do not treat them well, they will go elsewhere, where they treat them better.”		
N “We have markets, mainly here in Portugal, that work with very low margins and compete with the market that we sometimes want. It is a very competitive market, and a little difficult to work in – the textile market.”		
C “Customers also bring us specifications that limit our use of certain products”		
B “We have tried to implement new production techniques, which are more sustainable, use less water, pollute the cultivation areas less. We have some machinery that also saves our workers from more intensive agriculture.”	Innovation is shaped by emerging trends and	

First Order Concepts	Second Order Themes	Aggregated Dimensions
B “This information usually comes from abroad. We usually see what companies from other countries are doing and we try to bring here what, on our scale, we can. New machines, certifications, new fruit varieties”	technologies, namely those coming from abroad.	
D “from the economic point of view that I was talking about, we have to do it, because we work for market segments and for medium or high-end customers who come to buy here in Europe because they not only have a differentiating product, but because, increasingly, they are fleeing the problems that exist in Asia”	Europe's stricter regulations drive product quality and safety, but can pose challenges in global competition.	
N “They don't care if those who are doing it are old enough to do it, if they have hygiene and conditions to work and live, if they have their rights assured, if they are within the norms. Here we have this safeguarded, thank God, European standards and the constant monitoring of what is done in this and other industries”		
G “all the business models that exist today are formatted so that European products are the disadvantaged compared to external ones.”		
H “sometimes it is difficult to find solutions adapted to our reality, the European reality. (...) There are many ideas or projects that at this point in the championship I would say are almost doomed at birth.”		
I “because Europe places many restrictions on our tools: we do not have genetically modified organisms, we have thousands of molecules that have been banned in Europe for years, while these international producers can use these active substances that have been banned here and unfairly place their products on the market”		
A “This social matter is present in our daily lives: taking care of our own, making ours grow and develop, because if they don't, the company will not grow tomorrow”		Taking care of employees and stakeholders today ensures companies' success tomorrow.
A “We want the people who are working here with us to feel better tomorrow than they do today, that our neighbours and our partners trust and see a long-lasting relationship with us.”		
J “Our risk assessment within the company also takes into account the various groups involved, both customers and neighbours, (...) – we take into account all the environmental problems that industries bring to their neighbourhoods, and we take measures to minimise the impacts.”		
N “The most important thing for us are the people who work in the company”		
Q “Therefore, the better we have our employees, the better our future results will be. (...) If we have it with the community, if we do well, this translates into sales at the end of the month, it brings awareness to the brand that reverts into sales.”		
A “We have to take care of the people who are here and have good relations because today they need us, and tomorrow we need them.”		
P “First and foremost are our employees. Because they are the ones who drive the company forward. And we make everything very easy for them, on purpose. We have a very open and relaxed relationship, which allows us to trust them because we get their work and effort in return.”	Growing awareness of environmental and social issues is pushing companies toward sustainability.	
G “Those who create this imbalance are those who produce intensively, with polluting materials, with fossil fuels, with unregulated practices.”		
G “where we want to effectively reach, where we want to create an impact is in these brands, (...) for which the first and only vision is profit”		
H “Our ambition is to become socially, environmentally and economically responsible and sustainable.”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
Q “think about all those points and understand that the best way to go up a level at a time is to outline action plans all around sustainability, whether economic, social, or environmental.”		
A “The main motivation is the one that (...) comes from within the company, for us to be healthier”		
B “We also want our business to grow and to be recognized for its quality.”		
B “Since our origin, keeping the business has been the priority. However, as time went on, it became important to pay attention to other problems. Climate change, wanting to increase the working and living conditions of our people, being involved with people and companies from here.”		
C “We are always here looking for new, greener and more sustainable solutions for the environment.”		
G “skilled Portuguese entrepreneurs who have managed to continuously do more with less – with less water, less chemicals, fewer people, faster – to be competitive within a market that we know does not follow the same rules as us.”		
A “About 2 years ago, I believe we had a brutal drought here, (...) during which we were afraid that our boreholes and water catchments would not be able to meet our needs.”		
G “The difficulties are always to find brands whose alignment is, permanently, innovation, sustainability, instead of profit in the first place.”	Companies benefit from value co-creation with like-minded players.	
L “We are re-establishing contact and developing long-term partnerships, that is, on a basis of trust and identification with this new vision, because not everyone is really focused on this new philosophy.”		
C “This also arises a little from the partnerships we have with our chemical suppliers.”		
