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Portuguese SMEs and the SDG Agenda: a contribution on how to deliver implementation

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Abstract

Title: Portuguese SMEs and the SDG Agenda: a contribution on how to deliver implementation

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Integrating the UN Agenda 2030 and the respective SDGs (Sustainable Development Goals) into the business core strategy has been a relevant topic of discussion and differentiation opportunity for firms that could potentially result in improvements towards the many different spheres (economic, social, environmental, etc.) these goals encompass. However, while the clock is ticking, it doesn't look so easy for businesses to do the right thing. There are some successful cases and through the responses from a survey conducted by the “*Observatório ODS nas Empresas Portuguesas*” and the crossing of prior academic literature, this study aims to examine the characteristics and behaviors adopted by the SMEs that are leading this run in Portugal with the final hope of getting some lights for the other companies in need.

After testing the main characteristics and barriers, results show that even the Portuguese companies that most succeeded in the implementation of the SDGs still don't have consolidated processes and are implementing a step-by-step approach. In order to mitigate that, based on the good case practices collected, a more solid path was constructed for the SDGs' implementation in Small and Medium Enterprises in Portugal.

Keywords: SDGs (Sustainable Development Goals), Corporate Social Responsibility, SMEs (Small and Medium Enterprises, Sustainability, Barriers, Implementation

Resumo

Título: As PME's portuguesas e a Agenda dos ODS: uma contribuição sobre a forma de implementação

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Integrar a Agenda 2030 (da ONU- Organização das Nações Unidas) e os respetivos ODS (Objetivos de Desenvolvimento Sustentável) na estratégia *core* dos negócios tem sido um tópico de discussão e diferenciação para as empresas que pode resultar em potenciais melhorias em diferentes esferas (económica, social, environmental, etc.), que estes objetivos englobam. No entanto, enquanto o tempo passa, não parece fácil para estes agentes económicos fazer a coisa certa. Existem alguns casos de sucesso e, através das respostas ao questionário do “Observatório ODS nas Empresas Portuguesas” bem como da análise de existente literatura, este estudo pretende examinar as características e atitudes adotadas pelas PME's, face aos ODS, que estão à frente na operacionalização dos ODS, na esperança de adquirir algum conhecimento para a maioria das empresas que precisam.

Após testar as principais características e barreiras, os resultados mostram que mesmo as empresas portuguesas mais bem sucedidas na implementação dos ODS ainda não têm um processos consolidados e estão a implementar uma abordagem passo a passo. A fim de mitigar esta situação, com base nas boas práticas recolhidas, foi construído um caminho mais sólido para a implementação das ODS nas Pequenas e Médias Empresas em Portugal.

Palavras-chave: ODS (Objetivos de Desenvolvimento Sustentável), Responsabilidade Social Corporativa, PME's (Pequenas e Médias Empresas), Sustentabilidade, Barreiras, Implementação

List of Abbreviations

BRICS-MINT (countries)- Brazil, Russia, India, China, and South Africa; Mexico, Indonesia, Nigeria, Turkey

CSR- Corporate Social Responsibility

ESG- Environmental, Social, and Governance

EU- European Union

HR- Human Resources

ITC- International Trade Centre

LEs- Large Enterprises

MNEs- Multinational Enterprises

OECD- The Organization for Economic Cooperation and Development

SDGs- Sustainable Development Goals

SMEs- Small and Medium Enterprises

UN- United Nations

US- United States (of America)

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1. Introduction

1.1 Problem Definition and Relevance

If excelled to the top, by presenting a positive evolution in the economic, social, environmental, and institutional spheres, the SDGs represent US\$12 trillion in annual estimated business opportunities (Sustainable Development Solutions Network, 2017).

The business sector represents 72% of the OECD (McKinsey Global Institute, 2021) and around 60% of the GDP in most countries (IMF, 2013). However, its growing development has brought some negative externalities (pollution, disrespect for human rights, etc.).

Recently, after the 1987 Brundtland Report and following UN Conference on Environment and Development in 1992 (Kolk, 2005), the focus switched to the recognition that the mentioned scenario could change. This sector, while advancing innovation, becomes critical in terms of wealth, income, and jobs creation, as well as mobility of domestic resources and in turn contribution to poverty reduction. Knowing that it came the desire to include the private sector in the 2030 Agenda. Through the SDGs, while reformulating its practices this sector can help to design and implement development policies and strategies to promote long-term sustainable growth (OECD, 2011).

In 2020, 15 000 companies worldwide signed up for the UN Global Compact- a voluntary initiative in which CEOs commit to implementing universal sustainability principles. That event stated the importance that CSR has in supporting financial performance (Alshehhi et al., 2018), enhancing legitimacy (Schaltegger, & Hörisch, 2017), reducing reputational risks (Bebbington et al., 2008), improving relationships with several stakeholders (Freeman et al., 2004), and assisting the identification of future business opportunities (Porter & Kramer, 2011).

By now, a rising number of investors and asset managers are incorporating sustainability concerns into their financial decisions, either by filtering out underperforming companies or by utilizing ESG data to guide their overall investment decisions (Busch et al., 2016). Unfortunately, the outcomes of the first 5 years of SDG implementation strategies indicate that there may exist a discrepancy between 'intention' and 'realization' in the execution of strategic goals (Mintzberg, 2015). It is not enough for firms to say they support the SDGs; they must also be held accountable for delivering on them and demonstrating that they are responsible societal actors (Raith & Siebolt, 2018). When presented with severe sustainability problems/challenges/opportunities, it is tough to 'Walk the Talk' and narrow the 'Promise-Performance gap.' (Rasche & Waddock, 2014).

There is certainly a financial gap (Gaspar et al., 2019)- the SDGs require a huge amount of investment. Nonetheless, the business case for ESG investing is empirically supported – approximately 90% of the studies discovered a non-negative association between financial and ESG performance, with the vast majority reporting positive results (Lashitew, 2021). This means that risk avoidance and other factors such as lack of knowledge can be impediments to pursuing the Agenda 2030.

Portugal is one of the UN member-states, consequently committed to the achievement of the SDGs. Knowing the relevant role businesses have towards this Agenda and that the huge majority of Portuguese companies are SMEs, in accordance with the aforementioned elements, the main goal of the present research is to comprehend how SMEs can advance the SDGs, for their own sake and to contribute to the collective goals of the country. For that, the characteristics of companies that are ahead in that path will be studied to understand if they contribute in a positive way towards the implementation of the SDGs. Additionally, the main barriers in the Portuguese context (vs. the global ones) will be identified and a plan that allows SMEs to tackle them will be presented.

1.2 Objectives and Research Questions

The purpose of this thesis is to create a standard process that SMEs could implement and that would lead them to successful integration of the SDGs into their business strategy. Subsequently, it will be necessary to examine which are the characteristics they must possess, the barriers they face and how can they overcome them.

RQ1: Which are the firms' characteristics contributing to the operationalization of the SDGs?

By answering this research question, it's aimed to explore:

- The general characteristics contributing to a better implementation of the SDGs;
- The specific characteristics of the companies successfully advancing the SDGs.

RQ2: Which are the barriers preventing the operationalization of the SDGs?

The objective will be to conclude which are the main barriers faced while trying to implement the SDGs into the business context and if there are any differences in the obstacles faced by the companies that are not already doing it versus the ones that succeed.

RQ3: What were the actions performed by companies implementing the SDGs to overcome the usual obstacles?

This question will be answered by the companies that are operationalizing the SDGs through interviews since the goal is to understand the strategies adopted to fight against the most common barriers.

1.3 Thesis Structure

Following the first chapter, which addresses the research topic and its significance, the dissertation objectives, and the research questions, the current study moves on to chapter two.

The second chapter includes a review of the prior literature on which this research is based, presenting the major subjects and concepts under investigation.

In addition, in chapter three, the methodology employed and the data-gathering procedure are described, followed by chapter four, where the results are analyzed.

Finally, the last two chapters present the conclusions and implications of the research, as well as its impediments and recommendations for further research, respectively.

2. Literature Review

2.1 Sustainability, CSR and SDGs

Sustainability still has an open definition: in 1987 was defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” by the United Nations Brundtland Commission. Actually, the agenda of sustainable development can be summarized with the 2 key concepts of the Brundtland report: “the concept of needs, in particular the essential needs of the world’s poor, to which overriding priority should be given”; and “the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs” (World Commission on Environment and Development, 1987). One of the latest definitions corresponds to “the process of living within the limits of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity” (University of Alberta, 2013).

Complementarily, CSR is the action of “integrating environmental and social management in conventional economically oriented business segments” (Schaltegger & Burritt, 2005), being seen as the obligation of businessmen to pursue those policies, decisions, or lines of action which are desirable in terms of the objectives and values of our society (Bowen, 1953)- shortly, the contribution of business to the realization of sustainable development (Verboven & Vanherck, 2016). However, the important role of businesses was mainly perceived in the mid-1990s (Dyllick & Hockberts, 2002).

In order to fully meet CSR and maximize the creation of shared value for their shareholders, other stakeholders, and society at large, companies must have a process in place to integrate social, environmental, ethical, consumer concerns, and human rights into their business operations and core strategy, identifying, preventing, and mitigating any potential negative impacts (European Commission 2011). That is exactly what the SDGs- 17 goals to which all 193 UN member states committed to achieving by 2030 in 2015 (UN, 2015)- aim to ease through the extended 5P framework- a sustainable business model based on: People, Planet, Prosperity, Peace, and Partnering (Van Tulder et al., 2021). This means that one practical way to carry out the SDGs is through CSR (UN, 2015) since the SDGs enable ‘changes within the game’. On the flip side, Laljani (2015) thinks that SDGs might alter how businesses approach CSR.



Figure 1- The 17 Sustainable Development Goals. Source: un.org

Through their 169 targets, a stable economy and society will be facilitated (less corruption, more transparency, etc.) (SDG Compass, 2015; PwC 2015). Yet, it is estimated that the impact on SDGs and business opportunities vary by sector, their prioritization depending on the context (PwC 2015a). Yet the stringent call for cooperation amongst different actors proves an international agreement built on multi-stakeholder involvement and value creation processes (Van Zanten & Van Tulder, 2018; Sebestyén et al., 2020; Freudenreich et al., 2020), allowing to overcome the former “limitations”.

Statistics state that consumers are increasingly thinking about the environmental effect of where they purchase. More precisely, nearly one-third of customers have stopped buying specific brands or products due to sustainability concerns. This figure rises to 45% among Generation Z (people born between 1997 and 2015) (Deloitte, 2022). Additionally, whilst CSR has historically been seen as optional, fulfillment of the SDGs might rest on a move towards corporate social obligation (Dahlsrud, 2008; Kolk, 2005). The industry players contributing to the SDGs are urging governments to enact appropriate legislation to oblige businesses to be more socially and environmentally responsible (R. Scheyvens et al., 2016). As Gore (2015) stated, “achieving new global goals will require new global rules”.

Having in mind the concept of shared value creation and assisting in the fight against poverty, malnutrition, clean energy, and other issues, businesses may acquire a competitive advantage and make healthy profits (Porter & Kramer, 2011). More than that, the union of the most powerful organizations in the world- governments, corporations, and civil society- behind a single agenda, turns the achievement of these vital objectives easier. However, that is dependent on a course change where the private sector engagement goes beyond mere lip service (Kramer et al., 2019).

In reality, there are some problems: 8,550 companies were measured from ‘strongly aligned’ to ‘strongly misaligned’ with the SDGs. Results show that only 0.2% of them were ‘strongly aligned’, concluding that the progress made is different across sectors (MSCI Inc., 2021). That can be caused by the difficulty of comprehending how the SDGs are interconnected and not intended for cherry-picking (SDSN, 2015; Wollaert 2016, cited by Develtere 2016) or the skepticism and critics raised around the topic.

Critics formed distinct groups: some claim against the term and its definition, as well as with the contradiction and inconsistency of it; others mention that the SDGs are too focused on people or the planet; and finally, the ones who discuss the feasibility, strategies, and governance required to achieve those goals (Neves, 2018). Examples are that their translation to a more action-oriented level is very challenging and time-consuming for businesses (PwC 2015),

especially for SMEs; being unfeasibly expensive, and a format of *bluwashing* (Hickel, 2015); neglecting the root causes of poverty-related human rights (Pogge, 2016); being too diverse and failing to provide an articulated and clear sequence of priorities (Leitner & Tillemann, 2017).

2.2 Companies' Role and Potential Impact of SMEs

After the MDGs' revolution- 8 realistic goals for reaching a global agreement, with a clear measurement mechanism, and easy to communicate (common language) (SDGF, 2018)-, built on that success, the SDGs' era came. It expanded the scope to 17 goals and, contrarily to the former, also targeted developed countries, being nationally-owned and country-led (Philippine Statistics Authority, n.d.) and, more importantly, counting on the private sector to engage in responsible business practices (UN, 2012).

Regarding the characteristics of the firms involved, an effective contribution is not dependent on the size or industry they belong to (UNGC, 2021). Even considering that transferring the goals and targets from the UN (international scale) to the governments (national scale), to the varied business scenarios is difficult (Mio et al., 2020), if overtaken, companies will lead the change. They excel at innovation, reactivity, and the supply of particular resources, among others (Porter & Kramer, 2011; Di Vaio, et al., 2021). It's also worth mentioning the scale to which the private sector can mobilize resources and spend them: in the US, it corresponds to 7 times the government spending and 20 times the non-profit sector. Yet in practice, corporate philanthropy dedicated to the SDGs (\$20 billion in the US in 2018- a poor contribution when compared to the \$149 billion in development funding for the MDGs) must be enhanced. Nevertheless, since corporate philanthropy and contemporaneous CSR will never deliver the scale of impact the SDGs require, the opportunities to advance them must be found within their core business (Kramer et al., 2019).