D “It is the department [of innovation and development] that will seek the inputs so that we can work on what we will eventually sell in 2 years. (...) Basically, it is about developing partnerships, analysing new raw materials that are emerging on the market, and helping to develop this”		
G “We have been looking for partnerships at the level of startups and other companies that want to scale their ideas so that we can in fact, together, create these business models and prove to the market that it is possible to have fibers and products with which we can compete with national products.”		
P “We ended up creating the value I was talking about, because we all need each other [company and customers].”		
K “Our management is in constant contact with this environment, with entrepreneurs, partners, customers, suppliers who also ask us for things. Then, new things, new ideas are also presented by suppliers and later a very close communication with the commercial area is established”		
H “Abroad, as there is already large-scale production of potatoes and other crops, there are synergies that are very well used. Not here yet”		
A “All these innovation processes are easier if we can work with partners who are close to us.”		
C “From then on, try to implement it: start testing everything possible so then you can implement it. Suppliers can help us”		
G “We have to involve the most diverse stakeholders in the process right from the beginning. People have to be involved in the process – as many people as those who can add and generate value in these business models should be engaged.”		
K “meet the company's stakeholders and involve everyone”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
D “Obviously, companies have to be economically sustainable, for which we have to present a product with quality and, in our case, a differentiating product so that our customer is willing to pay more for one of our yarns than for another that came from Asia, so it has to have an added value.”	Introducing differentiated, added-value solutions is a strategic way for companies to assert their position and expand their market reach.	
O “We always give added value and we have had many, many customers switching from our polyester thread to the recycled thread, since we reach them to offer the products.”		
Q “How do you get here? With large investments at many levels. And where did we make this investment? We invested as a team (...) in a micro winery, with small presses, with everything that enabled us to do the process differently. (...) A series of processes that bring improvements to the product and, therefore, allow us to innovate and, above all, to increase quality in niche products.”		
D “We have to position ourselves and realize that we have a diversification strategy: not a product, not a customer, not a market (...). If we have a diversification policy, some things will mitigate the others”		
G “There are a lot of people that came before us and who have been innovating, differentiating themselves, managing to do things differently, being able to be competitive in a global industry where the rules are completely different.”		
I “Until this day, we already have all this automated and with an environmental component that also comes in to increase competitiveness in terms of sustainability.”		
O “Sustainability also has many costs. Therefore, a company that is not established in the market, already with the right customers, cannot follow the sustainability path so easily. (...) But, for example, if it is something new, which the market has not yet seen and that brings advantages while being sustainable, then the path seems to be easier.”		
Q “From the beginning it is more difficult: either we come from something we discovered, think about something we saw which assures us that we can be a transformative force in this market. (...) Otherwise, I think it comes a lot from improving something that we already do, but that has room for development, or seeing a path for something where we can do better and differently than others.”		
B “[Company's name] (...) has invested in certifications such as the ones mentioned [Global GAP and GRASP] to be able to assert its position in the market.”		
D “We only have one way. That path is the path of innovation, of having different things today and continuing to have different things tomorrow (...) - to be economically viable, we really have to take this path to have value-added products.”		
J “This turns out to be a necessity. (...) These are very competitive countries [Turkey, Asian and North African countries] and the company cannot lose competitiveness in the market”		
G “All of this is regulated. And being competitive with these rules implies that we had to be constantly innovating and differentiating ourselves, while being sustainable at the same time”		
G “Our purpose (...) is to effectively have a vision of opportunity like any another generation in our position has ever had. We have the training of the generations that came before us, (...) we actually have the technology, (...) we have the alignment that is being drawn between production and consumers (...). And we hope that this will lead to a shift from the traditional, extractive industry to these new models.”		
Q “[A new wine] should not be a product that does not exist in the world, but that differentiates itself and that, above all, will bring us more margin, more positioning at the level of higher prices”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
C “Our colour and chemicals' kitchen is fully automatic, so workers hardly touch any chemicals”	New technologies along other eco and socially-friendly boost efficient resource allocation and cost reduction.	
E “dyes that are added to the paints and cannot be used (...) Because in direct and extended contact with the skin, they can generate skin allergies to those who wear, for instant, a printed garment”		
J “We will then install an automatic dosing system, which is a machine that is connected to silos (...). (...) After we enter the amount we want, it automatically doses that amount to the product. What is the advantage of this system? Reducing employees' contact with chemicals (...). (...) reduces the possibility of chemical spills that could compromise soils and their biodiversity.”		