It's crucial to accelerate the companies' contribution, contradicting the recent literature interest in unpacking the role of companies as sustainable development agents mostly concentrated on LEs (to the detriment of SMEs) (Mio et al., 2020). SMEs can be defined as firms with fewer than 250 employees and an annual turnover not exceeding 50 million euros and/or an annual balance sheet total not exceeding 43 million euros (European Commission, 2003). Together, they form the heart of the world's economy (Silva & Figueiredo, 2020), representing about 90% of business and more than 50% of employment worldwide (UN, 2020), as well as up to 40% of GDP in emerging markets (The World Bank, 2020). In Europe more than 99% of the companies are SMEs (European Commission, 2015), generating almost 58% of the value added in EU28 and providing 66.9% of the employment, therefore enhancing

sustainable development and assisting in the eradication of poverty (de Sousa Jabbour et al., 2020). In what concerns Portugal, there are similarities: 99.9% of the companies are considered SMEs (PORDATA, 2020).

Thus, if SMEs collectively constitute the lifeblood of most economies, but are constrained when operating alone (Crick & Crick, 2021), the same happens with their negative impact- if combined, the use of resources, contamination of the air and water, and waste production (D'Amato et al., 2020) can exceed that of LEs. SMEs can contribute to around 60% of the SDGs if they successfully interact with them locally (ITC, 2019). That emphasizes the necessity of their involvement in sustainable actions and careful management of the world's limited environmental and social resources (Govindan et al., 2020).

Additionally, their size makes SMEs more agile and adaptable to economic and social changes (Forbes, 2012). They are acknowledged for stimulating innovation and creativity in a variety of markets, and keeping entrepreneurship alive (Exposito & Sanchis-Llopis, 2018; Yolles et al., 2019). Possessing closeness to internal and external stakeholders and consequently meeting their needs more accurately (H. Smith et al., 2022) are advantages for SMEs, which influence their adherence to the SDGs. More in deep, family-owned businesses have easiness reinforcing the stability of the key stakeholder relationships and are more inclined to engage in sustainable and ethical business practices that might help their reputation (Nekhili et al., 2017) because they share an unbreakable bond with the business. Thus, to protect the organization's wealth, they carefully consider the requirements of their employees and community while guiding decisions (Venturelli et al., 2021).

According to the ITC report “SME Competitiveness Outlook” (2019), SMEs can contribute to the SDGs through four channels: employee impacts (Goals 1, 2, 3, 8), business practice impacts (Goals 5, 8, 9, 10, 12, 13, 14, 15, 16), sectorial impacts (Goals 2, 3, 4, 5, 7, 9, 11) and national economy impacts (Goals 1, 8, 9, 10, 17). By utilizing them and embracing the advantages of being relatively small and nimble, SMEs have the chance to influence future local and global agendas (Devos & Chen, 2022).

2.3 SDGs' Implementation

2.3.1 In Portugal

The overall performance of Portugal regarding the implementation of the SDGs can be summarized by the 20th position within the 163 countries (with available statistics) score, ahead of the regional average (79.2 vs. 77.2 points, respectively). In general, the least developed SDGs

are the 2, 12, and 14. On the opposite side, the single SDG at the desired implementation level is number 7 (Sustainable Development Report, 2022). According to the European Environment Agency (2020), in 2017, the Republic of Portugal announced that data and information related to the SDGs were being gathered as part of the country's baseline examination for SDGs' development. As a result, the National Statistical Institute mapped the available information and identified the best sources of indicators for monitoring the progress on the SDGs, complementarily stating that improving the robustness of the current indicators, developing calculation techniques for the missing indicators, and introducing potential qualitative indicators were the next steps.

Recently, the Business Roundtable Portugal with a composition of 42 of the biggest country's groups was founded. Its focus on people, companies, and state, and their programs (PRO_MOV and *Metamorfose*) have the purpose of accelerating economic and social growth while guaranteeing a fairer, wealthier, and more sustainable Portugal (Business Roundtable Portugal, 2021).

Looking into the private sector and the way sustainability is perceived by SMEs, 77.7% claim that is a strategic opportunity. Yet the percentage of companies with a CEO/Executive Commission aligned and motivating the implementation of the Agenda 2030 is smaller- 53.4%-, as well as the percentage of SMEs with knowledge of the SDGs -52.5%. It is also known that 47.6% of the SMEs have a strategy aligned with the SDGs, them being part of the core business, but only 6.8% define their strategy in accordance with the SDGs. Furthermore, most of the studied Portuguese firms state that are not at the point where it aims to be regarding their SDGs' implementation level (*Observatório dos ODS nas Empresas Portuguesas*, 2022). Even though the LEs show a considerable involvement and reporting level on the SDGs, the track for the SMEs just started (Pires De Almeida, 2022).

Finally, the motivations for the Portuguese companies' SDG engagement are varied- mainly intrinsic as the desire to impact the industry they are inserted in as a sustainability leader and to further develop their business, but also extrinsic as the need to properly fulfill the legislation (*Observatório dos ODS nas Empresas Portuguesas*, 2022).

2.3.2 Around the UN state members

The first 22 countries scoring the highest positions regarding SDGs' implementation belong to the OECD group, and all the EU member states are within the first 43 positions (Sustainable Development Report, 2022). Nevertheless, despite the SDGs having been agreed

upon unanimously among the UN Members, their implementation is facing significant obstacles and is running late (UN News, 2017).

A current concern is that the UN promotes cooperation among different actors, but earlier work is mostly concentrated on the strategic adaptation of macro-trajectories towards sustainable development at the micro level, without considering the dynamics occurring at the meso level (Álvarez Jaramillo et al. 2019; Kim & Hall, 2021). Coincidence or not, it can be verified that most companies do not view themselves as the most accountable stakeholders for achieving the SDGs (PwC 2015b). Although 27 of the 50 largest US corporations claim to be trying to advance an average of nine SDGs, very few are making any new or significant changes to their core business operations to further the goals (Kramer et al., 2019). To exemplify, there are several cases in which companies' core business activities come into conflict with their commitments: Philip Morris, the tobacco giant, claims to advance the health goal; ExxonMobil's commitment to "affordable and clean energy" does not appear to have amended its business strategy in any way. These companies may be engaged in activities elsewhere that contribute to the objectives, but their core operations also severely impede progress toward the objectives they promote (WH van der Waal & Thijssens, 2020).

According to a PwC report (2018) with more than 700 global companies surveyed, 72% of businesses include the SDGs in their yearly corporate or sustainability reports, 50% identify priority SDGs, and 54% include them in their business strategy. The tragedy is not only that firms may make such flimsy and conflicting assertions, but also the loss of a massive chance to engage the private sector in a meaningful way to achieve these important goals (Kramer et al., 2019).

What is true is that most businesses keep mute on how they implement the SDGs because of the imprecision in the assessment of adherence. The voluntary and unaudited disclosure allows firms to provide benevolent rather than accurate unbiased information to safeguard reputation; the complexity and absence of accurate metrics stops the implementation of sustainability supporting strategies; and when enabling a universal adoption of standards and practices their efficacy is undermined (Lashitew, 2021).

Measuring SDG-related outcomes in comparison to their objectives and indicators remains a bridge too far. Companies explain it is difficult to quantify the exact contribution they are making regarding the targets set against each goal (BT Group notes, 2016/17) but that while working together with stakeholders, from governments and NGOs, they are developing practical ways in which to progress mapping, target setting, measurement and communication of SDGs, as well as exploring ways in which the SDGs can be used to shape business strategy

(ANZ Report, 2017). Several corporations appear to have achieved a basic level of aligning policies with key SDGs, while others appear to have made a connection with the precise SDG objectives, which proves the need to establish effective indicators for enterprises and measures that could be assessed for organizations' SDG contributions (WH van der Waal & Thijssens, 2020).

Several businesses discuss the notion of shared value (Porter & Kramer, 2011) and link it to the SDGs and the perspective of recognizing new business potential or avoiding certain threats. Previous research indicates that LEs are more likely to participate- issuing sustainability reports more regularly because they are more visible, have a greater effect, and are exposed to greater stakeholder attention than smaller companies (Chiu & Sharfman, 2011; Gallo and Christensen, 2011). Another fact is that LEs have a greater worldwide presence, in underdeveloped and emerging nations where the SDGs are especially relevant, raising the application of these incentives (WH van der Waal & Thijssens, 2020). Yet, the greater relative costs of SDG disclosure limit reporting for SMEs (Hahn & Kühnen, 2013).

The socio-political rationales appear to apply to the SDGs' context: the developmental state concept (Lee, 1992; Wade, 2018), which can increase the likelihood of involvement-companies from Japan, South Korea, and Taiwan (JKT cluster) show rather high reported SDG involvement, whereas those from the US and BRICS-MINT score much lower. These goals are particularly relevant for developing countries in the BRICS-MINT group, however national companies perceive little public pressure to promote CSR disclosure in general (Ali et al., 2017). Some other factors as cultural characteristics (long-term orientation or uncertainty avoidance) may play a role (Gallego-Álvarez & Ortas, 2017).

Broadly, SMEs already face several obstacles, including tough competition, limited resources (preventing the development of solid supply chains), and the inability to invest in technology that may help them save time and money (Devos & Chen, 2022). Looking deeply into the several barriers to implementing SDGs' principles and initiatives and the issues that cause SMEs to struggle in comprehending their potential position in the SDG framework, making SDG involvement difficult and problematic (Klewitz & Hansen, 2014), intrinsic and extrinsic limitations are recognized.

The main barriers to sustainability implementation are business structure and limited absorptive capacity, lack of resources (mainly financial ones) (Tsalis et al., 2013), an underdeveloped strategic focus, lack of awareness of existing regulation, and lack of awareness of their impact on sustainability (Lewis et al., 2015; Djupdal & Westhead, 2015). Consequently, the most common impediments to SDG implementation include a lack of resources, the high

initial capital cost in adopting sustainable measures, and lack of competence (Álvarez Jaramillo et al., 2019). Everything combined with the fact that the goals are universal and there is no system in place to hold anybody responsible for their ambiguous pledges (Kramer et al., 2019), the lack of understanding of the business case emerges among the biggest barriers (WBCSD, 2018).

When it comes to SMEs, on the one hand, they may use the SDG Compass - a source of 'business indicators' (containing all necessary phases of the sustainability management process). However, given its attention to multinationals, detailed procedures concerning the execution of operations and the follow-up, feedback, and internal control are absent, making it inapplicable, too imprecise, and unmeasurable. These businesses are unable to use Compass because they do not know how to disseminate information and there is a lack of specificity and alignment with the SME's unique requirements. Furthermore, the SDGs of high priority in the West-European setting (4; 7; 8; 9; 12; 13; and 17) that should be included in a prioritized gradual approach, appear difficult to translate to a typical European SME context - they are either out of scope or are the subject of (strongly context-dependent) legislation, such as gender equality and minimum wage matters (Verboven & Vanherck, 2016).

“SMEs have a totally different structure and way of working. Therefore, something specific should be drafted from the scratch for them based on the ‘Think Small First’ principle to achieve the aim with limited costs and red tape” (Lena, 2020). That is why legislation promoting SDG implementation should not be an adaptation of the current laws intended for the big industry. On the other hand, SMEs lack the financial strength of LEs, creating significant barriers to benefit from economies of scale and having poorer negotiation leverage with suppliers. As a result, SMEs lack authority and resources, which impedes their environmental and social contributions (Khattak, 2020). Individually, SMEs face the liability of smallness, which impedes development (Stoian et al., 2017), sometimes leading to the perception that what is far away is unimportant and that global goals are "too huge" for SMEs to contribute to (H. Smith et al., 2022).

At the beginning of *the decade of action*, when vis-à-vis accelerated efforts for achieving the SDGs must be taking place (Guterres, 2019), two events - the pandemic and, right ahead, the Ukrainian War - constrained the international coordination and cooperation for sustainable development (Zhao et al., 2022).

The Covid-19 effect was expected to postpone SDG implementation because of the socioeconomic constraints and setbacks that would reduce the amount of attention accorded to the SDGs. Since pursuing and implementing these goals was much more important than it was

previously- they represent the means by which life quality can be restored-, it was urgent to emphasize SDG implementation so that the progress made to date was not jeopardized. By doing so, it was expected that the pandemic's momentum would lead to a shift from a worldwide threat to a global opportunity (Leal Filho et al., 2020).