G “We have developed a patented technology at the level of denim production that allows us to produce only with green energy, without discharging anything into the environment, and without using water in the process”		
H “try to find the varieties that are really more adapted to the different realities, either through shorter cycles, or by plating at most favourable times.”		
J “investing in innovation, which ultimately incorporates new equipment, thereby improving process efficiency, producing more with fewer defects and less waste, and gaining time to reflect”		
I “Even if the market does not respond, does not need or is not yet willing to pay more for it, which is the case, I continue to insist on this business model because it is the driving force behind my efficiency.”		
Q “We are the most biological we can be and this has several interesting effects. (...) The less money you spend on herbicides, the cheaper the vineyard is”		
B “We are trying to be more efficient with machinery. (...) We have agricultural tractors with less consumption, we try to spend less time with them on the cultivated land, to create conditions for the maintenance of the surrounding fauna.”		
F “when our vans start to get older or start to have problems, we try to buy new vans with lower consumption; The cars moved to hybrids.”		
I “25 years ago we started to do the experience of non-mobilization, which is a completely revolutionary thing at the time - to "mobilize zero". (...) It was a progress, which went slowly without having extraordinary results in the first 10/15 years, but which is now a completely differentiating factor under which we are still trying to have more progress.”		
H “technologies linked to precision agriculture, which basically involves applying inputs according to a defined grid, because not all land is the same.”		
I “We try to address the model now for regenerative agriculture, (...) where the application of phytopharmaceuticals and fertilizers is reduced to a minimum, etc.”		
I “Look at water and energy digitally, so that I have the tools to act according to a software model that gives us water balances, the price of energy, the water needs of plants, meteorology (...). (...) It's been 20-odd years of fine-tuning the model. Today, with this ability to have data, to have sensors, to understand what I produce in each square meter, I can run tests and, to give you an idea, for example, we have 600 hectares of corn and we do more than 600 different experiments in these fields over the course of a year.”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
D “when [company name] comes in and immediately hires 100 people directly, it has a huge social impact on the area. (...) It creates jobs for local people, for the children of local people, and internship opportunities. (...) It immediately generates a social impact through its employment capacity and the economic dynamics it will leverage.”	Companies want to stimulate the economic growth of their regions.	
L “We give a little priority here to hiring local people.”		
A “We are always concerned here with the organizations around us, to help them in whatever way possible”		
H “We have people, we develop the local economy with our companies, with all suppliers from our area – we prioritize this.”		
A “Therefore, it is not only the issue of environmental motivation, it is also the issue of quality. We realize that with the reduction of pesticides, we have a final product with higher quality final, and thus this is a Win-Win situation.”	Innovation improves quality, drives revenues, and enables reinvestment in people and technology.	
L “social and environmental impacts, but also on the quality of the wines themselves, which ultimately stand out in a market largely based on more intensive practices.”		
G “We can innovate more, differentiate ourselves more the more results we can bring in. With more results, there is more money, and we can invest in people and more technology”		
I “We have to generate enough revenues, and for that we realized that by the conventional model we are not able to achieve this.”		
M “Lower consumption means lower expenses and, therefore, more money saved at the end of the year for other initiatives, but I believe it also has an impact on the environment and society.”		
B “To some extent, that gives us some responsibility – we are cautious and invest in what we know can work”	Companies adopt a cautious, step-by-step approach when investing in new solutions.	Main Challenges and Barriers to RI Implementation
F “The investments that have been made lately, were thought from head to toe, so that the company's financials would not get too worn out.”		
O “And doing things well is taking each step with the awareness that we made the right decision without rushing into it.”		
A “All these processes of change have to be carried very cautiously. Our production process is long, so the effects of a change made today will only be visible in a year (...) start with baby steps, one at a time to monitor, evaluate, and adapt. These are all processes that take 2 years, 3 years”		
P “It really depends on the project, the financial value, what it implies. There are things that have to be very well studied before they go from paper to practice.”		
I “The methods of the economic groups that carry out these projects have much more risk capacity, and much more bank leverage (...). (...) I have to be much more prudent and much more careful.”		
A “It's always being very, very cautious, not taking a step bigger than your leg.”		
D “We can also contribute to provide solutions, seeing what we have in our portfolio (...), so a forum for innovation and creation of new things takes form, in which, we have to assume, a high percentage of them will come to nothing, despite those that will work for sure.”	Companies bear most financial risks when innovations fail, making them cautious about new investments.	