There are still insufficient official data sources to create a complete and accurate picture of progress toward the SDGs (ILOSTAT, 2022). Nevertheless, some of its impacts can be summarized:

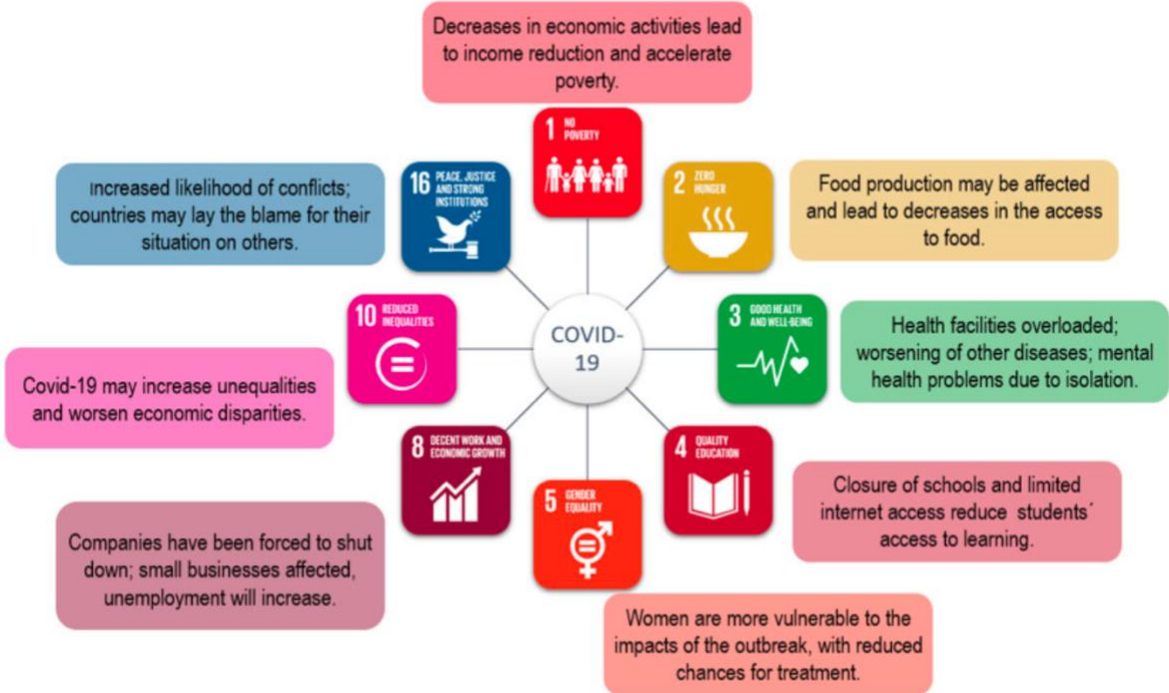


Figure 2- Some of the main impacts of Covid-19 on the SDGs. Source: adaptation of Leal Filho et al. (2020)

For companies, the most direct changes were on the SDG8 (with indirect influence on SDGs 3, 5, and 10), the smart working related health problems (overweight, sleep disturbance, addiction, etc.), insufficient self-management and poor digital competencies, social-cultural injustice (thanks to forced homework), and the job losses accounted. Regarding SDG 12, a huge pressure to innovate was put on businesses, as well as on the use of their resources and education for sustainable development, also impacting SDGs 4, 9, and 15. Additionally, the reduction of business traveling and physical contact contributed to SDG 13 (3, 8, 11, and 15), allowing better resources' management and expenses reduction (Shulla et al., 2021).

Effectively, the pandemic hampered OECD nations' progress toward the 2030 Agenda objectives, as they remain far from attaining associated criteria that are crucial for trust (accessibility, accountability, transparency, diversity in public institutions). However, it

brought some good developments, such as recovery packages implemented by the majority of OECD members- an opportunity to "build back better" and increase systemic resilience to deal with future shocks (OECD, 2022). Moreover, countries and societies appear to be increasingly interconnected, implying a potential to capitalize on revitalized unity and reformulate the approach in collaboration with all stakeholders (Mukarram, 2020), given that achieving the SDGs demands a lot more responsible policy, public consensus, association, and conversation between government, corporations, society, and higher educational institutions (Belyaeva & Lopatkova, 2020).

Armed conflicts in Libya, Iraq, Afghanistan and other nations had a substantial influence on regional and global development in the last decades. The Russian-Ukrainian war turned some countries’ capacity to meet the SDGs by 2030 unreachable- without peace, these goals will never be achieved. It is also well recognized this event unrushed the post-COVID-19 recovery, hampering regional and global SDG accomplishments. As presented in figure 3, the impact of the Russian-Ukrainian conflict varies: SDGs for biodiversity are mostly influenced at the regional level (Russia, Ukraine, neighboring nations, and European Union countries); SDGs regarding society are affected at the local (e.g., SDG3; SDG4) and global (e.g., SDG2) levels; and economic SDGs are involved at a global scale (Pereira et al., 2022).



Figure 3- Russian-Ukrainian armed conflict implications. Source: adaptation of Pereira et al. (2022)

This crisis slowed the global energy transition to renewables (increased metal and gas prices, slowing renewable technology investment; ramped up coal production and fossil fuel investment; harmed the effort put into scope 2 emissions reduction), reclassified the defense

investment as sustainable- many European nations announced increases in their defense budgets-, and implied serious reputational risk for investors associating with the war. The actual effects are humanitarian and economic, also affecting ESG investments (Mittal et al., 2022).

2.4 SDGs' Benefits

The SDGs offer several benefits for businesses that cannot be overlooked. It is not just about cost savings and greater profitability by decreasing waste and properly managing water, or switching to greener energy (Euromonitor International, 2017)-, it is a much wider scope: attracting the best talent- Millennials and Gen Z seriously care about the company's dedication to environmental and social issues, being more fulfilled when their job gives them the opportunity to make a difference (365 Business Finance, 2021), even accepting to take a reduced salary to work for a company with such concerns (CONE, 2016); attracting capital and taking advantage of any resources that have been allocated towards achieving the goals, as the Sustainable Development Bonds from the World Bank; and reducing risks- each of the 17 SDGs indicates an area of risk already posing significant problems for business and societal development. Inclusively, without showing the customers to have strong social policies and not place profit above society, businesses will struggle in their environment, because it will be less likely that anyone (especially Millennials and Gen Z- the bulk of customers within 15 years) buys or uses their services (Rickard, 2020). Therefore, complying with the SDGs will result in a decrease in legal, image, and other business risks (SDG Compass 2015).

2.5 Drivers and characteristics of companies with proper SDGs' adoption

In general, authors recognize similar drivers for CSR: moral or intrinsic and strategic or extrinsic drivers (Moon & Chapple, 2013; van de Ven & Graafland, 2006). According to Moon and Chapple (2013) the main drivers in SMEs are intrinsic, i.e. value driven and benefit-oriented, contrary to large companies that are mostly motivated by external drivers, such as compliance and stakeholder management.

The companies that are successfully addressing the SDGs are taking particular measures. The first one, choosing fewer and more specific goals central to their businesses - it is impossible to effectively pursue 9 different goals at the same time. What they are also doing is focusing on the most promising (large and profitable) business opportunities when selecting which goals to pursue- the SDGs move out of the CSR department and into corporate strategy and operations, while the CEO defines the agenda and assigns the relevant business units with

implementation. Additionally, they are: adopting meaningful near-term targets- 3 to 5-year explicit and quantifiable targets that incorporate the social development they want to achieve as well as the value that may bring to their shareholders-, always reporting on them; reallocating resources and making significant investments to increase the efficacy of goods or services that can advance their objectives; being truthful about and tackling discrepancies in potential product lines or actions in their value and supply chains that operate against the SDGs, with a strategy and timeline for reducing their negative effect (Kramer et al., 2019).

In the case of SMEs, the acknowledgment of tangible and intangible business advantages; alignment with personal beliefs; compliance with institutional elements (e. g., industry, society, and legislation); and fulfillment of stakeholder expectations may all aid them along this route (European Commission/Adelphi 2013, p. 10). However, there is also a need to relate the SDGs to concrete measures that are tailored to the firm context, as well as a comprehensive, generic, and user-friendly management style that allows them to plan, implement, and assess their sustainability activities across the value chain (Verboven & Vanherck, 2016).

Additionally, the UN acknowledged the need for strategic transformation and fundamental innovation, through the adoption of new innovative business models (SDG 9) such as co-creation and product-to-service, as well as broad engagement with local and international parties (SDG 17). Despite their limited resources, SMEs are more than ever urged to embrace creative solutions (facilitated by technological advancement) to convey a sustainable company vision within their workforce (H. Smith et al., 2022). The belief that those two SDGs are inextricably bound up with each other for SMEs and that their relationships with other firms (even with MNEs) (Prashantham & Birkinshaw, 2020) can be a driver for their attitude and implementation of sustainable practices (Lewis et al., 2015), they may reach out to a more inclusive way of conducting business through shared value creation (Verboven & Vanherck, 2016), since minimizing the distance between enterprises and other SDG's actors may assist SMEs in overcoming barriers and gaining access to vital information and skills (Journeault et al, 2021).

The UN, in collaboration with other partners, created the SDG Compass with a two-folded objective: firstly, describing how the SDGs affect economic activity and, after, providing advice on SDG implementation and management. The authors of the Compass claim that businesses can “use the SDGs as an overarching framework to shape, steer, communicate and report their strategies, goals, and activities” (SDG Compass 2015), applying to all types of organizations, that can adapt the tool to their specific context and use it at different levels of the

organization. However, many changes should be included for it to be actionable enough for SMEs (Verboven & Vanherck, 2016). This being an external impediment, companies should now rely on internal solutions. In fact, intrinsic motivations to engage in CSR/sustainability result in increased devotion and improved CSR performance (INSEAD 2007; van de Ven & Graafland 2006).

Currently, there are several sustainability management frameworks and approaches. Framework examples are the Sustatool (described in figures 4 & 5) (vs. the SDG Compass) and the Gap Frame (Muff et al., 2017), with an outside-in-perspective that highlights the difference of where we are today versus where we need to be and enables the business to collaborate with other stakeholders to engage in solving challenges in a co-creative way. Yet there are even authors (H. Smith et al., 2022) suggesting the use of the Powercube Framework to advance the SDGs, as a way to analyze the level (local, national, global), spaces (invited, claimed, created), and forms (visible, hidden, invisible) of power, and their interrelationship. A possible approach is the nexus approach, which assists companies in accumulating evidence of their impact on the SDGs' indicators, making it easier to report progress in an integrated manner, generating more transparency, and assisting companies and policymakers in mapping and prioritizing dilemmas and trade-offs that require more focused interventions (Van Zanten & Van Tulder, 2021). Allegedly and given their limited resources, the Sustatool is one of the easiest to implement in SMEs, allowing them to incorporate sustainability into their daily practices, prioritizing the SDGs on which they can have the greatest impact, and making the SDG tangible (concrete actions in the thematic catalog) targets (Verboven & Vanherck, 2016).

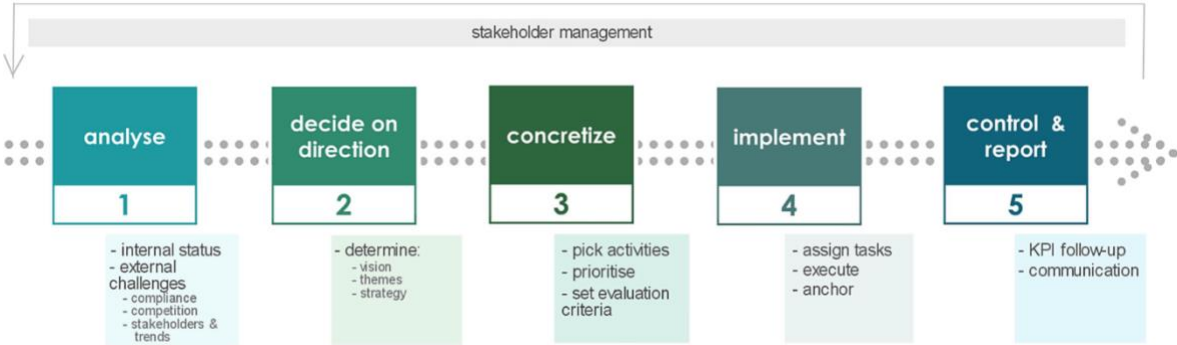


Figure 4- Sustatool sustainability management process. Source: adaptation of Verboven and Vanherck (2015)

	internal	resources		external	
 product/service excellence	1 offer	2 product materials	3 packaging	4 consumer	5 supply chain & purchase
 operational excellence	6 lean	7 energy	8 water & site management	9 transport	10 environment
 organisational excellence	11 governance	12 employees	13 competency management	14 labour market	15 stakeholders

Figure 5- The 15 Sustatool Themes. Source: adaptation of Verboven and Vanherck (2015)

3. Methodology and Data Collection

3.1 Research Method

Following the examination of the secondary data presented in the literature review chapter, primary data- an online survey developed by the *Observatório ODS nas Empresas Portuguesas*- was partially used to achieve the research objectives of this study. That methodology has numerous advantages, such as lower related costs and the possibility of gathering data from several different entities in a short amount of time (Evans & Mathur, 2005). The survey was designed in the Qualtrics Survey Software and its distribution to the Portuguese SMEs was carried out by IAPMEI (“Agency for Competitiveness and Innovation”), which has a database with the contact of such companies. In addition, the use of this methodology allowed respondents to have more flexibility while answering the survey and provided them with more convenience, undermining time or space constraints (Evans & Mathur, 2005). Furthermore, participants could fill out the survey in a natural environment, reducing uncertainties, pressure, or constraints. Moreover, the survey guaranteed total anonymity and confidentiality of the data provided, which could have improved respondents’ willingness to participate. Thanks to all the above it was possible to run a quantitative analysis in this study using R Studio.

Nonetheless, online surveys can also present some disadvantages as not being possible to secure respondents were focused and alert while answering or not having the possibility of clarifying any of their doubts (supposing they arise). Having that in mind, the questionnaire

was designed straightforwardly and comprehensively and with a majority of closed-response questions (the only ones used for this study).

In order to go further and emphasize the real-world context in which this phenomenon occurs (M. Eisenhardt & E. Graebner, 2007) a multiple case study methodology was also included as methodology, with interviews and concrete questions made (scripts available upon request) to 7 of the companies that answered the survey. These companies know how to act on the SDGs and are making them operational.

3.2 Sampling

The convenience sampling method was the method in the current study. This sampling is non-probabilistic, enlisting people (in this case: groups) of the target population who satisfy certain practical requirements, such as easy accessibility, geographic closeness, availability at a specific time, or desire to participate (Dornyei, 2007). According to Etikan (2016), convenience sampling is simple, and inexpensive, and the topics are easily accessible. In light of its simplicity and participants' accessibility, this technique was chosen. It's vital to stress that, to promote honesty, participants in each survey were made aware that their answers were anonymous and would be treated in the strictest confidence.

3.3 Research Instruments

As previously stated, one study was carried through Qualtrics Survey Software and distributed via e-mail by IAPMEI. The following is a description of the procedures adopted in the study.

The only language in which the study was available was Portuguese. The first answer to the survey was collected on March 16th and the last one on June 15th.

At the end, it was possible to gather a total of 156 responses from which 103 were considered complete and suitable for further analysis. After those being checked for the time duration (there were no answers below the lower bound) and for the guidelines regarding the attribution of “SME” denomination, all 103 fitted within the final sample. IAPMEI has a huge database with SMEs' contacts, however, web experiments frequently experience significant drop-out rates (Reips, 2002; Tijdens, 2014). Some of the reasons beyond that are the duration of the survey, possibly repeated questions, the declining respondent's involvement and interest, and the potential disturbance the participant may be exposed to while filling the online survey.

Furthermore, the minimum number of responses per cell (50% of the participants' number) that experimental research through an online survey must have to present high consistency and validity (Maxwell et al., 2017; Saunders et al., 2015) was respected with an average of 60 answers gathered in each cell of the survey.

Additionally, to answer the third research question, collecting good practices and recommendations, 7 interviews were conducted through video call. Those interviews were led by the author of the present thesis, lasted 30 minutes on average, and had 3 questions. The first two questions had the aim to assess the strategies adopted to fight the 3 main barriers faced by the Portuguese SMEs and the main one for the SMEs that are already implementing the SDGs, respectively. The last question was regarding whether these firms were adopting frameworks or not, trying to comprehend the advantages or impediments to that action.

3.4 Design and Procedure

After comprehending secondary data from prior research to address the research questions, primary data was gathered for the main study. As previously stated, the software used to collect the data was the Qualtrics Survey during 3 months of 2022.

The central goal of the research is to inspect the possible measures that SMEs can implement to successfully implement the SDGs, i.e. organizational characteristics required, barriers to overcome, and good case practices that enable the former point.

Therefore, the main study was composed of four parts, subdivided into 12 sections, including a total of 69 questions of different types. Yet, only part of the closed answers, which were considered more objective and relevant, were analyzed (see Appendix 1 for details).

After reading a brief statement clarifying the survey's scope, and signifying their participation consent, the participants were able to move to the first part of the questionnaire, which identifies the characteristics of the companies in the sample, highlighting their legal structure, capital structure, number of employees, the composition of the Board of Directors and Executive Committee- if any-, business networks to which they belong, geographies where they operate, among others.

The second part refers to the implementation of sustainability and SDGs in companies and aims to understand the importance of the concept of Sustainability for companies, the relevance of SDGs in the business context, and what are the main SDGs communication practices.

The third part aims to identify the main motivations and barriers to the adoption of the SDGs.

Finally, the fourth part refers to the implementation of the SDGs and their impact in the business context, complementarily analyzing the level of SDG implementation by companies. From this part, 7 companies that are advancing the SDGs were selected to propose the mentioned interview.

3.5 Variables Descriptions

3.5.1 Dependent Variable

The dependent variable, *SDGs' awareness and operationalization*, is a variable that can assume 5 values (question 50- see appendix 1 for details), according to the SDG's awareness level and their operationalization verified in each SME. Cases of success (the highest value) are considered to be the ones that know how to act in the SDG field and are implementing them.

3.5.2 Independent Variables

There were two groups of variables. To assess which the firms' characteristics contribute towards a better SDG Implementation, based on the literature review, the following subgroups of variables were tested:

Picking SDGs central to business to better disseminate their efforts

- *Use of SDG Hierarchy*, whether the SMEs hierarchize the goals they want to directly work on, or not;
- *Number of SDGs adopted* which can vary from 0 to 17 (all of them);
- *Going to the target level*, whether the SMEs' indicators and ambitions involve the 169 targets into which the SDGs are split into, or just the 17 goals in a broader way.

Focusing on the biggest opportunities

- *Perceiving the SDGs as a Business Opportunity*, from 1 ('not at all') to 7 ('fully perceiving it');
- *Recognizing Business Case* for the company, which can vary between 1('there is no business case at all'), 2 ('it is difficult to find business case'), and 3 ('we were able to find it');
- *SDGs' Diffusion across the different existing departments*, from 1 (x department is not motivated to the SDGs at all) to 7 (x department is very motivated to the SDGs).

Reporting

- *Use of Non-Financial Reports*, whether the SMEs studied publish non-financial reports, or not.

Recognition of tangible and intangible business benefits thanks to the SDGs

- *Opportunities Recognition*, this meaning the importance attributed (from 1, 'not important at all', to 7, 'very important') to the several opportunities implicit in the SDGs' implementation;
- *Motivating factor for sustainability*, whether it is inserted in the External or Internal Spectrum.

Fulfillment of Stakeholders Expectations

- *Company's Overall Strategy*, whether it consists of the creation of value for shareholders or the stakeholders;
- *Relation with Stakeholders* regarding the 2030 Agenda. Described through a range varying from 1, 'not involving them', to 6, 'sharing dilemmas and achieving collective goals with all the stakeholders). In between, there are options such as 'only informing the stakeholders' or 'only involving the internal/external stakeholders'.

SDG linkage with concrete actions/tailor-made plan testing sustainability across the value chain

- *The Way SDGs are chosen*, whether SMEs choose 'the easiest ones to achieve'; 'the ones to which they can contribute more based on their internal resources/capabilities'; or 'the strategic SDGs based on the social context they are inserted in'.
- *SDGs incorporation into the company's strategy*, from 'not incorporated' to 'defining their strategy and guiding their activity through the SDGs'. In between, options are: 'choosing some SDGs that are part of their sustainability policy and will be carried by that department' and 'choosing some SDGs that are aligned with their strategy and are part of the core business'.

On the other hand, to assess which were the main barriers to SDG Implementation the following variables were tested, adopting a 7-point scale (1 – Not a barrier; 7 – Strong barrier):

- *Lacking knowledge about the SDGs*

- *Lacking knowledge on how to operationalize the SDGs*
- *Not recognizing any business case*
- *SDGs being too far from the company's language*
- *Lacking knowledge of how to report*
- *Not finding partners*
- *Not having resources*

4. Analysis and Results

4.1 Sampling Characterization

In the first section of the inquiry, respondents were asked certain questions that eased the creation of an accurate profile of the final sample (see Appendix 2 for details). This final sample was then formed by 103 companies. As far as structure is concerned, 39.8% of the answers came from public limited companies and 60.2% from private and limited companies; all of them owned by private capital; and 71.8% being family companies.

Considering the revenues of these companies, 53.4% of them generated between 2 and 10 million euros, followed by 28.2% with numbers between 10 and 50 million euros and 17.5% accounting for less than 2 million euros. Only 1% stated revenue of more than 50 million euros. Regarding their generic type of business, 21.4% provide services, 48.5% sell products, and 30.1% do both. Complementarily, they run operations in different sectors: 55.2% in the industry sector; 19.9% in commerce; 10.7% in general services, 6.1% in transportation; 5.4% in construction and real estate; 1.6% in tourism; and 1.3% in agriculture. For that, most of the participants employ between 50 and 249 people (61.2%), the remaining percentage composed of companies employing 10 to 49 people (35%), below 9 people (2.9%), and above 250 people (2.9%).

Lastly, 38.8% stated to operate or export to only 1 continent (7.5% to Africa vs. 92.5% to the rest of Europe), 25.2% in 2 continents, 21.4% in 3 continents, and the remaining 14.6% at least in 4 continents, knowing that none of the companies operates in the 7 continents (neither in the 7th continent- Antarctica). In line with the topic of research, at least half of these have some considerable knowledge of the SDGs (5 on a scale of 7 possible values), however, only 24.3% is properly making them operational and 9.7% consider that the work done to the date fully matches the implementation where they would like to be.

4.2 Main Results

4.2.1 Characteristics contributing towards a proper SDGs' implementation

RQ1: Which are the firms' characteristics contributing to the operationalization of the SDGs?

In order to conclude which are the specific variables contributing to the operationalization of the SDGs correlation tests were run, proving that only 8 of the variables tested are significantly (at a 5% level) and positively correlated with the implementation level of the SDGs- see Appendix 3 for details. The significant variables are *Use of SDG Hierarchy* (0.2428, $p < 0.05$); the *Number of SDGs adopted* (0.3959, $p < 0.05$); *Recognizing Business Case* (0.3003, $p < 0.05$); *SDGs' Diffusion across the different departments* (0.4638, $p < 0.05$); *Use of Non-Financial Reports* (0.2278, $p < 0.05$); the *Way SDGs are chosen* (0.3048, $p < 0.05$); *Relation with Stakeholders* (0.2173, $p < 0.05$); and *SDGs incorporation into the company's strategy* (0.4559, $p < 0.05$).

The next step was to run a multiple linear regression with the significant variables with the aim of understanding if there is any collection of characteristics that when combined lead to a higher implementation level of the SDGs.

Table 1- Expected effect of the significant characteristics on the SDGs Implementation level

	Dependent variable:	
	SDGs_implementation_level (1)	(2)
SDGs_Hierarchy	0.580 (0.402)	
No_SDGs_Adopted	0.019 (0.049)	
Business_Case_Existence	0.264* (0.150)	0.283* (0.144)
Other_Departments_Motivation	0.016** (0.007)	0.018*** (0.007)
Use_of_Non_Financial_Reports	0.587 (0.365)	0.696** (0.333)
Relation_with_Stakeholders	0.022 (0.069)	
SDGs_Choice	0.006 (0.217)	
SDGs_Incorporation_into_Company_Strategy	0.315* (0.170)	0.375*** (0.136)
Constant	0.961* (0.498)	0.893** (0.413)
Observations	103	103
R2	0.355	0.338
Adjusted R2	0.300	0.311
Residual Std. Error	1.081 (df = 94)	1.072 (df = 98)
F Statistic	6.467*** (df = 8; 94)	12.509*** (df = 4; 98)

Note: *p<0.1; **p<0.05; ***p<0.01

Behind expectations, when combined, the characteristics lost some significance and the descriptive power of the model proved to be low- 0.306. The second model corresponded to an attempt of increasing the descriptive power, using only the significant variables detected in the first model. However, the adjusted R2 didn't increase in a sufficiently meaningful way. Nonetheless, looking into the F Statistic obtained, it can be concluded that the variables influence the SDGs' Implementation level individually. So, it means the SMEs advancing the SDGs possess few of these characteristics at the same time, not a combination of all of them.

The specific characteristics of the companies successfully advancing the SDGs (25 SMEs within the study) regarding these variables are:

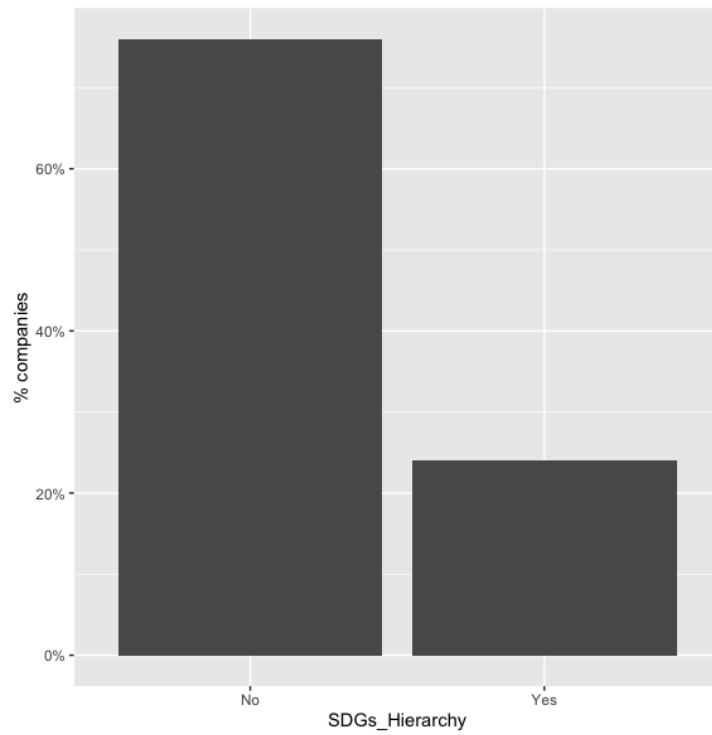


Figure 6- The choice of hierarchizing the SDGs (or not) within the SMEs advancing the SDGs

Contrary to what was expected, only 24% of these SMEs are splitting the SDGs into primary and secondary ones. However, not hierarchizing the goals does not mean that they are

working with all of them at the same time. Some SMEs pick specific goals central to their business to work directly.