A “Of the 10 varieties that we introduced, only 2 or 3 are accepted by the market, so (...) when things go well, it's good to have that return, but when they go wrong, we are the ones who assume the cost, no one compensates us for it”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
B “This costs money and we can't risk losing our business. (...) Sometimes you get to the end of the year and there is not much left to invest in this type of initiative”		
M “There is always a financial obstacle.”		
O “When we thought about starting to use recycled materials, we had to rethink the company's cost structure, because we knew that we would have an adaptation phase until we got a reward for these new charges”		
I “And sometimes we find agricultural models that don't have these priorities - everyone likes these things, but then. This comes at a cost that people sometimes don't want to pay.”	Many clients don't care, can't afford or aren't willing to pay more for sustainable solutions.	
G “There are brands, depending on their positioning, (...) for which the economic aspect of the product falls to the background, as their desire is to differentiate from others. However, these are never the brands that have the real impact, they are a niche”		
I “We are going to work for the commodities market, in particular for our country's usual customer, which is the customer who has no money (...). People are environmentalists in the supermarket until the second day of each month”		
C “The management feels that it may not be the right time yet, that there may not be acceptance by the customer.”		
D “Now in this inflationary crisis, everything that was recycled, everything that was sustainable, every product that was on an upward trajectory, went back 1 year or 2. You got the monopoly card [to return to the starting point]. That was a process that was evolving - while there was money, people were buying, paying, it was fun to play the game (...); at the moment, no one is open to hear about sustainability when there are more critical and serious things to solve, as per example to have food on the table and pay the house loan to the Bank. (...) when people start to have money and such, she [Greta] will appear again, because (...) we can afford to pay more expensive things to contribute to certain causes, whether social or environmental.”		
F “We have other customers who don't want to know anything, who are looking for a basic product.”		
G “It is very challenging for me to tell a customer (...) that we have engineered a product that is traditionally made in an extractive, intensive way, with petrochemicals, and that we have discovered a way to say "I don't use water here, I don't get the waste into the environment, I only produce with green energy, I have eliminated most of the petrochemical products" and the conversation will always end up in the same way: "How much do I have to pay extra for this?".”		
I “95% of our clients in Portugal don't have it; even if they wanted to, liked or thought it would be good to pay for something better, they can't do it.”		
K “they [clients] look for "Do you have this, do you have that?, but then "Oh, this is expensive", so they end pulling back.”		
M “And in the end, we still have the clients' own acceptance for a sustainable material that is more expensive than a normal knitwear.”		
N “It's not, it's not easy [to strike a balance between the economic viability of the company and the more social and environmental ambitions]. This is a very intense branch (...) (...); the costs are quite high; end customers really want a lot. They want the company to be sustainable, to have several certifications at the base of the yarns, but in the end (...) they don't want to pay the price.”		
N “the help that should be given to companies in Portugal: look at their accounts and see if they are economically viable, or look at all taxes, which instead of being so high, can be reduced 2 or 3 percent”	Lack of government support leaves companies dependent	

First Order Concepts	Second Order Themes	Aggregated Dimensions
P “I think that before we talk about companies, there should be better decisions by the State. It is necessary for them to come here and see for themselves, to see the companies' accounts, how much they pay every month and every year, so that they can understand that, really, there is no way for companies to evolve with the tax burden they have. Even disregarding taxes, at least there could be some aid.”	on their own limited financial capacity.	
I “from 2005 onwards, we received a significant part of public support from the "PAC", and there are many people who decide to make their agriculture conditional on this public support, , better or worse.”		
A “For this area there is not much support either, everything is supported and financed by us. Things have to be done according to the results at the end of the year”		
B “And the support is not much either.”		
H “There is a lot of reticence among investors, because it is a new and unknown product.”		
H “At that time [20/30 years ago], the Government had an interventional role in the sense of supporting production and stimulating, while nowadays this is very much the basis of private initiative”		
N “our State (...) has not been able to help companies like ours in the best way. There are incentives, there are other things, but what about getting them? It is an immensity of criteria.”		
P “There is little aid, there is very little aid. I think that a bad thing for companies, especially for SMEs, is the lack of help or, if a project appears, we do not fit in because there are obstacles to everything”		
G “The vision has to be permanent, daily, because we are going to fail and things will not go well every time (...) . (...) It will be costly, it will take time, there will be sweat and tears, but it is the only way for us to remain strong, raising this culture of continuous improvement, of permanent innovation”	Higher costs from innovation make it difficult to charge clients more, delaying scalability.	