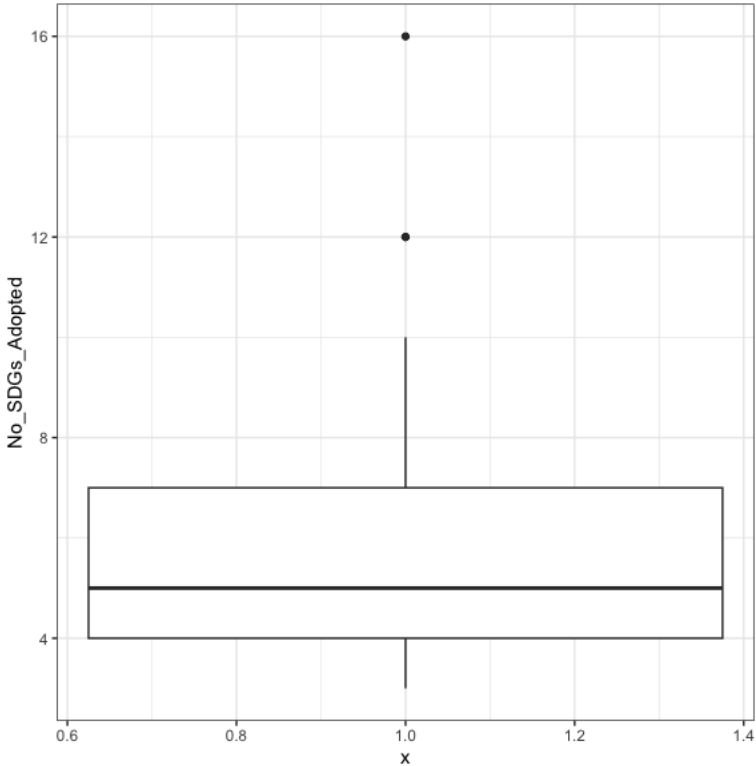


Figure 7- Number of SDGs adopted by the SMEs advancing these goals

In that line, regarding the *Number of SDGs adopted*, half of these companies are implementing no more than 5 SDGs. However, there is a significant number of SMEs trying to implement too many SDGs, which can produce a countereffect. There are even companies trying to implement 12 and 16 SDGs at the same time- something really out of the norm.

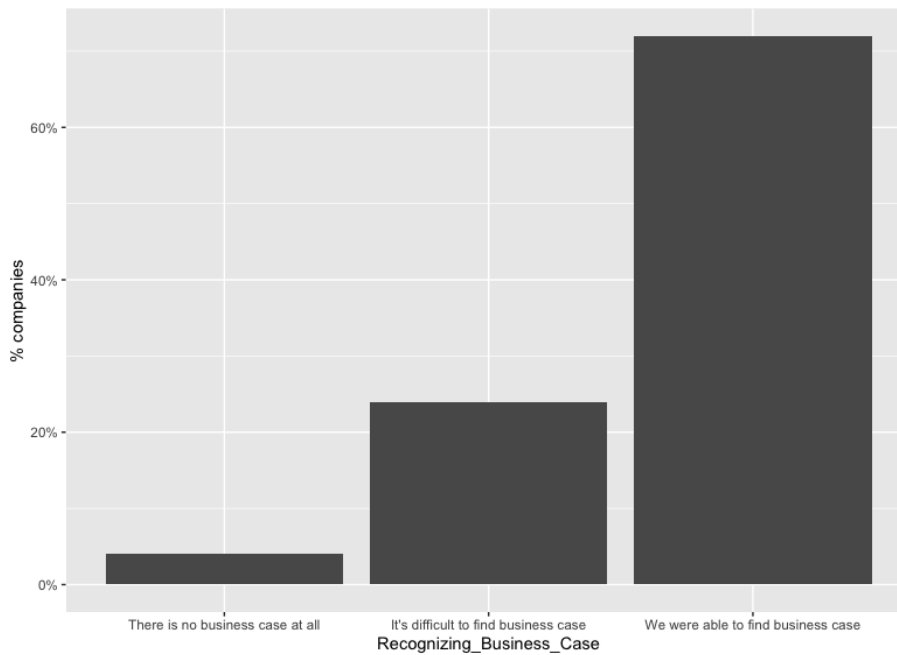


Figure 8- The way SMEs advancing the SDGs Recognize the Existence of Business Case

As expected, the majority of the SMEs (72%) advancing the SDGs were able to find a business case. There is only one case in which a company was not able to find any business case. However, it was decided to start the implementation based on the opportunities that the SDGs could bring in the future (as facing the needs of future generations). For the ones in between, the time spent looking for this cost-profit relation was something that delayed their implementation but didn't prevent it.

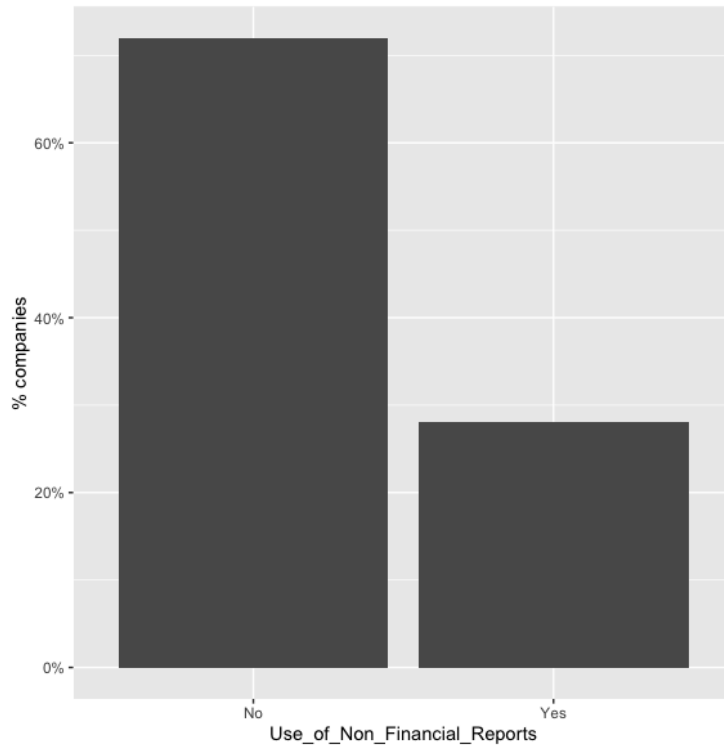


Figure 9- Non-Financial Reporting within the SMEs advancing the SDGs

The use of non-Financial reports is a measure proven to improve the implementation of the SDGs, for several reasons. Yet only 28% of the SMEs advancing the SDGs are using them, and publishing them on an annual basis. This happens because the majority of them recognize not having reporting knowledge.

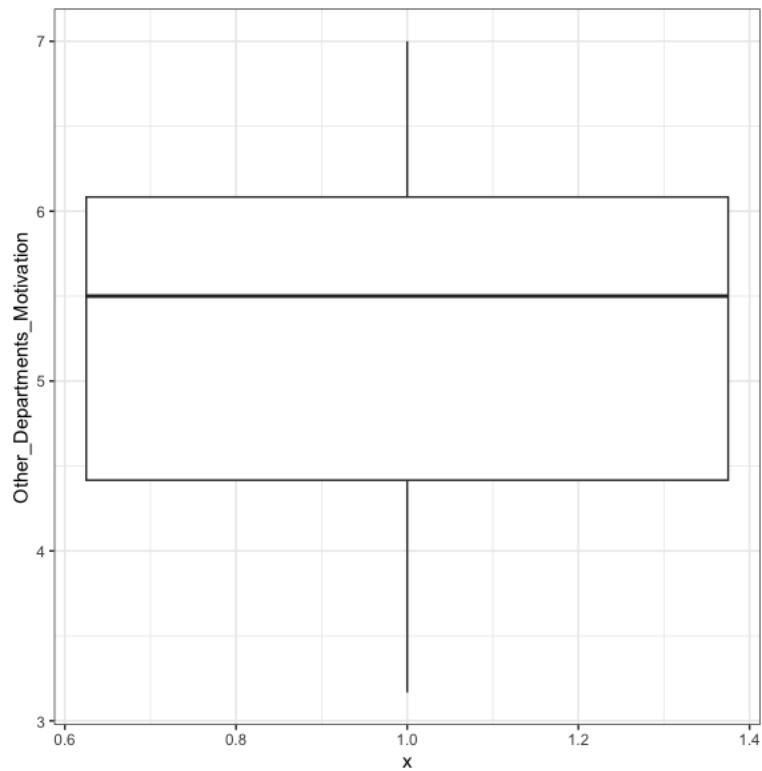


Figure 10- *SDGs' Diffusion across the different departments inside SMEs advancing these goals*

In the case of the *SDGs' Diffusion across the different departments*, 50% of the SMEs that are advancing the SDGs possess an average for motivation within this theme inside each department higher than 5.5 (in 7 possible values), which means their departments are very reasonably aware and focused on corresponding to the expectations and SDG's requirements. Additionally, there's the assumption that if there is diffusion for this topic across the different departments, the top management team (including the CEO) will be aligned with the Agenda's fulfillment.

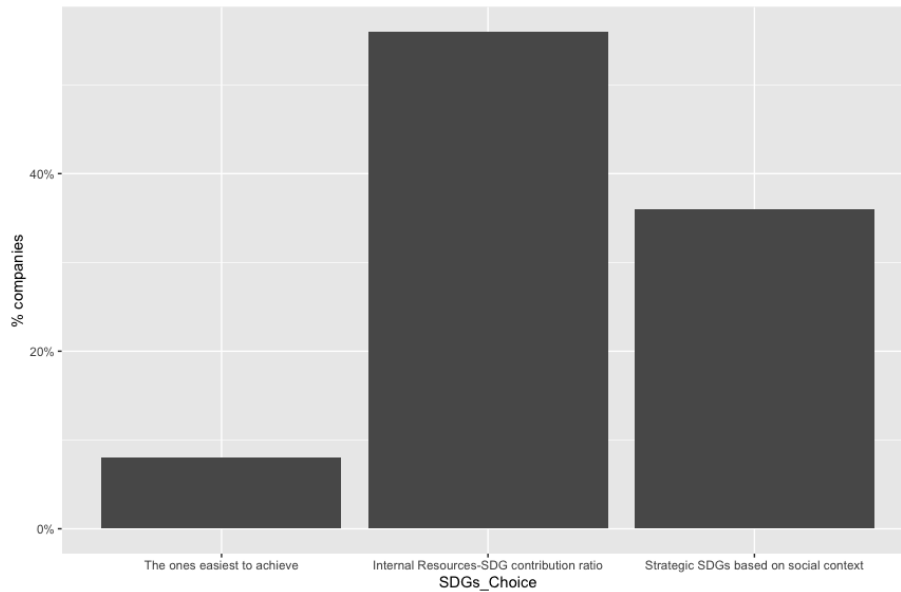


Figure 11- The Way SDGs are chosen by the SMEs advancing the SDGs

When choosing which SDGs to pursue, it is not common for these SMEs to choose the easiest ones to achieve. Rather, since their contribution will depend on their internal capacity, the majority tries to understand what they can do with their internal resources. Additionally, a significant part of them chooses strategic SDGs based on their social context, to contribute more deeply to the problem.

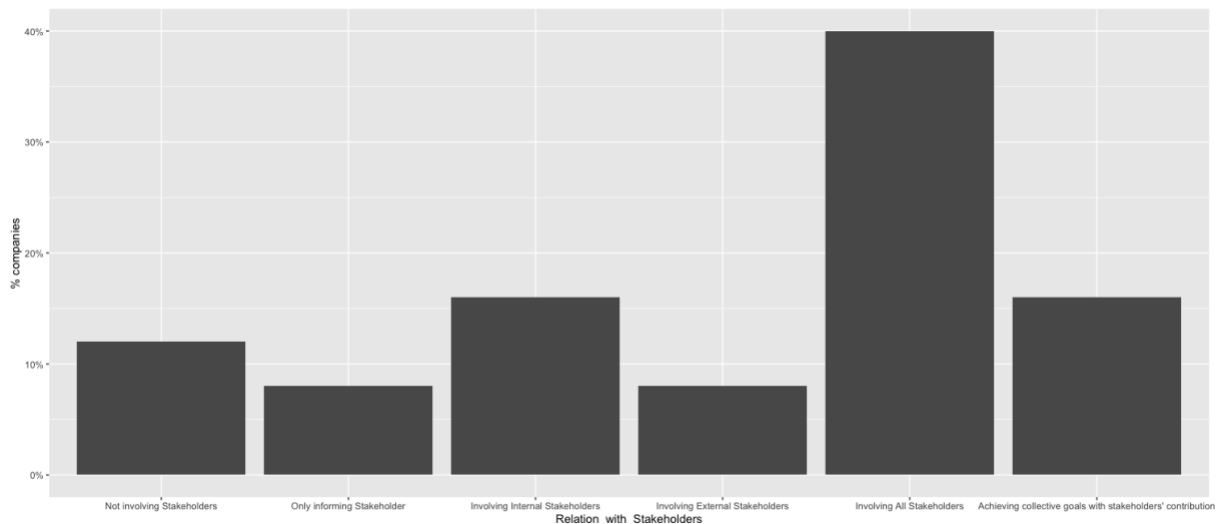


Figure 12- Relation with Stakeholders for the achievement of the 2030 Agenda inside SMEs advancing the SDGs

The companies leading the SDGs' Implementation seem to have the concern of involving their stakeholders (mainly the internal and external ones at the same time) to advance

companies' goals, or even better to achieve collective goals i.e., their business goals while fulfilling the societal, environmental, and another type of needs.