B “All these factors generate a production problem, in particular lower quantities produced per hectare, which implies, almost automatically, an increase in costs. The problem is that we can't pass these costs on to them [customers].”		
D “These new products that are emerging will take time until they scale and come to normal market prices. It can even be a basic product, but with biodegradable polyester that has an additive – it will cost maybe 30 or 40% more, so there has to be a market aware that it is buying a biodegradable polyester product”		
I “We don't have, what I say, shelf. I am not in contact with my end customers and I do not have the ability to ask them for remuneration for my ecosystem services, as we call them here, for all the services that are often not remunerated”		
M “When we calculate the cost of the mesh fabric, everything has to be included”		
O “Because this [the cost of certifications] ends up having to be integrated into the cost of the product. Then it is even more difficult to enter the market.”		
B “There is a lot of lack of support – everything arrives late, a lot of bureaucracy.”	Excessive bureaucracy make certification processes burdensome for companies.	
F “we have clients (...) who were once GOTS, were OCS, were GRS, but due to the amount of bureaucracy, of obstacles they have on a daily basis, they no longer have those”		
L “All the bureaucratic part, especially in obtaining certifications, there are many papers, a lot of documentation that my colleague is dealing with”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
Q “require so much paperwork, so much bureaucracy, so many rules, that it's so difficult”		
B “reduce bureaucracy in the requirements that are imposed on companies”		
F “You have to have financial capacity.”	Greener solutions usually require larger investments that companies cannot afford.	
L “The first step is to really understand the core of the company. In other words, how is it doing, is it healthy or unhealthy?”		
C “Often, another type of limitation is the price of the products. The greener the product, the more expensive it usually is.”		
D “With fewer investment or fewer of that, there is less willingness to buy things that are also more expensive and distinctive.”		
E “costs that are not always easy to ensure, even if we always try our best to invest in these innovations.”		
J “The main obstacle is financial. Nowadays, all these innovations that are made in terms of the environment, social, employee safety and workspace, are very much popular and are not cheap things. (...) We want to do even more, and maybe even get more certifications, more titles, and more of I don't know what, but all of that represents costs that the company has to consider.”		
K “If we want to invest in new machines, (...) it always requires a very large investment. Sustainability is not cheap.”		
M “Not all companies have the capacity to invest in new machinery.”		
E “One obstacle that the company has is the lack of manpower. (...) Right now, if you put an ad to recruit, you spend a lot of time to get a response, because there is simply no offer.”	Recruitment and retention are pressing challenges, as industries struggle to attract talent.	
J “We are having a lot of difficulties in recruiting, for example operators. The industry itself is not very appealing to young people”		
L “We also have some challenges in terms of human resources, yes. We have to resort to external service for the part of the field, also because the team we have is already older and does not have the size we need.”		
N “The biggest challenge we can have is in terms of people, I mean internally, the employees. (...) to be able to attract people for this type of function. And this creates obstacles because in order to move forward and be able to have new things, we need people with us to support it.”		
O “Unfortunately, there are few young people who want to work with us, and we really assume that the industry does not offer them what they often want.”		
P “We also have great challenges in finding labor, it is very difficult. It's difficult to put someone here who we know will actually stay here.”		
Q “the shortage of human resources is very significant (...). (...) We have had some difficulty in being more detectable.”		
K “All certifications also require a significant investment on the part of companies, not only to apply for annual certifications, (...) but also to maintain the conditions that require some investment.”	Certifications require a large investment every year.	
M “we are talking about a certification that costs us almost 5000 Euros, apart from training, external training (...). (...) per year, for certifications, we pay about 25 to 26000 Euros.”		
N “For a company to have the certifications, it is not easy - they are extremely expensive”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
O “Another issue is certifications, where the main challenge is cost. Because these types of certifications bring value to the company, it's true, but without competition (...) as in the beginning, when we were EMS certified, (...) there was only one company doing it, the costs were too high.”		
C “This also arises a little from the partnerships we have with our chemical suppliers.”	Companies consider their business stakeholders as the suppliers, customers, startups, distributors.	Stakeholder Engagement and Management within RI Context
D “We focus on this group of companies [that bet on what innovation is], whether suppliers, customers, or startups and we try to get in touch. That was a stone-breaking job, almost of knocking from door to door.”		