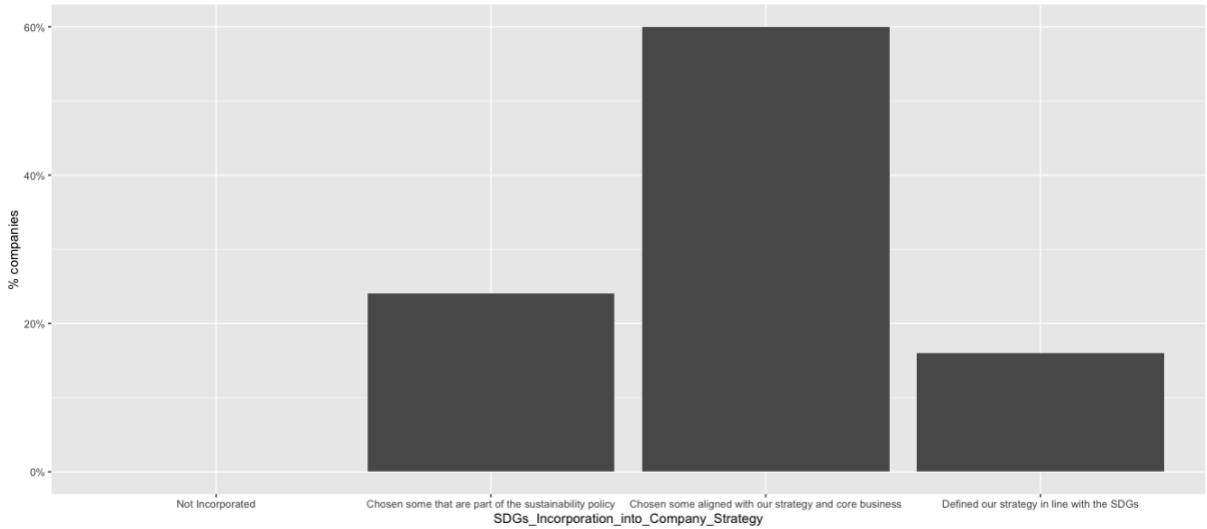


Figure 13- SDGs' incorporation into these companies' strategy

While incorporating the SDGs' into their company's strategy, even though the SDGs must be the ones guiding the strategy of the company (and some companies are doing that), it is more common to choose directly the SDGs that are only part of their sustainability policy or aligned with their strategy.

4.2.2 Barriers influencing SDGs' implementation

RQ2: Which are the barriers preventing the operationalization of the SDGs?

To answer the second research question and be sure of the significance of the variables included, a Pearson Correlation was run for all the barriers individually. Consequently, it was proven that the ones significantly influencing the implementation of the SDGs, negatively, were *Lacking knowledge about the SDGs* (-0.3114, $p < 0.05$); *Lacking knowledge on how to operationalize the SDGs* (-0.3547, $p < 0.05$); *Not recognizing any business case* (-0.2304, $p < 0.05$); and *Lacking knowledge on how to report* (-0.3233, $p < 0.05$).

In fact, there are slight differences in the barriers acknowledged by companies that have knowledge of the SDGs and are operationalizing them versus the ones that are not. They share the barriers of lack of knowledge on the SDGs and on how to operationalize. However, the first group of SMEs (figure 12) recognizes the lack of resources as the main obstacle, something

that is not important for the ones not operationalizing the SDGs (figure 13), which in turn considered more determinant of the non-existence of a business case. And that fact seems to prove that companies only start their path towards the SDGs' implementation when they are certain about a positive cost-effectiveness relation. Until that is verified, the business case's inexistence weights a lot in their decision to take action, which can be justified by them not even knowing what the SDGs stand for (consequently missing opportunities).

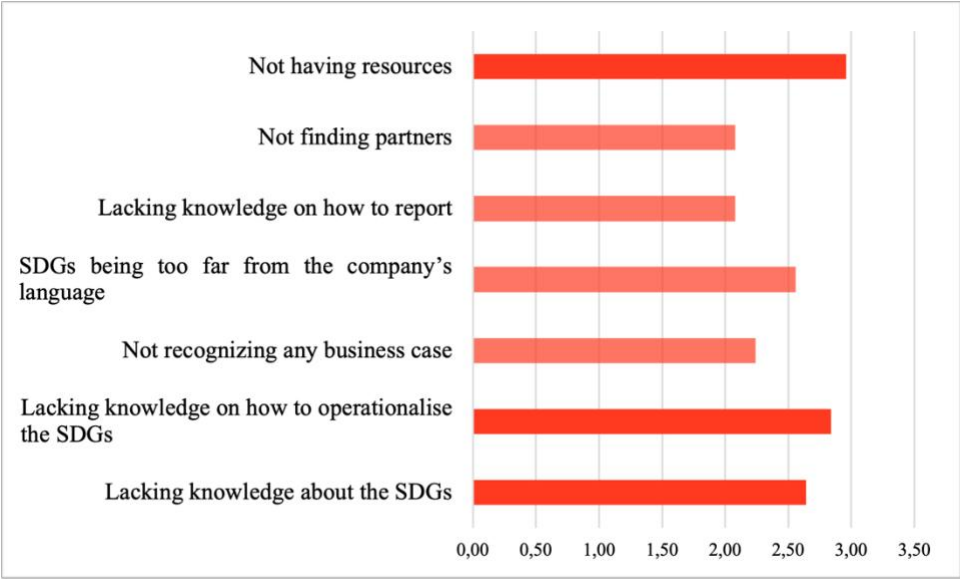


Figure 14- The magnitude of each barrier on the SMEs that are at the maximum level of SDGs' implementation (on average)

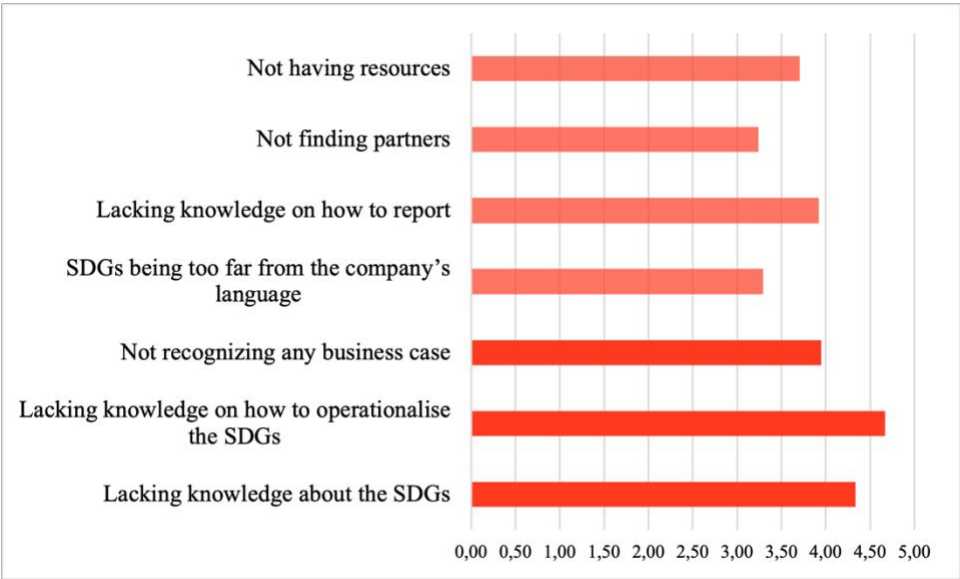


Figure 15- The magnitude of each barrier on the SMEs that are behind on the SDGs' implementation (on average)

To understand better the combination that can prevent SMEs from advancing on the SMEs, a multiple linear regression was used:

Table 2- Expected effect of the significant characteristics on the SDGs Implementation level

Dependent variable:	
SDGs_implementation_level	
SDGs_Knowledge	-0.033 (0.098)
Operationalization_Knowledge	-0.137 (0.134)
Business_Case	-0.008 (0.073)
Reporting_Knowledge	-0.063 (0.111)
Constant	4.332*** (0.283)
Observations	103
R2	0.130
Adjusted R2	0.095
Residual Std. Error	1.229 (df = 98)
F Statistic	3.673*** (df = 4; 98)
Note:	*p<0.1; **p<0.05; ***p<0.01

However, it was verified the same phenomenon occurred with the characteristics- when combined, the barriers lost significance and the descriptive power of the model proved to be really low- 0.095. Nonetheless, once again, looking into the F Statistic obtained, it can be concluded that the variables influence the SDGs' Implementation level individually. So, it means that SMEs face these barriers but one at a time

4.2.3 Measures to overcome SDGs' implementation obstacles

RQ3: What were the actions performed by companies implementing the SDGs to overcome the usual obstacles?

Firstly, most of the interviewed companies showed a great willingness to fight the barriers, since they acknowledge a great presence of tangible and intangible benefits in the SDGs.

To overcome the main barriers companies adopted several strategies. Starting with the *lack of knowledge about the SDGs*, SMEs partnered with organizations that possessed this

knowledge and were able to provide it to them (only a minority was able to pay for external services, such as consultancy firms); created accountability within the board of directors for regular and autonomous research; used internal communication (posts and news on Microsoft Teams' channels), provided workshops and training sessions (even during weekends dedicated to team bonding) to educate the employees in this subject.

Regarding the *lack of knowledge on how to operationalize* the goals, some firms ran an internal audit to understand the point they were at and decide where to start; nominated people (outside the board of directors) responsible for managing the operational side of the SDGs in the company daily; and studied which were the most suitable frameworks (either internal or external) to use.

Not recognizing any business case was never an obstacle for the firms interviewed. They found business case while corresponding to the market trends i.e., the consumer's increasing concern around the environment; implementing more efficient processes; or even advancing the "investment" that is estimated to become mandatory in the future, consequently gaining some knowledge in the present.

Finally, *not having resources* is a barrier for the companies at the highest implementation level regarding the SDGs. The lacking resources are mainly financial, operational (in terms of instruments and management), and human. Many companies aim to have a team working specifically in the sustainability field and prioritizing the SDGs, but don't have a dimension that allows that or claim to be hard to find people with knowledge in that area. Additionally, many of these SMEs admit being passing through a phase where they are still fighting the Covid-19 (human resources and processes' adaptation) and Ukrainian-war (increasing price of raw materials and commodities) externalities. Nonetheless, they acknowledge the implementation of the SDGs can't be ignored. So, to solve these problems, they dedicated part of their financial reserves to the SDGs and established some partnerships to acquire more knowledge and operational insights in a less expensive way. Facing the impossibility of hiring more people or experts in the area by now, companies turned the spread of SDGs awareness into a priority within their cultures and nominated someone specific to receive external knowledge about the SDGs and insert it inside the company.

4.2.4 Aggregation of Results

Based on the good practices collected in RQ3, it was possible to establish a 5-step process that allows companies to possess the relevant characteristics and fight against the main barriers while implementing the SDGs:

1. Mindset and Willingness to Invest

Firstly, companies must recognize the investment in the SDGs is precisely that, not an expenditure that will lead to no return. As quickly as they understand that more advantages it will bring- future legislation will force companies to care about this field and if they only move by that time they will lose a lot of time to learn and test.

2. Taking action

Companies must pursue an internal audit to assess how they are regarding their sustainability practices and chose which SDGs to work with directly (ideally, no more than 5), redefining their strategy according to them. This process can be complemented by asking and involving employees and the company's clients- to which SDGs they think the company is contributing the most and to which ones must they contribute.

From then on, they should hire a consultancy firm or cross any partnership that allows them to get the *know-how*, additionally adopting a framework to help in the SDG management.

3. Delegating

Given the non-feasibility of constituting a Sustainability Team/Department, someone outside the board of directors should be put in charge of SDG Management. The advantages are processes' analysis from two different points of the hierarchy, less loss of focus within the administration (who may tend to leave the SDGs aside given the "higher relevance" of other tasks), and a more regular (operational side) and accurate (without bias) revision of the topic.

The person in charge of the SDG Management should also be the one receiving the *know-how* previously mentioned (along with the board of directors), contacting the other departments (after upper approval) for any implementation practices/processes and scheduling initiatives around the topic in synergy with the relevant units.

4. Timetabled Revision

Reviewing processes and outcomes using the framework adopted, in two different moments: quarterly by the person/people in charge of the SDG management with an emphasis on the sustainability area; half-yearly by the board of directors with a focus on the organization as a whole.

5. Reporting

This step has the aim of creating more accountability and fostering connection within all the stakeholders. It can be subdivided into internal and external reporting.

The internal reporting would happen in synergy with the HR Department with measures to create accountability around the SDGs: training sessions and internal communication for good business practices inside the industry (through teams or other digital channels); formal touchpoints to disclose the main points of the quarterly and semestral SDGs' review, as well as the measures to be adopted in each department.

In what concerns external reporting, the first step would be the inclusion of the SDG topic in the annual non-financial report, which can later be complemented with a biannual press release. In synergy with the Marketing Department, a communication plan for the diffusion of the SDGs' importance for the organization through social media (platforms with huge relevance for Gen Z and Millennials) should be created. This could happen through posts or partnerships with digital influencers that use their services and/or products.

Note: the process can be later on developed with some other initiatives, such as the creation of an Online Forum for external stakeholders to give their suggestions, ask the company about other relevant topics, etc. However, to further integrate more actions, the company must have the rest of the plan well consolidated.

5. Conclusions and Implications

Given the increasing role of businesses in the way sustainability is managed across the globe and the need for affiliation with common goals, such as the SDGs, this dissertation's main purpose was to create a standard process that Portuguese SMEs could implement and would lead them to successful integration of the SDGs into their business strategy.

Through the Sustainable Development Report and the study conducted by the *Observatório ODS nas Empresas Portuguesas*, it was possible to conclude that while pursuing the SDGs Portugal is performing averagely. There are still a lot of goals to fulfill and the

companies leading the path seem to be the LEs, who possess more knowledge and resources and face higher stakeholders' expectations (Chiu & Sharfman, 2011; Gallo and Christensen, 2011). This country is composed in its majority of SMEs, and while these don't take the right steps to engage in better practices few things will change. Knowing that the focus of this research was understanding the required company's characteristics and the main barriers faced during the adoption of this process.

Regarding the first research question (RQ1), results reveal that are, in fact, specific characteristics companies must possess for a successful implementation of the SDGs. It is found a theoretical implication: those characteristics are partially in line with the study developed among US firms (Kramer et al., 2019). For their own success, Portuguese SMEs must possess some of them, however, they are adopting them at a slow pace, which can evidence social-cultural (long-term orientation, uncertainty avoidance) (Gallego-Álvarez & Ortas, 2017) or even investment capacity differences of the private sector in both countries, consequently undermining their reaction's capacity.

Concerning the second research question (RQ2), findings reveal what is preventing SDGs' Implementation is mainly the lack of knowledge in all the important spheres (SDGs, Operationalization, Reporting, etc.) and the non-recognition of business case. For the companies that are a bit ahead, the lack of resources is an obstacle as well. All these barriers were already recognized by international literature, as in the case of Álvarez Jaramillo and others in 2019.

Then, the third research question (RQ3), was focused on answering what could be done to solve the barriers found on RQ2, through the good practices of companies that managed those obstacles. However, if the sample used in the research was bigger, the results would possibly be even more complete.

The study hereby conducted shows that, thanks to many factors, the combination of all the significant characteristics is not being a priority, nor the necessary efforts are being invested into the barriers that prevent SDGs' Implementation. Many companies get stuck in just one barrier (as the business case non-existence) and don't move further until solving it. In that sense, thanks to the insights and specific practices of well-succeeded companies, a process that joints all the practices in a simple way- 5 Steps-, provides accountability for the results and helps the SMEs to put focus on all these matters (characteristics and barriers) at the same time, accelerating the SDGs Implementation, was created.

To conclude, the created plan starts precisely by being aware that exist many benefits coming from the SDGs association and that only by following a line of implementation they

will get to the desired point. If not engaging in such practices, in a few years, due to consumers and legislation pressure, it can be too late to engage with the SDGs smoothly and effectively.

6. Limitations and Future Research

Despite the fact that this study gives valuable managerial insights into the implementation of the SDGs in Portuguese SMEs, it has certain limitations. The first one is related to one of the research instruments- the online surveys- since their use implies a lack of control over the participants, their responses, and the conditions in which they fill out the questionnaire (Ilieva et al., 2002). Additionally, it is difficult to check whether the participants are engaged, focused, attentive, and dedicated to answering the questions honestly (mainly, for the respondents that didn't mention their company's name). Furthermore, while answering surveys, social desirability can have a strong impact on participants, driving individuals to modify their responses to please others or feel better about themselves (Larson, 2019). Consequently, the results obtained might reflect the impact of the social desirability bias.

Another limitation of this study is the fact that the impact of external barriers combined with the internal ones was not covered in this research, meaning that if there is any linkage between them, companies will not be able to overcome them through the suggested process. Finally, the limited number of interviews to assess the good practices that can lead companies to overcome the SDGs' implementation barriers could have compromised the creation of the 5-step process.

In conclusion, these subjects deserve further research due to the SDGs' increasing importance in the business context. It would be relevant to study what can be done regarding the influence of external barriers as well as the impact and benefits of the use of particular frameworks within Portuguese SMEs. Further, information on these areas can be useful for company managers, who can use the results to establish plans and generate competitive advantage.

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8. Appendices

Appendix 1: Survey

(adapted from *Observatório ODS nas Empresas Portuguesas* and translated using DeepL Translator)

Introduction Block

Observatório ODS nas Empresas Portuguesas

The objective of this study is to monitor the implementation of the United Nations 2030 Agenda in Portuguese companies through a representative group of small, (...) companies. (...)

Participation

Please complete this questionnaire in a quiet environment without interruptions. We estimate a response time of approximately 30 minutes. You can always go back to check your answers, and if you need to interrupt your answers, you can always come back and continue where you were, as long as you use the same computer and browser.

(...)

Benefits, risks or discomfort in participation

There are no expected risks associated with participation in the study. Your answers will contribute to improving scientific knowledge in the field of sustainable development in a business context.

Confidentiality and privacy

Your answers will always be analysed, preserving the confidentiality of your data. The data collected about your company will be processed in aggregate form (...). If it makes sense to refer to your company as an example of good practice or for other relevant reasons, that will only be done with your express prior consent.

By answering 'Yes' to the following questions ('I have read and understood the information provided' and 'I agree to participate in this study') you are stating that you are over 18 years of age, that you have read and understood the information presented on this page, that you consider that you have been given the necessary information about the study and that you agree to participate in it voluntarily.

I agree to participate in this study:

- Yes (1)
- No (2)

PART 1: Section 1 (Company characteristics)

Q1. Please identify your company (Optional)

(...)

Q2. How would you characterise the legal structure of your company?

- Public Limited Company (1)
- Private and Limited Company (2)
- Sole proprietorship (3)
- Cooperative (4)
- Social Business (5)

Q3. What is the capital structure of your company? Who owns the capital?

- Private capital (1)
- Public capital (2)
- Mixed capital (3)

Q4. Is your business family-owned or non-family-owned?

- Family business (1)

Company with non-family capital (2)

Q6. How many employees does your company have?

0-9 (1)

10-49 (2)

50 - 249 (3)

250 or more (4)

Q7. What were your company's revenues (€) in 2021?

0 - 2 million (1)

2 - 10 million (2)

10 - 50 million (3)

More than 50 million (6)

(The questions inserted in between were not used for any conclusions in this dissertation)

Q11. To which continents does your company export or operate?

Africa (1)

North America (2)

South America (3)

Antarctica (4)

Asia (5)

Europe (6)

Oceania (7)

Q12. What is your company's sector of activity/industry?

Automobiles and Parts (1) ... Travel and Leisure (19)

Q13. Is your company a service business or a product business?

Services (1)

Products (2)

Both (3)

PART 1: Section 2 (Company characteristics- Corporate Networks)

(The questions in this section were not used for any conclusions on this dissertation)

PART 1: Section 3 (Company characteristics- Composition of the Board of Directors)

(The questions in this section were not used for any conclusions on this dissertation)

PART 2: Section 4 (How are you implementing sustainability and the SDGs in your company- the importance of this concept in your company)

(Question 18 was not used for any conclusions in this dissertation)

Q19. What best describes your company's overall strategy?

- Shareholder value creation (profit) (1)
- Value creation for stakeholders (2)

(The last question in this section was not used for any conclusions on this dissertation)

PART 2: Section 5 (How are you implementing sustainability and the SDGs in your company- the relevance of the SDGs in the context of your company)

Q21. From 1 (not aware) to 7 (known in detail), what is the level of knowledge of the SDGs in your company?

Q22. How are the SDGs incorporated into your company's strategy?

- They are not incorporated (1)
- We have chosen some that we consider to be part of the sustainability policy and that are worked on by that department (2)
- We have chosen some that are aligned with our strategy and are part of our core business (3)
- We have defined our strategy in accordance with the SDGs and their ambitions and these guide our activity (4)

(The following question was not displayed to companies that are not incorporating the SDGs)

Q22.A. Which SDGs are embedded in your company's strategy? You can choose more than one option.

SDG 1 - Eradicate Poverty (1)

SDG 2 - Eradicate Hunger (2)

(...)

SDG 16 - Peace, Justice and Effective Institutions (16)

SDG 17 - Partnerships for the implementation of the goals; SDGs are not incorporated (17)

Don't know (18)

(Question 23 was not used for any conclusions in this dissertation)

Q24. How would you describe your relationship with stakeholders for the 2030 Agenda?

We do not involve stakeholders in our policy choice and implementation of the SDGs (1)

We only inform stakeholders (2)

We involve internal stakeholders in our policy of choosing and implementing the SDGS (3)

We involve external stakeholders in our SDG choice and implementation policy (4)

We involve internal and external stakeholders in our SDG choice and implementation policy (5)

We share dilemmas and achieve collective goals with all stakeholders (6)

(The remaining questions in this section were not used for any conclusions on this dissertation)

PART 2: Section 6 (How are you implementing sustainability and the SDGs in your company- the practices of your company in relation to SDG communication)

Q31. Does your company publish non-financial annual reports?

Yes (1)

No (2)

(The following 3 questions were only displayed to companies that publish non-financial annual reports)

(Question 31.A was not used for any conclusions in this dissertation)

Q31.B. What is the frequency of the non-financial report?

- Annual (1)
- Half-yearly (2)
- Three yearly (3)
- Non-regular (4)
- Other (5)

(The questions inserted in between were not used for any conclusions in this dissertation)

Q34. Do the company's indicators go down to the target level (169 targets)?

- No. We only refer to the objectives (SDGs) (1)
- Yes. They go up to the target level (2)

Q35. Does your company have an SDG hierarchy?

- Yes (1)
- No (2)

(The remaining questions in this section were not considered for any conclusion on this dissertation)

PART 3: Section 7 (The main motivations and barriers- the motivations and practices of your company in the quest for greater alignment with the 2030 Agenda)

Q39. From 1 (not important) to 7 (very important), how important are the following items for your company's motivation in adopting the SDGs?

- Earning reputation (1)
- Solve social problems (2)
- Have license to operate (3)
- Mitigate risks (4)
- Achieve competitive advantage (5)
- Opportunity for business growth (6)
- Solve social / environmental issues in partnerships (7)
- Reduce costs (8)
- Impact the industry as a leader in sustainability (9)

- Comply with legislation (10)
- Pressure from consumers (11)
- Investor pressure (12)
- Pressure from employees (13)
- Pressure from society (14)

Q40. If you had to choose between the two option spectrums, which would you choose as your main motivating factor for sustainability?

		Motivating factor for sustainability			
		1 (1)	2 (2)		
External Pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Internal Ambition	
Reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Solving social problems	
Solving social issues together with other economic actors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Competitive advantage	
Having an impact on the industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reduce costs	
Profit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Create value for a wide group of stakeholders	
Needs of current generations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Needs of future generations	
Costs of products and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Product and service differentiation	
Comply with regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Solving sustainability problems	

Q41. From 1 (I don't see it at all) to 7 (Yes, I see it completely), do you see the SDGs as a business opportunity?

(Question 42 was not used for any conclusions in this dissertation)

Q43. Can you assess the motivation of the various departments in the company for the SDGs? (0="Not applicable"; 1=" Not motivated at all"; ...; 7="Very motivated")

- Marketing / Sales (1)
- Procurement / Supply chain (2)
- Research and Development / Innovation (3)

- Strategy (4)
- Communication / PR (5)
- Logistics / Operations (6)
- Human resources (7)
- Quality control (8)
- Information and communications technology - ICT (9)
- Board of Directors (10)
- Finance / Accounting (11)
- Sustainability / CSR (12)

(The remaining questions in this section were not considered for any conclusion on this dissertation)

(The questions 48 to 49.D were optional and were not used for any conclusions on this dissertation)

PART 3: Section 8 (The main motivations and barriers- constraints and barriers in the implementation of the SDGs)

Q50. Which of the following is most valid for your company?

- We do not know how and where to start working on sustainability (1)
- We do not know how and where to start working on SDGs (2)
- We know how to work on Sustainability but not the SDGs (3)
- We know how to work on Sustainability/ SDGs but we are not yet operationalizing it (4)
- We know how to work on Sustainability/ODS and we are operationalizing it (5)

Q51. Choose the option that makes most sense to you, given the following statement:

"Lack of business case (cost-effectiveness) is a barrier to the SDGs implementation".

- Yes, because there is no business case (1)
- Yes, because it is difficult to find a business case (2)
- No, it is not a barrier (3)

Q52. We have presented several barriers to the adoption of the SDGs. Please rank them according to their importance in your company (0="It does not relate to our core business"; 1="It is not a barrier"; ...; 7="It is a strong barrier").

- Lack of knowledge about the SDGs (1)
- Lack of knowledge on how to operationalize (2)
- We do not see business case (3)
- SDGs are too distant from our language (4)
- We do not have the knowledge to report (5)
- We cannot find partners (6)
- We don't have the resources (7)

(The 3 questions in between were not used for any conclusions on this dissertation)

PART 4: Section 9 (The implementation of the SDGs and their impacts on the context)

Q56. From 1 (does not match) to 7 (fully matches), do you consider that the work you do on the SDGs corresponds to the level of implementation where you would like to be?

PART 4: Section 10 (The implementation of the SDGs and their impacts on the context- the impact of your company on the SDG agenda SDGs agenda: whether positive or negative)

(The questions in this section were not used for any conclusions on this dissertation)

PART 4: Section 11 (The implementation of the SDGs and their impacts on the context- integration of the vision of sustainable development in the company, taking into account the Portuguese context)

Q62. 'When we consider the most important SDGs for our company...' Complete the sentence with the option that best fits your company's reality.