G “We have been looking for partnerships at the level of startups and other companies that want to scale their ideas so that we can in fact, together, create these business models and prove to the market that it is possible to have fibers and products with which we can compete with national products.”		
H “We have people, we develop the local economy with our companies, with all suppliers from our area – we prioritize this.”		
J “we consider as stakeholders the shareholders, customers, external suppliers, employees and their respective families, the competition, the Tax Authority and the Social Security Institute, the City Council and the local community where we operate, the neighbourhood, the APA (Portuguese Environment Agency), the ACT (Authority for Working Conditions), the IEFP, the banking entities, certifying bodies and insurance companies. For each of these groups, we have defined their needs and expectations, as well as how to effectively address them.”		
K “Our management is in constant contact with this environment, with entrepreneurs, partners, customers, suppliers who also ask us for things. Then, new things, new ideas are also presented by suppliers and later a very close communication with the commercial area is established”		
L “We have distributors – partnerships are with distributors”		
P “We have even had new suppliers that we also integrate easily. (...) this story of phones and WhatsApp, everything is much easier.”		
D “We have several inputs from everyone, from suppliers, from fiber producers, from raw materials who come to us to be able to test, to choose our opinion. (...) with the technology centres, with the input also from the customers themselves who have their innovation departments that are researching, who hear about this and who also give us some drivers of trends”	Companies progress faster if they consider both internal and external inputs from their stakeholders.	
G “And even internally, our teams, not only the sales, our technical teams that permanently challenge us with new ideas, with new products and new processes”		
K “If we don't have an answer from our customers, it's no use to innovate a lot, and being very sustainable and very socially responsible.”		
P “Ideas that I have, they meet with us the next day and we find solutions.”		
Q “The relationship with stakeholders and addressing them, as well as the impact they have on the actions we want to take in terms of sustainability or similar paths is extremely relevant, very relevant indeed.”	Stakeholder needs and expectations are carefully	
J “We have already delimited what we are going to do for each of them [stakeholders], to meet their needs and expectations.”		
K “We have to adapt these market needs to the mentalities of our employees.”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
N "Of course [we manage the demands of partners throughout the processes]. We have to be very careful with the flaws when knitting the mesh, with its thickness and texture, and the review procedures we take to see if everything is in order."	managed throughout processes.	
O "There are approval phases, there are expectations that have to be managed by management, scenarios that have to be idealized to understand the impacts that the new measures can bring in the short and long term."		
P "We manage the needs of each of the groups over time."		
A "Mainly, it's the customers, it's our people, all this social environment around here, our neighbours, the parish council, the parishes around here, the schools"	Companies consider their local stakeholders as locals, neighbour companies/organizations, schools, parishes.	
O "We have established a relationship with House of Denim, a school in Amsterdam that specialises in denim production. (...) We give a sewing thread training, we present our products, we always offer products"		
Q "We have a very relevant relationship with the community (...). (...) We have whole families walking with their children in our forest, in our vineyard, riding bicycles"		
A "We haven't had any problems with the community around here, because we have no secrets, the doors are open, people come in here."	Transparency and dialogue are key to engaging with stakeholders, facilitated within the Portuguese local context.	
C "We have, fortunately, a very open relationship with our customers here. (...) This also helps us, in case there are any problems or setbacks during the process and we are not able to find a solution for them. (...) Dialogue is always very easy to maintain."		
F "Yes, [there were more difficulties at the beginning in being able to reconcile everything and make the necessary adjustments] even due to lack of knowledge both ours and the customers', and perhaps some failure in the information on the part of the certifier for us."		
O "[Establishing relationships with groups] here in Portugal is easy because the distance is short and the language is the same."		
G "We have a Venture Capital internally"	Companies consider their internal stakeholders as their workers, R&D departments and internal venture capitals	
G "And even internally, our teams, not only the sales, our technical teams that permanently challenge us with new ideas, with new products and new processes"		
J "we consider as stakeholders the shareholders, customers, external suppliers, employees and their respective families, the competition, the Tax Authority and the Social Security Institute, the City Council and the local community where we operate, the neighbourhood, the APA (Portuguese Environment Agency), the ACT (Authority for Working Conditions), the IEFPP, the banking entities, certifying bodies and insurance companies. For each of these groups, we have defined their needs and expectations, as well as how to effectively address them."		
P "Our employees come first. Because they are the ones who lead the company. And we here make everything very easy, on purpose. We have a very open and very comfortable relationship, which allows us to trust them because we receive the work and effort in return."		