- We choose those that are easiest for us to achieve (1)
- We take into account what we can do with our internal resources because contributing to the SDGs depends on our internal capacity (2)

O We first consider the social context in which we operate and then choose the strategic SDGs that most need our contribution (3)

(The remaining questions inserted in this section were not used for any conclusions on this dissertation)

PART 4: Section 12 (The implementation of the SDGs and their impacts on the context-qualitative questions)

(The questions inserted in this section were not used for any conclusions on this dissertation)

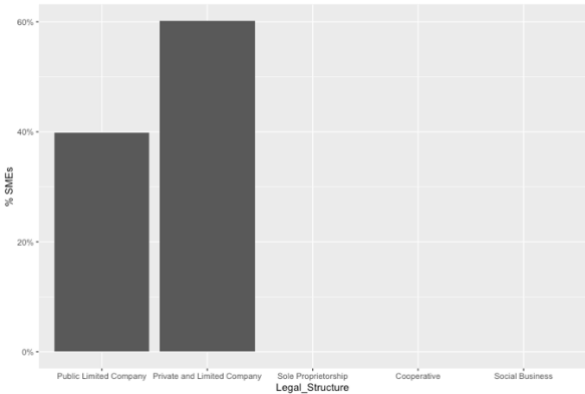
Q69. The questions in the questionnaire have come to an end. Are you sure you want to finalise and submit all your answers?

If not, please go back.

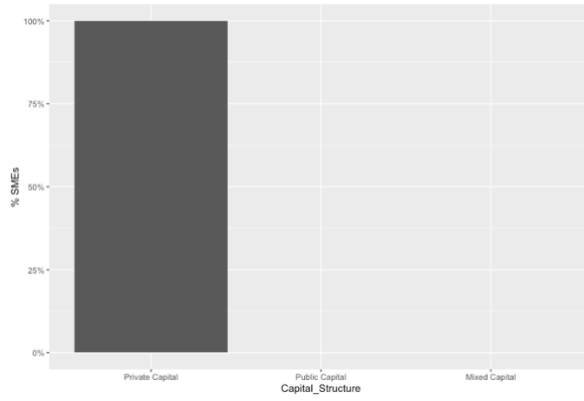
O Yes. I want to finish. (1)

Appendix 2: Sample Characterization

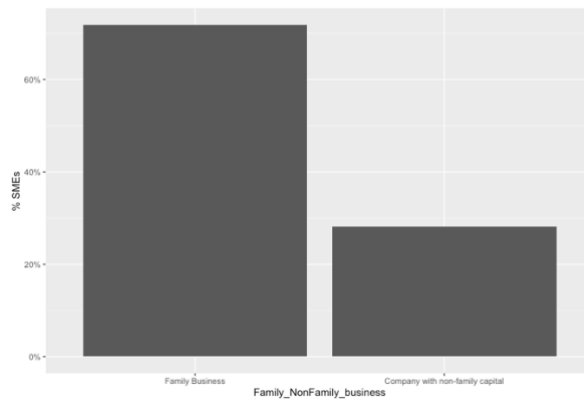
Companies' Legal Structure



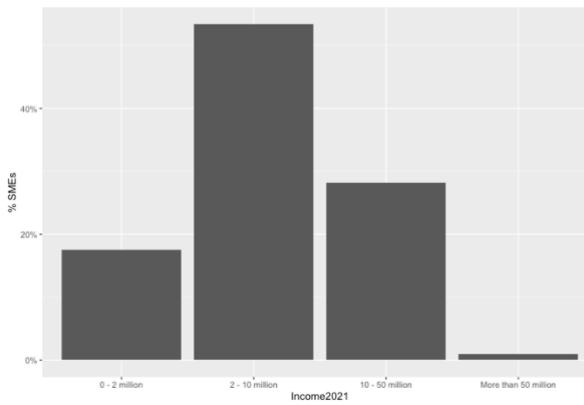
Companies' Capital Structure



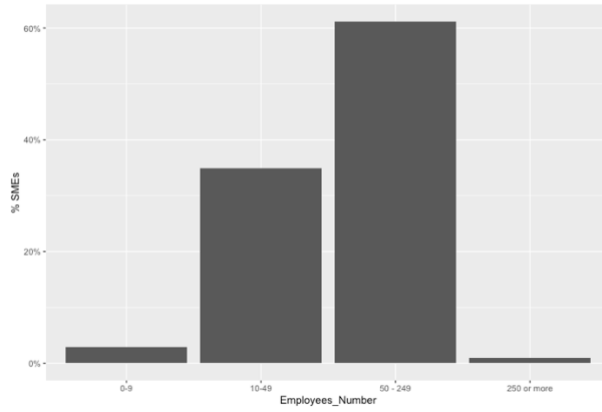
Family/Non-family Companies



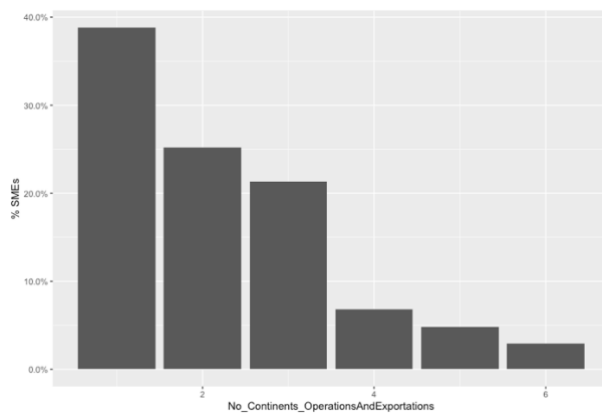
Companies' Annual (2021) Income



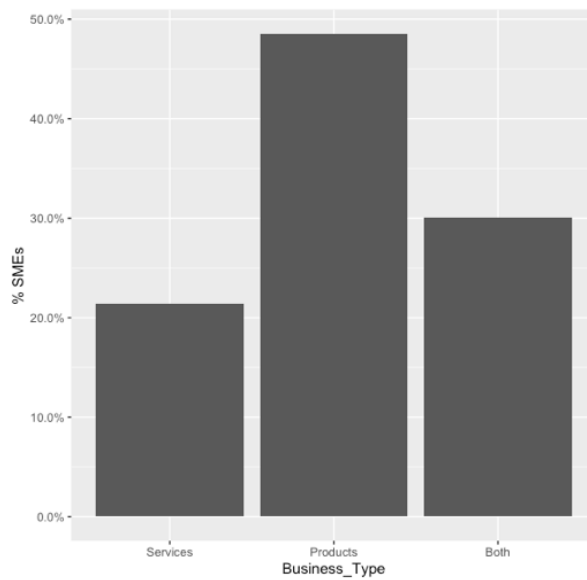
Companies' Number of Employees



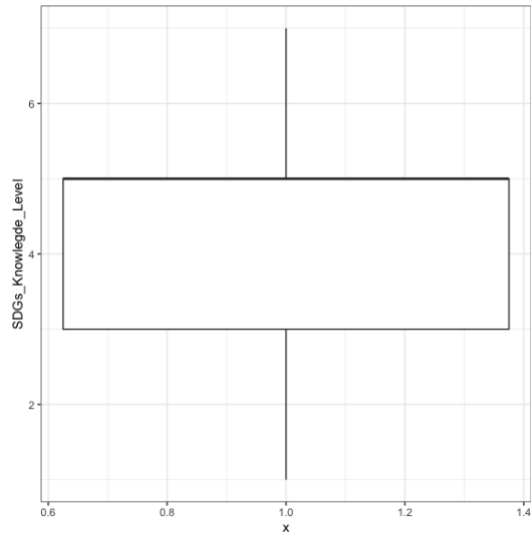
Number of Continents where companies operate or to where they export



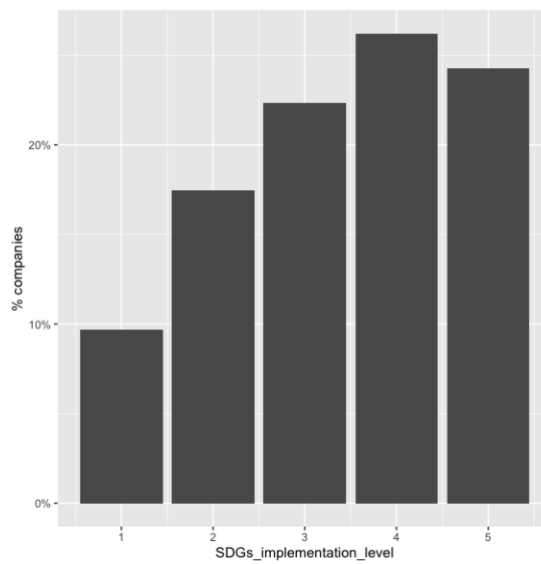
Companies' Business Type (services and/or products)



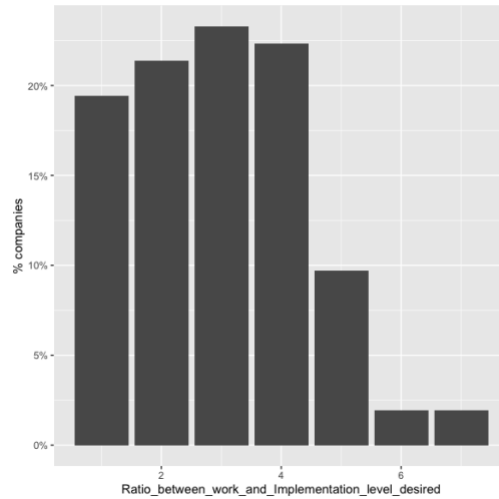
Companies' SDG Knowledge Level



Companies' SDGs Implementation Level



Ratio between companies' work around the SDGs and the implementation level they aim to achieve



Appendix 3: Correlation Tests

For Characteristics

Use of SDG Hierarchy (significant)

Kendall's rank correlation tau

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$SDGs_Hierarchy
z = 2.7253, p-value = 0.006424
alternative hypothesis: true tau is not equal to 0
sample estimates:
tau
0.2428007
```

Number of SDGs adopted (significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$No_SDGs_Adopted
t = 4.3326, df = 101, p-value = 3.485e-05
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.2191541 0.5474692
sample estimates:
cor
0.3958885
```

Going to the target level (not significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$Targets_Adoption
t = 1.0469, df = 101, p-value = 0.2976
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.09175071 0.29129734
sample estimates:
cor
0.1036137
```

Perceiving the SDGs as a Business Opportunity (not significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$SDGs_as_Business_Opportunity
t = 4.1143, df = 101, p-value = 7.936e-05
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.2000068 0.5332907
sample estimates:
cor
0.3788669

Recognizing Business Case (significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Business_Case_Existence
t = 3.1636, df = 101, p-value = 0.002059
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.1133220 0.4666692
sample estimates:
cor
0.3002618

SDGs' Diffusion across the different departments (significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Other_Departments_Motivation
t = 5.2606, df = 101, p-value = 8.076e-07
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.2968735 0.6031478
sample estimates:
cor
0.4637544

Use of Non-Financial Reports (significant)

Kendall's rank correlation tau

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Use_of_Non_Financial_Reports
z = 2.557, p-value = 0.01056
alternative hypothesis: true tau is not equal to 0
sample estimates:
tau
0.2278002

Opportunities Recognition (not significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Opportunities_Recognition
t = 0.82638, df = 101, p-value = 0.4105
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.1133717 0.2711749
sample estimates:
cor
0.08195096

Motivating factor for sustainability (not significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Motivation_Factor_for_Sustainability
t = 0.80182, df = 101, p-value = 0.4245
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.1157754 0.2689169
sample estimates:
cor
0.0795312

Company's Overall Strategy (not significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Company_Strategy
t = 0.25971, df = 101, p-value = 0.7956
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.1685339 0.2182668
sample estimates:
cor
0.02583331

Way SDGs are chosen (significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$SDGs_Choice
t = 3.2157, df = 101, p-value = 0.001748
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.1181978 0.4705260
sample estimates:
cor
0.3047515

Relation with Stakeholders (significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$Relation_with_Stakeholders
t = 2.2374, df = 101, p-value = 0.02746
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.02482777 0.39425287
sample estimates:
cor
0.2173083

SDGs incorporation into the company's strategy (significant)

Pearson's product-moment correlation

data: dt.SMEs\$SDGs_implementation_level and dt.SMEs\$SDGs_Incorporation_into_Company_Strategy
t = 5.1474, df = 101, p-value = 1.305e-06
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.2877283 0.5967475
sample estimates:
cor
0.455869

For Barriers

Lacking knowledge about the SDGs (significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$SDGs_Knowledge
t = -3.2931, df = 101, p-value = 0.001367
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.4762127 -0.1254180
sample estimates:
cor
-0.3113849
```

Lacking knowledge on how to operationalise the SDGs (significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$Operationalization_Knowledge
t = -3.8121, df = 101, p-value = 0.0002372
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.5129750 -0.1730082
sample estimates:
cor
-0.3546584
```

Not recognizing any business case (significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$Business_Case
t = -2.3791, df = 101, p-value = 0.01923
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.4057988 -0.0385596
sample estimates:
cor
-0.2303652
```

SDGs being too far from the company's language (not significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$SDGs_Language
t = -1.369, df = 101, p-value = 0.174
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.32013712 0.06012032
sample estimates:
cor
-0.1349747
```

Lacking knowledge on how to report (significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$Reporting_Knowledge
t = -3.434, df = 101, p-value = 0.0008638
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.4864298 -0.1384844
sample estimates:
cor
-0.3233434
```

Not finding partners (not significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$Partners
t = -1.6228, df = 101, p-value = 0.1077
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.34237303 0.03520005
sample estimates:
cor
-0.1594105
```

Not having resources (not significant)

Pearson's product-moment correlation

```
data: dt.SMEs$SDGs_implementation_level and dt.SMEs$Resources
t = -0.7135, df = 101, p-value = 0.4772
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.2607681 0.1244125
sample estimates:
cor
-0.07081723
```