F "[Company's name] is a small, family-based company, and you can manage everything very well. We try to make sure that all employees are well."		Stakeholder relationships are easier to manage within
O "We're not a big company, so it's not hard to make sure everyone is and feels good here either."		

First Order Concepts	Second Order Themes	Aggregated Dimensions
M “We are always on the lookout for competition, and not even talking about our employees, we are practically a family here, albeit a big one.”	smaller, family-based companies.	
P “We are a family business, which means there is a lot of direct contact, it's a little more intimate. (...) We understand each other's needs very well. Those who work here with us, our employees, have no reason to complain about the way we are, the way we work and manage things.”		
C “Older workers, who have been in this industry and in this company for many years, are more difficult to move”	Reluctance and profit-oriented mindsets slow down stakeholder engagement, already a time consuming task per si.	
K “I can clearly see the resistance across various companies to implementing new working methods. It's not easy.”		
M “For them [older people], this is not profitable, it is more expensive and, therefore, it is not worth it, without seeking to make this sustainable part profitable.”		
A “it is always a challenge [to establish the relationship between the company and the groups]”		
B “Nowadays there is also a lack of product, so the negotiation with customers has been more cautious than before. We can't be so flexible”		
D “We focus on this group of companies [that bet on what innovation is], whether suppliers, customers, or startups and we try to get in touch. That was a stone-breaking job, almost of knocking from door to door.”		
P “At first it could be more difficult [to establish the relationship with the different groups], but I also think that times have changed and in terms of social networks, and everything that helps us a lot”		
C “Several suppliers are conducting research, presenting their respective solutions, which are tested here at the factory. Then, if we are satisfied with the final result, we proceed with the purchase of the product and resume the new process.”	Stakeholder demands set the relationship, but continuous negotiation ensures alignment along the way.	
E “We submit the samples to the customer for approval and, once approved, there is a period of negotiation regarding the deadline, price, and, of course, the quality that must be maintained in accordance with the customer's requirements, as specified in their set.”		
G “We have suppliers at an international level who understand trends in technology, come to us and then do the proof of concept”		
F “Throughout the entire process, we must have these standards and requirements [for certifications and customers] clearly defined, starting with product development.”		
K “I would say that 80% of the requirements, more or less, are considered right from the beginning, but that the remaining 20% have to be observed throughout the process.”		
N “There has to be a connection between everything (...). From the beginning of the order to the end of the final delivery phase, there has to be a connection between all partners.”		
O “The needs of the groups are considered from the beginning of the process. If we do not know what our customers expect from the final product, we cannot start production, because we risk making mistakes that can be avoided if we communicate directly with the customer and understand what they want.”		
A “Always think about the impact this may have, whether it goes well or if it goes wrong.”		Planning RI

First Order Concepts	Second Order Themes	Aggregated Dimensions
J “I think the environmental part is fundamental because industries have, of course, their footprint and they have to remember that it is not just about making money. When producing, they also have to worry about how they are producing and what impacts they have on societies.”	Shifting to sustainable business models needs gradual testing to ensure a successful implementation of concepts.	
Q “Realize the impacts that this brings at all levels. And, basically, apply that exercise to all kinds of ideas to implement.”		
I “It [the installed agricultural model] generates positive externalities that the market sometimes does not pay for, but I believe that it will pay in the future and even if it does not, it values the social and environmental models of the company”		
N “Basically, it is the small actions that do not interfere with the economy, but that help the environment.”		
G “Our innovation, which we understand to be disruptive, is a type of innovation in which the adoption of technology is very fast. (...) Bring traditional products, traditional technology and make a product that can be comparable, but with this other vision: zero water, zero chemicals, zero discharges, green energy.”		
L “She [company's founders' daughter] tried to turn the page, that is, to leave behind the conventional agriculture that her parents did at the time, conventional and intensive, and opt for a more holistic approach, a return to the roots of ancient times”		
G “We have to develop different business models, effectively based on circularity, which allow us to recover what people don't want, what came out by default, what wasn't sold and be able to incorporate and then be able to make new items to sell in future situations.”		
I “And we did several studies, for example, of using biomass to do this drying process, (...) to burn our waste to dry the corn - everything worked in academic terms, but later, in economic terms (...) we were not able to offset the cost”	Implementation takes more than 5 years.	
A “We started on this issue of pesticide reduction 7 or 8 years ago, so at the moment we already use few pesticides, it is already very much based on biological control.”		
H “This whole process [of breeding the new varieties] involves hundreds of thousands of dollars and it takes, I would say, 6/8 years to launch a new variety.”		
I “25 years ago we started to do the experience of non-mobilization, which is a completely revolutionary thing at the time - to "mobilize zero". (...) It was a progress, which went slowly without having extraordinary results in the first 10/15 years, but which is now a completely differentiating factor under which we are still trying to have more progress.”		
P “Of this [zero] waste project, I can tell you that we started it maybe 8 or 9 years ago”		
F “In the beginning, it was more complicated: there was a series of precautions, standards, even in the use of machines within the company (...), but we reached a point after 1 year and a half/2 years in which the process is already very normal.”	Pilot projects are essential before committing to larger investments in innovation and business remodelling.	
G “We can never start at the top. (...) We have to start with small projects, pilot projects, showcase results, design well a solid, long-term business model around all of this (...). It is also essential to know everything that prices, suppliers, process variability, demand variability are.”		
N “I think it's essential to take one step at a time. This may seem simple, but in fact, if you're not careful and don't understand the impact each decision has on the company, you could be compromising everything you're spending to improve.”		
O “First and foremost, establish yourself in the market before you start with anything related to sustainability. (...) Starting directly with sustainability is not easy.”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
A “study, study a lot, because there may be someone in the market or in the sector who has already found a solution and we don't need to suffer so much. (...) the state of the art, to understand what is done, how it is done. (...) It's okay to learn from the mistakes of others”	Industry insights and internal improvements are key to avoid common mistakes and drive innovation.	
B “seek to know better what is being done in the rest of the sector.”		
C “The first thing is to look at the production you have at the moment, understand the processes that are mostly done within the factory itself and, internally, try to understand what can be improved”		
F “Have an awareness of what you're getting into. That is, we know that this is sustainability, this is the way, and we have to go this way.”		
L “To understand whether or not it will work economically, because it is not enough to have the will to be more sustainable.”		
P “I think it has a lot to do with luck and the right people who cross paths along the way. (...) The exchange of ideas within the industry is essential, because it allows us not only to understand what we can still do, but also what we should not do in light of the mistakes and advice of others.”		
Q “In order to think about sustainability, we have to have gone through processes where we saw that there is an improvement we could make here.”		
C “Then it is time to outline the action plan, which should obviously take costs into account, but above all the potential benefits.”	Structured action plans must weigh costs, benefits, and deadlines for effective implementation of initiatives.	
F “The financial issue and time spent has to be very well considered”		
K “First of all, make a good plan. (...) Carefully define an action plan with deadlines, with tasks that I must do, with costs”		
M “internally there has to be someone or some people who say "Okay, let's make a plan, draw up a plan, see what we can make sustainable here, what we can do in environmental terms" and then analyse the cost part. (...) trying to maintain or even reduce the profit margin a little, but try to come up with a worthwhile plan”		
N “It is very important to have a kind of plan and the costs that will be incurred over time.”	Implementation takes between 1 and 5 years.	
A “All these changes have to be made very cautiously. Our production process is long, and any change made today will only show its effect a year from now (...) We have to start with baby steps, one at a time, to monitor, evaluate, and adapt. And these are all processes that take two or three years.”		
L “The entire process of these changes to organic production takes time—it began in 2019/2020, and we obtained certification in 2023.”		
M “I can't say it was a quick thing, 1 year/1 year and anything, because we had to change the oil that is used in the machines, for example.”	Companies acknowledge that process implementation is time-consuming, being hard to estimate.	
C “When we talk about new techniques in production, it is really complicated to estimate, but it is guaranteed that it is something that takes more than a year to be implemented.”		
J “The processes are all a little time-consuming. (...) There is always a project, there is always a study on the implementation”		
K “These are not processes that can be completed in a short time, always more than a year. However, the most time-consuming thing is to find the solution that works”		

First Order Concepts	Second Order Themes	Aggregated Dimensions
Q “There are many things that are very short-term actions and that are implemented from one moment to the next. (...) When we think about an investment topic, it takes a long time. To make a Business Plan, we have to think a little about what the strategy is, budgeting”		
E “In terms of execution, we are talking about 4 months, between the acquisition of equipment and installation, testing, validation and operation”	Implementation takes up to 1 year.	
G “We started designing this process a year ago, the first idea.”		
O “For example, in this part of the machinery, these are always things that take at least half a year to 8 months between getting off the ground, from the idea, to the execution, to everything being done here.”		